

# Performance Evaluation and Improvement Countermeasures of the Real Estate Regulation Policy in Dongguan

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**Abstract.** With the development of modern society, the real estate industry is closely related to people's production and life, and it is an important industry related to the national economy and people's livelihood. Local development not only needs the real estate to promote economic prosperity, but may also harm the development of the real economy, bringing potential financial risks. In order to alleviate the real estate problems and contradictions in the process of development, the Dongguan government has frequently introduced various relevant control policies, but the housing price rises too fast, the supply and demand imbalance in the real estate market, the supply structure imbalance and other problems are still serious. Practice shows that the real estate industry can develop more smoothly by combining the market's self-regulation with the government's macro-control. This paper introduces the real estate market and policy of Dongguan City. On this basis, combined with the relevant data of the real estate industry in Dongguan, the effect of the real estate policy was evaluated, and the advantages and shortcomings of the implementation of the real estate control policy in Dongguan were analyzed. Through quantitative and qualitative analysis methods, this paper further screens the primary indicators for the different impacts brought by the performance of the real estate regulation policies, and adopts the principal component analysis method to quantitatively evaluate the performance of the real estate regulation policies in Dongguan City during 2019-2021. Finally, this paper puts forward suggestions to improve the real estate regulation policies in Dongguan City.

## 1 Introduction

Dongguan City is located in the central south of Guangdong Province and on the east bank of the Pearl River Estuary. It is one of the important cities in the Pearl River Delta region. Since the beginning of the 21st century, with the vigorous development of processing and foreign trade industry, Dongguan has accelerated the process of industrialization and urbanization with rapid economic growth and continuous improvement of local people's living standards. Real estate has always played an important role in the economic development of Dongguan City. With the continuous inflow of migrants and the radiation effect of the rapid development of Shenzhen, the demand side of real estate in Dongguan City has been quite hot in recent years. In addition, the mode of township economy cooperating with the development of processing and foreign trade industry also affects the decentralization of economic development and the hot spot of multi-point prosperity in Dongguan, which indirectly brings regional imbalance and chaos of collective real estate development in Dongguan [1].

This paper mainly adopts a descriptive statistical analysis of real estate development and sales, monetary and financial, and land policies. Besides, it generally summarizes the basic information affecting the effect of real estate macro-control policies, such as the real estate

development area, sales price, tax policy changes, market interest rate changes, and land transfer area. Finally, by collecting a large number of data with the corresponding chart, a quantitative analysis of various real estate control policies on the impact of housing prices is conducted. According to the effect of the regulation policy, the author gives some policy suggestions.

Domestic and foreign studies on real estate prices, policies affecting real estate prices, and real estate control policies are abundant, but most of these studies are based on western developed cities or first-tier cities in China, while there are few empirical studies on economically underdeveloped non-first-tier cities or lower-tier cities with more complex local conditions. Therefore, this study chooses Dongguan, a second-tier city with a lower level, as the research object of real estate policies, which is helpful to make a certain empirical supplement to the previous real estate policy regulation theories, and also helps the government to make policies more in line with the local economic and social development.

## 2 Background information

The real estate regulation policy of Dongguan is also constantly adjusted with the changes of social development, which can be mainly divided into the following four stages: the first stage is to promote the

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comprehensive development of the real estate market (1998-2003). In order to cope with the Asian financial crisis, stimulate domestic consumption demand, and drive economic growth, with the development of modern society, the real estate industry has been more and more widely concerned. It is closely related to people's production and life and it has become an important industry related to the national economy and people's livelihood. The real estate industry is related to the national economy and people's livelihood. As one of the pillar industries of the country, it is closely related to everyone's vital interests. In order to alleviate these problems and contradictions in the process of development, the government has frequently introduced various relevant control policies and has been committed to the supervision and control of the real estate market. Especially since 2010, the intensity and means of control have been improved. However, the real estate control policies have not worked as expected, housing prices have risen too fast, the imbalance between supply and demand in the real estate market, the imbalance in the supply structure, and other problems remain serious. The government has clarified the direction of the development of real estate, namely, the real estate industry is one of the mainstay industries of our economy [2]. The development of the real estate industry can drive the development of many related industries, such as materials building and engineering. By promoting the healthy and stable development of the real estate market, on the one side, the housing environment of residents can be improved; on the other side, consumption and domestic demand can be stimulated, investment can be promoted, and ways of social employment can be expanded [3].

The second stage is to curb real estate overheating and stabilize market prices (2003-2008). Since 2003, the real estate market in Dongguan has experienced the phenomenon of overheated development and investment and partial regional structural imbalance [4]. In addition, with the acceleration of urbanization, the demand of the real estate market also increases year by year, and the growth of real estate prices in some areas is far greater than the growth of local residents' income [5]. The rapid growth of housing prices has led to a large increase in investment housing purchases in some cities, which has affected economic and social stability.

The third stage is to support the real estate industry, promote economic development, and establish a long-term regulatory mechanism (2008-2016). For a long time, China's economy is mainly driven by exports and investment. In 2008, affected by the subprime mortgage crisis in the United States, China's foreign trade export was seriously restricted, and it needed to turn to rely on domestic demand to drive. The financial crisis in 2008 also became a watershed of the real estate policy. The policy has changed from originally restraining the growth of real estate overheating to supporting the real estate industry to become one of the pillar industries of the national economy [6]. The Dongguan government also adopts tax, financial, and other means to support the real estate market, regards the real estate as a pillar industry, and guides the full recovery of the real economy [7].

The fourth stage is to limit the purchase and strictly curb the excessive growth of housing prices (2016-present). Since the country made great efforts to develop the real estate industry, the housing price of the whole country began to rise generally. The housing price of first-tier cities rose the fastest, and the housing price of Dongguan also rose rapidly [8]. However, a new policy of "destocking" was proposed at the National Two Sessions in 2016. The government is worried that the rapid development of the real estate industry will lead to a squeeze on the real economy and bring potential financial risks. Moreover, the unreasonable housing price will increase the living cost of residents and cause pressure from public opinion. Therefore, the real estate bubble should be prevented [9]. The housing price control policy in Dongguan started the adjustment process from easing to tightening, gradually increasing the purchase and loan restriction, strictly curbing speculative and investment demand, and preventing financial risks [10].

### **3 Statistical analysis of Dongguan real estate regulation policies**

#### **3.1 Concepts of statistical parameters**

##### *3.1.1 Investment in fixed assets*

Through the relation between the investment amount of Dongguan real estate development and the fixed assets of Dongguan, the paper evaluates whether the regulation policy of Dongguan real estate can achieve the goal of the healthy development of the real estate economy.

##### *3.1.2 Per capita disposable income of residents*

By comparing and analyzing the selling price of commercial housing and its growth rate range, the ratio between the selling price of commercial housing and the per capita disposable income of urban and rural residents, and the ratio of housing consumption expenditure to the per capita consumption expenditure, it can be known that whether the growth trend and change are consistent or not much higher. The housing price only changes within the range that residents can pay. Only in this way can the real estate market price be basically stable. Therefore, to test whether the real estate regulation policy in Dongguan meets the target, the following data should be analyzed and compared and evaluated from the following aspects of market price stability.

#### **3.2 Statistical data analysis**

##### *3.2.1 Healthy development of the real estate economy*

According to the statistics in Table 1 and Figure 1, the GDP of Dongguan reached 965.019 billion yuan in 2020, an increase of 1.1% over the previous year. Affected by the epidemic, the growth rate has slowed down slightly. In

2021, the GDP of Dongguan was 1,085.535 billion yuan, with a year-on-year growth of 8.2%. The average selling price of commercial housing in Dongguan has been rising with the increase of years. In the past decade, the real estate control policies in Dongguan have been constantly changing, but the government's "price limit", "sale limit", "purchase limit" and other measures did not limit the rise of housing prices. During the epidemic in 2021, the selling price of commercial housing rose to the highest level in history. Although the average price of commercial housing sales during 2019 showed a negative 7.65% growth. From the point of view of Dongguan's GDP growth rate, the overall GDP growth rate of Dongguan has shown a trend of decline year by year, with a growth rate of nearly 2% in ten years. The growth rate of per capita GDP in the region was relatively stable from 2011 to 2019, with a stable growth rate of about 8%. During this period, the growth rate of commercial housing prices in Dongguan fluctuated greatly. In 2016, the growth rate reached 43.52%, reflecting the expansion of the real estate industry, which was not within the scope of the policy control. Since 2014, the growth rate of regional per capita GDP has gradually declined. In 2021, the growth rate of Dongguan's per capita GDP has picked up slightly. In the same year, the growth rate of commercial housing prices also reached 27%, still exceeding the economic growth rate. On the whole, the growth rate of commodity housing prices in Dongguan is inconsistent with the development rate of the local economy, and commodity housing prices often rise outside the scope of the policy control.

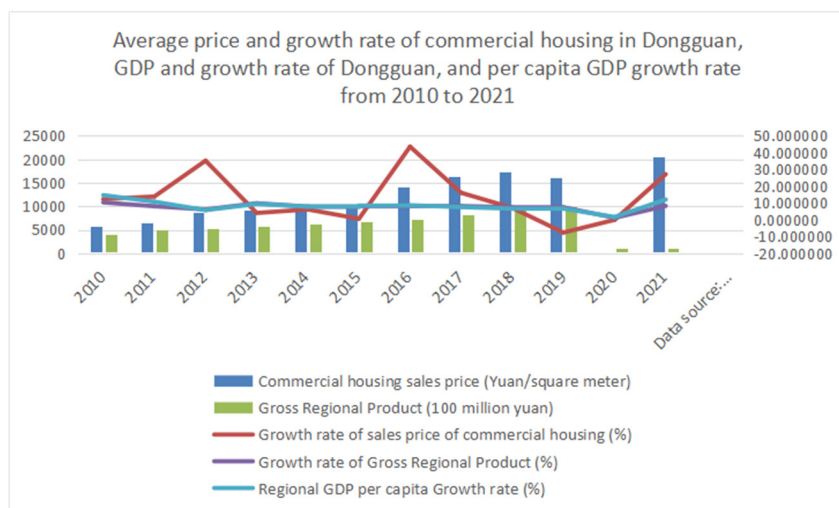
### 3.2.2 Fixed assets

As shown in Table 2, the investment in real estate development in Dongguan increases year by year with the growth of the investment in fixed assets. The investment in real estate development has accounted for nearly 40% of the total investment in the city since 2014, which reflects that the real estate economy is booming and the regulation and control policies of the Dongguan government cannot make the real estate industry develop steadily. Under the influence of the regulation and control policies for many years, the real estate developers still hope to occupy an important market share in the real estate market. The real estate economic boom has not retreated, and the tight regulation and control policies have not really played an effective role.

As can be seen from Figure 2, the curve chart of the ratio between the investment in real estate development and the investment in fixed assets of the whole city shows that although the Dongguan government holds the central government's regulation tone of "houses are for living in, not for speculation" and continued to strengthen the regulation of real estate in 2017 and 2018, it cannot deal with the adverse effects of the economic investment in real estate well. The investment ratio reached a peak in 2018, and the ratio of the investment in real estate development to the investment in fixed assets of the city reached 91.5%, indicating that the investment in real estate development accounted for the largest proportion in the past decade. The development momentum of the overheated real estate economy in Dongguan has not changed.

**Table 1.** Average price and growth rate of commercial housing in Dongguan, GDP and growth rate of Dongguan, and per capita GDP growth rate from 2010 to 2021.

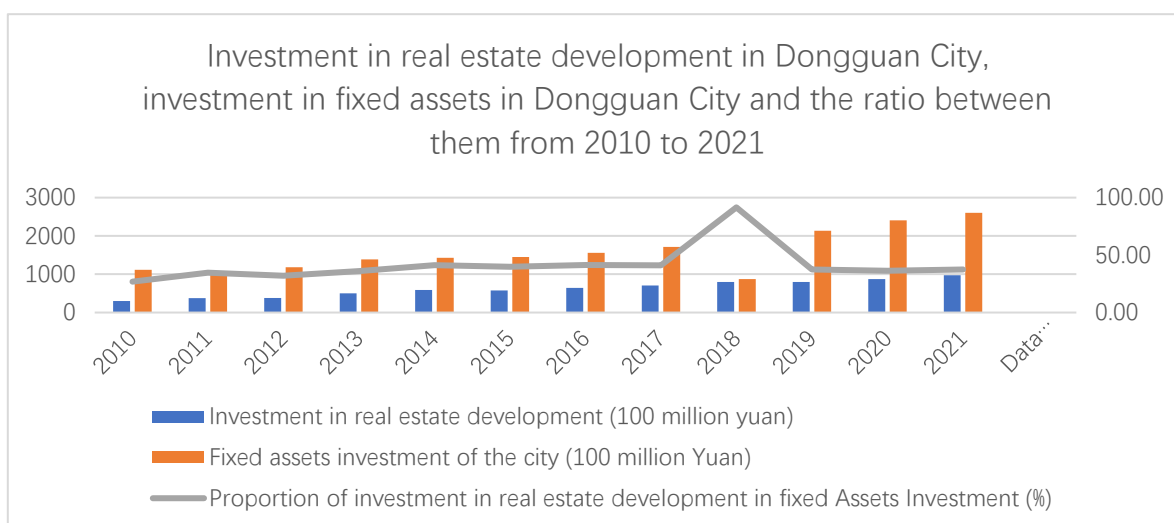
Year	Commercial housing sales price (Yuan/square meter)	Growth rate of sales price of commercial housing (%)	Gross Regional Product (100 million yuan)	Growth rate of Gross Regional Product (%)	Regional GDP per capita Growth rate (%)
2010	5733	12.270235	4121.19	10.3	14.6
2011	6525.16	13.817548	4887.26	8	10.7
2012	8819.63	35.163429	5190.2	6.1	5.7
2013	9173.09	4.007651	5740.44	9.8	9.4
2014	9732.25	6.095656	6174.83	7.8	7.8
2015	9785.666667	0.548862	6665.34	8	8.4
2016	14044.5	43.521136	7260.92	8.1	8.6
2017	16295	16.024066	8320.36	8.1	7.5
2018	17439.75	7.025161	9192.81	7.4	6.6
2019	16105	-7.653493	9865.15	7.4	6.6
2020	16088	-0.105557	1015.99	1.1	1.6
2021	20449	27.107161	1143.67	8.2	12.03



**Fig. 1.** Average price and growth rate of commercial housing in Dongguan, GDP and growth rate of Dongguan, and per capita GDP growth rate from 2010 to 2021.

**Table 2.** Investment in real estate development in Dongguan City, investment in fixed assets in Dongguan City and the ratio between them from 2010 to 2021 (Data source: Dongguan Statistical Yearbook).

Year	Investment in real estate development (100 million yuan)	Fixed assets investment of the city (100 million Yuan)	Proportion of investment in real estate development in fixed Assets Investment (%)
2010	298.99	1114.98	26.82
2011	373.3	1079.3	34.59
2012	377.3	1180.3	31.97
2013	497.7	1383.9	35.96
2014	588.1	1427.11	41.21
2015	575.21	1446.52	39.77
2016	642.76	1557.46	41.27
2017	702.15	1712.83	40.99
2018	796.54	870.54	91.50
2019	796.5	2133.56	37.33
2020	870.5	2402.9	36.23
2021	972.3	2599.93	37.40



**Fig. 2.** Investment in real estate development in Dongguan City, investment in fixed assets in Dongguan City and the ratio between them from 2010 to 2021.

### 3.2.3 Residents' disposable income and commodity housing prices

It can be seen from Table 3 that the growth rate of the commercial housing sales price varies greatly from year to year. In 2016, the growth rate of the commercial housing sales price is 43.52%, the highest rate in previous years, followed by 2011, 2012, and 2017. Based on the analysis of the content of the real estate control policies in Dongguan in this study, it can be seen that in 2010, 2011, 2013, 2016, and 2017, Dongguan continuously promulgated tight real estate control policies to tighten the market, prevent the rapid expansion of the real estate economy, and crack down on diversified real estate speculation. However, the sales price did not decline significantly in that year, which was mainly manifested by the fact that the growth rate of the sales price dropped in the next year after the promulgation of the policy. However, the effect of the implementation of the regulation policy could not reach the goal of stabilizing the sales price of commercial housing. The price growth rate fluctuated greatly and there were great differences between different years, even when the government relaxed the regulation in 2014. The growth rate of commercial housing sales in 2015 showed a negative growth rate. The per capita disposable income of urban and rural residents has doubled in the decade since 2009.

From Figure 3, it can be seen that the fluctuation of the growth rate of the commercial housing sales price is not affected by the regulation policies. By comparing the fluctuation of the bar chart of the commercial housing sales price and the bar chart of urban and rural residents' disposable income, it can be seen that the implementation of regulation policies does not lead to stable growth or normal price fluctuation. On the other side, according to the line chart analysis of the ratio between per capita disposable income and sales price of urban and rural residents, housing prices and residents' income have not reached a good balance in the past ten years. From 2015

to 2017, the real estate regulation policies had a significant effect. At this time, the ratio of commercial housing prices to residents' disposable income was low. At this time, the resident's ability to pay for housing is better, and the sales price of commercial housing is more reasonable compared with the income.

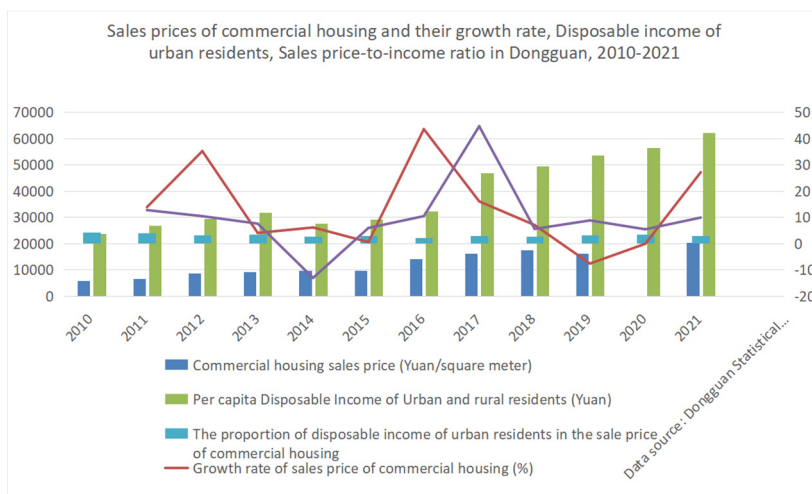
### 3.2.4 Relationship between sales area and completed area

The relative balance of real estate supply and demand can be measured by whether the balance between the volume of commercial housing and the sales over a given period of time can be maintained, while the vacancy of commercial housing and the comparison of housing supply at different levels can also reflect whether the balance of supply and demand for commercial housing is effective. So, based on the following data, the author made a comparative analysis and evaluation on the completed volume of commercial housing, sales volume, and residential vacancy rate for 2010-2021 in Dongguan.

As shown in Table 4 and Figure 4, the sales area of commercial houses fluctuates in a wavy fashion, and the total sales area basically continues to increase. Since the Dongguan government did not carry out real estate regulation from 2010 to early 2013, the sales area of commercial houses increased this year. However, due to the large demand of Dongguan residents for commercial housing, the purchase restriction policy has not been effectively controlled. From 2015 to 2016, the sales area of commercial housing increased greatly. It was not until the two real estate control policies issued in Dongguan in 2017 that the sales area of commercial housing declined slightly again. Besides, the completed area data index shows that the completed area of commercial housing increased to 4.71 million square meters and 3.82 million square meters respectively in 2017 and 2018, and is about 3 million square meters in other years.

**Table 3.** Sales prices of commercial housing and their growth rate, Disposable income of urban residents, Sales price-to-income ratio in Dongguan, 2010-2021 (Data source: Dongguan Statistical Yearbook).

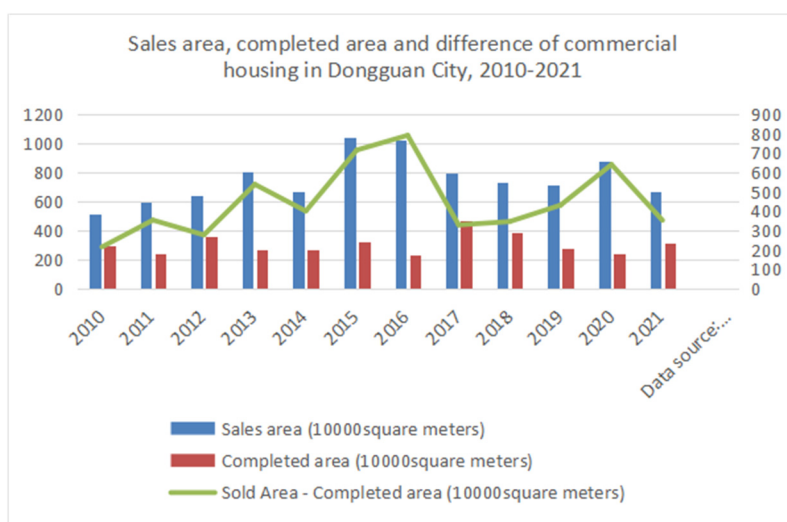
Year	Commercial housing sales price (Yuan/square meter)	Growth rate of sales price of commercial housing (%)	Per capita Disposable Income of Urban and rural residents (Yuan)	Growth rate of per capita Disposable Income of Urban and rural residents (Yuan)	The proportion of disposable income of urban residents in the sale price of commercial housing
2010	5733		23764.85		4.15
2011	6525.16	13.82	26783.7	12.70	4.10
2012	8819.63	35.16	29566.45	10.39	3.35
2013	9173.09	4.01	31798.95	7.55	3.47
2014	9732.25	6.10	27634.25	-13.10	2.84
2015	9785.666667	0.55	29269.6	5.92	2.99
2016	14044.5	43.52	32317.8	10.41	2.30
2017	16295	16.02	46739	44.62	2.87
2018	17439.75	7.03	49331	5.55	2.83
2019	16105	-7.65	53657	8.77	3.33
2020	16088	-0.11	56553	5.40	3.52
2021	20449	27.11	62126	9.85	3.04



**Fig. 3.** Sales prices of commercial housing and their growth rate, Disposable income of urban residents, Sales price-to-income ratio in Dongguan, 2010-2021.

**Table 4.** Sales area, completed area and difference of commercial housing in Dongguan City, 2010-2021 (Data source: Dongguan Statistical Yearbook).

Year	Sales area (10000square meters)	Completed area (10000square meters)	Sold Area - Completed area (10000square meters)
2010	511.25	296.59	214.66
2011	595.61	242.28	353.33
2012	639.12	362.47	276.65
2013	803.09	264.94	538.15
2014	665.05	264.94	400.11
2015	1040.65	325.43	715.22
2016	1024.25	232.68	791.57
2017	799.46	471.02	328.44
2018	728.46	382.83	345.63
2019	711.58	281.01	430.57
2020	879.57	239	640.57
2021	666.73	314.41	352.32



**Fig. 4.** Sales area, completed area and difference of commercial housing in Dongguan City, 2010-2021.

## 4 Improvement measures

### 4.1 Implement classified regulation and control for different towns

First of all, the economic development level of different towns in Dongguan is quite different, among which the housing price regulation of Linshen District is also under the pressure of Shenzhen buyers. The classified regulation of these towns can more effectively control the overall housing price. Secondly, the policy control should grasp that commercial housing has both investment and residential properties. On the one side, the level of the real estate market should be enhanced, and there is a need to stabilize the market and control prices, and prevent the housing price from growing too fast. On the other side, the construction of low-income housing will be accelerated, and the government will provide corresponding housing subsidies to meet the housing needs of low-income families. From regulating real estate prices to regulating the supply structure of real estate.

### 4.2 Solving the housing needs of the floating population by developing the rental housing market

Relevant legislation should be promoted and the development of the rental market needs to be elevated to the legal level, so that a legal guarantee can be established for the long-term development of the rental housing market. The construction of a credit system should be accelerated using Internet technology, so that the leasing market information can be networked and brought into public. Internet thinking should be applied to the development of the rental housing business, the entrance of professional enterprises should be encouraged, the idle housing should be integrated, the rental management should be unified, and the efficiency of the industry should be improved. The government has accelerated the reform of establishing electronic government affairs, and provided online contract signing, registration and filing services for rental housing development, so as to clarify the rights and obligations of both parties. At the same time, the establishment of an information supervision platform should be strengthened to supervise the housing quality, rent level and transaction process to protect the rights and interests of parties.

### 4.3 Making reasonable planning for urban transformation and promoting industrial transformation and upgrading

The plant layout in Dongguan Town street is messy, the industrial products processed are mostly primary products, and the economic benefit of land use is low. It is necessary to scientifically and reasonably promote urban reconstruction and contiguous development projects in order to improve the economic benefits of land. For example, the establishment of the Urban Renewal Bureau will further improve the coordination ability of

Dongguan's urban reconstruction work and revitalize land resources. The authority for the approval of "three old" reconstruction projects shall be defined by the Urban Renewal Bureau, and the approval process and time limit for all kinds of business shall be clarified, and the urban Renewal Bureau shall consciously accept the supervision. After centralized transformation, Dongguan will reduce the city's shortcomings such as the lack of supporting facilities and weak linkage brought by the first development, improve its comprehensive competitiveness, increase fiscal revenue through kick, reduce the excessive dependence of government finance on land transfer fees, and improve the strength and toughness of real estate control policies.

## 5 Conclusion

Through the analysis of the real estate regulation data of Dongguan City, it can be found that the development of the real estate market in Dongguan City has a certain internal correlation with the economic development. Besides, the price of commercial housing is basically consistent with the speed of economic growth. This reflects from the side that the real estate regulation policy has a certain effect in controlling the development speed of the real estate industry. However, in terms of the proportion of the investment in fixed asset, the real estate industry in Dongguan always occupies a high proportion, which reflects the unreasonable development scale of the real estate market and the failure of policy regulation. The rising ratio of commercial housing prices to resident income reflects the gradual increase in living costs in Dongguan. Based on relevant data, the real estate regulation in Dongguan should be implemented in different regions more precisely. Meanwhile, the government should vigorously develop the rental housing industry to reduce urban living costs, and scientifically grasp the progress of urban renewal and transformation to achieve the purpose of regulating the scale and speed of the development of the real estate market. In this paper, the discussion on the effect of real estate policies in Dongguan City does not consider the economic development of surrounding cities and the impact of relevant policies on the real estate development of the city. However, the demand market of these cities and their policy fluctuations have a certain impact on the real estate market of Dongguan City. In future studies, a new framework can be designed to incorporate the factor of surrounding cities into the quantitative analysis.

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