

Analysis of the Impact of Local Implementation Plans under the Easing of Mortgage Rules on the House Purchase Intentions of First-Time Homebuyers: A Case Study of Shenzhen

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Abstract. The real estate market is an important pillar of China's economy, and in recent years, housing mortgage lending policies have been gradually loosened to promote residents' willingness to buy homes. However, it is not clear how the loosening of the policy will have a real effect on the willingness of residents to buy their first home. Therefore, this paper investigates how policy relaxation affects the willingness of Shenzhen residents to purchase their first home by collecting questionnaires from Shenzhen residents and conducting binary logistic analysis on the data. The study found that although the strength of the policy incentives will significantly promote the willingness of residents to buy a home, however, this policy relaxation for the first suite of residential willingness to buy a home did not have a significant effect. Ultimately, this study provides some recommendations for the subsequent development of relevant policies.

Keywords: Shenzhen, mortgage policy, house purchase intention, binary logistic analysis.

1. Introduction

The real estate market is an essential part of the Chinese economy, it can serve as a lever to stabilize the financial system and the economy [1]. On 30 April, 2010, Beijing issued the "Notice from The People's Government of Beijing Municipality on Implementing the General Office of the State Council to Effectively Curb Rapid House Price Increases in Some Cities." marking the official launch of property-purchasing and mortgage limitation policies [2]. Afterward, the restrictions on property-purchasing and mortgage limitation policies became increasingly stringent until recent years when the People's Bank of China and the National Financial Regulatory Administration made multiple adjustments to the policies, leading to a gradual easing of these restrictions. Against the background of declining activity in the real estate market and guided by national policies, various cities implemented local easing policies based on their specific case.

The inhibitory effect of the loan restriction policy on house prices and the growth rate of house prices is significant [3, 4]. At the same time, the LPR mechanism in mortgage policies can effectively help to achieve the targeted regulation of the housing market [5]. With the implementation of the policy, the degree of influence of population inflow on urban housing prices is also gradually reduced [6]. However, some studies have shown that the policy of restricting loans and purchases has not had the desired effect, and has even led to 'the more restrictions, the higher the price rises [7]. After the end of the COVID-19 epidemic, the willingness of Chinese households to buy a home increased relative to the epidemic, but the unreasonable house prices limited their willingness, and the down payment, which rose with the house prices, also led to significant suppression of the consumption willingness of those households that were willing to buy a home [8, 9, 10]. On 29 May 2024, the Shenzhen Municipal Bureau of Housing and Construction announced the downward adjustment of the minimum down payment ratio and interest rate floor for individual housing loans [11]. As a first-tier city, Shenzhen has a large proportion of first-time home buyers, and this adjustment of the loan restriction policy mainly targets the group of residents who are first-suite home buyers, aiming to promote the sale of existing homes to prevent and resolve real estate risks and enhance market confidence [12, 13]. In the implementation of the policy, the efficiency of the policy is the most

important for housing security. With the efficient implementation of the policy, the residents' consumption has been expanded, the welfare of the disadvantaged groups has been improved, and the residents of Shenzhen City are more satisfied with the effect of the implementation of the policy [14, 15, 16].

Although the impact of the property-purchasing and mortgage limitation policies has been fully researched and explained by previous researchers, there is still no research revealing the impact of the policy's relaxation on residents' willingness to purchase their first home. Moreover, as shown in Figure 1, according to the data from the Statistics Bureau of Shenzhen Municipality, after the policy was enacted, the number of housing transactions in Shenzhen rose only briefly and then fell back again. It is doubtful whether the effect of the policy has met the expectation. This leads to a hypothesis: The policy's relaxation has not created a sufficient boost to the willingness of first-time residents to purchase a home. The study of this issue is very meaningful for the formulation of related policies.

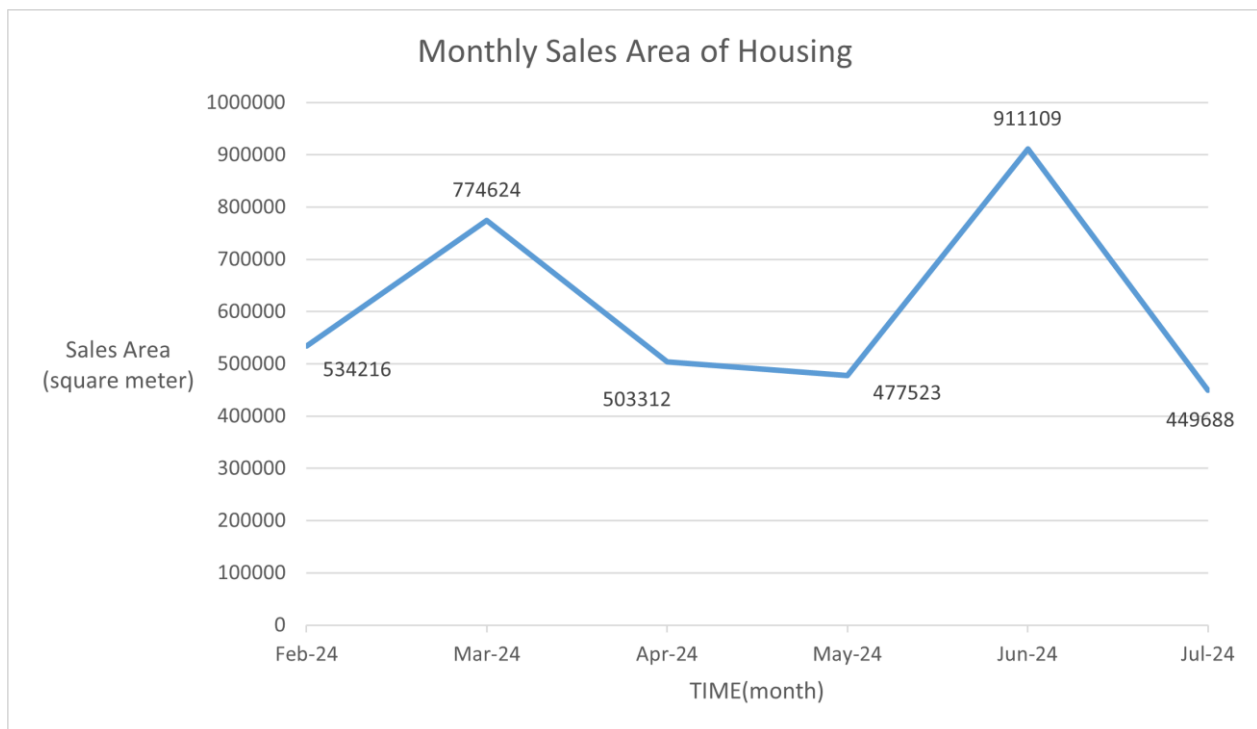


Figure 1. The monthly sales area of housing

This study takes Shenzhen as an example, based on the questionnaire data collected by the author from Shenzhen residents, and utilizes the Ordinal Logistic Regression Analysis to try to reveal the impact of the policy enactment on the willingness of first home buyers in Shenzhen to purchase a home.

2. Method

2.1. Evaluation System

The Customer Perceived Value (CPV) was first proposed by Zaithaml in 1988 [17] who pointed out that the factors that consumers consider when assessing value include price, quality, and other benefits. When analyzing the impact of the relaxation of the housing loan restriction policy on the willingness of home buyers to purchase a home, the factors that influence a home can be divided into three parts: policy influence, market environment, and personal preference. The theoretical research model of the influencing factors of home purchase intention based on CPV is shown in Figure 2.

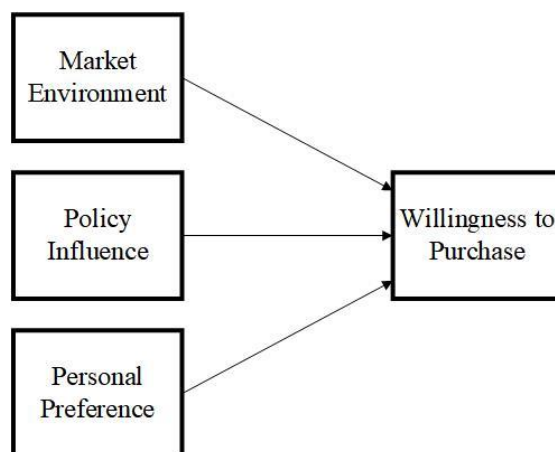


Figure 2. The theoretical research model

In Figure 2, policy influence refers to the effect of government policies on home buyers' willingness to purchase homes in the property market. China's real estate market is mainly regulated and managed by government policies, which can determine the trend of the real estate market, and influence the cost of home purchase, the prerequisites for home purchase, and the limit of homes that can be owned by home buyers, which in turn affects the willingness to purchase homes.

Market environment refers to the impact of factors such as supply and demand, price trends, and macroeconomic conditions on home buyers in the property market. The market environment undergoes various changes when real estate-related policies change. For example, the relaxation of related policies can lead to phenomena such as rising property prices and a shortage of housing. In such an environment, homebuyers may feel higher pressure and competition to purchase a home, which in turn affects their willingness to purchase a home. At the same time, the stability and transparency of the market is also an important reference factor for home buyers to assess the value of housing, a good market environment can enhance the confidence of home buyers, and vice versa, will lead to an increase in their concerns about the purchase of homes.

Personal preference refers to the individual needs and values of home buyers as reflected in their decision-making process. Against the backdrop of the loosening of lending restrictions, homebuyers will form different home-buying preferences based on their own life stage, family structure, financial situation, and expectations for the future. For example, young families may be more inclined to choose a school district home to meet their educational needs, while investors may be concerned about the property's potential to increase in value. Changes in personal preferences will directly affect homebuyers' decisions on the range of house prices they are willing to accept and their choice of property type, thus influencing overall home purchase intentions. Based on the above model, this study will mainly consider the impact of policy influence on the willingness to purchase a home.

2.2. Data Sources and Variable Designs

2.2.1. Data Sources

In this study, the citizens of Shenzhen City were selected as the research object, and the data were collected through the questionnaire method. The questionnaire distribution methods are generally divided into two types: offline collection and online collection. Offline collection can effectively obtain highly accurate data; however, the collection efficiency is low. Online collection allows for quick data collection; however, data accuracy is low. This study adopts a combination of online and offline questionnaire distribution. A total of 147 questionnaires were collected from 1st October 2024 to 18th October 2024, among which 16 questionnaires were invalid and 131 questionnaires were valid, and the recovery rate of valid questionnaires was 89.12%.

2.2.2. Variable Designs

Based on the constructed theoretical research model of home purchase intention, the following explanatory variables, and main explanatory variables with other control variables were designed.

The explained variable measures the effect of policy on residents' willingness to buy a home, where 'Presence of a facilitating effect' is assigned a value of '1' and 'no facilitating effect' is assigned a value of '0'. The main explanatory variables include the strength of policy favors, with 'satisfaction with the policy' used as the performance measure in the questionnaire survey, 'very dissatisfied' was assigned a value of '0', 'dissatisfied' is assigned a value of '1', 'average' is assigned a value of '2', 'satisfied' is assigned a value of '3' and 'very satisfied' is assigned a value of '4'. Additionally, the number of houses currently owned by residents is recorded, assigning a value of '0' for first-time homebuyers (those without any house) and '1' for non-first-time homebuyers (residents with one or more houses). Other control variables include the individual preferences of the survey participants and their perceptions of the market environment. Descriptive statistics for each variable are presented in Table 1.

Table 1. The Variable

Type of variable	Name of variable	Variable Definition and Description
Explained variables	The effect of policy on residents' willingness to buy a home	Presence of a facilitating effect---1, No facilitating effect---0
Main explanatory variables	The strength of policy favors	Very dissatisfied---0, Dissatisfied---1, Average---2, Satisfied---3, Very satisfied---4
Individual preferences	The number of housing units currently owned by residents	First-time homebuyers---0, Non-first-time homebuyers--1
	Importance of down payment ratio and interest rate for housing loans Importance of school district and area of the property Importance of current housing prices and market expectations Importance of household annual income Importance of neighborhood environment and transportation accessibility Importance of the current number of housing available	Not important at all — 0 Not important — 1 Neutral — 2 Important — 3 Very important — 4
Perceptions of the market environment	Perception of current housing price levels	Low---0 Normal---1 High---2 Very High---3
	Willingness to buy a home again	No---0 Yes---1

2.3. Model Setting

The dependent variable designed for this study is binary. This research uses a binary logistic model to validate the impact of policy incentives and the current number of housing units on residents' willingness to purchase homes. The specific model is as follows:

$$\ln \frac{p}{1-p} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \mu \quad (1)$$

In the model, P represents the impact of policy incentives on residents' willingness to purchase homes. The variable X_1 represents the intensity of policy incentives, X_2 represents the current number of housing units owned by residents, and X_3 represents the control variables. μ is the random disturbance term with a mean of 0.

3. Result

The standardized questionnaire data were imported into SPSS 27.0 and subjected to binomial logistic regression analysis, and the results are shown in Table 2. The results of the Hosmer and Lemeshow Test for the data are shown in Table 3. From the results, it can be observed that the significance value in the Hosmer and Lemeshow Test is greater than 0.05, indicating that the constructed model fits the data well. From the regression results, it can be seen that residents' willingness to buy a home is promoted by the policy and rises with the increase of the policy benefits, but there is no significant difference between the willingness of first-suite and non-first-suite residents to buy a home influenced by the policy. At the same time, the idea of repurchasing or replacing a home can also significantly affect the policy's effect on residents' willingness to buy a home.

Table 2. The impact on residents' willingness to buy a home

Type of variable	Name of variable	The effect of policy on residents' willingness to buy a home (coefficient)
Explanatory variables	The strength of policy favors (0)	2.307*
	The number of housing owned by residents(0)	-0.045
Individual preferences	Importance of down payment ratio and interest rate for housing loans(0)	1 -20.603
		2 19.413
		3 21.152
		4 18.929
	Importance of school district and area of the property(0)	1 -21.386
		2 0.531
		3 -0.120
		4 1.186
	Importance of current housing prices and market expectations(0)	1 20.802
		2 -4.389
		3 -5.509
		4 -5.240
	Importance of household annual income(0)	1 65.211
		2 -20.276
		3 -17.951
		4 -17.537
	Importance of neighborhood environment and transportation accessibility(0)	1 -23.129
		2 -20.940
		3 -21.205
		4 -20.927
	Importance of number of housing available(0)	1 2.121
		2 1.479
		3 3.212*
		4 1.160
Perceptions of the market environment	Perception of current housing price levels(0)	1 -1.151
		2 -0.299
		3 -2.836
	Willingness to buy a home again(0)	2.585*

Note: * means the variable is significant within the 95% confidence interval.

Table 3. Hosmer and Lemeshow test

Step	Chi-square	df	Sig.
1	4.693	8	0.790

Looking at the standardized data from the valid questionnaires, 56.5% of the 131 valid questionnaires indicated that 'the policy has not promoted the willingness to buy a home'. Among the 50 residents with 0 suites, 52% of them said that 'the policy has not promoted the willingness to buy a home'. At the same time, 69.5% of residents said they were dissatisfied or generally satisfied with the current policy. Among dissatisfied residents, the main reasons for their dissatisfaction with the policies are that 'mortgage interest rates and down payment ratios are still too high', 'housing prices are excessively high', and 'the housing market is very weak'. The data obtained and the results of its analysis validate the hypothesis that the policy's relaxation has not created a sufficient boost to the willingness of first-time residents to purchase a home.

4. Discussion

The loosening of the mortgage policy did not create a sufficient boost to the willingness of first-home residents to purchase homes, probably for the following reasons: First of all, for mortgage interest rates and down payment ratio, in the survey residents for mortgage interest rates and down payment ratio of the importance of the average value of 2.78, indicating that the residents for mortgage interest rates and down payment interest rate are more important, however, residents said that the current proportion of the down payment and lending rates are still too high, indicating that the current policy to loosen the efforts still need to be increased. Secondly, regarding the current house prices and expectations for the future market, although 62.6% of the residents said they would like to buy a house again, representing optimism for future market expectations, 77.1% of the residents said that the current house prices are too high, which will also inhibit the policy's promotion of the residents' willingness to buy a house.

Based on the results of the study, the following recommendations can be made for the future lending restriction policy. Firstly, further reduction of the down payment ratio for housing loans can be considered in future policies, the current downpayment ratio for housing loans is still high for homebuyers. Secondly, policies that are favorable to real estate developers should be published, a large part of the current reluctance of residents to buy houses is due to the lack of optimism about the future market, and the enactment of policies favorable to real estate developers can attract developers to move in and strengthen the confidence of the market. Thirdly, the regulation of market prices should be strengthened, the resistance of residents to homeownership comes mainly from the high cost of housing and the instability that comes with such high prices, and the regulation of market prices and the promulgation of relevant safeguards can reduce the resistance of residents to homeownership.

It should be noted that the conclusions in this paper may have limitations. First, the samples of this study are all from Shenzhen, and the results obtained are regional. Secondly, the data sample of this study is not guaranteed to cover all types of groups. The scope of data collection in this study is limited, and certain groups are not counted, so the results may not be generalizable. At the same time, a research sample that is too small will lead to some errors in the final data, which will have some impact on the results. Attention needs to be paid to collecting more comprehensive data samples in further studies in the future.

5. Conclusion

Through the study, this paper finds that the policy promulgated by Shenzhen to loosen the mortgage restriction policy does not significantly promote the home purchase intention of residents with first homes. This result can be explained by the following points. First, about mortgage interest rates and down payment ratios, residents attach greater importance to mortgage interest rates and down payment interest rates, however, residents said that the current down payment ratios and loan interest rates are still too high, which limits their willingness to purchase a home. Second, about current housing prices and expectations for the future market, while some residents expressed a

willingness to buy a home again, representing optimism about future market expectations, most residents, however, said that current housing prices are too high, which will also inhibit the policy's promotion of residents' willingness to buy a home. In response to the findings of the study, the paper makes recommendations to further reduce the down payment ratio for housing mortgages, enact policies favorable to real estate developers, and further regulate market prices. This study scientifically evaluates the impact of the loosening of the lending restriction policy on the willingness of residents of the first suite to purchase a home, filling a gap in the research in this area. Finally, in this paper, due to the small amount of data and a certain degree of regionality, the results of the study will have a certain degree of error. In the future, the effect of loan restriction policy loosening comparison can be analyzed in the study of each province.

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