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## FACTORS AFFECTING THE PRICE OF THE REAL ESTATE: A CASE OF HO CHI MINH CITY

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**ABSTRACT:** *The objective of this study is to explore the determinants affecting the price of the real estate in Ho Chi Minh City (HCMC). The research results provided the basic information for investors, customers and managers to make optimal investment decisions on real estate market in HCMC, Vietnam. Besides, the researchers surveyed 250 investors in real estate who answered 28 questions. The primary sources of data collected from January 2019 to July 2019 and simple random sampling technique. The Data analyzed Cronbach's Alpha and the exploratory factor analysis (EFA) which used for multiple linear regression technique and using partial least squares method. Investors' responses measured through an adapted questionnaire on a 5-point Likert scale. Hard copy distributed among 5.000 investors in HCMC. Finally, the findings of the study have six factors affecting the price of real estate in Ho Chi Minh City (HCMC) with significance level 0.05.*

**KEYWORDS:** Price; market; real estate, HCMC, investors and HCMUNRE.

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### INTRODUCTION

Nowadays, real estate is increasingly expanding and developing, playing a more important role in the country's market economy. Real estate investment is an objective economic phenomenon in the commodity economy, whereby the commodity economy develops, investment is expanded both in scope, scale and form. Real estate goods include some of the following characteristics: depending on its usefulness in the economy; provide usefulness and convenience to users, thereby laying the foundation for other activities; generate profits for investors and participants involved in real estate business activities (Allen, M. J., Madura, S. & Wiant, K, 2008).

The strategy developing the real estate market, the State has supplemented and perfected the legal system, management policy system as well as management organization, creating conditions for the market to expand and development, contributing to overcome speculation, corruption, tax evasion... In addition, this market operation will contribute to establishing economic relations between the State and real estate users, in order to improve the efficiency of land resource use and overcome non-economic status in construction investment, increasing revenues for the State Budget.

The real estate market plays a very important role for the development of the economy, which contributes to promoting investment capital mobilization, promoting production and development, increasing state budget revenues and expanding. markets, contributing to socio-economic stability... Above mentioned things, the researchers chosen topic “*Factors affecting the price of*

*the real estate in Ho Chi Minh City*” as a paper. This helps the real estate market find recommendations to improve effectiveness in the future.

## **LITERATURE REVIEW**

### **Natural factors**

This is the most important factors directly affecting the long-term value of the real estate and the price of the real estate. This group of factors includes: (1) Location of real estate: There are two types of real estate locations: relative position and absolute position. The better the location, the better the real estate value. Real estate in the center of a big city, densely populated, modern living facilities, etc. (Tze, S. O, 2013). It will surely be higher than similar properties but located in suburban areas (relative location). The property is located on the big roads, right at the corner of the intersection, near the important traffic axes, the price will be higher than the property located at the end of the alley, in the small road... (2) Size, area, shape of the land: Real estate with large area, square shape, not distorted or deformed will have a higher price. (3) Terrain: Real estate is located in high areas, less flooded in the rainy season, the price is higher than those in low-lying areas. (4) Form of construction. (5) Soil characteristics: In areas with a moderate soil hardness, not too soft, favorable for housing construction, the value of real estate is also increased. (6) Environmental factors and natural disasters and zone (Bailey, M. J., Muth, R. F. & Nourse, H. O, 2008).

### **Economic factors**

Real estate profitability: That is, if you buy the property for sale, for rent, or for resale, the profit earned from that high or low will affect its actual value at the time of sale. For example: Real estate in Ho Chi Minh City center will be higher than the surrounding areas or rural areas... The amenities of real estate: including electricity, water, sanitation, air conditioning, communication, etc., the more complete the amenities and the better the quality, the higher the real estate value (Burinskienė, M.; Rudzkienė, V, 2004).

### **Market factors**

It can be said that the real estate market is one of the important input resources markets of the national economic system, this market has its own characteristics different from other input resource markets (Vanichvatana, S, 2007). Because the real estate market is developed on land with distinctive characteristics such as: goods and transaction locations are often separated; a regional market; a typical type of imperfect market; supply and demand for real estate are less elastic and outdated compared to prices and the operation of the Real Estate Center is subject to the control of the State. On the other hand, the real estate market has a direct relationship in the connective sense with other input resource markets (such as labor market, financial market...). The development of special properties both contributes to economic development and contributes to social stability (Foldvary, T. G. & Jaffe, A. J, 2010).

### **Legal factors**

Legal factor attached to real estate such as red books, pink books, ownership certificates... Regulations on construction and architecture associated with real estate such as restrictions on land use rights, ownership of houses and other construction works attached to real estate: rental

status, real estate mortgage, competition status Acceptance of land use rights, home ownership, and restrictions on common ownership (for example, houses built in areas where the runway is not more than 3 stories high) are also influencing factors. to the real estate value (Guntermann, K. L. & Norrbin, S. C, 2010).

### **Political factors**

The change in policies of the State and local authorities may have impacts on the operation of the real estate market in general and investment in the real estate sector in particular. Detail: Policies that have indirect effects, such as the encouragement of outside investment in the locality, can increase the demand for real estate, which can cause real estate prices to increase. Direct impact policies such as: policies allowing overseas Vietnamese to buy real estate in Vietnam. The policy allows non-residents to buy houses in the city. Financial policies applicable to those who are allocated or leased land by the State... Credit policy for real estate investment activities and Government tax policies for real estate (Hyman, J. & Witkiewicz, W, 2009).

### **Macroeconomic factors**

The macroeconomic environment will affect the idea of investing and controlling projects' activities: to facilitate or hinder the project implementation process. Favorable macroeconomic conditions not only create favorable conditions for projects to come into existence and operate effectively, but also to a certain extent the investment ideas may appear. Therefore, the research and evaluation of macroeconomic conditions are important in the process of making and managing investment projects (Okumu, J. M, 2015). Factors in the macroeconomic environment can have many. However, investors should keep in mind when conducting the macroeconomic environment assessment on the following basic issues: Characteristics of regional real estate market participants. Real estate market conditions in the region. Current situation of the neighborhood (infrastructure such as roads, water supply and drainage systems, electricity supply, communication...) (Zhu, J. M., Sim, L. L. & Zhang, X. Q, 2015). Annual GDP growth rate of the region. The average annual income of people in the area (high, medium or low group) compared to other regions. Ability to meet the credit needs of the regional credit system. Number of plots and vacant parcels of land in the area. Average price of different types of land in the region. Tax rates and tax rates. General inflation level and situation of labor market, stock market, credit market in the region (Megbolugbe, I. F., Marks, A.P. & Schwartz, M. B, 2011).

### **The above mentioned things, the researchers have hypotheses following:**

*Hypothesis 1 (H1): Natural factors (NF) had positive relation to the price of the real estate (PR) in Ho Chi Minh City.*

*Hypothesis 2 (H2): Economic factors (EF) had positive relation to the price of the real estate (PR) in Ho Chi Minh City.*

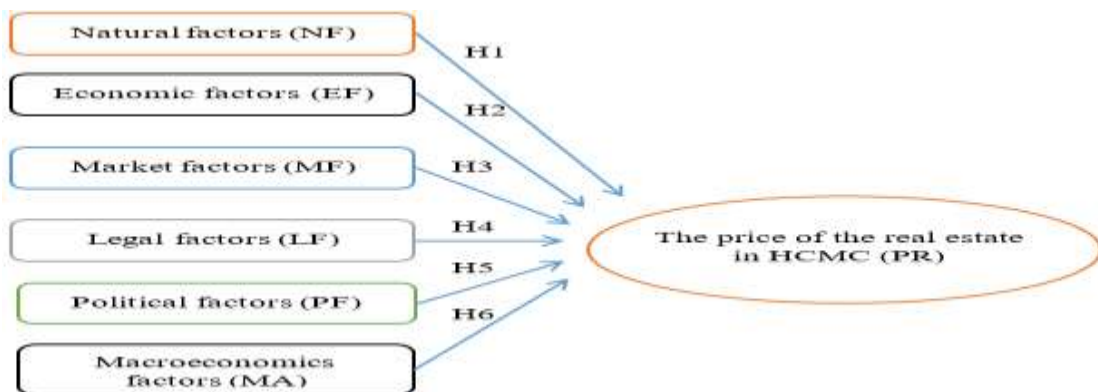
*Hypothesis 3 (H3): Market factors (MF) had positive relation to the price of the real estate (PR) in Ho Chi Minh City.*

*Hypothesis 4 (H4): Legal factors (LF) had positive relation to the price of the real estate (PR) in Ho Chi Minh City.*

*Hypothesis 5 (H5): Political factors (PF) had positive relation to the price of the real estate (PR) in Ho Chi Minh City.*

*Hypothesis 6 (H6): Macroeconomics factors (MA) had positive relation to the price of the real estate (PR) in Ho Chi Minh City.*

### Research model for factors affecting the price of the real estate (PR) in Ho Chi Minh City.



(Source: Researchers proposed)

**Figure 1: Research model for factors affecting the price of the real estate (PR) in Ho Chi Minh City**

## METHODS OF RESEARCH

In this study, the researchers used both the qualitative and quantitative methods. The researchers used for qualitative research included interviews and focus group interviews such as 10 experts. This method allowed researchers to explore a topic in depth with one or two people at a time. The researchers can also collect qualitative data from interactions, this research recognizes that factors affecting the price of real estate (PR) in HCMC. In addition, quantitative research always collects numerical data. The researchers collected Data numbers, then the research is qualitative. Quantitative research used to get views from large numbers of investors. The first step in quantitative research is to determine the sampling and sample design and then researchers need to gather data. Suitable methods include surveys investors related to real estate in HCMC. The research process for factors affecting the price of the real estate (PR) in HCMC conducted in three phases following. Phase 1: The researchers applied the expert methodology and based on 10 experts' consultation related to the real estate who are working for the real estate companies in HCMC. Phase 2: The researchers tested a reliability scale with Cronbach's Alpha coefficient and exploratory factor analysis. This phase surveys samples 30 investors in order to check the content and the information of questionnaire. The questionnaires sent direct to investors in Ho Chi Minh city. The final questionnaires surveyed investors because it took them less than 20 minutes to complete the survey. There are 250 investors surveyed by hard copy distributed among more than

5.000 investors in HCMC. All data collected from the questionnaire are coded, processed by SPSS 20.0. Any observational variables with a total correlation coefficient greater than 0.3 and Cronbach's Alpha coefficient greater than 0.6 would ensure reliability of the scale. The observed variables in the whole which are correlated when Average Variance Extracted is  $> 50\%$ , the KMO coefficient is within 0.5 to 1, Sig coefficient  $\leq 5\%$ , the loading factors of all observed variables are  $> 0.5$ . Phase 3: The researchers used for multiple linear regression technique and using partial least squares method and conclusion and recommendations (Hair, J.F., Jr.; Black, W.C.; Babin, B.J.; Anderson, R.E, 2014).

### The scale reliability tests for factors

**Table 1: The scale reliability tests for factors affecting the price of the real estate (PR) in Ho Chi Minh City**

Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
NF1	11.36	10.474	0.875	0.943
NF2	11.29	10.703	0.890	0.940
NF3	11.34	10.608	0.943	0.932
NF4	11.35	10.873	0.828	0.951
NF5	11.33	11.334	0.834	0.950
<b>Cronbach's Alpha for Natural factors (NF)</b>				<b>0.954</b>
EF1	8.39	12.482	0.714	0.878
EF2	8.40	12.307	0.757	0.862
EF3	8.25	11.395	0.848	0.827
EF4	8.36	12.240	0.728	0.873
<b>Cronbach's Alpha for Economic factors (EF)</b>				<b>0.892</b>
MF1	8.14	12.055	0.855	0.860
MF2	7.95	13.372	0.771	0.891
MF3	8.40	13.924	0.742	0.900
MF4	8.21	13.325	0.815	0.876
<b>Cronbach's Alpha for Market factors (MF)</b>				<b>0.909</b>
LF1	12.66	12.741	0.777	0.910
LF2	12.60	12.391	0.787	0.909
LF3	12.50	12.503	0.829	0.900
LF4	12.67	12.800	0.838	0.899
LF5	12.58	12.871	0.776	0.911
<b>Cronbach's Alpha for Legal factors (LF)</b>				<b>0.923</b>
PF1	6.60	4.223	0.834	0.766
PF2	6.80	4.444	0.724	0.865
PF3	6.77	4.497	0.740	0.850
<b>Cronbach's Alpha for Political factors (PF)</b>				<b>0.878</b>
MA1	10.61	11.295	0.872	0.894
MA2	11.29	10.703	0.776	0.913
MA3	10.95	9.301	0.843	0.892
MA4	11.21	9.113	0.843	0.894
<b>Cronbach's Alpha for Macroeconomics factors (MA)</b>				<b>0.922</b>
PR1	6.66	1.479	0.464	0.617
PR2	6.67	1.175	0.483	0.599

**RESEARCH RESULTS****Table 2: Coding of the observed variables**

<b>Code</b>	<b>Natural factors (NF)</b>	<b>Mean</b>	<b>Std. Deviation</b>
<b>NF1</b>	Location of real estate	2.81	.940
<b>NF2</b>	Size, area, shape of the land	2.87	.890
<b>NF3</b>	Real estate is located in high areas, less flooded in the rainy season, the price is higher than those in low-lying areas	2.83	.866
<b>NF4</b>	Form of construction and soil characteristics	2.82	.912
<b>NF5</b>	Environmental factors and natural disasters	2.84	.830
<b>Code</b>	<b>Economic factors (EF)</b>	<b>Mean</b>	<b>Std. Deviation</b>
<b>EF1</b>	Real estate profitability	2.74	1.306
<b>EF2</b>	Real estate in Ho Chi Minh City center will be higher than the surrounding areas or rural areas	2.73	1.283
<b>EF3</b>	The amenities of real estate	2.88	1.329
<b>EF4</b>	The more complete the amenities and the better the quality, the higher the real estate value	2.78	1.328
<b>Code</b>	<b>Market factors (MF)</b>	<b>Mean</b>	<b>Std. Deviation</b>
<b>MF1</b>	Usefulness, ability to exploit and use of real estate in HCMC	2.76	1.445
<b>MF2</b>	Supply-demand situation	2.95	1.340
<b>MF3</b>	Inflation in real estate of HCMC	2.50	1.289
<b>MF4</b>	Speculation in real estate of HCMC	2.69	1.297
<b>Code</b>	<b>Legal factors (LF)</b>	<b>Mean</b>	<b>Std. Deviation</b>
<b>LF1</b>	Legal factors attached to real estate such as red books, pink books, ownership certificates	3.10	1.016
<b>LF2</b>	Regulations on construction and architecture associated with real estate	3.15	1.063
<b>LF3</b>	Ownership of houses and other construction works attached to real estate	3.25	1.006
<b>LF4</b>	Competition status Acceptance of land use rights, home ownership, and restrictions on common ownership	3.08	.951
<b>LF5</b>	Houses built in areas where the runway is not more than 3 stories high	3.17	.997
<b>Code</b>	<b>Political factors (PF)</b>	<b>Mean</b>	<b>Std. Deviation</b>
<b>PF1</b>	Policies allowing overseas Vietnamese to buy real estate in Vietnam	3.48	1.118
<b>PF2</b>	The policy allows non-residents to buy houses in the city	3.28	1.155
<b>PF3</b>	Financial policies applicable to those who are allocated or leased land by the State	3.31	1.128
<b>Code</b>	<b>Macroeconomics factors (MA)</b>	<b>Mean</b>	<b>Std. Deviation</b>
<b>MA1</b>	Annual GDP growth rate of the region	4.08	.916
<b>MA2</b>	The average annual income of people in the area	3.40	1.101
<b>MA3</b>	Average price of different types of land in the region	3.74	1.278
<b>MA4</b>	Infrastructure such as roads, water supply and drainage systems, electricity supply, communication	3.47	1.311
<b>Code</b>	<b>The price of real estate in HCMC (PR)</b>	<b>Mean</b>	<b>Std. Deviation</b>
	PR3	6.53	1.269
		0.532	0.525
	<b>Cronbach's Alpha for the price of real estate in HCMC (PR)</b>		<b>0.676</b>
	<b>KMO</b>		<b>0.766</b>

<b>PR1</b>	Natural factors (NF) and economic factors (EF) affecting the price of real estate in HCMC	3.27	.607
<b>PR2</b>	Market factors (MF) and legal factors (LF) affecting the price of real estate in HCMC	3.26	.753
<b>PR3</b>	Political factors (PF) and macroeconomics factors (MF) affecting the price of real estate in HCMC	3.40	.675
<b>Extraction Sums of Squared Loadings of cumulative %</b>		<b>81.384</b>	

(Source: Researchers processing by SPSS 20.0)

Table 2 showed that all of 28 variables surveyed Corrected Item-Total Correlation greater than 0.3 and Cronbach's Alpha if Item deleted greater than 0.6 and Cronbach's Alpha is very reliability. Such observations make it eligible for the survey variables after testing scale. This showed that data was suitable and reliability for researching. Besides, KMO is an index used to examine the appropriateness of factor analysis. KMO value significantly larger factor analysis is appropriate. KMO coefficient is 0.766 and the level of significance (Sig) is 0.000. Exploratory Factor Analysis (EFA) is consistent with survey data of 250 investors surveyed but only 215 investors processed by SPSS 20.0. Besides, table 3 showed that six factors the price of the real estate (PR) in Ho Chi Minh City following.

**Table 3: Six factors affecting the price of the real estate (PR) in Ho Chi Minh City**

Code	Component					
	1	2	3	4	5	6
NF3	0.964					
NF1	0.937					
NF5	0.916					
NF2	0.895					
NF4	0.869					
LF3		0.961				
LF4		0.887				
LF5		0.851				
LF1		0.849				
LF2		0.797				
MA1			0.963			
MA4			0.917			
MA2			0.878			
MA3			0.860			
MF1				0.938		
MF2				0.897		
MF4				0.897		

MF3				0.817		
EF3					0.917	
EF4					0.902	
EF2					0.871	
EF1					0.755	
PF3						0.945
PF1						0.897
PF2						0.732
Extraction Method: Principal Component Analysis.						
Rotation Method: Promax with Kaiser Normalization.						

(Source: Researchers processing by SPSS 20.0)

Table 3 showed that six factors the price of the real estate (PR) in Ho Chi Minh City such as Natural factors (NF); Economic factors (EF); Market factors (MF); Legal factors (LF); Political factors (PF) and Macroeconomics factors (MA).

#### The result for KMO and Bartlett's Test for the price of real estate in HCMC (PR)

**Table 4: KMO and Bartlett's Test for the price of real estate in HCMC (PR)**

<b>KMO and Bartlett's Test</b>						
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.				0.659		
Bartlett's Test of Sphericity		Approx. Chi-Square		100.990		
		df		3		
		Sig.		.000		
<b>Total Variance Explained</b>						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.830	61.003	61.003	1.830	61.003	61.003
2	.637	21.228	82.231			
3	.533	17.769	100.000			
Extraction Method: Principal Component Analysis.						
<b>Component Matrix<sup>a</sup></b>						
	Component					
	1					
PR3	0.811					
PR2	0.772					
PR1	0.759					
Extraction Method: Principal Component Analysis.						
a. 1 components extracted.						

(Source: Researchers processing by SPSS 20.0)



Table 4 showed that KMO is an index used to examine the appropriateness of factor analysis. KMO value significantly larger factor analysis is appropriate. KMO coefficient is 0.659 and the level of significance (Sig) is 0.000. Extraction Sums of Squared Loadings of Cumulative % is 61.003 %.

### Testing relationships for coefficients from the research model

**Table 5: Coefficients get from the research model**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	0.828	0.163		5.067	0.000		
NF	0.070	0.031	0.108	2.247	0.026	0.860	1.162
LF	0.201	0.032	0.334	6.310	0.000	0.709	1.411
MA	0.183	0.024	0.362	7.601	0.000	0.880	1.137
MF	0.138	0.021	0.311	6.435	0.000	0.854	1.171
EF	0.089	0.023	0.191	3.866	0.000	0.819	1.221
PF	0.105	0.028	0.200	3.716	0.000	0.684	1.461

Dependent Variable: PR; Adjusted R Square = 0.574 and Durbin-Watson = 1.851

*Note: \*\*\*Significant at 5 percent (All t-tests are one-tailed)*

(Source: Researchers processing by SPSS 20.0)

Table 5 showed that column “Sig.” < 0.05 with significance level 0.05 and conclusion H1: supported, H2: supported, H3: supported H4: supported, H5: supported and H6: supported. This showed that six factors affecting the price of real estate in HCMC with significance level 0.05.

## CONCLUSIONS AND MANAGERIAL IMPLICATIONS

### Conclusions

The real estate market is one of the important markets of the economy because it is directly related to a huge amount of assets in terms of scale, nature and multi-faceted value in the national economy. The effective development and management of this market will make an important contribution to the process of promoting socio-economic development, creating the ability to attract investment capital for development and making practical contributions to sustainable urban and rural development process towards national industrialization and modernization. Research result showed that the researchers surveyed 250 investors in real estate who answered 28 questions but 215 samples processed, 35 samples lacked of information. The primary sources of data collected from January 2019 to July 2019 and simple random sampling technique. The Data analyzed Cronbach's Alpha and the exploratory factor analysis (EFA) which used for multiple linear regression technique and using partial least squares method. Investors' responses measured through an adapted questionnaire on a 5-point Likert scale: (1) is completely disagreement to (5) is completely agreement. Hard copy distributed among 5.000 investors in HCMC. Finally, the findings of the study have six factors affecting the price of real estate in HCMC with significance level 0.05.

### **Managerial implications**

The study results showed that six factors are moving in positive direction, Therefore, the researchers have managerial implications bellowed.

**Macroeconomics factor ( $\beta = 0.362$ )** has the strongest impact on the price of real estate in HCMC with significance level 0.05. The researchers have recommendations following: Medium and long-term credit sources can be used to develop social housing, rental housing to renovate old apartments in particular for the real estate market in general. The solution is that we should continue to open the policy of real estate mortgages in Vietnam at foreign credit institutions. It can be said that this is the only way to access medium and long-term loan.

**Legal factor ( $\beta = 0.334$ )** have the second impact on the price of real estate in HCMC with significance level 0.05. The researchers have recommendations following: The preferential credit lending mechanism for the poor and low-income people needs to be revised in the principle of implementing small credit with the participation of communities and social organizations. The most important thing is to give the poor the opportunity to renovate their current home with their living situation.

**Market factor ( $\beta = 0.311$ )** have the third impact on the price of real estate in HCMC with significance level 0.05. The researchers have recommendations following: The market development opportunity in 2019 always depends on the lucrative attractiveness when investing in real estate. Government needs to ensure the transparency of the information market so that each person can make their own predictions and make careful investment choices. In addition, risks of financial relations should also be strictly managed, including future transfers, security transactions, and asset transactions. Good risk management ensures that all transactions in the market are safe, creating an appeal for the real estate market.

**Political factor ( $\beta = 0.200$ )** have the fourth impact on the price of real estate in HCMC with significance level 0.05. The researchers have recommendations following: All parties involved in the real estate market must join hands to make open policies in the housing law of 2014, real estate business law of 2014 to be implemented in practice. This has led to a significant increase in capital and potential capital for the market.

**Economic factor ( $\beta = 0.191$ )** have the fifth impact on the price of real estate in HCMC with significance level 0.05. The researchers have recommendations following: The fifth is the real estate market in Vietnam which has experienced the first stage associated with the economy transition from subsidy to market. Therefore, in the next stages, we need professional managers, professional investors and professional consumers.

**Natural factor ( $\beta = 0.108$ )** has the less impact on the price of real estate in HCMC with significance level 0.05. The researchers have recommendations following: Vietnam's real estate tax system is outdated, not generating revenue from real estate revenues for infrastructure development and public services, nor providing management effect for market. The evidence is

that we take a lot of effort to try to clear Ho Chi Minh City but it still cannot do anything and we only need to levy high taxes on real estate in the old town to be able to adjust the distribution. Daddy resides here. The next research should survey more than more than 28 variables and more 250 investors related to real estate in other provinces. This helps the data that is more significant.

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