

A Comparative Analysis of Factors Affecting the Fluctuation Rate of House Jeonse Price by Type

주택전세가격 변동률 유형별 영향요인 비교분석

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1. 내 용

(1) 연구목적

본 연구의 목적은 주택전세가격 변동률에 영향을 미치는 요인을 유형별로 구분하여 비교분석하고자 하는 것이다.

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(2) 연구방법

본 연구의 방법은 PLS 회귀분석을 이용하여 유형별 주택전세가격 변동률에 영향을 미치는 요인을 비교분석하고자 한다. PLS 회귀분석은 종속변수와 독립변수간 각각의 영향관계를 파악할 수 있기 때문에 다중공선성 문제와 표본수 문제를 해결할 수 있다.

(3) 연구결과

주택전세가격 변동률 유형별 영향요인은 유형에 따라 공통적인 것도 있으나 상이한 부분도 존재함을 알 수 있다. 또한, 중요하게 영향을 미치고 있는 크기도 다름을 알 수 있었다.

2. 결 과

연구의 분석결과, 두가지 유형에서 주택전세가격 변동률에 공통적으로 중요한 요인으로 도출된 변수는 주택매매 가격 변동률, 혼인증가율, 주택 미분양 변동률 등이며 두 유형에서 상이하게 도출된 변수로는 평균보다 높은 지역의 경우 주택 건설실적 변동률, 전월세 전환 변화율으로 나타났다. 평균보다 낮은 지역의 경우 천인당 주택수 변동률로 도출되었다.

3. 핵심어

- 주택전세가격, 변동률, 영향요인, 부분최소자승 회귀분석, 비교분석
 - House rental price, fluctuation rate, Affecting factors, Partial Least Square Regression, Comparative analysis
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I. Introduction

1. Background and aim

Korea's house market has recently been in a downward trend for selling prices while the Jeonse prices has been showing a rapid increase. Accordingly, the government has presented three countermeasures of expanding supplies

and Jeonse fund loans and multilateral policies to stabilize residence for common working classes¹⁾.

The increase in Jeonse prices can originate from the imbalance between the demand and supply for Jeonse. It can be interpreted that the rapid increase in Jeonse prices is mainly caused by the major scarcity of Jeonse supply relative to its demand. Consequently this then leads to the magnified fluctuation of Jeonse prices. On this, studies to investigate what factors influence the

1) 1.13 stabilization measures for Jeonse and monthly rent market and 2.11 Jeonse and monthly rent market stabilization and supplementation measures and 8.18 Jeonse and monthly rent countermeasures

house Jeonse prices must be carried along with a profound review over the causes of rapid rise in Jeonse prices in order to achieve its stabilization. However, recent studies to investigate the affecting factors that considers the regional features are scarce. In house Jeonse prices it was found that there is a difference according to which regions i.e. boroughs even though they all belong the a same city. Therefore the features should not be classified by a regional extent, but by the very feature of the house Jeonse prices themselves. For example, the 25 boroughs in Seoul, the 31 cities and counties in Gyeonggi-do should not be classified by regional features (Seoul, as in Gyeonggi-do), but by the areas of high and low house Jeonse prices.

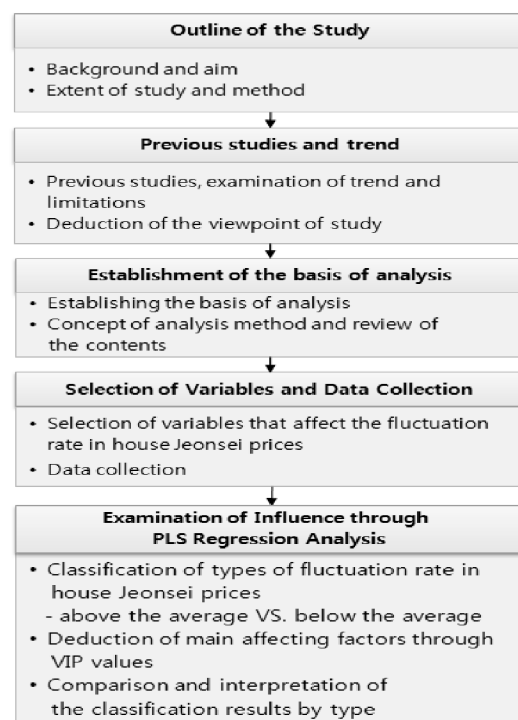
Hence this study aims to classify the types by the fluctuation rate of house Jeonse prices, not by the features depending on different cities. Based on the data collected on the classified types and utilizing PLS regression analysis, this study aims to investigate the affecting factors that influence the fluctuation rate of house Jeonse prices by types. Additionally, it also aims to carry out a comparative analysis the investigated affecting factors by type to suggest implications for the establishment of policies related to house Jeonse prices.

2. Extent of study and Method

The spatial extent of this study includes the 25 boroughs in Seoul, Daejeon, Daegu, Busan, Gwangju, Incheon, 6 metropolitan cities in Ulsan and 31 cities and counties in Gyeonggi-do as the main subjects.

As for the temporal extent, the main variables from 2009 and 2010 were gathered to figure out the fluctuation rate of the variables and apply them to this study.

〈Figure 1〉 Flowchart of Analysis



II. Previous studies and trend

1. Previous studies and examination of trend

The results of reviewing previous studies and trends for a comparative analysis of the fluctuation rate of house Jeonse prices are as follows.

In the study of Doo Yeol Choi (2012)²⁾ a explanatory economic measuring technique developed, a log t convergence test and real transaction land price of 25 boroughs of Seoul from January 2000 to September 2011 were used to analyze the long term convergence of each borough and also analyze the convergence factors through Multinomial Logit Model.

In the study of Sang Hak Park · Sung Hae Park (2012)³⁾, the change in the importance of Jeonsei and monthly rent in the national house lease market was diagnosed whether it is structural aspect and analyzed its causes.

In the study of Jun Hyek Jo(2011)⁴⁾, an empirical analysis was conducted on the hypothesis that states the mortgage effect of house in Jeonsei system and the psychological factor's impact of mortgage effect on economical decision making process are compounded to influence the development of house and Jeonsei prices. Additionally, through this the affecting factors and relationship between house Jeonsei and sales will be first analyzed and suggested political implications by deducing the cause of decoupling of short term house and Jeonsei prices.

In the study of Joo Ahn Kwon · Sung Ho Choi (2010)⁵⁾, the influencing relationships between the changes in Jeonsei prices and the characteristic factors of different regions were understood with the capital Jeonsei market as the background subject.

In the study of Joo Lim Lee · Ja Hoon Koo (2008)⁶⁾, an empirical analysis was conducted to investigate the impact of the supply of public rental multifamily housing on the perception of residents and house Jeonsei prices of surrounding area.

In the study of Tae Kyung Kim · Heon Soo Park (2008)⁷⁾, the mechanism of development of house market prices of subdivided housing submarket areas such as Seoul, Gyeonggi-do, Incheon and bubble seven area was analyzed comprehensively and the physical approachability variables were generated through various techniques and were analyzed as determinant of house prices. Also, through time sequential analysis, not single viewpoint cross-sectional analysis it explained the changes in the influence of intrinsic factors through the elapse of time.

2) Dooyeol Choi, "A Study on the convergence of Cheonse prices by borough and its decision factors in Seoul", Seoul Studies, Seoul Institute, 2012, Vol. 13 No. 1, pp.57-76.

3) Sanghak Park · Seonghae Park, "Structural Changes and Response of House Cheonse and Monthly Rent Market", Journal of Real Estate Academy, Korea Real Estate Academy, 2012, Vol. 49, pp.260-274..

4) Junhyek Cho, "The Effect of Psychological Cognition in Housing Price Uncertainty on a Deposit Lease Price", National Land Planning, Korea Planners Association, 2011, Vol. 46, No. 5, pp.179-192.

5) Jooahn Kwon · Seongho Choi, "Analysis on Regional Features of Metropolitan Cheonse Market", 2010, Korea Housing Institute, pp.1-3.

6) Joorim Lee · Jahoon Koo, "Effect of Public Rental Multi-family Housing on Resident's Perception and Housing Rent", National Land Planning, Korea Planners Association, 2008 Vol. 43, No. 1, pp.111-122.

7) Taekyung Kim · Heonsoo Park, "A Time Series Analysis of Spatial Factors Affecting Housing Prices", National Land Planning, Korea Planners Association, 2008, Vol. 43 No. 3, pp. 145-166.

In the study of Kung Jin Tae · Myung Koo Kang (2007)⁸⁾, number of household members, income, area, elapsed years, distance from workplace were selected and path analysis was used to analyze the potential factors and the impact on the burden rate of Jeonse price.

In the study of Hyun Jung Choi · Chang Seok Kim · Jin Nam (2004)⁹⁾, theories related to the changes in Jeonse prices due to house redevelopment enterprises were reviewed. With the 4th complex of Jamsil Joogong Apartment as the subject the patterns of movement of residences due to house redevelopment enterprises and the following changes in Jeonse prices were also analyzed empirically.

2. deduction of the viewpoint of the study

After reviewing previous studies most of the factors affecting the Jeonse prices of capital and local areas were investigated. However, there are differences in fluctuation rate in house Jeonse prices between boroughs and districts of the same city. For example there are 25 boroughs in Seoul and in Gyeonggi-do there are 31 cities and counties and the cities are again divided into separate boroughs.

Thus in this study, in order to reflect these characteristics data of each cities and subdivided local regions (esp.

boroughs) were constructed to classify different types of fluctuation rate in house Jeonse prices. Also, based on the classified fluctuation rate types this study is going to investigate the factors that affect the fluctuation rate of house Jeonse prices and suggest political implications about the issue.

III. Establishment of the basis of analysis and data collection

1. Establishment of the Basis of Analysis

This study will be proceeded divided into two major aspects to carry out a comparative analysis on the affecting factors of house Jeonse prices by types.

Firstly, the types of the fluctuation rate in house Jeonse prices are classified. The differences in the fluctuation rate in house Jeonse rate exist between every district or borough. At this, the types are to be classified mainly on the fluctuation rate in house Jeonse prices of Seoul, 6 metropolitan cities and cities and county regions of Gyeonggi-do. Types are going to be classified into areas above and below the area, using the mean as the central standard.

Secondly, PLS regression analysis is used to analyzed the factor affecting the

8) Kyungjin Tae · Myungkoo Kang, "An Analysis for Potential Factors of Burden Rate of Lease Deposit Using Path Analysis", National Land Planning, Korea Planners Association, 2007, Regular Autumn Conference 10.27, pp.1473-1480.

9) Hyunjung Choi · Changsuk Kim · Jin Nam, "The Influence of Apartment Housing Redevelopment on the Rental Price Change of Adjacent Residential Area", National Land Planning, Korea Planners Association, 2004, Vol. 39 No. 6, pp. 103-113.

〈Table 1〉 Affecting Variables of the Fluctuation Rate in House Jeonsei Prices

	Classification	Contents	Units	Data Resource
Dependent variables	Fluctuation rate in house Jeonsei prices	Fluctuation rate in house Jeonsei prices compared to the previous year		Kookmin Bank (KB)
Independent variables	Increase rate in population	Increase rate in population compared to the previous year		NSO, cities and counties
	Increase rate in elder population	Increase rate in elder population over the age of 65 compared to the previous year		NSO, cities and counties
	Increase rate in marriage	Increase rate in marriage compared to the previous year		National Statistical Office (NSO)
	Increase rate in the number of household	Increase rate in the number of household compared to the previous year		NSO, cities and counties
	Increase rate of population per household	Increase rate of population per household compared to the previous year		NSO, cities and counties
	Fluctuation rate in unsold houses	Fluctuation rate in unsold houses compared to the previous year		Ministry of Land, Transport and Maritime Affairs
	Fluctuation rate in actual house construction	Fluctuation rate in actual house construction compared to the previous year		Ministry of Land, Transport and Maritime Affairs
	Fluctuation rate in the number of houses per 1000 individuals	Fluctuation rate in the number of houses per 1000 individuals compared to the previous year		NSO, cities and counties
	Fluctuation rate in the trend of demand & supply of Jeonsei	Fluctuation rate in the trend of demand & supply of Jeonsei compared to the previous year		Kookmin Bank (KB)
	Fluctuation rate in house selling prices	Fluctuation rate in house selling prices compared to the previous year		Ministry of Land, Transport and Maritime Affairs
	Sales to Jeonsei rate of change in prices	Sales to Jeonsei rate of change in prices compared to the previous year		Kookmin Bank (KB)
	Fluctuation rate in land prices	Fluctuation rate in land prices compared to the previous year		Ministry of Land, Transport and Maritime Affairs
	Convert rate between Jeonsei and monthly rent	Rate of change of the interest rate converted from monthly rent price to Jeonse price compared to the previous year		Kookmin Bank (KB)

fluctuation rate in house Jeonsei prices by type. PLS regression analysis hold advantages in 2 aspects.

First, it is able to resolve the multicollinearity¹⁰⁾ issue. In models where multicollinearity presents it can be the cause of lowering the reliability and objectivity of the study. PLS regression analysis can eliminate the problem in the beginning as it analyzes the interrelationship of each

independent and dependent variable separately.

Second, a consideration on the sample size is possible. In the study of Kwang Seob Jeong (2012)¹¹⁾, it has been mentioned that PLS regression analysis has been performed in order to prepare for the cases where the number of the explanation variable exceeds the observed value. Myung Hee Heo (2008)¹²⁾ suggested that

10) Multicollinearity is a phenomenon where the increase or decrease an independent variable's value is associated with another independent variable's value increases. In cases where the multicollinearity is high it violates the assumption of regression analysis that states 'independent variables should be independent from each other.'. Therefore if the multicollinearity is extreme the regression equation becomes insignificant. (Eun Jung Kim · Yang Kyu Park · Joong Jae Park, SPSS Statistical Analysis for Windows 10, 21century co, 1999, p.320.)

11) Kwangseob Jeong, "Estimation of Affecting Factors of Decision Making in Mega Project", The Board of Audit and Inspection of Korea, Inspection & Audit Journal, 2011. No. 19. pp.91-124

12) Myunghee Heo, "SPSS Data Verification, Network and PLS Regression", 2008, Data Solution Co, pp.3-5

〈Table 2〉 Descriptive Statistics Analysis Results

Classification (N=52)	Areas above the mean				Areas below the mean			
	Minimum value	Maximum value	Mean	Standard Deviation	Minimum value	Maximum value	Mean	Standard Deviation
Fluctuation rate in house Jeonsei prices	6.89	22.25	10.37	3.69	0.02	6.65	3.32	2.04
Increase rate in population	-2.10	10.50	5.06	2.57	-1.70	12.90	4.62	2.58
Increase rate in elder population	3.15	11.27	5.91	1.89	2.67	9.90	5.69	1.63
Increase rate in marriage	-7.26	40.92	5.43	7.72	-3.99	20.41	5.38	5.66
Increase rate in the number of household	0.09	15.08	3.33	2.47	-0.86	11.87	3.30	2.07
Increase rate of population per household	-0.10	0.02	-0.04	0.03	-0.09	0.01	-0.04	0.02
Fluctuation rate in unsold houses	-63.02	55.40	-4.04	42.89	-62.85	56.00	6.21	35.82
Fluctuation rate in actual house construction	-35.06	195.21	76.71	76.64	-36.01	163.17	21.47	50.73
Fluctuation rate in the number of houses per 1000 individuals	-14.70	25.27	8.56	8.06	-20.40	28.41	8.16	10.35
Fluctuation rate in the trend of demand & supply of Jeonsei	-6.55	52.04	19.83	24.81	-6.55	52.04	25.99	19.16
Fluctuation rate in house selling prices	-4.43	20.67	2.67	6.14	-7.69	7.57	-0.57	2.71
Sales to Jeonsei rate of change in prices	1.71	6.54	3.76	1.54	-0.15	4.72	3.44	1.43
Fluctuation rate in land prices	0.18	3.00	1.12	0.50	0.28	3.17	1.04	0.62
Convert rate between Jeonsei and monthly rent	-0.03	0.00	-0.02	0.01	-0.03	0.00	-0.02	0.01

there is a difficulty in applying and performing a traditional multiple regression analysis when the minimum observed value satisfies the condition of being greater than 5 times that of the explanation variable (Sample Size (N)) $\geq 5P$ (independent variable)).

In a traditional regression analysis the observed value of the sample should be more than 5 times that of the independent variable to deduce a stable model. However in this study the condition above cannot be satisfied due to the classification into different types, thereby there is a difficulty in carrying out a traditional multiple regression analysis. From this point of view, to

resolve the multicollinearity and sample size issue this study is going utilize the PLS regression analysis in order to carry out a comparative analysis on the affecting factors of the fluctuation rate in house Jeonsei prices by types.

2. Data Collection

This study has utilized the cross-sectional data from 2009 to 2010 to carry out a comparative analysis on the affecting factors of the fluctuation rate in house Jeonsei prices by types, and calculated the change rate of 2009 and 2010 to apply as variables. Data was collected mainly on the previous studies

and references, professional brainstorming process and constructible variables..

The resource of variables and data collection for the analysis of the fluctuation rate in house Jeonse prices is as follows.

3. Descriptive Statistics Analysis of Data

The results of descriptive statistics analysis in areas above the mean were as follows.

In sequence, the results of descriptive statistics analysis in areas below the mean were as follows. The descriptive statistics analysis in <Table 2> was compared to show that the fluctuation rate in house Jeonse prices, which becomes the criteria of comparison in this study, is 0.02% in areas below the mean while in the areas above the mean held a figure of 6.89%. Hence it can be understood that there is a big deviation between the two regions.

IV. Empirical Analysis

1. Classification of Types

In this study the mean value of the 25 boroughs of Seoul, Daejeon, Daegu, Busan, Gwangju, Incheon, the 6 metropolitan cities of Ulsan and the 31 cities and counties of Gyeonggi-do was deduced to classify different types of fluctuation rate in house Jeonse prices. The types were then classified into areas above and below the mean based on the deduced mean value.

The result of classifying the types based on this data is as follows.

<Table 3> Classification results of Fluctuation Rate in House Jeonse Prices

Classification	Contents
mean	6.881
Areas above the mean	Busan Buk-gu and 51 districts
Areas below the mean	Incheon Gyeyang-gu and 50 districts
Areas of the highest value	Busan Buk-gu (22.249)
Area of the lowest value	Paju (0.017)

As the result of deducing the mean value, the mean of the fluctuation rate in house Jeonse prices appeared to be 6.881. Next, the areas above the mean were 52 regions including Buk-gu in Busan where the fluctuation rate of house Jeonse price was the highest (22.249). The areas below the mean were 51 regions including Incheon, Gyeyang-gu where the fluctuation rate of house Jeonse price was the highest in the region lower than the mean (6.648).

2. Investigation of affecting factors by types through PLS regression analysis

1) Interpretation method of analysis results

The interpretation of analysis results can be estimated its magnitude of influence through VIP (Variable Importance in the Projection). Generally the VIP value close to 1 or greater than 1 can be determined as a very significant variable.

〈Table 4〉 Reference Standards for VIP Value Interpretation

Extent of Value	Importance
Under 0.6	No Significance
More than 0.6 ~ Under 0.7	Very Weak
More than 0.7 ~ Under 0.8	Weak
More than 0.8 ~ Under 1.0	Moderate or Slightly Significant
More than 1.0 ~ Under 1.2	Significant

However, even values greater than 0.8 can also be seen as a significant variable in estimating a correlation. In cases with a VIP value under 0.8 and with all absolute values of regression coefficient close to 0, an experiential standard that the extraction of potential factors or estimation of correlation is insignificant, thus can be eliminated as an insignificant variable was applied in this study.

2) Investigation of Factors in Areas Above the mean

In this study the PLS regression analysis utilized the 5 potential affecting factors that are the basic set points in order to observe the changes in the explanation power of the deduced model according to the changes in the number of the potential affecting factors. The Cumulative X variance of explanation variable through each potential affecting factors were analyzed to give a result that through 5 potential affecting factors, total 14 explanation variable variance explains 83.9%. The explanation power of a model can be determined by the Cumulative Y Variance about the response variable Y. It

can be found that the explanation power decreases from the second potential affecting factor. The explanation power and the number of potential affecting factors at this point are commonly determined and used as the statistical characteristic of the model (Ho Jun Kim, Je Moo Won, 2012). Hence the explanation power of the model constructed in this study can be interpreted as the value of the second potential affecting factor, which is 53.1%.

〈Table 5〉 Explanation Degree of Variance : Explanation Power of Model

Latent Factors	Statistics		
	Cumulative X Variance	Cumulative Y Variance (R-square)	Adjusted R-square
1	.415	.304	.290
2	.553	.531	.512
3	.685	.597	.572
4	.782	.620	.588
5	.839	.635	.595

As the result of PLS regression analysis in areas above the mean, the variable estimated to be the key affecting factor that influences the fluctuation rate in house Jeonse prices was found to be the VIP of fluctuation rate in house selling prices, with the highest value of 2.017.

In sequence, the affecting factors estimated to be important variables with VIP greater than 1.0 were deduced as the natural increase rate in population (1.335), the fluctuation rate in house non-distribution(1.192), the increase rate in marriage(1.067), the fluctuation rate in actual house construction(1.032)

〈Table 6〉 PLS Regression Analysis Results (Areas Above the mean)

Variables	Parameter (B)	Latent Factors				
		1	2	3	4	5
Constant	8.574					
Increase rate in population	.509	.176	1.335	1.355	1.347	1.332
Increase rate in elder population	-.051	.459	.469	.512	.615	.614
Increase rate in marriage	.082	.943	1.067	1.029	1.015	1.005
Increase rate in the number of households	-.306	.371	.314	.777	.766	.778
Increase rate in population per	42.007	.438	.979	.990	1.034	1.032
Fluctuation rate in unsold houses	-.019	1.499	1.192	1.124	1.103	1.101
Fluctuation rate in actual house construction	.010	1.298	1.032	1.022	1.013	1.005
Fluctuation rate in the number of houses per 1000 individuals	-.013	.171	.141	.199	.220	.242
Fluctuation rate in the trend of demand & supply of Jeonsei	.001	1.233	.944	.909	.895	.971
Fluctuation rate in house selling price	.383	2.056	2.017	2.028	2.012	2.000
Sales to Jeonsei rate of change in price	.385	.248	.998	.972	.962	.951
Fluctuation rate in land price	-.106	.703	.952	1.025	1.083	1.073
Conversion rate between Jeonsei and monthly rent	63.263	1.129	.865	.815	.821	.869

in order.

Variables with the VIP value between 0.8 and 1.0 were the sales to Jeonsei rate of change in price (0.998), the rate of change in population per household (0.979), fluctuation rate in land price (0.952), the fluctuation rate in the trend of demand & supply of Jeonsei (0.944), the conversion rate between Jeonsei and monthly rent (0.865) in sequence.

3) Investigation of Factors in Areas Below the mean

In areas below the mean, the Cumulative X Variance of explanation variable through each potential affecting factor was analyzed, with the total 14 explanation variable explaining 69.1% through 5 potential affecting factors. For the explanation power of the model the value was 52.1%, the value of the second potential affecting factor.

As the result of PLS regression analysis in areas below the mean, the VIP of the fluctuation rate of house selling price was estimated to be the key factor that affects the fluctuation rate in house Jeonsei price with the highest value of 1.939.

〈Table 7〉 Explanation Degree of Variance : Explanation Power of Model

Latent Factors	Statistics		
	Cumulative X Variance	Cumulative Y Variance(R-square)	Adjusted R-square
1	.186	.373	.360
2	.387	.521	.501
3	.530	.582	.555
4	.626	.641	.610
5	.691	.656	.618

Next, the factor estimated to be an important variable with the VIP value exceeding 1.0 were deduced as following: the fluctuation rate in land price (1.484), the increase rate in

〈Table 8〉 PLS Regression Analysis Results (Areas Below the mean)

Variables	Parameter (B)	Latent Factors				
		1	2	3	4	5
Constant	1.868					
Population increase rate	.016	1.080	.916	.871	.837	.888
Increase rate in elder population	.309	.631	.640	.737	.705	.697
Increase rate in marriage	.009	1.347	1.430	1.433	1.557	1.550
Increase rate in the number of households	-.310	.386	.674	.700	.836	.827
Increase rate of population per household	40.502	.970	.823	.865	1.095	1.085
Fluctuation rate in unsold houses	-.022	1.190	1.041	1.082	1.051	1.046
Fluctuation rate of actual house construction	.008	.431	.784	.841	.810	.803
Fluctuation rate in the number of houses per 1000 individuals	.035	.971	.869	1.001	1.245	1.237
Fluctuation in the trend of demand & supply of Jeonsei	-.009	.058	.855	.810	.772	.776
Fluctuation in house selling prices	.538	1.285	1.939	1.889	1.898	1.903
Sales to Jeonsei rate of change in price	.667	1.327	1.128	1.122	1.225	1.230
Fluctuation rate of land price	1.085	1.596	1.484	1.405	1.369	1.359
Conversion rate between Jeonsei and monthly rent	59.716	.146	.628	.602	.861	.880

marriage (1.430), sales to Jeonsei rate of change in price (1.128) and the fluctuation rate in unsold houses (1.041) in order.

For variables with the VIP value between 0.8 and 1.0 included the natural the increase rate of population (0.916), the increase rate in the number of houses per 100 individuals (0.869), the fluctuation rate in the trend of demand & supply of Jeonsei (0.855) and the change rate in population per household (0.823) in sequence.

3. Comparative Analysis by Types

The result of comparative analysis on the fluctuation rate in house Jeonsei prices in areas above and below the mean and their affecting factors are as follows.

First of all, it was the fluctuation rate in house selling prices that was

examined to be the factor that was deduced to be the most important in both types. This signifies that the fluctuation in house Jeonsei prices greatly affects the sales prices of both areas above and below the mean. That is, considering the fact that the sale prices becomes the standard or a major contributing factor in deciding the Jeonsei prices, the establishment of policies related to the Jeonsei prices should be prosecuted in accordance with the policies on sales prices.

Next, the common factors with the VIP value greater than 1.0 included the increase rate in marriage and the fluctuation rate in house non-distribution.

In the cases of the increase rate in marriage, the newlyweds prefer Jeonsei to owner occupied housing in choosing their first house, and this is the general tendency in both areas of high and low Jeonsei prices. Hence, the higher the

〈Table 9〉 Comparison of Analysis Results

Variables	Area above the mean		Area below the mean	
	Rank	Importance	Rank	Importance
Increase rate in population	2	1.335	6	0.916
Increase rate in elder population				
Increase rate in marriage	4	1.067	3	1.430
Increase rate in the number of households				
Increase rate of population per household	7	0.979	9	0.823
Fluctuation rate in unsold houses	3	1.192	5	1.041
Fluctuation rate in actual house construction	5	1.032		
Fluctuation rate in the number of houses per 1000 Individuals			7	0.869
Fluctuation in the trend of demand & supply of Jeonsei	9	0.944	8	0.855
Fluctuation rate in house selling prices	1	2.017	1	1.939
Sales to Jeonsei rate of change in price	6	0.998	4	1.128
Fluctuation rate of land price	8	0.952	2	1.484
Conversion rate between Jeonsei and monthly rent	10	0.865		

N.B. : Values highlighted in bold were deduced to be important factors in both types.

increase rate of marriage the higher the demand for Jeonsei houses, leading to an accompanied increase in the fluctuation rate in Jeonsei prices.

In the cases of the fluctuation rate of house non-distribution, the analysis showed that the area above the mean fluctuation rate in house Jeonsei prices had a negative (-) interrelationship while the areas below the mean had a positive (+) interrelationship. This indicates that in the areas of high fluctuation rate in house Jeonsei prices, the number of unsold houses increases and the Jeonsei prices drop as the unsold houses increases.

The factors that differed in the fluctuation rate in house Jeonsei prices in two types were as follows.

In areas above the mean, the second most important factor was found to be the increase rate in population while in areas

below the mean it was the fluctuation rate in land price that was found important. This can be interpreted that in the areas of high fluctuation rate in house Jeonsei prices the population aspect in the demand for Jeonsei greatly influences the Jeonsei prices. That is, it can be understood that the increase in the demand for Jeonsei affects the fluctuation rate in Jeonsei prices. In areas below the mean the increase rate in population was also deduced to an important factor. However the fluctuation rate in land prices was deduced to be an important factor in the fluctuation rate in house Jeonsei prices. The areas above the mean also had their fluctuation rate in house Jeonsei prices greatly influenced by the fluctuation rate in land prices. Therefore in cases of the fluctuation rate of house Jeonsei prices, it can be known that the affecting factors differ by types.

V. Conclusion

1. Summary and Implications

This study aimed to investigate the affecting factors that influence the fluctuation rate of the house Jeonse prices by types (Regions above and below the mean). Based on the fluctuation rate of the house Jeonse prices of the 25 boroughs of Seoul, Daejeon, Daegu, Busan, Gwangju, Incheon, the 6 metropolitan cities of Ulsan, and the 31 cities and counties of Geonggi-do, an mean value was deduced and was applied to the analysis by classifying the regions by area above and below the mean.

As the result of the analysis, the affecting factor that was deduced to be the most important factor in the two types was the fluctuation in house selling prices. the following were the increase rate in marriage and unsold houses.

The affecting factors that were deduced differently in the two types were the fluctuation of the actual house construction (importance rank 5, 1.032) for the areas above the mean, and the conversion rate between Jeonse and monthly rate (importance rank 10, 0.865). In the areas below the mean, the affecting factor was deduced to be the fluctuation rate in the number of houses per 1000 individuals (importance rank 7, 0.869).

As seen in the analysis results, The affecting factors of fluctuation rate in house rental prices shared common points and differences depending on the types. The magnitude of the effect varied as well.

Political implications investigated

through this study results are suggested as following:

Firstly, an establishment of policies through a liaison between house selling prices and Jeonse prices is needed. The rate of change in house Jeonse prices and house selling prices were deduced to be the most important factors after examining the results of this study. This signifies that policies should be made considering the fact that house selling prices and Jeonse prices are not independent from each other, but highly correlated.

Secondly, consideration in the aspect of demand is required for certain. According to the results deduced from this study, it was found that affecting factors from the demand side such as increase rate of population and of marriage were influencing the change rate of house Jeonse prices. Therefore a profound analysis of demand is required when establishing policies for changes in house Jeonse prices henceforth.

Thirdly, it's about seeking solutions for house non-distribution rate. unsold houses was found to have a negative (-) impact on the fluctuation rate of house Jeonse prices. This may give a capacity of generating a continuous recession in a long term even if it can also bring about a positive effect by temporary low fluctuation rate of house Jeonse prices. Thus an active search for a solution for house non-distribution is needed.

Lastly, establishment of policies on house Jeonse prices considering regional features is required. As it can be seen in the study results, the affecting factors of

fluctuation rate of house Jeonse prices appear in a variety by types. Thus it is thought that a consideration will be needed when making policies on changes in house Jeonse prices.

This study holds significance in that it aimed to investigate the fluctuation rate of house Jeonse prices by classifying them into types (areas above and below the mean) in order to determine the key affecting factors.

This study results will be baseline data as well as a guideline when establishing policies related to changes in house Jeonse prices in the future.

2. Prospective topics

In this study there were requirements for the future : consideration for various affecting factors, increasing the credibility of through enlargement of the sample size and obtaining objectivity. In other words, there is a need to increase the explanation power of the model through a review of additional affecting factors. It is also thought that the objectivity of the study results will be reinforced if the sample size is targeted to not only Seoul, Gyeonggi-do and megalopolis areas but throughout the whole country.

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