Journal of Economics and Public Finance
ISSN 2377-1038 (Print) ISSN 2377-1046 (Online)
Vol. 3, No. 1, 2017
www.scholink.org/ojs/index.php/jepf

The Influence Factors of the House Price—The Cross-Sectional Analysis of the Consumers Factors Based on the 35 Cities in 2014

Wei Zhang[1*]

[1] Economic Graduate School, Ryukoku University, Kyoto, Japan

[*] Wei Zhang, E-mail: zhangwei19840914@yahoo.co.jp

Received: December 1, 2016 Accepted: December 9, 2016 Online Published: December 19, 2016

doi:10.22158/jepf.v3n1p17 URL: http://dx.doi.org/10.22158/jepf.v3n1p17

Abstract

This dissertation investigates the relation between the consumers and the price development on the housing market in 2014 based on cross-sectional analysis of the consumers' factors. Based on the result of the correlations analysis and regression analysis, balance of savings deposit of Urban and rural residents per person affect to the dependent variable of the house price.

Keywords

regression analysis, correlations analysis, house price

1. The Model and the Independent Variables

This dissertation will investigate the relation between the consumers and the price development on the housing market in 2014.

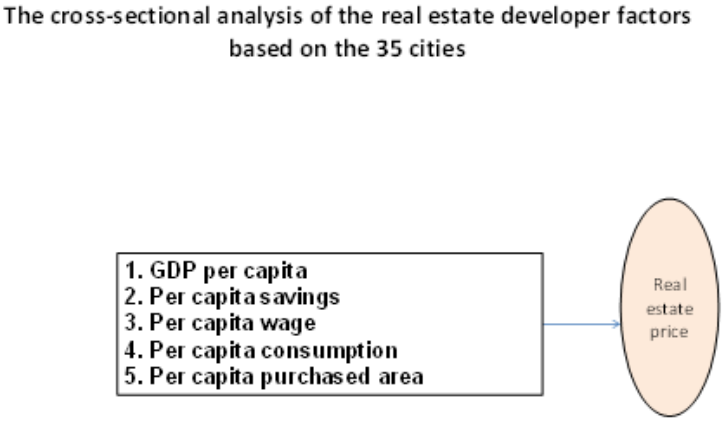

Figure 1. The Model and the Independent Variables

The 4 important points of consumers are the overall economic situation, deposit situation, revenue situation and consume situation.

The average GDP could directly reflect the overall economic situation.

The balance of savings deposit of Urban and rural residents per person could reflect the deposit situation of consumer.

The average wage of staff and workers could reflect the revenue situation of consumer.

Total retail sales of consumer goods per person could reflect the consumers' ability and situation of consumption.

Purchased area per capita could reflect the consumers' situation of area which the consumers bought.

2. The Empirical Analysis of House Price in 2014

2.1 The Descriptive Statistics

Table 1. Descriptive Statistics (2014) (House)

	N	Minimum	Maximum	Mean	Std. Deviation
GDP per person (yuan)	35	42257	481678	106967.20	76561.454
Balance of savings deposit of Urban and rural residents per person (yuan)	35	31921	300232	76891.31	50825.366
Average wage of staff and workers per person (yuan)	35	48272	103400	62288.74	11765.098
Total retail sales of consumer goods per person (yuan)	35	16919	145811	44032.09	23938.933
Purchased house area per capita (m^2)	35	1	3	1.50	0.517
House price (yuan/m^2)	35	4111	24040	8598.74	4651.173
Valid N (listwise)	35				

Based on Table 1, the mean value of the GDP per person is 106967.20 Yuan RMB. The mean value of Balance of savings deposit of urban and rural residents per person is 76891.31 Yuan RMB. The mean value of Average wage of staff and workers per person is 62288.74 Yuan RMB. The mean value of Total retail sale of consumer goods per person is 44032.09 Yuan RMB. The mean value of Total retail sale of consumer goods per person is 70.7% of the mean value of Average wage of staff and workers per person. The mean value of Purchased house area per capita is 1.50 m^2. The average house price in 2014 is 8598.74 Yuan RMB/m^2.

2.2 The Correlations Analysis

Table 2. Correlations (2014) (House)

		GDP per person (yuan)	Balance of savings deposit of Urban and rural residents per person (yuan)	Average wage of staff and workers per person (yuan)	Total retail sales of consumer goods per person (yuan)	Purchased house area per capita (m^2)
GDP per person (yuan)	Pearson Correlation	1	.917**	.530**	.951**	.019
	Sig. (2-tailed)		.000	.001	.000	.915
	N	35	35	35	35	35
Balance of savings deposit of Urban and rural residents per person (yuan)	Pearson Correlation	.917**	1	.660**	.919**	-.067
	Sig. (2-tailed)	.000		.000	.000	.700
	N	35	35	35	35	35
Average wage of staff and workers per person (yuan)	Pearson Correlation	.530**	.660**	1	.599**	-.095
	Sig. (2-tailed)	.001	.000		.000	.587
	N	35	35	35	35	35
Total retail sales of consumer goods per person (yuan)	Pearson Correlation	.951**	.919**	.599**	1	-.067
	Sig. (2-tailed)	.000	.000	.000		.704
	N	35	35	35	35	35
Purchased house area per capita (m^2)	Pearson Correlation	.019	-.067	-.095	-.067	1
	Sig. (2-tailed)	.915	.700	.587	.704	
	N	35	35	35	35	35

**. Correlation is significant at the 0.01 level (2-tailed).

Based on the descriptive statistics, the correlations could help the determination about the independent variables for the regression analysis.

Based on the result of the correlations (Table 2), the result between GDP per person and balance of savings deposit of Urban and rural residents per person is 0.917, because the more of the balance of savings deposit of Urban and rural residents, the better of the economic situation of consumers.

The result between GDP per person and total retail sales of consumer goods per person is 0.951, because the more of the retail sales of consumer goods, the higher of consumers' consume ability. It also means the better of the economic situation of people.

The result between balance of savings deposit of Urban and rural residents per person and average wage of staff and workers per person is 0.660, because the more of the consumers' revenue, the more of consumers' deposit. It also means that consumers change their revenue to deposit this year.

The result between balance of savings deposit of Urban and rural residents per person and total retail sales of consumer goods per person is 0.919, because the more the balance of savings deposit of Urban and rural residents, the higher of consumers' consume ability.

In order to avoid the multi-col-linearity, only one of the parameters between these 2 parameters which the result is high, it could be chosen to continue with the regression analysis.

As result, the balance of savings deposit of Urban and rural residents per person is chosen to continue with the regression analysis.

2.3 The Regression Analysis

Following the correlation analysis, the relationship between the consumer influence factors and the villa and senior apartment price has been continued by performing a regression analysis between the balance of savings deposit of Urban and rural residents, average wage of staff and workers, total retail sales of consumer goods, GDP and the house price of 35 cities. The regression is based on the following variables:

Y: The house price of 35 cities of 2014.

X_1: GDP per person of 2014.

X_2: Balance of savings deposit of Urban and rural residents per person of 2014.

X_3: Average wage of staff and workers per person of 2014.

X_4: Total retail sales of consumer goods per person of 2014.

X_5: Purchased house area per capita of 2014.

The regression model looks as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5$$

Table 3. Variables Entered/Removeda of Regression Analysis (2014) (House)

Model	Variables Entered	Variables Removed	Method
1	Balance of savings deposit of Urban and rural residents per person (yuan)		Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

a. Dependent Variable: House price (yuan/m^2).

Table 4. Model Summary of Regression Analysis (2014) (House)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.881[a]	.776	.769	2233.975

a. Predictors: (Constant), Balance of savings deposit of Urban and rural residents per person (yuan).

Table 5. Coefficients of Regression Analysis (2014) (House)

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2399.819	691.764		3.469	.001
	Balance of savings deposit of Urban and rural residents per person (yuan)	.081	.008	.881	10.695	.000

a. Dependent Variable: House price (yuan/m^2).

Table 6. Excluded Variables (2014) (House)

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics Tolerance
1	Purchased house area per capita (m^2)	-.036[b]	-.426	.673	-.075	.995

a. Dependent Variable: House price (yuan/m^2).

b. Predictors in the Model: (Constant), Balance of savings deposit of Urban and rural residents per person (yuan).

The method of the regression analysis is stepwise. Based on the result (Table 3, Table 4, Table 5, Table 6), all the value of the adjusted R square is bigger than 0.7.

The results of the analysis as follows:

$Y = 2399.819 + 0.881X_2$

Based on the result of the regression analysis, all the significant of parameters are lower than 5%.

3. The Conclusion about the Influence Factors of the House Price in 2014

Based on the result of the correlations analysis and regression analysis, balance of savings deposit of Urban and rural residents per person affect to the dependent variable of the house price.

The increasing of balance of savings deposit of Urban and rural residents per person will promotes the increasing of the housing price. The consumers spend their savings deposit to buy house. The more savings deposit of consumers, the higher house price.

References

Zhang, W. (2015). The influence factors of the house price in 2011: The cross-sectional analysis of the real estate developer factors based on the 35 cities. *J. Bus. Econ. Manage*, *3*(2), 17-23.

Zhang, W. (2015). The influence factors of the real estate price in China—The time series analysis of the monetary policy factors based on the case of Beijing housing market. *J. Bus. Econ. Manage*, *3*(1), 9-12.