External Factors Influencing Housing Product Price in Jakarta Metropolitan Region

Raden Aswin Rahadi*
School of Business and Management, Institut Teknologi Bandung, Indonesia

Sudarso Kaderi Wiryono
School of Business and Management, Institut Teknologi Bandung, Indonesia

Deddy Priatmodjo Koesrindartoto
School of Business and Management, Institut Teknologi Bandung, Indonesia

Indra Budiman Syawmil
School of Architecture, Planning, and Policy Development, Institut Teknologi Bandung, Indonesia

ABSTRACT

The purpose of this study is to analyse the external factors influencing housing product price in Jakarta Metropolitan Region, Indonesia. In total there are one hundred and thirty-four respondents, consisted of property practitioners that are interviewed and questioned. All the questions are developed based on the authors' previous study results and literature analysis. For data analysis, we are utilising descriptive investigation approach via mean analysis, and statistical research method via correlation and ANOVA analysis. For the descriptive research approach, the mean analysis results suggest that most of the property practitioners tend to perceive their consumers as investors when purchasing housing products. For the attributes in property practitioners' perception, the entire attributes produce high positive mean, with the attributes of marketing scheme, competitive edge, and land clearing, all influenced the price of housing products sold. For external attributes affecting price, the highest scoring means are competitor condition, property cycle, building material cost, and loan rate. From the correlation analysis, we found that most of the external factor attributes are correlated well between each attribute, unlike the other two groups. Lastly, based on the findings in ANOVA test analysis, we can see a glimpse on how property practitioners perform their analysis based on their gender and location. The study results show how external factors do influence housing product price in Jakarta Metropolitan Region. Findings in this study will be useful as a pioneer for expanded future studies on external factors that affect housing products price.

Keywords: Housing, Indonesia, Property, Real Estate.

1. INTRODUCTION

There have been studies in the field of real estate and property industries, particularly in housing and residential development around the world in the past years. It is

understandable, given the fact that housing studies have always carried its appeals due to the distinctive traits that make them different from other commercial real estate products, such as office buildings or shophouses.

Residential products, mainly housing products are identified as one of the most important commercial products for people in the world. The importance is highlighted merely because there is a limited and scarce supply of housing products and the increasing demand for housing products due to the increased number of populations. As the prices of housing products are in general usually high, the process of purchasing a housing product often needs to be performed via a set of complicated decision-making questions and procedures by the consumers (Daly et al., 2003).

Although there are sufficient of studies performed on the uniqueness of housing products, most of the studies were only limited to the customers of the product, not on the developer of the housing products. As the developer also plays significant parts in the preparation of the supplies, setting up the initial price, designing the housing products, preparing the layout of the house, up until providing several housing supplies for the consumers, we believe that the property developers' perception plays an integral part in contributing towards the housing industries. Beside the property developers, other property practitioners such as marketers, engineers, advertising agencies, and government officials are also providing significant contributions towards the housing industries.

This study continues the previous studies that the authors have performed to understand factors influencing housing product price in Jakarta Metropolitan Region. In the beginning, we conducted preliminary literature synthesis on influencing attributes for housing products (Rahadi et al., 2012), followed by in-depth interviews with property practitioners to validate the attributes (Rahadi et al., 2013). Then, in 2014, based on the verified attributes, we performed the quantitative studies towards housing consumers (Rahadi et al., 2014; Rahadi et al., 2015) and comparison between the perception of housing consumers and property practitioners (Rahadi et al., 2015). In our latest research, we incorporate the model to address practical implications for the influencing factors in real housing product development projects (Rahadi et al., 2016).

In this study, we aim to provide an understanding of external factors influencing housing product price, based on the property practitioners' point of view. Based on our previous study in 2013, we have uncovered twenty-seven items of attributes that can be perceived as external factors that influence housing products price in Jakarta Metropolitan Region (Rahadi et al., 2013).

This manuscript is organised into several segments. We begin with the introduction of the paper, followed by the previous literature studies. Then we explain the research methodologies and data analysis, closed with research findings and conclusions for this study.

2. LITERATURE STUDIES

In the past, researchers have conducted studies about the external factors influencing housing price. Based on our previous studies (Rahadi et al., 2013), we have grouped the attributes into three factors: consumers' behaviour, practitioners' perception, and external characteristics.

For consumers' behavior, there are several studies linked to this factor, including the study by Yu (1992) and Newell & Worzala (1995) about property as investment tools;

Wheaton (1977) and Berry (2000) on property for rental as investment; Osili (2004) and Edelstein & Lum (2004) on property for resale as investment and their respective traits to be the first buyer; Chee & Peng (1996) about housing repeat customers; brand images of the product (Albari & Safitri, 2018); and housing product renovation (Rosen & Smith, 1986; Iwata & Yamaga, 2007).

For the practitioners' perception, the related studies include the study performed by Haurin (1998), Springer (1996), Glower et al. (1998), Kang & Gardner (2005), and Haurin et al. (2010), on housing sales time; Schnare & Struyk (1976) and Goodman & Thibodeau (2003) on product segmentation; Peng & Wheaton (1994) on land clearing and scarcity; Rosenthal (1999) on cost efficiency; Zhang et al. (2011) on competitive advantages; and marketing scheme (Donald et al., 2009).

Lastly for external attributes, there are several characteristics involved, which can be traced into the related studies performed by Shiller (1990), Jing-Kui (2005), Case (1992) and Dieci & Westerhoff (2012) on speculative behavior; Case (1992) Poterba (1984), and Oates (1969) on government regulation; Wheaton & Nechayev (2008), Iacoviello & Minetti (2008), and Tsatsaronis & Zhu (2004) on mortgage rate; Greiber & Setzer (2007) and Bernanke (1986) on currency exchange effect towards housing price; Abdul-Rahman et al. (1999) and Pettang et al. (1997) on the influencing attributes of building materials cost; Abdul Kadir et. al. (2005) and Gallin (2003) on construction workers fee; Hwang & Quigley (2006); Moro et al. (2016) on economic condition; Oates (1969) and Topel & Rosen (1988) on political state; Turnbull & Dombrow (2006) on housing market competition; Ortalo-Magne & Rady (1999), Catte et al., (2004), Davis & Heathcote (2005), and Tsatsaronis & Zhu (2004) on property cycle; Stiles (2016) on the effect of construction workers strike; and foreign investment (Jiang et al., 1998; Wu & Webber, 2004; Zhou & Logan, 1996; Wu, 2001).

Based on the literature synthesis above, combined with our qualitative research results (Rahadi et al., 2013) we have extracted the relevant keywords for this study's questionnaire questions.

3. METHODOLOGIES

This study is performed to understand about external factors influencing product price in Jakarta Metropolitan Region, Indonesia. The areas covered in this part of the survey consisted of Jakarta city and its supporting satellite cities such as Serpong, Depok, Cibubur, Bogor, and others. Due to budget restriction and time constraint, we conduct this study using judgmental sampling with the non-probability approach with specific constraints on interviewing only property practitioners. A total of one hundred and thirty-four respondents were interviewed, consisted of various practitioners in the property industry, ranging from business owners, investors, sales, and staffs. The age range of the respondents is between 18-56 years old. This phase was conducted in July 2013 – July 2014.

We briefed the respondents on the data collection process. We provide them with questionnaire instructions, purpose of the study explanations, and data confidentiality briefing. All respondents before answering the questions gave their consents. All the data gathering process, starting with the survey design, distribution, data collection, and data analysis were monitored and approved by the authors' advisor.

In Table 1, we can see the demographic information for this research, such as the following:

Table 1: Demographic variables (N=134)

Item		Property Practitioners	
		Frequency	Percent
Sex	Female	49	37%
	Male	85	63%
Location	Central	5	4%
	East	26	19%
	North	9	7%
	South	77	57%
	West	17	13%

Data in Table 1 explains analysis of the demographic characteristics of the respondents in this study. Male respondents dominated the gender of the interviewees. For location, most respondents come from the southern part of Jakarta Metropolitan Region, while the least of them originate from the central area of Jakarta Metropolitan Region. The high number of respondents from the south of Jakarta Metropolitan Region can be explained as most of the housing developments are concentrated in the southern area such as Depok, Cibubur, and Bogor areas. The small number of responses in the central of Jakarta Metropolitan Region is justified by the fact that the area is developed as the business and economic centre, not as a residential centre. However, as housing remains a requirement in the area, along with consideration of the high land price, most of the new developments in the area are being done vertically in the form of apartments.☐
Twenty-seven individual questions grouped into three categories were asked of the respondents. The first two groups of questionnaires asked about the behaviour of housing consumers and unique attributes for property practitioners when determining to sell a housing product. The last group of questions deals with the external characteristics influencing housing price.

Table 2: Questionnaire items for external factors (N=27)

Consumers' Behavior	Practitioners' Perception	External Attributes
1 Property as Investment Tools	1 Sales Time	1 Speculative Behaviors
2 Property to be Rented	2 Product Segmentation	2 Loan Rate
3 Property to be Sold	3 Land Clearing	3 Currency Exchange Rate
4 1/2 of Consumers are Regulars	4 Cost Efficiency	4 Building Materials Cost
5 Consumers Purchased > 1	5 Competitive Edge	5 Construction Workers Fee
6 Early Adopters are Regular Consumers	6 Marketing Scheme	6 Overall Economic Condition
7 Most Consumers Renovated their House		7 Overall Political Condition
8 Most House to Rent will be Renovated		8 Competitor Condition
9 Most House to Sell will be Renovated		9 Property Cycle
		10 Construction Workers Strike
		11 Government Regulation
		12 Foreign Investors

All the questions items used a six-point Likert scale from 1 equal "strong disagreement" to 6 equal "strong agreement." We removed the median scale to introduce the no-choice

option. This approach is applied to decrease the compromise effect and limiting the respondents' tendency to select the median in the questionnaires (Dhar and Simonson, 2003).

All the research questions were arranged with this following format:

"I think these (attributes) are influencing the price of housing product price in Jakarta Metropolitan Region."

Figure 1: Questionnaire Model for External Influencing Attributes

The questions for the first category were derived from discussion and observation with supervisors and property practitioners. The second and third category questions were conceived from the findings of our previous study (Rahadi et al., 2013).

4. ANALYSIS AND RESULTS

This section summarises the findings from the data collected from property practitioners in Jakarta Metropolitan Region.

4.1 DESCRIPTIVE ANALYSIS

The descriptive analysis in this study is represented by mean analysis. Before calculating the mean analysis, we calculate the reliability of the data collected. Using SPSS, we found that the data collected have Cronbach α score of 0.910. This result suggested that the data collected are reliable to be analysed.

Table 3 presents the analysis of mean from the questionnaires. The highest answers for consumers' behaviour are represented by the "property as investment tools" and "most consumers will renovate their house after purchase" attributes. For property practitioners, the highest low scoring answers come from the attributes of "marketing scheme," "competitive edge," and "land clearing." Lastly, for external attributes influencing price, the "competitor condition," "property cycle," "building material cost," and "loan rate" are scoring the highest mean value in the category.

Table 3: Mean Analysis Results for External Attributes.

No.	Attributes	Mean	Std. Deviation
1	Property as Investment Tools	4.34	0.67
2	Property to be Rented	3.72	0.63
3	Property to be Sold	3.49	0.75
4	1/2 of Consumers are Regulars	3.93	0.68
5	Consumers Purchased > 1	3.82	0.64
6	Early Adopters are Regular Consumers	3.78	0.66
7	Most Consumers Renovated their House	4.01	0.62
8	Most House to Rent will be Renovated	3.91	0.67
9	Most House to Sell will be Renovated	3.76	0.71
10	Sales Time	4.24	0.58
11	Product Segmentation	4.27	0.46
12	Land Clearing	4.40	0.54
13	Cost Efficiency	4.34	0.53
14	Competitive Edge	4.40	0.56
15	Marketing Scheme	4.41	0.55
16	Speculative Behaviors	3.65	0.78
17	Loan Rate	3.89	0.73
18	Currency Exchange Rate	3.78	0.68
19	Building Materials Cost	3.94	0.76
20	Construction Workers Fee	3.82	0.79
21	Overall Economic Condition	3.81	0.69
22	Overall Political Condition	3.71	0.75
23	Competitor Condition	4.06	0.57
24	Property Cycle	3.95	0.55
25	Construction Workers Strike	2.75	0.94
26	Government Regulation	3.75	0.66
27	Foreign Investors	3.22	1.18

Questions #1-9 are derived from Consumers' Behavior Category. Questions #10-15 are derived from Property Practitioners' perception. Questions #16-27 are derived from the External Attributes Influencing Price.

After rearranging the mean scores, we ranked the top ten highest external attributes. It was dominated by the property practitioners' perception item. For the lowest mean score, it was scored with the attribute of "the possibility of construction workers strike" and "easiness for foreign investors to invest in Indonesia."

Table 4: Highest and Lowest Mean Score for External Attributes

Highest Mean Score

No. Attributes	Mean	Std. Deviation
1 Marketing Scheme	4.41	0.55
2 Land Clearing	4.40	0.54
3 Competitive Edge	4.40	0.56
4 Property as Investment Tools	4.34	0.67
5 Cost Efficiency	4.34	0.53
6 Product Segmentation	4.27	0.46
7 Sales Time	4.24	0.58
8 Competitor Condition	4.06	0.57
9 Most Consumers Renovated their House	4.01	0.62
10 Property Cycle	3.95	0.55

Lowest Mean Score

No. Attributes	Mean	Std. Deviation
1 Foreign Investors	3.22	1.18
2 Construction Workers Strike	2.75	0.94

4.2 STATISTICAL ANALYSIS

For statistical analysis, we compared each of the consumers and property practitioners' results using various approaches. Correlation study and ANOVA test were incorporated into this study. SPSS and JMP statistical software were used to analyse the data.

4.2.1 CORRELATION ANALYSIS RESULTS

We analysed the correlation between each of the attributes questioned for property practitioners. We conduct this study to support the previous findings on mean analysis. First, we tested their internal consistency. The Cronbach α value for consumers' behaviour category is 0.7797, the Cronbach α value for practitioners' perception is 0.8293, the Cronbach α value for external attributes is 0.9175, and the Cronbach α value for the entire set is 0.910, which proves the attributes internal consistency. The top ten highest correlation outcomes for each of the attributes are listed in Table 5 below.

Table 5: Top Ten Pairwise Correlations for Property Practitioners' Special Attributes

No.	Variables	To Variables	Correlation	Lower 95%	Upper 95%	Significance
1	Currency Exchange Rate	Loan Rate	0.82	75%	87%	0.00
2	Building Materials Cost	Loan Rate	0.77	69%	83%	0.00
3	Building Materials Cost	Currency Exchange Rate	0.75	66%	81%	0.00
4	Foreign Investors	Government Regulation	0.74	66%	81%	0.00
5	Overall Political Condition	Overall Economic Condition	0.70	60%	78%	0.00
6	Foreign Investors	Loan Rate	0.70	60%	78%	0.00
7	Foreign Investors	Construction Workers Strike	0.68	57%	76%	0.00
8	Marketing Scheme	Competitive Edge	0.66	55%	75%	0.00
9	Construction Workers Fee	Building Materials Cost	0.64	52%	73%	0.00
10	Foreign Investors	Building Materials Cost	0.63	52%	72%	0.00

The results suggested that most of the positive attributes correlation comes from the external factor category. Most of the negative attribute correlation comes from cross-correlating attributes from different categories.

4.2.2 ANOVA TEST ANALYSIS RESULTS
ANOVA test analysis was conducted to uncover the specific demographics characteristics that influencing attributes selection. In this case, we analyse the gender and locational characteristics of the demographic conditions.

As seen in Table 6, the analysis suggests that for demographics conditions of gender, female practitioners tend to have higher preferences for several attributes compared with their male counterparts. While for the demographics condition of location, most of the location does have similar responses, except for the attribute of "sales time."

Table 6: ANOVA Test Results for Each of the Attributes

No.	Attributes	Gender			Location		
		Prob>ChiSq	Analysis	Preferences	Prob>ChiSq	Analysis	Preferences
1	Property as Investment Tools	0.14	Not Significant	Similar	0.33	Not Significant	Similar
2	Property to be Rented	0.94	Not Significant	Similar	0.45	Not Significant	Similar
3	Property to be Sold	0.34	Not Significant	Similar	0.11	Not Significant	Similar
4	1/2 of Consumers are Regulars	0.28	Not Significant	Similar	0.65	Not Significant	Similar
5	Consumers Purchased > 1	0.83	Not Significant	Similar	0.90	Not Significant	Similar
6	Early Adopters are Regular Consumers	0.20	Not Significant	Similar	0.13	Not Significant	Similar
7	Most Consumers Renovated their House	0.94	Not Significant	Similar	0.54	Not Significant	Similar
8	Most House to Rent will be Renovated	0.76	Not Significant	Similar	0.20	Not Significant	Similar
9	Most House to Sell will be Renovated	0.77	Not Significant	Similar	0.40	Not Significant	Similar
10	Sales Time	0.00	Significant	Female>Male	0.00	Significant	Southern>Others
11	Product Segmentation	0.00	Significant	Female>Male	0.38	Not Significant	Similar
12	Land Clearing	0.12	Not Significant	Similar	0.36	Not Significant	Similar
13	Cost Efficiency	0.44	Not Significant	Similar	0.46	Not Significant	Similar
14	Competitive Edge	0.21	Not Significant	Similar	0.56	Not Significant	Similar
15	Marketing Scheme	0.26	Not Significant	Similar	0.39	Not Significant	Similar
16	Speculative Behaviors	0.00	Significant	Female>Male	0.04	Not Significant	Similar
17	Loan Rate	0.00	Significant	Female>Male	0.02	Not Significant	Similar
18	Currency Exchange Rate	0.00	Significant	Female>Male	0.01	Not Significant	Similar
19	Building Materials Cost	0.01	Not Significant	Similar	0.01	Not Significant	Similar
20	Construction Workers Fee	0.06	Not Significant	Similar	0.16	Not Significant	Similar
21	Overall Economic Condition	0.04	Not Significant	Similar	0.18	Not Significant	Similar
22	Overall Political Condition	0.05	Not Significant	Similar	0.01	Not Significant	Similar
23	Competitor Condition	0.01	Not Significant	Similar	0.60	Not Significant	Similar
24	Property Cycle	0.02	Not Significant	Similar	0.34	Not Significant	Similar
25	Construction Workers Strike	0.02	Not Significant	Similar	0.09	Not Significant	Similar
26	Government Regulation	0.07	Not Significant	Similar	0.05	Not Significant	Similar
27	Foreign Investors	0.03	Not Significant	Similar	0.09	Not Significant	Similar

The Left Columns are Indicating Responses for Gender Category, while the Right Columns are Indicating Responses for Location Category.

The analysis of mean suggested that most of the property practitioners tend to perceive their consumers as investors when purchasing housing products. This information is interesting to uncover, as although there has not yet been complete information about migration pattern in Indonesia, based on findings in America and the United Kingdom, most families do tend to migrate often in their lifetime. For America, the number is 11.7 times per lifetime (United States Census Bureau, 2007), while for the United Kingdom; the number is around eight times per lifetime (Zoopla, 2012).

It is suggested that most dwellers in Jakarta Metropolitan Region do replicate the same pattern, and considering their property as investment tools, which can be cashed-in in the future when they decided to migrate.

For the attributes in property practitioners' perception, all of the produce high positive mean, with the attributes of "marketing scheme," "competitive edge," and "land clearing," all do influence the calculated price of housing products to be sold. Daly

Next, for external attributes affecting price, the highest scoring mean are "competitor condition," "property cycle," "building material cost," and "loan rate." These attributes are fascinating to explore, as it does reflect the current condition of the property market in Indonesia in general. Higher building material cost, such as steel and cement, do influence the price of housing products in Indonesia. As those prices are cannot be controlled by the practitioners, the resulting condition is that most of the property developers tend to stock those materials, causing shortages in supply and at the end increasing the price of the materials as mentioned earlier. Loan rate also indirectly influence the price of the housing, as it can be referred to loan rate for property developer

and consumers. A higher loan rate for developing a housing complex will result in smaller margins. However, with the current condition of the market, the resulting application is that property developers tend to charge a premium price for their products and to shift the loan weight to consumers. The practitioners acknowledge property cycle, and it does reflect the condition of the market. Based on the historical data, the market in Indonesia has a cycle of 7-10 years, which also influence the overall company strategy for property developers (Simanungkalit, 2009). Lastly, competitor availability also influences the marketing strategy for the property developers. It is uncommon to find property developers at the same time increasing the price of housing products they sell, as most of them use the more considerable property development as guidance for when they will increase or decrease their products.

From the correlation analysis, we found that most of the external factor attributes are correlated well between each of them, unlike the other two groups. This result implies that most of the attributes in that grouping do have strong connections between each of them and play a vital role in influencing housing price in Jakarta Metropolitan Region.

Lastly, based on the findings in ANOVA test analysis, we can see a glimpse on how property practitioners perform their analysis based on their gender and location. From the gender point of view, female property practitioners tend to have higher preference level compared with their male counterparts. It does not suggest simple arguments, and further study needed to be employed to strengthen the findings. However, it should encourage future research on the gender role in real estate industry. For locational point of view, we can see that there are almost no significant differences between each of the attributes, except for the sales time attribute. This result can imply the homogeneity of behaviour from the practitioners for all around Jakarta Metropolitan Region.

5. CONCLUSIONS AND RECOMMENDATIONS

For this study, we applied descriptive and statistical analysis to analyse external influencing factors for housing preference and price in Jakarta Metropolitan Region, Indonesia. Based on the mean analysis we can see that most of the property practitioners tend to perceive their consumers as investors when purchasing housing products. For the attributes in property practitioners' perception, the entire attributes produce sizeable positive mean, with the attributes of marketing scheme, competitive edge, and land clearing, all influenced the price of housing products sold. For external attributes influencing price, the highest scoring means are competitor condition, property cycle, building material cost, and loan rate.

Based on the statistical analysis performed in this study, there are several findings that we can conclude. First, from the correlation analysis, we found that most of the external factor attributes are correlated well between each attribute, unlike the other two groups. From this finding, we can conclude that there are external factors influencing housing price in Jakarta Metropolitan Region. It would also underline the complexity of housing price setting due to the intangible aspects of external factors such as speculative behaviours of the consumers and other external strategic attributes like political and economic condition.

Lastly, based on the findings in ANOVA test analysis, we can see a glimpse on how property practitioners perform their analysis based on their gender and location. It turned

out that gender does influence the attributes selection process while regarding location; most of the practitioners tend to share similar results for each of the attributes questioned. The result of this research affirmed our suspicion that real estate developers do apply black-box approach when setting up their marketing, sales and pricing strategy during the product sales, and they do mostly rely on their previous experience (Rahadi et al., 2015). The findings from this study would be useful for all of the stakeholders involved in the housing industry to understand more about the mechanics of attributes influencing housing product price in Jakarta Metropolitan Region.

5. FUTURE RESEARCHES

Replication of this study can be performed in other major cities all around Indonesia, such as Semarang, Medan, Makassar, Banjarmasin, and Denpasar. By mapping the results from all of the major cities, we would be able to create a generic influencing external factor model specifically for Indonesia. It is also interesting to see from the gender perspective about the different results found in this study. Is it only because of location factor of the area, or does it can be applied throughout Indonesia?
The study can also be replicated in the main cities in neighbouring countries such as Malaysia, Thailand, and Singapore, where they also shared similar culture and habits. It is highly likely that the result in those countries correlates with the results found in this study.

ACKNOWLEDGEMENTS

REFERENCES

[1]   Abdul-Rahman, H., Kwan, C.L., and Woods, P.C., (1999). "Quality function deployment in construction design: application in low-cost housing design." *International Journal of Quality & Reliability Management,* 16(6), pp.591-605.

[2]   Abdul Kadir, M.R., Lee, W.P., Jaafar, M.S., Sapuan, S.M. and Ali, A.A.A., (2005). "Factors affecting construction labour productivity for Malaysian residential projects." *Structural Survey*, 23(1), pp.42-54.

[3]   Albari, Safitri, I. (2018). "The Influence of Product Price on Consumers' Purchasing Decisions." *Review of Integrative Business and Economics Research*, 7, 328-337.

[4]   Bernanke, B.S., (1986), September. "Alternative explanations of the money-income correlation." *In Carnegie-Rochester Conference Series on Public Policy* (Vol. 25, pp. 49-99). North-Holland.

[5]   Berry, M., (2000). "Investment in Rental Housing in Australia: Small Landlords and Institutional Investors." *Housing Studies*, 15(5), pp.661-681.

[6]   Case, K.E., (1992). "Taxes and Speculative Behavior in Land and Real Estate Markets." *Review of Urban & Regional Development Studies*, 4(2), pp.226-239.

[7] Catte, P., Girouard, N., Price, R.W. and André, C., (2004). "Housing Markets, Wealth and the Business Cycle." *OECD Economics Department Working Papers*, No. 394, OECD Publishing, Paris.

[8] Davis, M.A., and Heathcote, J., (2005). "Housing and the Business Cycle." *International Economic Review*, 46(3), pp.751-784.

[9] Chee, L.K., and Peng, N.K., (1996). "Customer Orientation and Buyer Satisfaction: the Malaysian Housing Market." *Asia Pacific Journal of Management*, 13(1), pp.101-116.

[10] Daly, J., Gronow, S., Jenkins, D., and Plimmer, F. (2003). "Customer Behavior in the Valuation of Residential Property: A Comparative Study in the UK, Ireland, and Australia." *Journal of Property Management*. Vol. 21, No. 5, pp. 295-314.

[11] Daniel, M.M., Wapwera, S.D., and Omogor, C.O. (2016). "Land Reform Implementation and Its Impact on the Registration of Property Title and Instrument in Greater Jos Metropolis, Nigeria: 2007 – 2014". *International Journal of Real Estate Studies*. 12(2), pp. 45-56.

[12] Dieci, R. and Westerhoff, F., (2012). "A Simple Model of a Speculative Housing Market." *Journal of Evolutionary Economics*, 22(2), pp.303-329.

[13] Dhar, R. and Simonson, I. (2003). "The Effect of Forced Choice on Choice." *Journal of Marketing Research*, Vol. 40 No. 2, pp. 146-160.

[14] Donald, J., Terry, S. and Daniel, W., (2009). "Time on the Market: The Impact of Residential Brokerage." *Journal of Real Estate Research*, 2(2), pp. 447-458.

[15] Edelstein, R.H., and Lum, S.K., (2004). "House Prices, Wealth Effects, and the Singapore Macroeconomy." *Journal of Housing Economics*, 13(4), pp.342-367.

[16] Gallin, J., (2003). "The Long-Run Relationship Between House Prices and Income: Evidence from Local Housing Markets (April 2003)". *FEDS Working Paper No. 2003-17*. Available at SSRN: https://ssrn.com/abstract=410808

[17] Glower, M., Haurin, D.R. and Hendershott, P.H., (1998). "Selling Time and Selling Price: The Influence of Seller Motivation." *Real Estate Economics*, 26(4), pp.719-740.

[18] Goodman, A.C., and Thibodeau, T.G., (2003). "Housing Market Segmentation and Hedonic Prediction Accuracy." *Journal of Housing Economics*, 12(3), pp.181-201.

[19] Greiber, C. and Setzer, R., (2007). "Money and Housing: Evidence for the Euro Area and the US. *Bundesbank Series 1 Discussion Paper No. 2007*,12. Available at SSRN: https://ssrn.com/abstract=2785289.

[20] Haurin, D., (1988). "The Duration of Marketing Time of Residential Housing." *Real Estate Economics*, 16(4), pp.396-410.

[21] Haurin, D.R., Haurin, J.L., Nadauld, T. and Sanders, A., (2010). "List Prices, Sale Prices and Marketing Time: An Application to US Housing Markets." *Real Estate Economics*, 38(4), pp.659-685.

[22] Hwang, M. and Quigley, J.M., (2006). "Economic Fundamentals in Local Housing Markets: Evidence from US Metropolitan Regions." *Journal of Regional Science*, 46(3), pp.425-453.

[23] Iacoviello, M. and Minetti, R., (2008). "The Credit Channel of Monetary Policy: Evidence from the Housing Market." *Journal of Macroeconomics*, 30(1), pp.69-96.

[24] Iwata, S. and Yamaga, H., (2007). "Resale Externality and the Used Housing Market." *Real Estate Economics*, 35(3), pp.331-347.

[25] Jiang, D., Chen, J.J. and Isaac, D., (1998). "The Effect of Foreign Investment on the Real Estate Industry in China." *Urban Studies*, 35(11), pp.2101-2110.

[26] Jing-kui, Z., (2005). "Real Estate Price Fluctuations and Speculative Behavior--an Empirical Analysis for Fourteen China Cities." *Modern Economic Science*, 4, pp.19-24.

[27] Kang, H. and Gardner, M., (2009). "Selling Price and Marketing Time in the Residential Real Estate Market." *Journal of Real Estate Research*, Vol. 4, No. 1, pp. 21-35.

[28] Moro, M.F., dos Reis, C.C.C., de Almeida Flores, S., Weise, A.D., Vincenzi, S.L. (2016). "São Paulo Real Estate Market: Interference Of Economic Indicators In Sales of Residential Real Estates." *International Journal of Real Estate Studies*. 12(2), pp. 25-34.

[29] Newell, G. and Worzala, E., (1995). "The Role of International Property in Investment Portfolios." *Journal of Property Finance*, 6(1), pp.55-63.

[30] Oates, W.E., (1969). "The Effects of Property Taxes and Local Public Spending on Property Values: An Empirical Study of Tax Capitalization and the Tiebout Hypothesis." *Journal of Political Economy*, 77(6), pp.957-971.

[31] Ortalo-Magne, F. and Rady, S., (1999). "Boom In, Bust Out: Young Households and the Housing Price Cycle." *European Economic Review*, 43(4), pp.755-766.

[32] Osili, U.O., 2004. "Migrants and Housing Investments: Theory and Evidence from Nigeria." *Economic Development and Cultural Change*, 52(4), pp.821-849.

[33] Peng, R. and Wheaton, W.C., (1994). "Effects of Restrictive Land Supply on Housing in Hong Kong: An Econometric Analysis." *Journal of Housing Research*, 5(2), p.263.

[34] Pettang, C., Mbumbia, L. and Foudjet, A., (1997). "Estimating Building Materials Cost in Urban Housing Construction Projects, Based on Matrix Calculation: the Case of Cameroon." *Construction and Building Materials*, 11(1), pp.47-55.

[35] Poterba, J.M., (1984). "Tax Subsidies to Owner-Occupied Housing: An Asset-Market Approach." *The Quarterly Journal of Economics*, 99(4), pp.729-752.

[36] Rahadi, R.A., Wiryono, S.K., Koesrindartoto, D.P. and Syamwil, I.B., (2012). "Relationship Between Consumer Preferences and Value Propositions: A Study of Residential Product." *Procedia-Social and Behavioral Sciences*, 50, pp.865-874.

[37] Rahadi, R.A., Wiryono, S.K., Koesrindartoto, D.P. and Syamwil, I.B., (2013). "Attributes Influencing housing Product Value and Price in Jakarta Metropolitan Region." *Procedia-Social and Behavioral Sciences*, 101, pp.368-378.

[38] Rahadi, R.A., Wiryono, S.K., Koesrindartoto, D.P., and Syamwil, I.B. (2014). "Improved Consumer Preferences Attributes Analysis for Housing Product Price in Indonesia." *International Journal of Applied Business and Economic Research*. 12 (4), pp. 1367-1389.

[39] Rahadi, R.A., Wiryono, S.K., Koesrindartoto, D.P. and Syamwil, I.B., (2015). "Factors influencing the price of housing in Indonesia." *International Journal of Housing Markets and Analysis*, 8(2), pp.169-188.

[40] Rahadi, R.A., Wiryono, S.K., Koesrindartoto, D.P. and Syamwil, I.B., (2015). "Comparison of the Property Practitioners and Consumer Preferences on Housing Prices in the Jakarta Metropolitan Region." *International Journal of Housing Markets and Analysis*, 8(3), pp.335-358.

[41] Rahadi, R.A., Wiryono, S.K., Koesrindartoto, D.P. and Syamwil, I.B., (2016). "Factors Affecting Housing Products Price in Jakarta Metropolitan Region*." International Journal of Property Sciences*, 6(1).

[42] Rosen, K.T. and Smith, L.B., (1986). "The Resale Housing Market." *Real Estate Economics*, 14(4), pp.510-524.

[43] Rosenthal, S.S., (1999). "Residential Buildings and the Cost of Construction: New Evidence on the Efficiency of the Housing Market." *Review of Economics and Statistics*, 81(2), pp.288-302.

[44] Simanungkalit, P. (2009). "Property Investment Strategy in the Global Crisis." *Tjiptono Darmadji Network: Seminar Investment in Property*, April 14, 2009, Le Meridien Hotel, Jakarta.

[45] Schnare, A.B. and Struyk, R.J., (1976). "Segmentation in Urban Housing Markets." *Journal of Urban Economics*, 3(2), pp.146-166.

[46] Shiller, R.J., (1990). "Speculative Prices and Popular Models." *The Journal of Economic Perspectives*, 4(2), pp.55-65.

[47] Springer, T.M., (1996). "Single-Family Housing Transactions: Seller Motivations, Price, and Marketing Time." *The Journal of Real Estate Finance and Economics*, 13(3), pp.237-254.

[48] Stiles, M. (2016). "No Relief in Sight for Construction Projects Affected by Glassworkers' Strike." Retrieved from: http://www.bizjournals.com/seattle/news/2016/07/15/no-relief-in-sight-for-construction-projects.html. Accessed on March 22nd, 2017.

[49] Turnbull, G.K., and Dombrow, J., (2006). "Spatial Competition and Shopping Externalities: Evidence from the Housing Market." *The Journal of Real Estate Finance and Economics*, 32(4), pp.391-408.

[50] Topel, R. and Rosen, S., (1988). "Housing Investment in the United States." *Journal of Political Economy*, 96(4), pp.718-740.

[51] Tsatsaronis, K. and Zhu, H., (2004). "What Drives Housing Price Dynamics: Cross-Country Evidence." *BIS Quarterly Review*, March 2004. Available at SSRN: https://ssrn.com/abstract=1968425

[52] United States Census Bureau. (2007). "Calculating Migration Expectancy Using ACS Data." Available at: https://www.census.gov/hhes/migration/about/cal-mig-exp.html. (Accessed on 9 February 2017).

[53] Wheaton, W.C., (1977). "A Bid Rent Approach to Housing Demand." *Journal of Urban Economics*, 4(2), pp.200-217.

[54] Wheaton, W. and Nechayev, G., (2008). "The 1998-2005 Housing "Bubble" and the Current "Correction": What's Different This Time?". *Journal of Real Estate Research*, 30(1), pp.1-26.

[55] Wu, F., (2001). "China's Recent Urban Development in the Process of Land and Housing Marketisation and Economic Globalisation." *Habitat International*, 25(3), pp.273-289.

[56] Wu, F. and Webber, K., (2004). "The Rise of "Foreign Gated Communities" in Beijing: Between Economic Globalization and Local Institutions*." Cities*, 21(3), pp.203-213.

[57] Yu, S.M., (1992). "Property Investment Decisions: A Quantitative Approach." Taylor & Francis.

[58] Zhang, X., Shen, L. and Wu, Y., (2011). "Green Strategy for Gaining Competitive Advantage in Housing Development: A China Study." *Journal of Cleaner Production*, 19(2), pp.157-167.

[59] Zhou, M. and Logan, J.R., (1996). "Market Transition and the Commodification of Housing in Urban China." *International Journal of Urban and Regional Research*, 20(3), pp.400-421.

[60] Zoopla. (2012). "The Average Brit Will Move House Eight Times." Available at: http://www.zoopla.co.uk/discover/property-news/the-average-brit-will-move-house-8-times-801377088/#dTE0jKZesjQarHtu.99. (Accessed on 9 February 2017).