

PREDICTIVE CAPACITY OF ASKING PRICE ON PROPERTY SALES PRICE IN EMERGING MARKET: EVIDENCE FROM LAGOS, NIGERIA

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PURPOSE: With a focus on Lagos property market, Nigeria, the paper analysed the relationship between asking/listing price, time-on-market and sales price of residential property assets and determined the predictive capacity of asking prices and time-on-market on the eventual sale prices.

DESIGN/METHODS FOLLOWED/APPROACH: Transaction data on listing prices, time-on-market and sales prices involving one hundred and thirteen (113) residential properties were collected from practitioners in Lagos property market. Ratio analysis, skewness and correlation analysis were used to establish the relationship between asking and sales price of the properties, while regression analysis was used to determine the predictive power of asking price and time-on-market on sales price.

FINDINGS: The results showed that the time-on-market of residential properties in the market averaged 145.82 (4 months 26 days). Also, the results showed that there was a strong significant (0.01 level) relationship between the asking price of the properties and sales price at R value of +0.995. The real percentage offered between asking price and sales price of residential properties in the market averaged 87.42%, which amounted to 12.58% off the asking price. The results also revealed that asking price and time-on-market explained about 99% of the variation in the sales price. On individual level, asking price had greater impact at $t = 104.657$, $p < 0.01$, while time on market had little impact ($t = 0.869$, $p = 0.387$).

PRACTICAL IMPLICATIONS: The paper implied that asking prices of residential properties in Lagos property market could be used to predict their sales prices and that offering about 84% of asking price as sales price in the market would seem to be a reasonable offer.

ORIGINALITY/ VALUE OF WORK: The paper is one of the few studies focusing on the relationship between asking prices, time-on-market and sales prices of properties from emerging market point of view.

Keywords: property asset, asking price, sales price, time on sale, ratio analysis, predictive capacity.

1. Introduction

Faced with the problems of lack of access to accurate transaction data for decision making in the developing property market, especially with respect to buying and selling decisions, it becomes necessary to come up with alternative strategies and actions that will serve to reduce if not totally address these problems. Therefore, given the fact that information on asking (listing) prices of property on sale are readily available in any market, using them as basis of decision making may not be out of place. In other words, it is believed that there could be a solution to the complexity in the property transaction data availability in the developing markets, like Nigeria, by assessing the predictive capacity of asking prices and time-on-market on sales prices and developing a model of these relationships. If the predictive capacity of asking prices and time-on-market on sales is found to be high, it means that the property profession may want to observe asking price and time-on-market and use them as basis for predicting eventual sales price of properties. With a focus on the Lagos property market in Nigeria, the paper analysed the relationship among the asking prices, time-on-market and the eventual sales prices of residential properties in the Lagos property market.

This type of analysis is considered significant because of the need to find a way out of the challenges of lack of transaction data for decision making in the property market. More so that it appears that solving the problem of lack of accessibility to accurate data in markets like the Nigerian property market, through the production of an accurate centralized databank, might take longer time than expected or might be a mirage. The reason for this skepticism is not farfetched. In Nigeria for example, Olapade (2014) suggested that the characteristics of the main market in Nigeria (Lagos property market), in terms of market maturity, have not changed. For example, the secrecy attached to transaction data and lack of transparency in the markets; the lack of cooperation among members of the property profession occasioned by their rivalry and unhealthy competitions, among other challenges, are pointers to the fact that little or nothing has changed when related to the past decades.

The paper distinguishes itself from previous studies by focusing on the relationship among asking prices, time-on-market and sales prices of properties especially from emerging market point of view. Previous studies have focused on either the relationships between time-on-market and sales prices (Asabare and Huffman 1993; Jud, Winker and Kissling 1995) or the relationship between asking prices and sales prices of properties (Lester, Visschers and Wolthoff, 2013; Han and Strange 2012). Studies such as Lehner (2011), though modeled housing prices in Singapore by applying spatial hedonic regression, the focus of the studies was on developed markets. However as it is expected, the findings of these previous studies may not be applicable to emerging markets, like Nigeria, due to differences in market characteristics.

2. Literature Review

When a property is put on the market for sale, its seller or its agent lists an asking price. This asking price, also called listing price, is the price that the seller places on the property on sale. It is a price at which a seller commits to taking his good off the market and trading immediately (Lester, Visschers and Wolthoff, 2013). The determination of the price may result from valuation estimate or estimate from recent comparable properties. However, a final sales price is achieved through negotiation which is usually lower than the original asking price. The difference between the asking price and the sales price, often referred to as a ratio, represents the percentage of the asking price at which the property is actually sold. Thus, depending on the market and the needs of property seller in terms of how much under the asking price must he/she accept, it appears asking price on a property could be used as proxy for eventual determination of the sales price. In line with this belief, a number of studies have examined the relationship between the asking/listing price and the eventual sale price of real estate assets with a view to establishing the predictive capacity of asking price on sales price.

One of the earliest studies on the relationship between asking price and sales price is that of Miller and Sklarz (1987) which investigated the impact of pricing strategies and asking prices on the selling prices of residential properties in the United States. Employing data from a sample of 605 high-rise condominiums sold between mid-1984 and mid-1985 period in Hawaii, United States, the finding identified asking or listing at a price at least equal to or above that of the typical pricing spread for other similar property as the optimal pricing strategy for the real estate and other large-ticket heterogeneous markets. Additionally, the study found a lower selling price relative to the value estimate and longer selling time when property is priced higher relative to the value estimate. This indicates presence of a nonlinear relationship between asking and selling prices of residential properties. A similar study by Yavas and Yang (1995) provided a theoretical and empirical analysis of the impact of listing/asking price on the marketing time and transaction price of residential real estate. Using data set on 270 house sales transactions collected from the MLS of the State College School District of Pennsylvania in the United States and consummated in 1991, the study found that the effect of listing price on the marketing time and transaction price of houses within the research period is ambiguous, and depends to a great extent on the seller's perception of the value of his property, his bargaining power, the agent's commission rate, search costs etc.

Jud, Winkler and Kissling (1995) also investigated the relationship between listing and selling price as a reflection of liquidity in the residential housing market in the United States. Findings from the study showed that liquidity is a function of both transaction costs and depth of information available in the real estate market. In another United States study, Knight, Sirmans and Turnbull (1998) explored the list price information in residential property valuation and underwriting. The study postulated that if property markets are efficient, the information captured in listing prices at any point in time will be reflected in prices of property transactions at that same point in time. In addition, the study concluded that listing price of dwelling houses appears to

be useful in predicting the subsequent selling price. However, this result was found to have been influenced by variety of factors such as buyer and seller negotiations.

Knight (2002) investigated the relationship between the listing price, selling price, and the selling time of residential real estate by examining the causes and effects of changes in listing price on the sales price and time-on-market. Employing data consisting of 2,759 detached single-family dwellings in Stockton, California, United States, that were sold between January 1997 and December 1998, the finding indicated that 38.4% representing one-third of the transactions changed the listing price (price revision) during the marketing period. This was identified as the probable cause of the conflicting results on the impact of asking price on sale price and selling time of real estate assets. Anglin, Rutherford and Springer (2003) analysed the impact and trade-off of price setting on the selling price and marketing time of residential properties. Employing data pertaining to 1,663 single family dwellings in Arlington, Texas, United States Multiple Listing Service, the study established that listing price led to reduction in selling price by 2.5%. Moreover, the findings indicated that there is no direct trade-off between the selling price and marketing time and that the marketing time varies more with spatial location and market conditions than it does with property characteristics.

McGreal, Adair, Brown and Webb (2009) examined the relationship between listing and selling price of used single-family dwellings in Belfast, United Kingdom. The study employed data on 1,684 sales transactions between the first quarter of 2002 and the first quarter of 2004 period. The study found a significant positive relationship between asking and sale prices and this varies based on the duration of the marketing time as well as location and other characteristics of the property. Haurin, Naudald and Sanders (2010) study of the relationship between list price, sale price and marketing of residential dwellings in Columbus, Ohio, established that list prices had two effects on the search process. One is that the list price established an upper limit on buyers' offers, and the other is that list price affects the arrival rate of offers. The study concluded that the greater the variance of the distribution of buyers' potential offers, the greater the ability of list price in predicting the expected sales price.

Gatzlaff and Liu (2013) evaluated the significance of list prices in commercial property transactions by examining the effect of the list price on the sale price of commercial properties in the United States. Utilizing data from 45,662 single office properties sales transactions across 24 Metropolitan Statistical Areas (MSAs) in the United States between January 2006 and December 2011 period, the results showed that office properties that were marketed using list price information were associated with lower transaction prices. This finding conforms to the notion that there is a negative relationship between asking and sales properties of real estate investments.

Utilizing data from Virginia Metropolitan Statistical Area (MSA) in the United States between January 1993 and September 2011 time period, Beracha and Seiler (2013) analysed the effect of listing price strategy on selling prices of residential real estate in the United States. The study also provided theoretical and empirical explanation of how the thousands digit in a home's asking price is related to the final transaction price relative to its true underlying value. The findings suggest that, on average, homes

listed, using a “just below” pricing strategy, are associated with the greatest discount negotiated relative to the asking price. This implies that the type of price listing strategy adopted is a significant determinant of the realization of the sale price.

Focusing on the United States, Han and Strange (2014) investigated the role of asking prices of residential real estate in influencing the sale price. Employing survey data obtained across four North American metropolitan cities, the study developed and tested a model that was used as a proxy for the number of buyers who have a serious interest in buying a house. The study found a negative relationship between asking price of a house and the sale price. Based on the findings, lower asking price reduces the number of bidders, depending on the state of the market - stronger in a bust market than in a boom market. Lako, Liu and McKinney (2014) investigated the impact of marketing strategies on the asking and sale prices of residential properties in the United States. The study introduced a new dimension by decomposing housing markets in the United States into warmer (hot) and cooler (cold) categories. Employing MLS data on single family dwellings for sales from the Los Angeles (hot) and Cleveland (cool) markets from January 2012 to December 2013, the study found the effect of listing price on sale price on residential houses was influenced by the nature of the market. In the cool market, few properties were found to sell above the asking prices. However, in the hot market, a significant share of the properties sold above their listing prices.

A detailed analysis of the foregoing review suggest that there is conflicting evidence on the relationship between asking/listing price and selling price and the predictive capacity of asking on sale prices of real estate assets. This could be ascribed to the differences in location and economic characteristics of the areas where such studies have been carried out, since most of these studies were location specific. Moreover, majority of these studies were conducted in developed economies, with a substantial proportion on the United States, with sophisticated level of economic and technological advancement. Thus, applying the findings of these studies to other locations, especially an emerging market such as Nigeria requires caution. This is apparent since the prevailing level of economic advancement which often influence the operation of the real estate market varies significantly with what obtains in developed economies. Hence, it is pertinent to examine the ability of asking prices to predict sale prices of real estate assets from the perspective of an emerging economy.

3. Data and Methodology

Transaction data on listing prices, time on market and sales prices involving one hundred and thirteen (113) residential properties were collected from practitioners in Lagos property market. The data comprised 113 different residential property types sold between January, 2012 and January, 2014 in Lagos, Nigeria. The data were analysed with the use of Ratio analysis; that is the ratio of asking price-to- sales price. This was used to find the average percentage difference between the asking price and selling and to establish the percentage to offer between the asking price and the sales price in Lagos property market.

The paper also used standard deviation and skewness to measure the variation in the data or how the data was distributed around the mean and how high the peak of the distribution is relative to the normal distribution. In addition, correlation analysis was used to analyse the degree of association between asking price and sales prices, while regression analysis was used to model the predictive power of asking price and time-on-market on sale prices of the residential properties. The regression model used is described as follows:

$$R_t = \alpha + \beta X_i + \varepsilon_t \quad (1)$$

Where R_t is the expected sales price of property asset, X_i are the predictors of sales price; here represented by asking price (X_1) and time-on-market (X_2); β_i (Beta) indicates the sensitivity of the sales price to each factor X and ε_t standard error of estimate assumed to be zero.

4. Results and Discussions

The results of the analysis of the data presented in this section are sub-divided into two main sections. The first section presents the descriptive statistics on asking and sales prices as well as the results of the ratio of asking price on sale prices. The results of the analysis on the predictive capacity of asking price and time on market on sale prices are presented in the second section.

4.1. Descriptive Statistics

Table 1 presents the result of the descriptive statistics on asking price, time-on-market and sales prices for the 113 properties considered in the analysis.

Table 1: Descriptive Statistics and Correlation Matrix on asking price, time on market and sales prices

Variables	Range	Minimum	Maximum	Mean	Standard Deviation	Skewness
Asking Price (Naira)	399,400,000	600,000	400,000,000	63,604,778.76	80,678,810.28	2.184
Sales Price (Naira)	349,475,000	525,000	350,000,000	54,770,486.73	69,855,486.15	2.228
Time-on-market (Days)	2688	0	2688	145.82	314.862	5.448
Ratio	1.65	0.50	2.15	0.8742	0.16185	4.149
Correlation coefficient						
	Asking Price (Naira)	Sales Price (Naira)	Time-on-market (Days)			
Asking Price (Naira)	1.000					
Sales Price (Naira)	.995**	1.000				
Time-on-market (Days)	0.005	0.14	1.000			

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

The results in Table 1 shows that, the asking prices of residential properties put for sale between January, 2012 and January, 2014 ranged from ₦600,000 to ₦400,000,000, a range of ₦399,400,000, while the eventual sales price had a range of ₦349,475,000. The prices ranged from ₦525,000 to ₦350,000,000. The asking price of the properties averaged ₦63,604,778.76, while the mean value of sale price was ₦54,770,486.73. With regards to the time-on-market of the properties, the analysis revealed that the time averaged 145.82 days (4 months 26 days). This is considered to be marginally high and suggests that while some of the properties must have been reasonably priced, some might have been overpriced. In terms of variation in the data and how they were distributed around the mean, the results of the standard deviations (₦80,678,810.28 and ₦69,855,486.15 for asking price and sales price respectively) have varied widely during period. In similar vein, the skewness results showed that the distributions came with extreme values to the right. Therefore, some of the residential properties in the market might have been overpriced during the period of sales. The skewness statistics were 2.184 and 2.228 for asking price and sale price respectively.

The results of the ratio analysis of the asking price-to-sales price as shown in Table 1 revealed similar outcome as the foregoing. It is observed that the range of the ratio of asking price-to-sale price was 1.65. This range is an indication that most of the asking prices must have been overpriced values. The average ratio of asking price-

to-sale price was 0.8742. This suggests that the real percentage offered between the asking price and the sale price of the residential properties in Lagos market, Nigeria was about 87.42%, which amounted to 12.58% off the asking price and the gain for the buyers. In other words, offering 87.42% of asking price as sales price of residential properties in the market would seem to be a reasonable thing to do. The finding, no doubt, suggests that residential property market in Lagos was probably a buyers' market. This is because the percentage obtained (12.58%) as off the asking price value is considered a little bit high. It is expected that a range of between 3% and 6% off the asking price would be an acceptable margin as literature has led one to believe.

Furthermore, the result of the Pearson Correlation in Table 1 shows that there was a strong significant (0.01 level) relationship between the asking price of the properties and sales price at R value of +0.995. However, there appears to be a very weak but positive relationship between asking price of the properties and the time-on-market ($R = +0.005$) and between the sales price and time-on-market ($R = +0.014$). This therefore suggests that asking price must have been the major determinant of the eventual sales price of residential properties in Lagos. This assertion is established in the subsequent analysis.

The findings obtained from the foregoing might have been occasioned by the global economic recession of 2008-2010 which also affected the Nigerian economy and from which the economy and the property market were still trying to recover. Besides, the average time-on-market of the property (145.82days) is a pointer to the fact that most of the properties spent an average of 5 months period before being marketed; thus, suggesting that the market was going on the direction of being a buyer's market. The finding is also a pointer to the fact that asking prices of residential properties in the market might not have emanated from valuation estimates but from sellers' guesstimate. Otherwise, the valuations must have been full of inaccuracies; hence, the delay in selling.

4.2. Predictive Capacity of Asking Price and Time-On-Market on Sales Price

Presented in Tables 2 are the results of the analysis on the predictive capacity of asking price and time-on-market on sale prices. The table shows the results of the regression beta coefficients, as well as the model summary.

Table 2: Regression Values for Asking Price, Time-on-market and Sales Price

Predictors	Alpha/ constant	Asking Price (Naira)	Timo-on- market (Days)	R ²	Adjusted R ²
Beta Coefficients	-290124.435	0.861	1833.505	0.990	0.990
Standardised Coefficients	---	0.995	0.008	---	
t. value	-0.324	104.657	0.869	--	
Sig.	0.747	0.000	0.387	---	
Std. Error.	896702.767	0.008	2109.15		

The regression equation, as shown in equation 2, represents the model of the relationship between sales price as dependent variable and asking price and time-on-market as the predictors at R² of 0.990.

$$R_i = -290124.435 + 0.861X_1 + 1833.505X_2 \quad (2)$$

The results indicated that asking price and time-on-market of properties explained 99% of the variations in sales price of the properties in Lagos market. This suggests that property sales price was highly dependent on asking price and the time-on-market of the properties. Asking price however had the greater impact on sales price at standardized beta coefficient of 0.995 at t = 104.657 and p < 0.01, while time-on-market had little impact at standardized beta coefficient of 0.008 at t = 0.869 and p = 0.387. The sensitivity of property sales price to asking price, measured by beta, was 0.861, while the sentivity to time-on-market was 1833.51.

Further analysis, using this model, suggests that it will take an average of 158.23days (5 months 8 days) for a seller to get the value placed on his proeprty as sales price in the market. Also, a 16.14% off the sale price may be a reasonable offer by the buyers, while sellers could be expected to get 83.86% of the asking price as the eventual sale price. This shows that an offer of about 84% of asking price as sales price in the Lagos property market could be expected a reasonable sales price deal by the sellers. This analysis, though come with a slight reduction from the one obtained using ratio analysis, the two suggest the same outcome; that the Lagos property market was heading towards buyer's market.

5. Concluding Remarks

This paper analysed the relationship among asking/listing price, time-on-market and sales price of property assets in the Lagos property market, Nigeria and determine the predictive capacity of asking prices and time-on-market on the eventual sale prices. The results revealed that the time-on-market of residential properties in the market averaged 145.82 days (4 months 26 days) and that there was a very strong causal relationship between asking price and sales price of the properties. The results indicated that asking price and time-on-market explained about 99% of the variation in sales price and that the average percentage difference between asking price and sales price of residential properties in Lagos property market was 12.58%. The paper concluded that, with an average time-on-market of properties known, asking price of residential properties in Lagos property market could be used to predict their sales prices and that offering about 84% of asking price as sales price in the market would seem to be a reasonable offer.

It should however be noted that this research should be viewed and interpreted as an indication of the predictive capacity of asking price on sales prices of property, rather than a representation of the capacity. This is because of the limitation in the data collected. The research was only able to access transactions data on 113 residential properties, which imposes restriction on its representativeness and generalisability. In any case, the finding of the study is useful to the extent that it gave an idea of how much below the asking price must a seller accept and what buyers should offer given the asking price. It thus gave an indication of whether the Lagos property market is going in the direction of sellers' or buyers' market. This information, will not only be a useful tool in the hands of investors in the market, but also can serve as impetus for wider research coverage on the issue.

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