

Strategy of Householding Price, Sale, Time to Sell, and Ability to Sell Housing: Research Overview

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Abstract:

We conduct a review of a number of theoretical models analyzing a number of related effects developed from the standard theoretical framework for the search behavior of homebuyers in the recently developed housing market. Here, to demonstrate the suitability of this standard theoretical framework in the development of home buyer behavioral impact analysis models. Then, based on this standard theoretical framework, the author will develop a theoretical model to analyze the effect of current home properties on the behavior of home buyers.

Keywords: house price, sale, time to sell, ability to sell house

1. Introduction

Housing is the most important asset class for households and the largest share of the household's total asset value, a variation in housing value will have a very strong impact on behavior. consumption by households and can affect economic growth (Case et al., 2005). Therefore, the selling price of the house and the length of its sale are always the issues that the home seller is concerned about. Accordingly, the goal of the seller is the higher the selling price, the better, the shorter the time for sale, the better.

However, according to the housing market search theory frameworks proposed by Simon (1955) and later developed by Wheaton (1990), Yavas (1992) and more recently by Krainer models. and LeRoy (2002), Anglin, Rutherford, and Springer (2003), Lin and Vandell (2007), and Cheng et al. (2008), the two seller's goals are conflicting because when sellers spend a lot of money the longer they spend searching for potential buyers, the longer they will find buyers who are more willing to pay for the home for sale. As a result, home sellers will always have to make a trade-off between high selling prices with long sales periods or low selling prices with short sales periods. In which, the asking price acts as a tool to determine the seller's trade-offs, a high asking price is a signal of the seller about a high threshold and thus limits the number of potential buyers. of the house, so the time for sale will be extended, but on the contrary, the quality of the potential buyer is improved and the seller thus achieves a higher selling price (Hoeberichts et al., 2008). Note that the asking price acts as a filter signal for buyers. As such, these theories both conclude that the asking price and the length of the sale are positively related, and that the seller's asking price is the tool to make this trade-off between the price and the length of the sale.

However, empirical research results show that this trade-off relationship is often violated. Specifically, Sirmans et al. (2005) concluded that out of 18 reviewed studies about half of the empirical studies did not detect a significant relationship between selling price and selling time, 8 studies. Research finds a contrary relationship with the above theory. Similarly, Johnson et al. (2008) summarized 104 studies on the relationship between selling price and time of sale conducted in the period 1995 - 2007, only 29 studies found a copper relationship. variables according to theory, but up to 52 studies found an inverse relationship, contrary to theory, of these two quantities, and 24 cases did not find evidence of a relationship. In another synthesis, Benefield et al. (2014) have compiled 197 related studies, with up to 100 studies confirming the theoretical inverse relationship between the selling price and the length of time for sale of houses. This shows that, in some cases, the low asking price not only reduces the selling price of the house, but also prolongs the time for sale, which reduces the ability to sell the house.

And in order to explain the inverse relationship to this theoretical search framework between selling price and time, Taylor (1999) developed a theoretical model framework that proves the presence of psychology.

discrimination in the housing market. Accordingly, when the quality of the house is difficult to observe by the buyer, the fact that a house has a prolonged sale period in the housing market becomes a strong signal of quality “bad” of the house in the eyes of the buyer, and therefore the selling price of the house will be reduced.

Thus, the relationship between the selling price and the length of time for sale of a house in the market is unclear, and therefore the effect of the seller's bidding strategy on these two factors, and more broadly, the ability to sell houses has also become a controversial issue among researchers, both in theory and experiment. Therefore, many authors such as Asabere and Huffman (1992), McGreal, Adair and Brown (2009), Filippova and Fu (2011), Cirman et al. (2015) suggest that further real studies need to be done. The impact of these factors on the relationship between sale price and time for sale, and the ability to sell houses in different real estate (real estate) markets, especially in housing markets newly developed, small and thin housing markets, in order to contribute to increasing knowledge and improving the performance of these markets, instead of focusing on research in developed housing markets like in the US and other developed countries (due to the advantages of data) as at present.

2. Literature review

2.1. Review of studies related to the relationship between the asking price, selling price and time for sale

Cubbins (1974); Belkin, Hempel and McLeavey (1976) and Miller (1978) are the first authors to conduct empirical studies on the relationship between sale price and time of sale. The common point is that these studies focus solely on the problem of building experimental models and thus estimate the relationship between selling price and time to sell without considering the correlation with factors. another element of the house.

In 1974 Cubbins used 83 observations in Coventry (England) and concluded that the relationship between sale price and time for sale was the opposite. This phenomenon is explained by Cubbins because house prices are a signal of the quality of the house to the buyer. This means that the higher the asking price of the home, this implies that the quality of the home is better and this is what drives the home to be sold faster, with higher transaction rates than similar homes. but was offered for sale at a lower price. The authors Belkin, Hempel and McLeavey (1976) used a data set with more than 1000 housing transactions (1970 - 1973) in the city of Hartford (Connecticut, USA) to examine the relationship between time sale and The rate of difference between asking price and asking price is based on dividing the sample into different categories, based on geographic area and price levels, including the following groups: group of units low price, middle price group and high price group. Research results of the authors have shown that the price difference ratio has an inverse relationship with the time to sell houses. This result is contrary to research results of Cubbins in 1974. Specifically, the shorter the selling time for homes with prices close to the selling price. On the contrary, the longer it will take to sell for sale, the higher the asking price and the distance from the selling price. This inverse relationship is even greater for high-priced home groups. Another study carried out by Miller (1978) during this period classified 91 housing transaction observations in 1976 into three different groups of prices (low, mid and high) when studying termites. the relationship between time of sale and sale in the individual housing market in Columbus (Ohio, USA). Miller (1978) found no significant relationship between home price and time to sell. In addition, Miller (1978) also pointed out that there is a difference in the relationship between house price and time for sale between three different housing subgroups from the data set. It can be said that the first three experiments when studying the relationship between the selling price and the time of sale have shown that the relationship between the selling price and the time of sale is complicated and there is a difference between the housing markets. different. In addition, Miller (1978) also makes an important point that with the given housing supply and demand conditions of the market, the time to sell houses is not only influenced by house prices but also by many other factors (house characteristics, location factors and the area of the house). Therefore, when these factors are different, the relationship between selling price and selling time will also be different.

Subsequent empirical studies on the relationship between sale price and time to sell, based on these arguments, have mainly focused on re-examining the relationship between sale price and time of sale in home markets.

housing is different under the influence of factors of housing characteristics, fluctuations in the housing market, in the financial market and the characteristics of market brokers. Specifically, Miller & Sklarz (1987) conducted a study on the relationship between selling price and duration of sale of 668 housing transactions in 1984 and 1985 in Oahu, Honolulu (USA). Indicates that units have longer shelf life and lower asking prices when they have higher asking prices relative to market values. Haurin (1988) used a data set of 219 housing transactions that took place in Columbus (USA) from 1976 - 1977 to examine the effects of atypical features of the house (e.g., swimming pools). for a house located in a cold area) until the time of sale and it was concluded that, if the size of the broker and the season were controlled, the selling time of the house was positively related. with an unusual level of the house. Homes with atypical features will have an average shelf-life of 20% longer than comparable typical homes on the market, but their prices are expected to be higher.

In addition to studying the effect of home anomalies on the relationship between selling price and time of sale, Haurin (1988) also examined the effect of the broker on the duration of the home to sell and showed that that the size of the brokers is measured by the number of brokers with a contradictory relationship with the time of sale. This implies that when a home seller hires a large-scale broker, the time for sale is shorter. Larsen and Park (1989) share the same view with Haurin (1988), also suggesting that large brokers can sell their homes in a much shorter time than small brokers. In addition, Larsen and Park (1989) used 433 observations of individual housing traded in Lancaster County (Lincoln City, Nebraska, USA) and indicated that the commission rate for the broker was effective. A significant impact on the lifetime of a home after it has been found that a lower commission rate results in a shorter sale. The authors Larsen and Park (1989) have explained that there are two opposite effects of commission rates on the half-time: the effect of a broker's effort represents an inverse relationship between the rate. commission and sell time, which means a low commission rate reduces the broker's effort and this causes the selling time to be extended at all prices, and this effect causes the curve The price / time curve (P / T) will shift to the right; The effect of the seller's asking price represents a positive relationship between the commission rate and the timing of the sale (when a low commission rate makes it possible for the seller to lower the asking price and this will attract more interest. the attention of many potential buyers and therefore the house will be sold faster, and this effect causes the P / T curve to shift to the left. The results of research by Larsen and Park (1989) show that that a lower commission rate results in a shorter selling period, which implies that the seller's bid is dominating the broker's effort effect.

Studies examining the effects of overvaluation (overvaluation) and longevity of the home under different mortgage interest rates were conducted by Kang & Gardner (1989) and Ferreira. & Sirmans (1989). Among them, Ferreira & Sirmans (1989) used data with 117 housing transactions (1976-1977) and 120 housing transaction observations (1980) in Greenville (USA) to study the impact of the sale. Over the shelf life of the home under varying interest rate terms, it was concluded that the relationship between the high asking price and the length of the sale was not clear during periods of high market interest rates. Conversely, under low mortgage interest rates, overqualification will shift the P / T curve to the left implying a shorter selling time. Kang & Gardner (1989) used 1877 housing transactions in the cities of Bloomington and Normal (USA) from 1982 to 1986 and concluded that the bidding strategy always affects the length of time for sale with all the things. interest rate events (high, medium and low). This relationship is strongly influenced by interest rate conditions, in particular, when the mortgage rate is high, the selling price will be higher and this will prolong the selling time; Conversely, when mortgage rates are low, the lower the selling price and also prolong the selling time. Hence, Kang & Gardner (1989) concluded that mortgage interest not only shifts the P / T curve, but also changes its slope from positive to negative.

It can be said that studies done in the 80s related to this topic focused on redefining the relationship between the selling price and the time of sale in relation to external factors such as property. point of house, broker's characteristics and financial market (mortgage interest rate). According to these studies, the relationship between the auction strategy and the length of time for sale in the housing market is complex and is influenced by various factors. In particular, the broker, the condition of the financial market, and the properties of the

apartment all influence the length of time a home is sold and they sometimes alter the relationship between price and time. sell. This is in agreement with the argument made by Miller in 1978.

In recent times, according to Filippova and Fu (2011), the studies in this area can be grouped into three main directions as follows: (1) First, continue to redefine the relationship between the strategy of the auction. and length of time for sale under different factors; (2) the second is to focus on researching the effects of brokers, brokers' methods on the length of time for sale and price level; (3) The third is the study of how to design pricing strategies for the purpose of shortening listing times and enhancing prices.

+ Group of studies on redefining the relationship between the strategy of the auction and the length of time for sale:

This group consists of two subgroups. The first group continues with empirical studies and expands the testing of the relationship between selling price and length of sale in different impact factors and conditions. Group two adopted theoretical models developed based on the labor market search framework (Cirman et al., 2015) to explore the nature of the relationship between selling price and time. house for sale.

In general, these theories, although developed based on the theory of one-way buyers' search (represented by the model of Courant, 1978, Turnbull and Sirmans, 1993, Qiu and Zhao, 2018; Tu et al. , 2016); or seller's one-way search model (represented by models of Stull 1978, Salant, 1991; Anglin and Wiebe (2013); Lin and Vandell (2007) and Cheng et al. (2008) or theory. Two-way search that combines both seller and buyer (represented by the models of Wheaton 1990, Yavas 1992, Arnold 1999, Krainer 2001, Albrecht, Anderson, Smith, and Vroman 2007, and Hendel, Nevo, and Ortalo- Magn´e 2007) concludes that the relationship between the expected price of the house and the expected length of time to be sold is positive and that the magnitude of this positive relationship depends on a The number of factors includes: demand-side factors such as the magnitude of housing demand, the rate at which homebuyers appear; supply-side factors such as supply size; or feature factors The effects of the house, such as the strange features of the house, have only the effect of altering the magnitude of this positive relationship (Cheng et al., 2008).

In these models, in particular, the seller's asking price is considered as the upper cut-off level of the prospective buyer's bid function in a negotiation game with the buyer, in which the seller can react accept, reject and seek, or negotiate with the seller (Arnold, 1999). Thus, the larger the asking price, the smaller the probability distribution of buyers will be, implying that the less likely a potential buyer is to appear and enter into negotiations with the seller (Knight , 2002) and therefore a longer time for sale. In addition, the asking price is also the seller's signal to the buyer of his or her threshold price (the lowest price for sale), and most buyers use the price. Listing is the most important factor in determining their initial asking price (Yavas and Yang, 1995). This implies that a high asking price means a strong signal about a high sell threshold, which will limit the number of potential buyers but also increase the quality of these potential buyers. , and therefore, although the time for sale will be prolonged, the expected selling price will increase. However, in addition to the trade-off relationship between selling price and duration of sale, Taylor (1999) also found that a house has a prolonged sale period, the seller is at risk of facing a brand. In the market, the buyer suspects that there are unobserved defects and this has an adverse effect on the final selling price of the house. Since there is a problem with the optimal selling price of the seller, a high asking price will prolong the time for sale but also increase the expected selling price, but if the asking price is too high. leading to an excessively long time for sale, stigma will occur and thus lower expected selling prices. Specifically, Yavas and Yang (1995), Anglin et al. (2003), Rutherford et al. (2005) all confirm that setting a high asking price will prolong the shelf life of the home. Johnson et al. (2008) used data from 2249 cases of home listing on the Multiple listing service (MLS) from September 2006 to May 2007 in the US housing market. (including 1525 cases of successful transactions and 724 cases of unsuccessful transactions), it is found that homes with a high price deviation from the market price will have a prolonged sale period and possibility of refund. The transaction costs will decrease and therefore it will be difficult for sellers to sell these properties without lowering the asking prices. Similarly, Wit and Klaauw (2013), studying the Dutch housing market from January 2005 to December 2007, also found evidence

that a decrease in the asking price increases the likelihood of completing the transaction and shortening the time of the transaction. for sale of houses. Bjorklund et al. (2006) studied the relationship between asking price, asking price and duration of sale based on 700 individual housing transactions from 1999 to 2001 in the housing market in Stockholm (Sweden). found that home selling prices increased with time for sale and peaked on the 150th day of sale (5 months), after which, if the asking period continues to lengthen, a stigmatization effect begins to appear. and gradually reduce the selling price of the house and on the 270th day of sale (9 months) the selling price will become less than the market expected. Filippova and Fu (2011) when studying the Auckland housing market with data from 5783 housing transactions made between January 2006 and December 2008, found that the stigma effect reduces selling prices. The number of homes with prolonged for sale only appeared when the housing market declined (2008), while during the booming housing market in 2006 and 2007, the stigmatizing effect did not appear.

In addition, a number of empirical studies focus on testing the impact of different factors on the relationship between selling price and time of sale. Specifically, Jud et al. (1996); Glower et al. (1998); Harding et al. (2003) found that properties that differ from conventional standards have a higher degree of price variation, which encourages sellers to keep asking prices higher, and therefore a longer selling period, this conclusion is similar to the findings of Haurin (1988) and Cheng et al. (2008). Similarly, Hui and Yu (2012) also found that time for sale is positively related to the degree of variation in asking price. Accordingly, he found that housing segments with a strong variation in asking prices, it will be easier for sellers to get high prices from waiting, so the time to sell for sale will be longer. . Rossini et al. (2010) found that vacant homes have a longer shelf life than those currently in use. Ong and Koh (2000) also found that, in Singaporean, low-rise apartment buildings usually have a longer selling life than those on higher floors. Also studying the relationship between price and time to sell apartments in the Singaporean market, Li (2004) found that high-rise apartments are not affected by sunlight and are located in condominiums. Convenient traffic will have a short time for sale.

In addition to the effects of home characteristics, macroeconomic conditions were also found to have an impact on the relationship between selling price and time of sale. Hui and Yu (2012) found that the relationship between timing of sale and selling price depends on macroeconomic conditions. Specifically, the research results of Hui and Yu for the period 2003 - 2004 show a negative correlation between high asking prices and time for sale. Explaining this, Hui and Yu (2012) claimed that it was due to the excess of negative equity housing during this period; In contrast, in the period 2005 - 2006, when the number of houses with negative equity returned to normal, the research results showed a positive correlation between asking price and time for sale. Similarly, Filippova and Fu (2011), when combining some research results in the US market and the cycle of the US real estate market, observed that a negative relationship between the selling price and the time of sale is usually exported currently in a bear market, on the contrary when the market is going up the relationship is usually positive.

In addition, according to Anglin et al. (2003); Kalra and Chan (1994); Yang and Yavas (1995), TOM is also influenced by local and national market conditions as well as seasonal variations. Leung et al. (2002) research in the Hong Kong housing market shows that inflation is one of the strong influences on timing of home sales.

+ Setting up the bidding strategy: Typically the studies of Allen and Dare (2004, 2006) and Palmon, Smith, and Sopranzetti (2004) consider the bidding strategy "just below some round price", according to which sell at \$ 199,900 instead of rounding \$ 200,000 (Allen and Dare call the strategy "charm listing prices", Palmon, Smith, and Sopranzetti (2004) called the strategy "Just below even clustering prices"). The results prove that when the seller applies this "Just below" pricing strategy, it reduces the difference between the asking price and the selling price (Allen and Dare 2004, 2006) but increases the time sold (Palmon, Smith, and Sopranzetti 2004). Salter, Johnson, and Spurlin (20007) examine the effect of the "off-dollar listing pricing" strategy on selling prices and timing (where the author calls quoted prices as \$ 100,000, \$ 99,900, \$ 99,500, or \$ 99,000 is "round-dollar prices", prices like \$ 99,950, \$ 99,800, \$ 99,750 or \$ 99,250 are known as off-dollar prices). The research

results show that the "off-dollar" pricing strategy has no effect on the selling price but has the effect of reducing the time to sell of the house.

The impact of the housing broker: Sirmans et al. (1991) used 1225 individual housing transactions in Baton Rouge, Los Angeles between 1/1985 and 12/1987. As a result, Sirmans et al. Demonstrated that homes brokered by large brokers have a shorter selling life but no difference in selling prices. In contrast, Yang and Yavas (1995) used survey data from 388 individual housing transactions at State College, Pennsylvania in 1991, found no relationship between commission rates and brokerage firm size. with respect to the time of sale, but they found that as the broker's listing for sale increased, the time for the properties on that list increased, as opposed to when the list of properties for sale increased. When the brokerage is increased, the selling time of the remaining homes will decrease. Similarly, Jud et al. (1996) with data from 2285 observed housing transactions at 111 brokerage firms with more than 600 brokers in Greensboro, North Carolina also found no evidence to support the The broker's score or the brokerage firm's size can help them sell their home faster than others. Similar results were found by Zumpano et al. (1996), Elder et al. (2000) when they found that there was no significant difference in selling price and time for sale between homes. Sale for sale and broker for sale. In explaining this phenomenon, Jud et al. (1996) argued that due to the efficiency of the multilateral listing system (MLS), the problem of internal information was eliminated. The author also does not find a short-selling relationship when a broker sells and a broker buys in the same company. Finally, Jud et al. (1996) conclude: "... results demonstrate that the asking price, changes in the asking price and the unusual properties of the home are very important factors in influencing the property. on-time sale. The higher the asking price, the longer the selling time, the lower the sale price will reduce the selling time, the more unusual the house, the longer the selling time. In support of the above argument by Jud et al. (1996), Li and Motiwalla (2009) and Hardin et al. (2009) also find no significant difference in house prices between houses traded. through brokerage compared to homes traded by the sellers themselves because sellers market them through the internet. This shows that with the development of public information networks, the role of brokers in increasing selling prices and shortening time to sell with the advantage of internal information network is no longer clear. , it is now easy to find information and knowledge about the housing market (Hardin et al., 2009). Similarly, Turnbull & Dombrow (2005, 2007) concluded that only when brokerage firms specialize in a niche or in a geographic area do the size of the firm be affect the selling price and the length of time the home is sold, and the performance of the large brokers proved by Turnbull & Dombrow not to be a matter of efficiency due to size. Similarly, for brokers, Turnbull & Dombrow also concluded that when a house is for sale by listing agents (brokers who are inclined to sell), it will have a high selling price. rather, on the contrary, homes sold for sale by selling agents (brokers inclined to be buyers) often tended to be traded at a lower price. The problem of broker bias is also discovered by Levitt and Syverson (2008) when it comes to demonstrating that brokers tend to prolong their selling time (by more than 10 days) and sell at higher prices (3, 7%) for properties owned by them as compared with properties owned by customers. In this regard, Levitt and Syverson (2008) remarked that perhaps brokers have an incentive to sell homes, their customers, to sell at lower prices in order to shorten the time to sell and receive commissions. faster. Similarly, Rutherford et al. (2005, 2007) also found evidence that homes (both individual and apartment buildings) owned by the broker had a selling price of 3-7% higher. and the selling life of these homes is longer than that of homes owned by the broker's client. Gardiner et al. (2007), when studying the Hawaiian housing market before and after the issuance of the regulation by local authorities to disclose information on real estate sales and sales, found that dual brokerage agents has the effect of shortening the life of homes in Hawaii.

Through the process of reviewing the above related studies, we find that the relationship between asking price, house price and time of sale is interested by many authors, including theoretical research and research. about experiment. Theoretically, the results generally agree on a positive relationship between asking price, selling price, and length of time for sale. Accordingly, the asking price is seen as the seller's signal about the threshold to sell and helps to filter out potential buyers with low quality, a high asking price will prolong the selling time but in exchange for a higher expected selling price. However, the empirical studies show that the relationship between these factors is quite complex and influenced by many different factors. In general, empirical results found that

setting a high asking price prolongs the time for sale and has a higher selling price, but also prolonging the selling time also causes sentiment. housing market stigma, which then requires a discount (both for sale and for sale) from the seller, and in particular, the stigma in housing markets is not fixed. In addition, it is found that this relationship is influenced by many factors, for example market conditions, pricing method, and the use of brokers all have an impact on the selling price and trading ability of House.

2.2. Review of studies related to the ability to sell a home

The risk likelihood model was developed by Cox in 1972 and then has been widely applied in the epidemiological and several fields of social sciences. In particular, the model is often used by medical researchers to examine the impact of different treatments on patient mortality, and in the social realm, the Cox model is often applied in studies on unemployment and strikes. Particularly in the housing sector, the Cox model was first applied by Kluger and Miller (1990) to measure the liquidity of residential real estate. In their research, Kluger and Miller (1990) propose a method that combines the hedonic model and the Cox home affordability model to measure the effect of a property on housing liquidity. Accordingly, the hedonic method is used to estimate the market's expected market price of the home and to determine the seller's auction strategy as the difference from the home's asking price. The Cox home affordability model is then used to measure the impact this pricing strategy has on the home's liquidity. The estimates of the Cox model, according to Kluger and Miller (1990), will give us a relative odds ratio of the home's ability to sell relative to the sample's typical house. If the difference is two, then the home's selling capacity would be twice that of a typical home (Kluger and Miller, 1990). Research results of Kluger and Miller (1990) show that, the lower the asking price (relative to the market expected price of the house), the lower the ability to sell the house. Specifically, when the asking price is below the market price of \$ 1000, the estimated difference ratio will be 0.98, while when the below quote is \$ 50,000, the difference ratio will be 0.55 (Kluger and Miller, 1990, pp. 158). This method, which is then studied by many authors on the liquidity of the housing market is modified and applied to determine the factors that affect the viability of the house and calculate the expected time to sell. House.

Specifically, Krainer (1999) estimated the hedonic tissue used based on 14303 transactions recorded in the EBRD data set in Contra Costa district for the period 1992-1998, and this model is used to measure the value of the property differences from the average home, and is taken as an indicator of how different the home is. This differential index, along with other home features, are then included in the Cox home affordability model to estimate the effect on the home's viability. Research results of Krainer (1999) show that the more different the house is from typical, the lower the capacity to sell, but this effect is shown by the model to be quite weak.

While also applying a combination of two models to measure the impact on home affordability, Johnson et al. (2008) used a hedonic model to estimate the expected asking price of a home. house (not estimating the expected market price as the two previous studies) serve as a basis for determining the rate of difference from the actual quoted price of the seller. According to Johnson et al. (2008), this difference will represent a seller's motivation. A home with a high bias ratio has been identified as a seller with a low incentive to sell and vice versa (Anglin et al., 2003). This deviation ratio is then used in the Probit model to measure the effect on the home's viability. Research results by Johnson et al. (2008) show that the higher the mismatch rate of homes (the lower the seller's motive), the smaller the likelihood of selling.

Another study, Smith (2010) also used the hedonic function to estimate the market's expected market price of a home and used this price directly in the Cox home affordability model to measure the effect of the price. housing up to sale capacity of the house. According to Smith (2010), we should not use the selling price or asking price of the house to measure this relationship, because neither of these prices properly reflect the value of the house, because they are affected. from a variety of factors on the buyer and seller side, using the expected market value estimated from the hedonic model will be more accurate instead. Based on data from 8825 housing transactions collected from the shared housing sale (MLS) source in the Bloomington and Monroe counties, Indiana (USA) from 1997 to 2004, Smith (2010) shows that the market's expected market value of the home is a factor that reduces the viability (i.e. homes with high market expectancy value will have a long shelf

life. than). In addition, combined with the absolute position (x, y) of the house, Smith (2010) found that absolute position has a strong impact on the price of the house, increasing the viability of the house.

Hui et al. (2012) applied the same method as suggested by Kluger and Miller (1990), with the hedonic model to estimate the expected market price of housing, and this estimated price, then, is used to calculate the price deviation from the seller's actual offered price. According to Hui et al. (2012), the use of the hedonic model to estimate the market's expected market price of a home, in addition to minimizing the deviation caused by the impact of buyer and seller conditions House prices also help to solve the problem that arises from the concurrency of the quantities commonly encountered when using the asking price (or asking / asking price ratio) directly in home availability or model models. TOM, this problem, according to Hui, has been captured in studies by Belkin et al. (1976) and Kang and Gardner (1987). This gap is then used in the Cox model with results showing that this gap will reduce the viability of the home. However, when applying the Cox model to individual years in the period 2003 - 2006, Hui et al. (2012) found that, during the growth market period of 2005 and 2006 (shown through Unemployment and vacancy rates of housing), the over-price has had the effect of increasing the availability of housing.

In addition, in this study, Hui et al. (2012) also emphasized that the Cox model can be simply applied to measure the impact of factors on a home's viability without needing to the baseline hazard function. In particular, factors with positive coefficients estimated in the Cox model (or $HR > 1$) will have an effect on selling, while factors that have a negative coefficient of estimation (or $HR < 1$) will have the effect of reducing sales.

More recently, Cirman et al. (2015) studying the factors influencing the viability of housing in the Slovenian “thin” housing market apply Johnson et al. (2008). Use the hedonic model to estimate the expected asking price of the home and from there calculate the difference between the actual asking price and the estimated asking price. This asking spread is then used in the timing and availability models to test the effect of the asking-to-sell on the duration of the home and on availability. Based on survey data from 371 housing transactions between 2000 and 2010 by Ljubljana City's largest real estate broker (Slovenia's largest real estate market), it is found that, among other factors, about The asking price gap is the factor that has the strongest impact on a home's viability as an increase of 1% in the gap reduces the home's visibility by 0.69%.

3. Research method

We review some of the initial theoretical arguments of the housing market search behavioral framework and the main conclusions of these theoretical frameworks. The analytical results of these early theoretical frameworks will provide the main rationale for the housing market search behavioral framework. And based on that, the researchers later continued to develop more extensive theoretical frameworks to analyze the effects of different factors on the search behavior of home buyers. Therefore, we conduct a review of a number of theoretical models analyzing a number of related effects developed from the standard theoretical framework of home buyer search behavior in the housing market developed in the recently, to demonstrate the suitability of this standard theoretical framework in the development of models of impact analysis on home buyers behavior. Then, based on this standard theoretical framework, the author will develop a theoretical model to analyze the effect of current home properties on the behavior of home buyers. Finally, based on survey data on individual housing transactions in districts in Ho Chi Minh City conducted in the period from 9/2017 to 5/2019, we conduct inspection of The analytical results from the theoretical model to prove the validity of these theoretical conclusions by measuring the difference in buying behavior among home buyers with different old house characteristics.

4. Results and discussion

In Vietnam, most studies relating to measuring the impact of factors on housing prices use the transaction prices of houses (Kim, 2004; Kim et al., 2007, Seo et al. colleagues, 2018; Chung et al., 2018; Bui, 2020b; Tran Thi Van and Nguyen Thi Giang, 2011, Vuong Quoc Duy, 2016)

With the research objective of the topic is mainly to analyze the impact of the auction strategy on the selling price, time for sale and the ability to sell of the house, that is, the research purpose of the topic index on the market. Housing market is being traded in the market, so it should ensure the suitability to use the selling price of the house as the dependent variable in the research models. Therefore, in this study, the author will use the selling price of the house as determined in the actual sale and purchase contracts between the buyer and the seller, in units of million VND, and by the author. collected from the trading logs of surveyed brokers.

As for the Cox affordability model, the dependent variable of this model is the timed for sale variable corresponding to each individual censorship condition and will be individually set up for each specific Cox model for each milestone time to sell the house.

From the theoretical frameworks of homebuyer search behavior by Turnbull and Sirmans (1993), Tu et al. (2016), and Qiu and Zhao (2018), we find that theoretical models The analysis of the influence of these factors on homebuyer behavior is often developed on the basis of Cronin's standard theoretical framework of the search behavior of homebuyers (1982) and then the theoretical frameworks. This is developed based on the extension of the analysis of the change of an element in the search stop equation and consideration of the effect of this change on the home buyer's threshold benefit value. Therefore, in this section, to develop a theoretical model to analyze the effect of old house properties on the behavior of home buyers, we base on Cronin's (1982) theory on effective search behavior in the housing market with the addition of the value of benefits that homebuyers gain from continuing to live in the old home during the search for a new home. Home buyers search stop submission. This is a new element that has not been completely considered in the theoretical frameworks as well as empirical research on the search behavior of previous homebuyers. The content of the developed theoretical framework is to analyze the effect of this factor on the buyer's threshold benefit value and home buyers' expectation of search time.

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