

# **An Empirical Exploration of Demand and Supply in Malaysia Housing Market**

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## **ABSTRACT**

The article provides an overview of factors that affect the supply of housing and the level of demand on the basis of market change in the Malaysia with transition economy. In the last decade, home prices in Malaysia have fluctuated considerably. This market volatility creates a significant impact on the Malaysian who want to buy or invest housing. Several scholars have argued that housing prices are directly correlated to buyers' ability to own a home, so the government plays a pivotal role in ensuring Malaysia's housing prices are equivalent to income rates. Therefore, this study is aimed at addressing various factors that impact Malaysian housing prices. The dynamics of prices on land and various types of completed buildings are also discussed. In this paper, it is seen how the housing market in Malaysia has been long discussed and has given attention to a great extent since the First Malaysia Plan (1966-1970). The finding presented in this paper may help to convince investor and house buyers that market volatility is not necessarily something to fear. The housing market is, to a certain degree predictable and hence house price movement may be detectable in advance.

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## **KEYWORDS**

Housing market, volatility, price, supply and demand, buyers and sellers

## 1. INTRODUCTION

Housing or shelter is considered as a basic human need after food throughout the whole. It is said that a proper housing improves the well-being and the development of humanity at large. The differences in size, type, and design, its locality, the environment set up for the housing area, plus the infrastructure would help enhance the living quality of the tenants. The provision of sufficient houses for the people is a social and also a political commitment. The existence of various schemes and programs; thus help to ease out some of the housing woes. Nevertheless, the effectiveness of the system has been forever questionable.

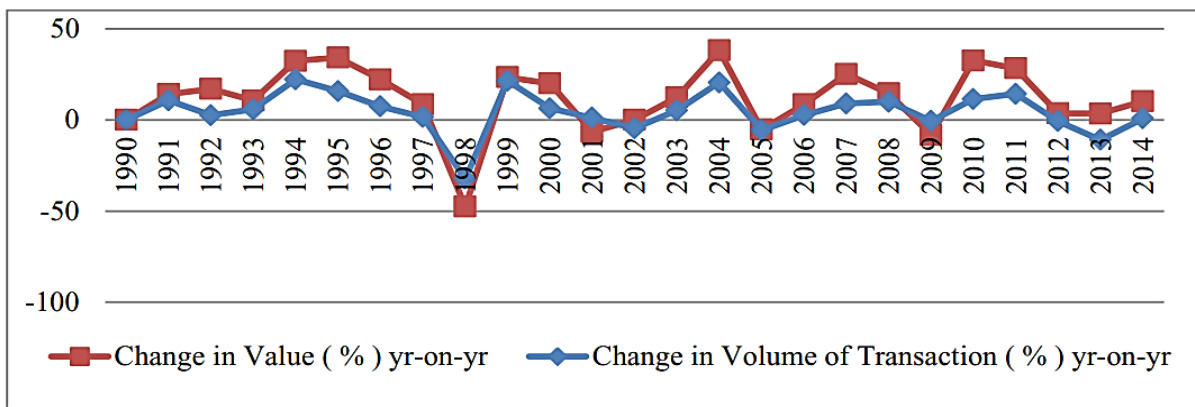
Supply and demand in real estate market always become an imperative issue in Malaysia. The country's government tries to provide low-cost housing supply, low-cost housing, location, affordability, and accessibility of the low-income people, delivery system, and easy to finance. Housing needs basically depend on population growth, formation of new households, occupancy rate, loss of housing stock and the number of homeless people. Addition to, Malpezzi and Mayo (1997) found that the change in house prices is not randomly determined and at least partially expected. In their work, they use a common model that analyses to prices tend to some equilibrium ratio of house prices to income. According to their findings, the price of the house is changed from the income ratio, population growth and rapid growth rate of income, suggesting a less than perfectly elastic short-run housing supply. In contrast to Ahmad Zakki, (1997) mentioned that the optimum resources used for any housing programs, it is appropriate if housing need and demand could be measured-up. Malaysia's housing needs are very much influenced by population growth and household size formation.

Housing is a process or a set of activities not only related to market value or a physical structure but also related to human social needs. Poor housing is related to poor health, delinquency, and community disorders, on the contrary, properly planned housing projects could alleviate these problems and raise community aspirations, which will contribute to political stability (Golland & Gillen, 2004).

There is a huge population growth in Malaysia, with it comes the increased need for housing. While the country's economic status requires more elegant and modern houses, the search for cheap affordable houses continues, creating a demand supply gap in the market. The housing market is highly unpredictable. To explain this, the number and value of real estate transactions varies from 1990 to 2014 in Figure 1 graphs. The data displayed in an index form due to broad differences in the number of transactions. The average change is the value of the land, while for the reported period the 292 average

change in volume is 114, suggesting that demand gained strength given government restrictions on supply and speculation. In 1990, the number of property transactions stood at 148.20 (equivalent to RM15.16 billion); however, in 2014 this increased to 384.06 (equivalent to some RM163 billion). It reflects an expansion in monetary terms of 166 per cent and in volume terms of 88 per cent. Because of the 1997 -1998 financial crisis, there was a significant fall in housing market activity in 1998. While there was a recovery towards 1999, it falls two years in 2003. The main reason for the drop in 2009 was the global economic meltdown in 2008- 2009 which its main reason was the collapse of the housing market in the USA from 2007 to 2009 (Olanrewaju et al., 2016).

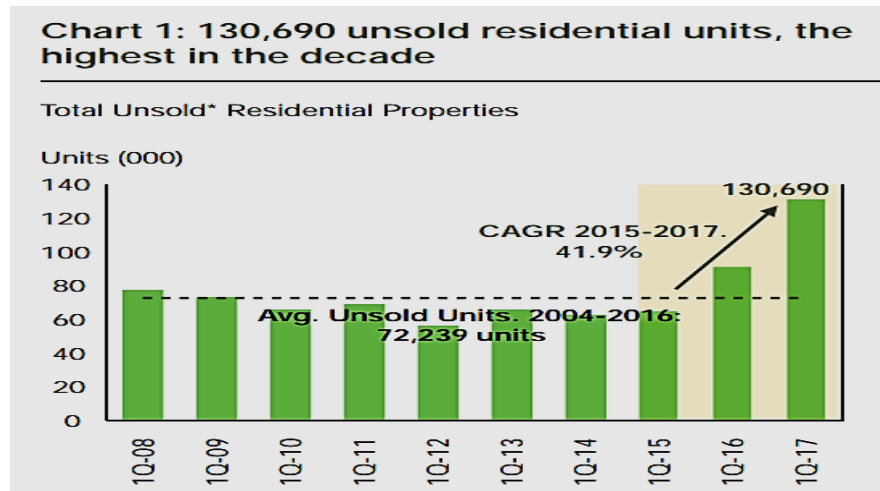
**Property Market Activity & Movements**



Source:

Olanrewaju et al., 2016

Annual report 2015 in Bank Negara Malaysia, the property market in Malaysia is at risk. Since then, the imbalance of demand-supply has increased in the residential, industrial and commercial properties. However, the 130,6903 units of the residential property remained unsold for more than a decade. As a result, the cost of new housing is raising difficulties to the low income people. The major states will be worsened for the over-supply of shopping complexes and office space by incoming supply, potentially becoming more serious than the Asian Financial Crisis during this time (Cheah et al., 2017).



Source: Cheah et al., 2017

## 2. DETERMINATION OF DEMAND AND SUPPLY IN MALAYSIA HOUSING MARKET

The housing market can be affected by macroeconomic and macroeconomic factors. Microeconomic factors are impacting all members of all members of society such as household, business man, and policymaker, etc. Real estate industry has played a major role in Malaysia's economy. Several factors, macro and micro-economics influence housing market remarkably. A housing market is defined as a procedure of buying and selling houses and also bring sellers and buyers into close contact. In the market, supply and demand are dictated by the influence of the price on the market for a product or service. In particular, market motives are the distribution of assets and the maximization of buyers and sellers' surpluses. In the nature of the market, a buyer does not have to pay more than the worth of the house. The market is perhaps the most profitable way to allocate resources, but due to several factors such as size, housing regulation and income for individuals, taxation, subsidies, externalities, common resources, social interests, and high transaction costs it fails to allocate resources fully. Both the GDP and the individual income have grown considerably, but together with this growth came a 12.3% annual rise of the house prices over the past five years (Olanrewaju et al., 2016).

### 2.1 Factors that affect the housing demand market

Housing is different from other commodities such as vehicles or land. Housing stock is heterogeneous, expensive commodity, durable, immobile, and has a high liability of moving costs. It does not only concern physical aspects, yet it involves a bundle of other things too for the same reason, it is the only kind typically consumed by a particular household at any one time (Teedon and Drakakis-Smith, 1986).

Housing demand can also be defined as; norms or level required for health, comfort, and the formation of standard of living for normal families. “Increased income implies increased demand for housing (Land), the increases demand is generally associated with a longer commute to work.” (Teedon and Drakakis-Smith, 1986). Housing need in terms of quality and quantity is different from housing demand. Housing needs basically depend on population growth, formation of new households, occupancy rate, loss of housing stock and the number of homeless people (Ahmad Zakki, 1997). To ensure the optimum resources used for any housing programs, it is appropriate if housing need and demand could be measured up. Malaysia’s housing needs are very much influenced by population growth and household size formation.

## **2.2 Factors that affect the housing supply market:**

Housing is perhaps the longest-lived of all durable goods. The amount of units actually available is essentially determined by the stock inherited from the past and decreases in value very gradually over time (Glaeser et al., 2016). Housing provision relates to the supply and demand of housing. Housing problems are usually associated with the shortage of housing supply to suit the demand and needs of the low-income people. Housing sector indirectly contributes to the economic development of the country through the construction activities. Therefore, the government has always emphasized on the provision of adequate and affordable houses to be built. Hong Kong and Singapore are seen to have provided housing for a substantial proportion of their population (Teedon & Drakakis, 1986). However, the argument to the statement would be because they are wealthy cities and having controlled population growth.

Affecting factors in housing supply include land, resources such as labor, budget and construction materials. Land issues are indeed an important factor in housing supply. Relatively, if there is substantial land available, there will be a considerable number of housing projects that can be built.

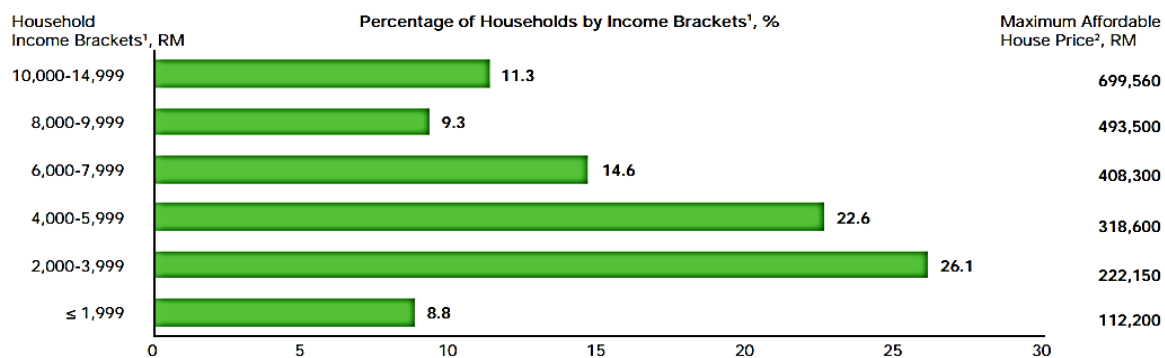
## **2.3 Affordable housing issue in Malaysia**

“Affordability is a term to describe the relationship between income and effective demand of the commodity” (Ibrahim et al, 1993, 22). According to Ghani and Lee (1997), affordability does not only relate to household income, but also to the rising development cost of houses. In addition to the statement, Ibrahim (1993) stressed that the affordability to buy a house is related to the ability to pay for the house, and the ability to pay is related to the total income. Housing is significant for its durability and is relatively expensive. It is not common to purchase a house in a straight cash storms. It is stated

that 80% Malaysians monthly income is less than RM 6,900 per month which makes them incapable to afford houses priced upper than RM 300,000. There is a 40% gap between supply and demand of affordable houses, according to Housing Minister Abdul Rahman Dahlan. Based on the upper end of each income level, the most affordable home price estimates are calculated using the Housing Cost Burden Methodology, in which a house is considered affordable if the monthly household interest costs do not exceed 30 percent of household revenue. Estimates are based on prevailing interest rates and a mortgage tenure of 35 years (Cheah et al., 2017; Hasnat & Alom, 2017).

It is a known theory of the income elasticity of housing demand that the increase in income relates to the increase in demand for housing. However, for the low-income group, their ability to pay for housing is limited, after considering all other expenses. According to Osman (2008) defined affordability as a relationship between the capabilities of creating an effective demand for certain known things, to be able to afford a house, a household must be able to pay for the price of the house and its associated costs such as land, development, holding, infrastructure and the actual building cost.

#### Information Box: Housing Affordability by Income Levels



Source: Department of Statistics, Malaysia and Bank Negara Malaysia estimates

### 3. REGIONAL ECONOMIC CRISIS

Banks play an important role in providing financing for house buyers, for the first time, with more than 70% of housing loan is being given to buyers. In the first nine months of 2017, the banks were approved RM 121.6 billion of new housing loans. History has shown that the additional in the property market can carry risks in a wider economy. Although there is imbalance in both residential and commercial property markets in Malaysia, it is a matter of concern, because the property sector is connected with more than 120 industries, collectively 10% of GDP and 1.4 million employees working in Malaysia (Cheah et al.,

2017). The experience of Malaysia's Asian Financial Crisis has shown that a sharp correction in the property market can have a serious impact on the overall economy.

During the year 1997 and 1998, the sentiment in the broad property market has become tentative following the currency and stock market crisis besetting the country. The attack on Ringgit and its subsequent loss in terms of exchange rates against the major currencies of the world has been followed by the crash of the stock market and the Kuala Lumpur Composite Index has dropped from a high of 1300 to a low of 320 points (Mahathir, 2000). These have sent great signals to the property market. For the whole year of 1997, although the property market was generally active, the appreciation of volume and value of the transaction has actually decreased (Khoon & Lim, 2010). Property prices have started to fall during this period. However, due to time lag factor in the property market, the actual effect of the crisis was only seen during the end of 1998. After progressing to Asia's financial crisis, the Malaysian economy grew strong. Spillovers to other sectors led to massive unemployment and a serious economic crisis afterwards. Throughout the global financial crisis, a similar scenario occurred in Spain, Ireland, and the US – in these situations, massive monetary interventions and bailouts have also strained the balance sheets of governments. The US witnessed economic decline during the economic crisis from December 2007 to June 2009 (Hous, 2017). The recession of the real estate market in 2007 triggered the demand for housing to decline, generating an over-supply of houses and reducing property prices.

#### **4. THE GOVERNMENT ROLES DURING ECONOMIC CRISIS**

During 1998, the government of Malaysia has, in response to the slowdown in the housing market, relaxed the Foreign Investment Committee (FIC). The Bank Negara Malaysia (BNM) issued directives to banks in Malaysia to channel the limited funds to affordable housing sector (Usilapan, 1998). This enabled housing developers to operate despite the prevailing economic slowdown. At the same time the Government has also reviewed the existing conditions imposed on the developers and provided several incentives to expedite the recovery of the real property sector. The Government also allocated RM 2 Billion for the building of medium and low cost houses, with the objective to offset the slowdown of construction sector due to the deferment of major infrastructure projects (Usilapan, 1998, Alom et al., 2020). The fund was meant to be low-interest loans for the developers who need to build the affordable houses. The Government and the Association of Bank Malaysia had also urged banks to reduce the large spread between the Base Lending Rate of 70% and their margin, in order to reduce the cost of housing financing to borrowers. At the same time, the statutory reserve requirement ratio was also reduced to 8%

(Bank Negara Report, 1998) which increased the liquidity in the financial system. The condition of such increase was that the developers must provide higher quality and bigger low-cost houses.

## 5. LITERATURE REVIEW

To fully understand the concept of the demand and supply in the real estate in the market, by comparing the number of studies made in the past where authors have tried to come out with the result that illustrates the main concordance with demand and supply in the real states. In this case we will describe our purpose of reviewing some previous literatures on the relevant topic. Tse, Ho, and Ganesan, (1999) defined the factors that are associated with estimating Hong Kong's investment demand and property prices between 1975 and 1995, based on a demand and supply adjustment mechanisms by analyzing the position of population growth, transaction volume, interest rate, and inflation. Multi-equation model findings have shown that house prices are modified according to a function of excess demand. Any excess investment demand for the housing market is, on the other hand, capitalized into higher house prices. The resulting Granger proposed that the volume of transactions should establish in the Hong Kong property prices. Increasing the transaction provides an essential measure of the speculative activity of the real estate market; property speculation is expected to contribute somewhat to price increases. Another important factor is the demographic changes driving housing demand as a shelter, macroeconomic shocks will influence the match between demand and the supply of housing units. The authors propose that new construction will partially offset the demand for a new investment in order to avoid house price volatility due to very unpredictable demand for investment.

In this study Bulut (2009) stated that the housing demand and supply sides of the Turkish real estate sector the use of a structural model and an econometric system that clearly differentiates the short-run and long-run facts between a particular set of macroeconomic variables.

The findings of the experimental research are divided into two categories, the logarithmic form analysis and the level data analysis are considered significant in demonstrating the quantity demanded of long-run dwellings with the predicted signs by assessing the individual income, interest rate, and population on the demand side and on the supply side. These are found to be important in describing the quantity supplied in the short run by comparing house size, building cost and interest rate variables with the estimated sign value, cost and interest rate.

According to Ball, Meen, & Nygaard (2010) examined that the price elasticity of housing supply. This research had used of 3000 randomly selected households and dwellings by Thames Gateway from 2004



to 2007 was used to investigate the total housing stock. Disequilibrium Stock Model suggests that the prices of the stocks are changing until the supply and demand are equal. When the housing prices are unchangeable, and the market is consistent, no further housing is built. Consequently, the Starts Model shows that the elasticity of housing supply affected by prices change is often substantially greater than that of the elasticity rates. Empirical results for the US and Australia, as well as for Britain supported that. There is also evidence that the responsiveness of housing supply to market situation in England is lower than that of either Australia or the United States. Nevertheless, supply is more prone to house price fluctuations than its standard.

Topel & Rosen (2016) have recognized the housing investment decision is determined by short and long-run supply elasticity, and dynamic marginal cost prices. The researchers estimated that the elasticity of short-run supply is much smaller at 1.0 than the elasticity of long-run supply of 3.0 that has been found so far in quarterly time-series data. In the construction industry, there is a strong economic cause for prompt solidarity. The projections also expose flaws in an investment model focused on homogeneous homogeneous capital and castles auction market assumptions. Deterministic model tested that if the possible demand specification can reduce the heterogeneity between buyers and sellers. That market transaction arranges in a frictionless auction, and that capital market is efficiently increased at housing investment.

Fisher, Geltner, & Pollakowski (2007) introduced a concept of corporate property investment index, the TBI, which focuses on selling prices and is constructed to better measure investment performance and asset price fluctuations using the Regression model. The FGGH model acknowledged a dual-sided search market with heterogeneous properties and participants heterogeneous. Measurable transaction rates and measurable volume of transactions are both essential to determine the value of a property (i.e., reservation, price) and to generate from the communication between two market players: 1) prospective customers (non-proprietors) on the demand-side and prospective sellers supply-side (owners and developers). This model indicated that the distributions of reserve prices represent the heterogeneity of the expectations of property values by the individual market participants. The overlap between the circulations allow for efficient property trading, as demonstrated by the amount of transactions observed. Similarly, Dijk et al. (2018) estimated accurate, comprehensive indexes of supply and demand for all major US metropolitan areas. The researchers found that reservation prices for buyers move far more extreme and before than sellers' reservation prices based on the New York and Phoenix index. Our results show that demand indexes were down a full year in both New York and Phoenix

before than housing supply indexes during the global financial crisis. After the crisis trough the demand index also rose first in Phoenix. In the Phoenix index, the gap reflected in the relative difference between demand minus supply price fluctuations was much greater than in the New York index, resulting in a much larger fall of Phoenix stock trading volume.

Zainal et al . ( 2019) stated the disparity between property demand and supply, triggering to the rapid increase in house prices. Increasing level of house prices has a different equilibrium price, so developers can use it as an indicator based on the house type. If the price of the house is above the equilibrium value, the surplus in housing demand would arise. Meanwhile the developer surplus would occur if the price of the house is below the market equilibrium point. Their study suggested the ways to achieve the sustainability in construction output or real estate business.

Factors of macroeconomic and microeconomic demand and supply frequently overlap significantly into a high-cost housing market boom (Juma, 2014). Basic demand factors among households that generally relate to demographic characteristics such as monthly income, consumer preferences and household size as the most influential performance in housing sales that developers have always neglected (Desmond and Shollenberger, 2015). Majority developer disregard the actual house demand for those forms of housing, as they probably take advantage of the boost in economic activity in a position where the migration factor has been encouraging among the population (Rameli, 2009).

Conefrey et al. (2013) explore the dynamics of the US housing market 's relationship between supply, demand and prices. The econometric model supported the scatter plot intuition: the monthly supply of new homes has a greater effect on house prices than the monthly supply of existing homes. At the other hand, some statistical analysis was given indicating that the monthly supply of new homes may be a more important determinant of house price changes than the monthly availability of existing properties and the vacancy. The analysis shows that the monthly availability of new homes offers a fair summary measure of price pressures on the US housing market.

## **6. CONCLUSION**

The economic downturn during the last few years has definitely given a negative effect on investor confidence in the housing market for the financial crisis. This study is found that a major reason that leads to the unsold housing units in the major city in Malaysia is the problem of mismatch between housing market demand and supply. According to literature reviews, the main contributing factors to the mismatch the factors of location, poor transportation network area establishes houses, lack of demand in

some project localities and over-speculation of the developers. As a recommendation, the government should strengthen the enforcement monitoring, and control and also adopts stricter measures in dealing with planning approvals and process of every affordable housing project for the future. However, the finding presented in this paper may help to convince investor and house buyers that market volatility is not necessarily something to fear. The housing market is, to a certain degree predictable and hence house price movement may be detectable in advance.

This demand and supply principle finding in this study is that, in general, the economic indices have a very close relationship with the housing market. For different types of houses, due to the difference in investment objectives and the types of buyers, the determining factors are varied. As the forecasting have shown close matching between the various house price indexes and the predictors, it can be concluded that the house price can be determined and predicted in advance one year. This is important for the investors' investment decision. That is, whether to buy or sell certain types of properties, in a certain location at a certain time. Suggestions for some further research will be to distinguish supply and demand by income and corresponding levels of affordability house, including residential unifamilies.

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