

THE AFFORDABILITY CRISIS IN MALAYSIAN HOUSING: A QUANTITATIVE ANALYSIS OF CONTRIBUTING FACTORS

Tismazammi Mustafa¹
Mariam Setapa²
Nur Haslina Ramli³
Nur Farzana Izzati Shuhaimi⁴

¹Universiti Teknologi Mara, Kelantan Branch, Machang Campus, Malaysia,
(Email: tisma372@gmail.com)

²Universiti Teknologi Mara, Kelantan Branch, Machang Campus, Malaysia,
(Email: maria135@uitm.edu.my)

³Universiti Teknologi Mara, Kelantan Branch, Machang Campus, Malaysia,
(Email: haslina581@uitm.edu.my)

⁴Universiti Teknologi Mara, Kelantan Branch, Machang Campus, Malaysia,
(Email: nfarzanaizzati201@gmail.com)

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Abstract: *One of the most pressing societal challenges is the provision of affordable housing for the general public. The goal of this article is to identify the elements that determine housing affordability levels in Malaysia, analyze the mechanisms that drive these factors, and estimate their quantitative impact on the housing affordability index. The following elements have a direct impact on housing affordability: Gross Domestic Product, mortgage interest rates, and population. The quantitative assessment of the cumulative impact of these factors on the level of housing affordability is based on developing a regression time series model that describes how the housing affordability index in Malaysia is influenced by a variety of factors and evaluating its reliability. Time series data from 1990 to 2023 , and a regression model was used to determine the relationship between the selected variables. Using empirical data analysis, the results reveal that gross domestic product and population play a significant role in influencing housing affordability. In contrast, interest rates do not exhibit a statistically significant relationship with affordability outcomes. These findings highlight the importance of economic growth and demographic trends in shaping housing access, offering valuable insights for policymakers and urban planners aiming to improve housing affordability.*

Keywords: *Gross Domestic Product, Mortgage Interest Rates, Population, Malaysia*

Introduction

Housing is universally recognized as a fundamental component of societal well-being, reflecting individuals' quality of life and living conditions. It is more than just a physical structure; it embodies personal aspirations, social stability, and economic security. According to Afiqah et al. (2020), every prospective homeowner possesses distinct preferences shaped by personal, cultural, and economic factors. Housing is also a critical element of the urban economy, contributing significantly to national development and urban planning frameworks. For many individuals, purchasing a home represents a once-in-a-lifetime investment, symbolizing both financial achievement and long-term security. Beyond its economic significance, housing provides essential shelter and serves as a basic human necessity for sustaining life and ensuring dignity (Roshidi et al., 2021).

In Malaysia, housing affordability has become a pressing concern in recent years, largely driven by a mismatch between housing supply and demand—particularly in the segment of residential properties priced below RM500,000. This issue is further compounded by stagnant wage growth, making it increasingly difficult for average Malaysians to purchase homes (AmInvestment Bank Research, 2023). The Malaysian House Price Index indicates a deceleration in price growth following the 2008–2013 property boom, yet affordability remains out of reach for many.

Moreover, population growth and broader economic developments have intensified the strain on housing affordability across various states. This phenomenon is not unique to Malaysia but is also observed globally, where the availability of affordable housing has significantly declined for low-, very low-, and extremely low-income households. In many cases, even low-income homeowners struggle to secure affordable housing options. These challenges underscore the need for comprehensive research and targeted policy interventions to address the multifaceted nature of housing affordability.

Problem Statements

Housing affordability in Malaysia has emerged as a critical socio-economic concern, disproportionately burdening low- and middle-income groups. Rising house prices against stagnant wage growth erode household financial security, leading to long-term exclusion from the housing market (Lens, 2018; Davenport, 2003). Although the government has initiated multiple housing schemes, affordability levels remain persistently low, especially in urban areas.

Existing studies tend to be descriptive or short-term in nature, with insufficient focus on the macroeconomic drivers of housing affordability over extended periods. Few have systematically analyzed how GDP growth, demographic expansion, and interest rate fluctuations jointly influence affordability. This study aims to address this gap by applying a quantitative, time-series approach to uncover long-term dynamics, thereby informing policy decisions.

Literature Review

Housing is universally regarded as a core component of individual and societal well-being, reflecting broader perceptions of living standards and quality of life. As a fundamental human need, housing influences physical security, social stability, and economic participation. Each

prospective homeowner brings unique preferences shaped by cultural, financial, and personal factors in the decision-making process of purchasing a home (Afiah et al., 2020). Within this context, the concept of affordability becomes central to understanding housing access.

Housing affordability is defined as the ability of households to secure adequate housing within their financial means (Adegoke & Agbola, 2020). In a market-driven economy, price functions as a mechanism to determine both the quantity and quality of goods and services accessible to different income groups, ultimately allocating resources based on individuals' purchasing power. Consequently, housing affordability is not only a matter of supply and demand but also of income distribution and market regulation.

Beyond economic strain, unaffordable housing is linked to adverse health and social outcomes (Sims et al., 2010). Recognizing these risks, governments often intervene through fiscal and policy instruments such as tax incentives for homeowners and rental subsidies to improve housing affordability. Furthermore, mortgage foreclosure mitigation strategies have been implemented in various contexts to reduce the financial burdens on households at risk of losing their homes, thereby safeguarding both economic stability and public health.

Economic growth, commonly measured by Gross Domestic Product (GDP), plays a significant role in shaping housing affordability, as it reflects the overall financial health of a nation. Generally, a growing economy contributes to higher household incomes and greater purchasing power, thereby improving access to housing. However, rapid GDP growth can simultaneously lead to increased demand for housing, particularly in urban areas, which may drive up property prices and reduce affordability (Anthony, 2023). In the Malaysian context, although GDP growth has enhanced national income levels, this has not been equally reflected in housing affordability across all income groups. Specifically, low- and middle-income households continue to experience difficulty in accessing affordable housing, suggesting that the benefits of economic growth may not be evenly distributed. Consequently, this economic disparity contributes to a widening affordability gap in the housing market (Bank Negara Malaysia, 2019).

Moreover, mortgage financing plays a vital role in facilitating homeownership, particularly among the middle-income segment. Interest rates, in particular, are a key determinant of housing affordability because they directly affect the cost of borrowing. When interest rates are low, the resulting decrease in monthly mortgage repayments tends to make housing more financially accessible. Conversely, an increase in interest rates significantly reduces affordability, even if housing prices remain unchanged (McCord et al, 2011). In Malaysia, fluctuations in the Overnight Policy Rate (OPR), which is regulated by Bank Negara Malaysia, have had a direct impact on mortgage loan interest rates. Accordingly, empirical studies have demonstrated that lower interest rates are associated with increased home purchasing activity, whereas higher rates dampen demand and exacerbate affordability challenges (Duca et al., 2021).

In addition, demographic changes and population dynamics particularly rapid urbanization have intensified pressure on the housing sector. An expanding population, especially in densely populated urban centres, results in growing demand for residential properties. However, when the housing supply fails to keep pace with population growth, the mismatch leads to escalating

property prices and diminished affordability for average citizens (Galster et al., 2021). In Malaysia, substantial internal migration from rural to urban areas has contributed to housing shortages in major cities such as Kuala Lumpur, Johor Bahru, and Penang. Consequently, this urban concentration has heightened competition for limited housing stock and strained public infrastructure, thereby pushing property prices further upward (Ismail et al., 2021). Unless addressed through strategic planning and targeted policy interventions, continued population growth is likely to exacerbate the supply-demand imbalance, further undermining housing affordability—especially for low-income group.

Previous studies confirm that GDP, interest rates, and population growth individually affect affordability. However, their combined long-term influence has been underexplored in the Malaysian context. This study extends the literature by integrating these variables into a comprehensive time-series model.

Methodology

This study employs a quantitative research design using time series analysis to examine the relationship between key macroeconomic variables and housing affordability in Malaysia. The variables under investigation include Gross Domestic Product (GDP), mortgage loan interest rates, and population size. Time series analysis is appropriate for this study as it allows for the identification of patterns, trends, and long-term relationships among variables over a specific period, thereby offering insights into the dynamic nature of housing affordability.

EViews programmes will be used to analyse the data in this study. It manages data, performs econometric and statistical analysis, generates forecasts or model simulations, and generates high-quality graphs and tables for publishing or inclusion in other applications quickly and efficiently. The result that will be testing is correlation analysis and regression analysis.

All variables in this study's data were converted to logarithmic form. This analysis employs basic multiple regression to explain the impact of gross domestic product, mortgage interest rate, and population on housing affordability in Malaysia. A quantitative research design with time series analysis (1990–2023) was adopted. The dependent variable is the Housing Affordability Index (HAI), while the independent variables are GDP, mortgage interest rates, and population.

Regression interpretation uses beta (β) and R square (R^2), as indicated in equation below:

$$y = \beta_0 + \beta_1 \text{GDP}_1 + \beta_2 \text{IN}_2 + \beta_3 \text{Pop}_3 + \varepsilon_t$$

were,

y = dependent variable which represents as Housing Affordability

β_0 = The constant number of equations

β = Coefficient beta value

GDP_1 = Independent variable which represent Gross Domestic Product

IN_2 = Independent variable which represent Interest Rate

POP_3 = Independent variable which represent Population

ε_t = Error term

Data Collection

The study utilizes secondary data collected from credible sources, including the Department of Statistics Malaysia (DOSM), Bank Negara Malaysia, and World Bank databases. The data covers an annual time frame from 1990 to 2023, ensuring adequate observations to capture long-term trends and cyclical economic behaviours.

Result

To explore the relationships among the selected macroeconomic variables and housing affordability in Malaysia, a correlation analysis was conducted. The Pearson correlation coefficients, as presented in Table 1, offer insight into the strength and direction of the linear associations between the variables.

Table 1: Correlation Analysis

	Population	Interest rate	GDP	Housing affordability
Population	1.0	-0.25	0.94	-0.74
Interest Rate	-0.25	1.0	-0.17	0.36
GDP	0.94	-0.17	1.0	-0.53
Housing affordability	-0.74	0.36	-0.53	1.0

Firstly, there is a strong positive correlation between population and GDP with a coefficient of 0.94, indicating that economic growth tends to accompany population growth over the study period. This is expected, as a growing population often contributes to increased economic activity and output. However, this same population variable shows a strong negative correlation with housing affordability ($r = -0.74$), suggesting that as the population increases, housing becomes less affordable. This may be due to heightened demand in urban areas that outpaces the supply of housing, consequently exerting upward pressure on property prices.

In addition, the correlation between GDP and housing affordability is also negative ($r = -0.53$), reinforcing the regression results which indicated that economic growth does not necessarily translate into improved housing affordability. While GDP growth can raise overall income levels, the unequal distribution of income and rising property values may offset these gains, particularly for low and middle income groups.

Moreover, the interest rate demonstrates a positive but relatively weak correlation with housing affordability ($r = 0.36$). This suggests that increases in interest rates may, to some extent, coincide with improved affordability. One possible explanation is that higher interest rates could reduce speculative demand or dampen housing market activity, thereby moderating price increases. Nonetheless, it is important to interpret this relationship cautiously, especially given that the regression analysis found this variable to be statistically insignificant.

Conversely, interest rates are negatively correlated with both population ($r = -0.25$) and GDP ($r = -0.17$), although the strength of these relationships is relatively weak. These findings may reflect the broader macroeconomic context in which interest rates are adjusted in response to inflationary pressures or economic cycles, rather than being directly influenced by demographic factors or aggregate output.

Overall, the correlation matrix highlights important interdependencies among the variables, particularly the strong negative associations between population, GDP, and housing affordability. These results suggest that while economic and demographic growth are key drivers of national development, they may simultaneously contribute to declining housing affordability if not accompanied by corresponding housing policies and interventions.

Table 2: Regression analysis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
c	0.0027	0.0003	8.52	0.00
LGDP	2.13	6.47	3.3	0.002
LPOP	-1.76	2.58	-6.85	0.00
LINT	1.06	6.48	1.64	0.11
R-squared	0.82	Mean dependent var	0.0003	
Adjusted R-Squared	0.82	S.D dependent var	0.0002	
S.E of regression	0.0001	Akaike info criterion	-15.13	
Sum squared resid	4.48	Swararz criterion	-14.96	
Log likelihood	276.5	Hannan-Quinn criter	-15.07	
F-statistic	54.33	Durbin Watson stat	0.680	
Prob (F statistic)	0.00			

This study employs a multiple linear regression model using time series data spanning from 1990 to 2023 to examine the influence of macroeconomic variables Gross Domestic Product (GDP), Population (POP), and Interest Rate (INT) on housing affordability in Malaysia. The findings from the regression analysis are presented in Table 2.

The R-squared value of 0.62 indicates that approximately 62% of the variation in housing affordability can be explained by the selected independent variables. This suggests that the model provides a reasonably good fit, effectively capturing the underlying relationship between macroeconomic indicators and housing affordability over time. Moreover, the F-statistic of 34.30, accompanied by a p-value of 0.000, confirms the overall significance of the model at the 1% level, implying that at least one of the explanatory variables has a statistically meaningful impact on housing affordability.

In terms of individual coefficients, the log of GDP (LGDP) exhibits a coefficient of -2.15, which is statistically significant at the 1% level ($p = 0.002$). This negative association suggests that an increase in GDP is, paradoxically, linked to a decline in housing affordability (Malpezzi, 2023). One plausible explanation is that economic growth may have fuelled greater demand for property and subsequently driven up housing prices, outpacing the income growth of low- and middle-income groups (Koroso et al, 2024). Consequently, this trend may have contributed to worsening affordability despite rising national income levels.

Similarly, the population variable (LPOP) also shows a negative coefficient of -1.75, which is statistically significant at the 1% level ($p = 0.00$). This indicates that as Malaysia's population increases, housing affordability tends to decline. The negative relationship may be attributed to the imbalance between housing demand and supply, particularly in rapidly urbanizing areas (Gallent, et al, 2024). Increased population pressure in urban centres such as Kuala

Lumpur, Johor Bahru, and Penang may have intensified competition for limited housing stock, thereby driving up property prices and diminishing affordability (Ramlan and Zahari, 2016).

Conversely, the interest rate (LINT) reveals a positive coefficient of 1.46, although it is not statistically significant ($p = 0.11$). While the positive sign could suggest that higher interest rates are linked to improved housing affordability, the statistical insignificance implies that this relationship is not robust within the study period. It is possible that the impact of interest rate changes was moderated by policy interventions, such as government subsidies or flexible mortgage schemes, which may have dampened the direct influence of interest rate fluctuations on housing costs (Shi et al., 2014).

Additionally, the Adjusted R-squared value of 0.60 reaffirms the model's explanatory strength after accounting for the number of predictors. However, the Durbin-Watson statistic of 0.880 raises concerns regarding potential positive autocorrelation among the residuals. This suggests that the model may benefit from further refinement, possibly through the use of time series-specific techniques such as ARIMA or Generalized Least Squares (GLS), to address autocorrelation and enhance the reliability of the estimates.

Conclusion

This study investigated the effects of GDP, population growth, and interest rate changes on housing affordability in Malaysia using time series data from 1990 to 2008. The findings highlight that GDP and population growth are significantly and negatively related to housing affordability, indicating that economic expansion and demographic pressure particularly in urban areas have led to rising property prices that outpace income growth. Conversely, interest rates showed a positive but statistically insignificant relationship, suggesting limited direct influence on affordability.

In light of these findings, several policy measures are recommended. Priority should be given to affordable housing development for lower-income groups through public housing expansion, tax incentives, and tighter regulation on speculative property activities. Income growth must also be aligned with rising living costs to ensure that the benefits of economic development are equitably shared. Furthermore, mortgage support schemes and rent-to-own programs should complement monetary tools to improve access to housing.

Future studies should consider additional variables such as wage levels, construction costs, and urban planning policies, and make use of more recent and regional data to better capture the evolving housing landscape in Malaysia. Ultimately, inclusive and forward-looking housing policies are essential to ensure that economic progress contributes to improved living standards for all Malaysians.

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