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Affording Homes in Yogyakarta: An Empirical Analysis of Local Housing Market Affordability

ABSTRACT

The challenge of homeownership for local residents in the Special Region of Yogyakarta is a pressing socio-economic issue. This study investigates housing affordability by developing a descriptive framework that integrates survey data with econometric analysis. A hedonic price model was constructed using data from 174 urban properties to estimate the market value of housing specifications desired by local residents. These specifications were derived from a survey of 283 non-homeowners, who identified a minimum standard of a 53.6 m^2 lot size, an 89.4 m^2 building area, a front road width of 4.4 m, and a proximity of 2.7 km to shopping facilities. The results reveal a significant disparity between market prices and local purchasing power. While the hedonic model estimates the price for such housing at approximately IDR 495.23 million, the local Ability to Pay (ATP) and Willingness to Pay (WTP) range only between IDR 300 million and IDR 400 million. These findings quantify the affordability gap in Yogyakarta and provide an empirical basis for the government to design targeted housing policies.

Kata kunci: Housing affordability, real estate market, Hedonic Price Model
Klasifikasi JEL: R31

Keterjangkauan Rumah di Yogyakarta: Analisis Empiris Keterjangkauan Pasar Perumahan Lokal

ABSTRAK

Tantangan kepemilikan rumah bagi penduduk lokal di Daerah Istimewa Yogyakarta merupakan isu sosial-ekonomi yang mendesak. Studi ini menyelidiki keterjangkauan perumahan dengan mengembangkan kerangka kerja deskriptif yang mengintegrasikan data survei dengan analisis ekonometrika. Model harga hedonik dibangun menggunakan data dari 174 properti perkotaan untuk memperkirakan nilai pasar spesifikasi perumahan yang diinginkan oleh penduduk lokal. Spesifikasi ini berasal dari survei terhadap 283 orang yang bukan pemilik rumah, yang mengidentifikasi standar minimum luas tanah 53,6 m^2, luas bangunan 89,4 m^2, lebar jalan depan 4,4 m, dan kedekatan 2,7 km dengan fasilitas perbelanjaan. Hasilnya mengungkapkan disparitas yang signifikan antara harga pasar dan daya beli lokal. Sementara model hedonik memperkirakan harga untuk perumahan tersebut sekitar Rp 495,23 juta, Kemampuan Membayar (ATP) dan Kemauan Membayar (WTP) lokal hanya berkisar antara Rp 300 juta dan Rp 400 juta. Temuan ini mengukur kesenjangan keterjangkauan di Yogyakarta dan memberikan dasar empiris bagi pemerintah untuk merancang kebijakan perumahan yang tepat sasaran.

Kata kunci: Kata kunci: Keterjangkauan perumahan, pasar real estat, Model Harga Hedonik
Klasifikasi JEL: R31

INTRODUCTION

Housing constitutes a significant proportion of household expenditure, highlighting its critical role in economic planning and stability (Dilek et al., 2018). Beyond its economic implications, housing accessibility and affordability are vital for social equity, directly influencing an individual's capacity to thrive socially and economically (Adeniyi et al., 2019). Indeed, the right to adequate housing is established as a fundamental human right, emphasizing the necessity of safe and secure living conditions for all (Thiele, 2002). Ghasemi and Ozay (2018) argue that housing is essential for human sustainability, providing necessary protection against environmental elements and a space for rest. This need for shelter aligns with Maslow's (1943) hierarchy of needs; once physiological requirements are met, the need for safety—encompassing stability, protection, and freedom from external threats—becomes paramount. Housing fulfills this demand for security, making homeownership a universal aspiration. However, despite its importance, low homeownership rates remain a persistent challenge, even in advanced economies (Goodman & Mayer, 2018; Haurin et al., 2002; Kaas et al., 2021; Coulson, 1999). Consequently, restricted access to housing risks exacerbating broader systemic issues, including inequality and gentrification.

Cirman (2004) explains that home ownership is limited by several factors, such as the availability of houses, criteria set by homeowners, and prospective buyers' or tenants' economic limitations. Economic limitations refer to the ability to purchase a house. In general, house prices continue to increase every year, driven by the theory of supply and demand. Wyatt (2013) explains that housing prices tend to be primarily influenced by demand relative to supply. Housing supply tends to be inelastic and is depicted as a vertical line in the supply curve. The demand for

houses is significant because individuals need and want a house either as a place to live or as a low-risk investment instrument. The rapid growth in house prices is not accompanied by an adequate increase in income levels (Rahadi, Wiryono, & Koesrindartoto, 2014).

The Special Province of Yogyakarta (DIY) is a popular tourist destination and a hub for students. These conditions contribute to the province's fast economic growth, especially in urban areas. The atmosphere, economic conditions, and availability of facilities make housing in DIY highly desirable, even for people from outside the province. The urbanization of DIY has resulted in a lack of housing availability, while high demand for home ownership, especially from people outside DIY, persists. The influx of tourists and students significantly affects local housing markets, often leading to increased property prices that outpace the purchasing power of local residents. This phenomenon raises concerns about housing accessibility for the local population. Studies indicate that tourism development tends to drive up housing prices. For instance, a 1% increase in Italy's tourism index correlates with a 0.20% rise in house prices (Biagi et al., 2015). Similarly, research conducted in China shows that urban housing prices rise in response to increased tourism, impacting local residents' access to affordable housing (Song, 2023). Locally, this phenomenon has led to rising house prices beyond what local people can afford. The affordability of housing in DIY for local communities is a strategic issue.

Studies (e.g., WargaJogja, 2021; IndoProgress, 2023; Kompas, 2022) discuss how local people struggle to afford housing prices in DIY. This issue is closely linked to DIY's economic indicators. According to BPS (2022), DIY has the highest poverty rate on the island of Java at 11.49%. Additionally, the provincial minimum wage (UMP) in DIY ranks as the second lowest in Indonesia, and Yogyakarta has the highest inequality in the country. Given

the status of the Special Region of Yogyakarta (DIY) as a primary destination for tourism and education, a critical question arises: must local housing access be compromised by market forces that drive prices beyond local purchasing power? The disparity between low local affordability and escalating land values signals an urgent need for regulatory engagement (Strassman, 1993). Consequently, protecting the housing rights of local residents is imperative to prevent market displacement. Indeed, a shortage of accessible housing for indigenous communities is a known precursor to gentrification (Kennedy and Leonard, 2021). As urban expansion continues, housing demand frequently exceeds supply, resulting in price inflation that effectively excludes long-term residents from the market. This review synthesizes existing literature to investigate the drivers of this tension between urban growth and accessibility. A primary contributor to this inaccessibility is the rising urban cost of living. Furthermore, labor market shifts have intensified housing wealth inequality; Arundel and Doling (2017) highlight that, particularly in Europe, these economic changes have caused access to homeownership to diverge significantly across demographic groups. This trend is echoed in the work of Quinn et al., which identifies structural barriers, such as restrictive housing policies, that hinder low-income individuals from accessing affordable housing (Quinn et al., 2014). The interplay between economic conditions and housing prices creates a challenging environment for residents, particularly those from disadvantaged backgrounds.

Although this issue is discussed, it is not fully supported by empirical literature regarding the inability of the DIY local residents to purchase houses. Various methods and indicators have been proposed to measure housing affordability (Hill & Gan, 2008). The housing affordability problem can be more severe than suggested by standard median measures (Hill & Gan, 2008; Mulliner et al., 2016). Other methods include comparative analyses for multiple criteria decision making to measure sustainable housing

affordability. Mulliner et al. (2016) and Dewita et al. (2018) mention methods such as the weighted product model, weighted sum model, revised AHP, TOPSIS, and COPRAS. Stone (2006), Alfalah et al. (2022), and Jiburum et al. (2021) introduced new approaches, such as Data Envelopment Analysis (DEA), residual income approach, and Housing Affordability Index (HAI), to measure and rank housing affordability. Voon et al. (2020) identified four types of measurements for housing affordability: price to income ratio (PIR), rent to income ratio (RIR), housing expenditure to income ratio, and residual income measure.

Housing affordability is a multifaceted concept that can be analyzed using various models and approaches. Among these, the hedonic price model is significant. Lisi (2019) argues that the hedonic price model allows for the evaluation of housing characteristics indirectly through the overall house price, providing theoretical groundwork for understanding the value of housing attributes. The use of housing attributes as part of the hedonic price model in measuring housing affordability has been emphasized by various previous research. The influence of demand and supply has been identified as significant in affecting housing affordability (Yap & Ng, 2018). Furthermore, the analysis of housing affordability has been compared with mean housing price and the type of perceived affordable house, indicating a relationship between housing attributes and affordability (Soon & Tan, 2019). The specification of housing affordability most often used is the price to income ratio (Sani, 2015; Suhaida et al., 2011; Lorga et al., 2022; Azmi & Bujang, 2021). This study establishes a model and framework describing housing affordability from an economic perspective and approach. The findings of this study will help the public sector better understand social problems related to housing. Consequently, public policy urgency related to housing affordability can emerge.

This research aims to develop a comprehensive framework for assessing

housing affordability by integrating survey data with econometric modeling. The primary objective is to quantify the extent to which local residents in the Special Region of Yogyakarta (DIY) can access the housing market. Addressing this empirical gap is critical for informing government policies designed to safeguard local housing rights, as prolonged inaccessibility and market exclusion risks accelerating the phenomenon of gentrification.

RESEARCH METHOD

Hedonic pricing is a method in economics and statistics used to measure and separate the value of attributes or characteristics in a product or service. This method is often applied to property or consumer product prices. The research can leverage the work of Mao et al. (2023), which emphasizes the role of the hedonic price model in reflecting consumer preferences and the key characteristics affecting housing prices. This reference underscores the significance of understanding consumer preferences and their influence on housing prices. The hedonic price model is used to estimate house prices in urban areas of the Special Province of Yogyakarta. With the model formed, it can estimate the price of a house with certain specifications. Specifications will be determined based on the results of a survey conducted among local Yogyakarta residents who do not yet own a house. Local people will indicate what they consider appropriate house specifications. This is important because the model will estimate the price of a house considered reasonable by local residents. It is not useful if locals can only afford houses in satellite cities or far from the city center.

As a theoretical basis, the conceptual framework underlying hedonic pricing analysis is explained. An explanation of the concept of hedonic value, and how property or product characteristics can be broken down into attributes that influence price, will help understand the analysis process applied in this research. The Hedonic Regression Model is a statistical approach used to analyze and model the relationship between the price of a product or service

and its specific characteristics or attributes. The term "hedonic" refers to the pleasure or satisfaction found in these attributes. With this model, researchers can separate and measure the relative impact of each attribute on price. The following are the components in the hedonic regression model used in this research: Dependent Variable (Y): This is the variable that will be predicted or explained. In this study, the dependent variable is the house price. Independent Variables (X): These variables are attributes assumed to influence prices. The independent variables in this research include land area, building area, front road width, and distance to shopping facilities. The Regression Model is formulated as follows:

$$Y=\beta0+\beta1X1+\beta2X2+\ldots+\beta nXn+\varepsilon$$

In this research, there were two data collection processes. Both used non-probability sampling, specifically purposive sampling. Non-probability sampling is a technique where samples are gathered without giving all individuals in the population equal chances of being selected. Purposive sampling involves selecting samples with specific criteria in mind. Purposive sampling, which involves selecting specific cases that are particularly informative, is well-suited to housing studies, as it allows researchers to focus on properties that share similar characteristics and are relevant to specific research questions. This approach is supported by several studies that successfully implemented purposive sampling in their analyses, providing robust econometric findings.

For instance, Ayeni et al. demonstrate the utility of hedonic regression models through a purposive sampling approach that assesses environmental attributes affecting property rental values (Ayeni et al., 2023). They underscore the importance of carefully selected samples in achieving more precise estimations of housing values. Similarly, Diao highlights that non-random sampling can introduce biases into hedonic price models, ultimately distorting property valuations (Diao, 2014). This enhances

the argument for purposive sampling in this research, as it ensures that the sample comprises properties that are more likely to reflect the true underlying market dynamics.

The first data collection involved a survey of houses that were being bought and sold freely in the urban area of the Special Province of Yogyakarta. Previous research has identified various attributes that influence house prices. In this study, five main variables are used to form a model that can estimate house prices.

Indicated Housing Price

House price is used as a measure of how expensive or affordable a house is. Housing prices are influenced by various attributes and preferences valued by consumers. Studies have shown a positive relationship between housing attributes and housing prices, indicating that the demand for specific housing attributes contributes to determining housing prices (Soon & Tan, 2019). Furthermore, the variability of implicit prices of property and location attributes is linked to individual preferences, suggesting that housing attribute prices are heterogeneous and may vary based on household profiles and preferences (Xu, 2008). Research has also focused on estimating the relative importance of housing attributes to house prices, providing insights into how households perceive housing attributes and their impact on housing prices (Lopez & Paredes, 2018; Owusu-Manu et al., 2019). Understanding the priority of structural housing attribute preferences is crucial in identifying customer perceptions and their influence on housing prices (Moghimi & Jusan, 2015). Additionally, studies in regions like East Surabaya, Ghana, and Nanjing provide localized insights into the relationship between attributes and prices (Mukti, 2018; Tang & Jin, 2020). In this research, due to the unavailability of transaction data, house prices are approached by negotiating the offer price, making it appear as if a transaction will occur. The bid price listed or available is adjusted to be closer to the transaction price.

Front Road Width

Accessibility is one of the attributes considered to influence the utility of a house. In this research, house accessibility is proxied by the width of the road in front of the house. To investigate the influence of front road width on house prices, several references provide relevant insights. Lin et al. (2021) found a positive correlation between the width of the road in front of a Korean restaurant chain outlet and the store's sales. Similarly, Theisen and Emblem (2020) emphasized the importance of considering the geographical environment when studying the impact of a new road on housing prices. Zhang et al. (2022) demonstrated that road facilities significantly affect surrounding residential prices. Additionally, Wibisono et al. (2017) highlighted the influence of road width and hierarchies on residential property values in Surabaya. These references collectively suggest that road width can have a substantial impact on property values, particularly in the context of commercial and residential real estate.

Lot Size

The utility of a house is also influenced by the lot size; the larger the lot size, the greater the possibility of development. The relationship between lot size and housing prices is complex and has been the subject of various studies. Dong and Hansz (2019) found that the counter effect of smaller lot sizes on housing prices is somewhat weak compared to the stronger association of home sizes with housing prices (Dong & Hansz, 2019; Zabel & Dalton, 2011). They specifically focused on the impact of minimum lot size regulations on house prices in Eastern Massachusetts. Lin et al. (2022) and Feng et al. (2021) emphasized the non-linear relationships between house size and price, indicating that the total price of a larger housing unit increases at an increasing rate as its size increases (Feng et al., 2021). Murray (2020) critiqued the method for identifying residential price effects of town planning regulations, highlighting the location premium of land and diminishing returns to buyers of

residential land size as factors influencing the price gap (Murray, 2019).

Building Size

Just like lot size, building size also influences house prices as it increases utility. The relationship between building size and housing prices has been a subject of interest in housing studies. Turnbull et al. (2006) found a correlation between house size and house prices, indicating that larger houses tend to command higher prices. Additionally, Dong and Hansz (2019) highlighted the influence of zoning regulations on housing prices by regulating lot size, which indirectly affects building sizes. Haider and Miller (2000) emphasized the influence of location and proximity to amenities on housing values, which can also be linked to building size and its impact on prices.

Distance to shopping facilities

Location is the most important attribute of a home. Unfortunately, finding a measure of location quality remains challenging. In this research, location is proxied using the distance from the nearest shopping facility. Shopping facilities are considered centers of activity, which can enhance a house's utility. The influence of distance to shopping facilities on house prices has been empirically investigated in various studies. Rosiers et al. (1996) found that shopping center size exerts a positive effect on house values, confirming the non-monotonicity of the price-distance function. Similarly, Zhang et al. (2018) constructed a hedonic price model and captured the influence of shopping malls on housing prices using distance variables between properties and the shopping mall. Furthermore, Masoumi (2021) highlighted that the accessibility of facilities, including shopping and entertainment options, influences residential self-selection.

The second data collection involved a survey of local residents in the Special Province of Yogyakarta who have lived there for at least five years. The survey aimed to capture local people's perceptions regarding the definition and specifications of a suitable house. Respondents were asked to

determine their ability and willingness to pay for the specifications they considered suitable for a house. The survey included questions about the lot size, building size, width of the front road, and distance from shopping facilities. Based on these desired specifications, respondents indicated how much they were able and willing to pay. After the data is collected and the model is formed, the mean and median of the survey results regarding suitable houses are included in the model. The model will estimate the price of a house with specifications considered appropriate. Housing affordability is measured by comparing house prices estimated from the model with the residents' ability and willingness to pay.

RESULT AND DISCUSSION

Based on the results of a survey conducted, 174 house sales data were collected in the urban area of the Special Region of Yogyakarta. descriptive analysis of the data as follows.

Table 1. Descriptive Analysis of Primary Data

Indicator	Mean	Med	stdev	min	max
Lot Size (m^2)	164,339	113,5	141,048	59	810
Building Size (m^2)	117,491	90	82,447	30	420
Distance to Shopping Facilities (km)	2,273	2	1,272	1	4
Front Road Width (m)	5,556	5	1,552	3	12
Indicated Housing Price (IDR)	1,12M	0,785M	1,07M	0,115 M	8,50M

Source: Author, 2023

Table 2. Hedonic Price Model Regression Result

Variable	Coefficient	t-Statistic	Prob.
C	-607,000,000	-2,927,334	0.0039
Lot Size	1,659,380	3,504,681	0.0006
Building Size	6,405,349	8,097,280	0.0000
Distance to Shopping Facilities	-167,000,000	-5,067,893	0.0000
Front Road Width	186,000,000	5,514,466	0.0000
R-square	0.613293		

Source: Author, 2023

Furthermore, based on the survey, data was obtained for 283 respondents who met the criteria (local people), namely residents of the Special Region of Yogyakarta, did not own a house, and had lived in the Special Region of Yogyakarta for at least 5 years

Table 3. Survey Result

Indicator	Min	Max
Building Size	21 m^2	150 m^2
Lot Size	35 m^2	250 m^2

Front Road Width	3 m	12 m
Distance to Shopping Facilities	1 km	10 km
Willingness to Pay	IDR 90,000,000	IDR 900,000,000
Ability to Pay	IDR 90,000,000	IDR 900,000,000

Source: Author, 2023

Based on the regression that has been carried out, the four independent variables have an influence on the indicated housing price so that this model can be used to estimate house prices with certain specifications. Model as follows.

$$IHP = -607{,}000{,}000 + 1{,}659{,}380(LS) + 6{,}405{,}349(BS) - 167{,}000{,}000(FRW) + 186{,}000{,}000(DSF) + \varepsilon$$

IHP: Indicated Housing Price
LS: Lot Size
BS: Building Size
FRW: Front Road Width
DSF: Distance to Shopping Facilities

In general, the regression analysis yields directional relationships consistent with established literature. The model demonstrates a positive correlation between property value and structural attributes; specifically, increases in lot size, building area, and frontage road width are associated with higher estimated house prices. Conversely, the distance to shopping facilities exhibits an inverse relationship with price, reflecting the premium placed on proximity to amenities. Complementing these econometric findings, survey data regarding the mean and median of respondent perceptions were used to define the specifications of a 'decent' house as follows:

Table 4. Perception Regarding decent house from Respondents

Indicator	Mean	Median
Building Size	53.608 m^2	54 m^2
Lot Size	89.417 m^2	90 m^2
Front Road Width	4.435 m	4 m
Distance to Shopping Facilities	2.706 km	2 km
Willingness to Pay	IDR 398,515,901.060	IDR 400,000,000
Ability to Pay	IDR 374,310,954.064	IDR 300,000,000
Estimated Housing Price	IDR 498,158,417.9	IDR 495,233,044.03

Source: Author, 2023

CONCLUSION

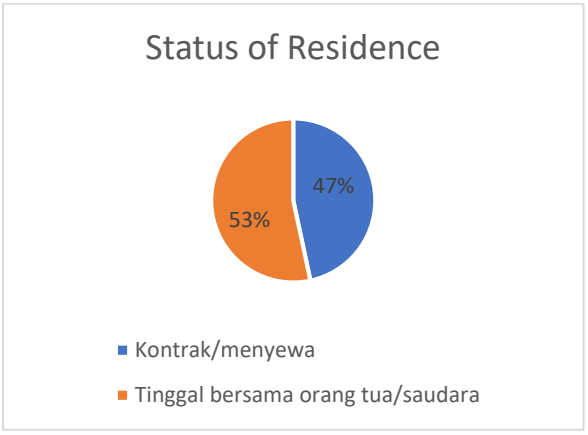
The analysis confirms that residents of the Special Region of Yogyakarta face substantial structural barriers to homeownership. There is a marked disparity between the market valuation of a 'decent' home and the

financial capacity of the local population. Specifically, the regression model estimates that a property meeting the local standard of decency comprising a lot size of 89.4 m^2, a building area of 53.6 m^2, a frontage width of 4.4 m, and a proximity of 2.7 km to commercial centers is priced significantly above the mean and median affordability thresholds. Consequently, housing policy must be recalibrated to address this gap. Government interventions should prioritize the supply of housing units that meet these specifications but are priced within the accessible range of IDR 300 million to IDR 400 million, thereby aligning market supply with the actual Ability to Pay (ATP) and Willingness to Pay (WTP) of local residents.

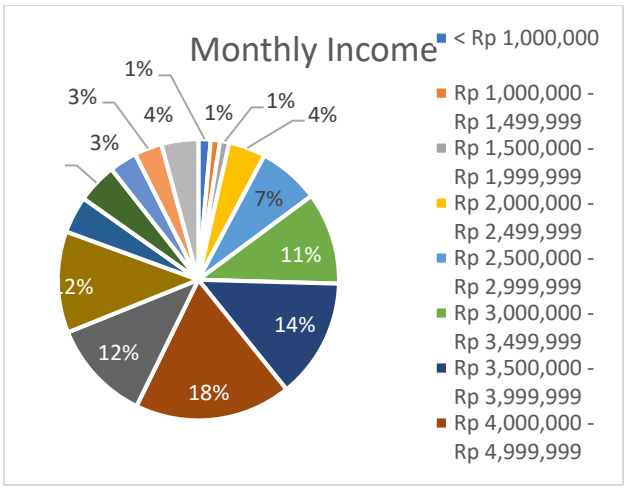
The hedonic price model utilized in this study offers a robust methodological alternative for assessing housing affordability within the Special Region of Yogyakarta. The analysis reveals that the region's housing crisis is deeply entrenched, exacerbated by stagnant macroeconomic indicators including the poverty rate, Provincial Minimum Wage, and Gini Ratio. While local cultural narratives often emphasize contentment or 'happiness' over material wealth, this sentiment should not obscure the structural economic challenges preventing homeownership. Consequently, government intervention is imperative to address this accessibility gap and mitigate the encroaching threat of gentrification. This study advocates for a dual-pronged policy approach: protecting homeownership rights while simultaneously enhancing local income levels. Specific recommendations include: (1) Vertical Densification: Strategic land acquisition for the construction of vertical housing units that meet the identified affordability criteria. (2) Fiscal Support: The implementation of subsidized housing schemes and financial assistance programs tailored for low- and middle-income demographics. (3) Public Housing: The development of government-owned assets offering rental rates indexed to local income levels. (4) Zoning Reform: Regulatory adjustments to incentivize the development of

affordable housing stock in strategic urban zones.

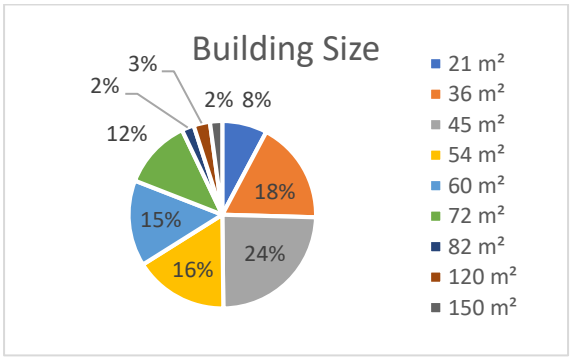
APPENDIX



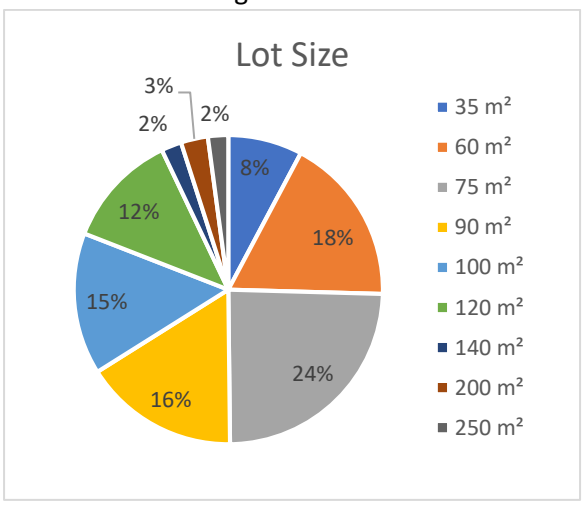
Status of Residence



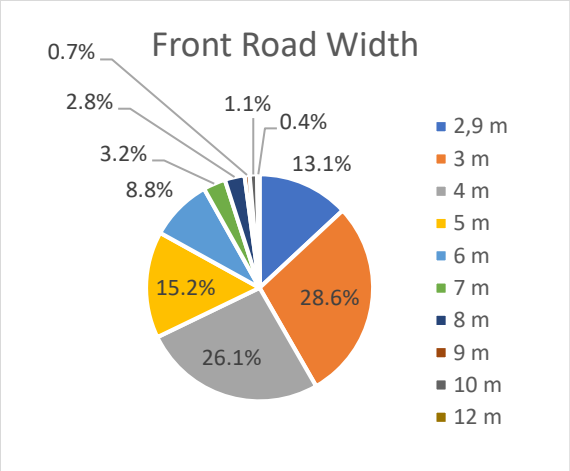
Monthly Income



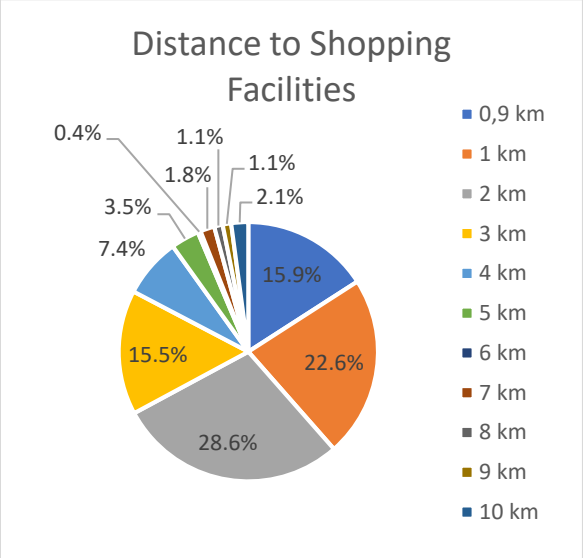
Building Size Preference



Lot Size Preference



Front Road Width Preference



Distance to Shopping Facilities Preference

Property Data Used in the Analysis

Luas Tanah	Luas Bangunan	Jarak Fasben (km)	Lebar Jalan Depan (m)	Harga Nett
105	200	1.8	5	950000000
208	208	4.2	5	600000000
89	45	1.7	7	560000000
97	97	1.6	7	940000000
60	30	0.8	6	450000000
90	84	4	4.5	300000000
84	58	1.7	7	500000000
80	80	4.8	5	500000000
68	45	1.2	5	475000000
60	45	0.8	6	430000000
70	50	0.7	6	400000000
70	36	0.8	6	425000000
120	50	2.8	4.5	485000000
128	45	1.6	6	1200000000
104	80	1.8	4.5	725000000
85	45	0.3	6	550000000
101	60	0.5	5	738000000
144	73	0.24	6	2200000000
181	80	0.45	4.5	999000000
150	184	0.6	4	2300000000
100	54	0.7	4	480000000
73	73	0.75	4	450000000
70	50	0.55	4	375000000
103	50	0.8	6	580000000
75	65	2.4	4	400000000
109	90	2.1	4	700000000
104	64	2.1	4	775000000
130	90	1.9	4	800000000
120	100	2	4	825000000
160	180	1	4	1450000000
120	80	0.14	4	900000000
150	200	0.85	5	2500000000
90	60	0.75	4	335000000
131	54	0.35	5	1000000000
200	69	0.35	6	1800000000
251	75	1.2	5	780000000
78	40	0.45	6	430000000
105	70	1.2	4	430000000
88	78	2.2	4	350000000
110	70	2.2	4.5	260000000
63	43	0.7	3.5	190000000
91	45	0.7	3.5	360000000
111	49	0.7	3.5	285000000
124	62	0.7	3.5	385000000
76	32	0.7	3.5	215000000
110	54	1.1	4.5	495000000
84	45	1.2	6	355800000
84	36	1.2	6	301200000
72	36	3.9	6	265000000
90	54	3.9	6	395000000
64	36	3.4	5	275000000
76	45	2.2	4	265000000
71	36	2	5	150000000

183	42	2.7	3	235000000	80	118	2.7	8	745000000
108	50	2.4	5	525000000	110	80	2.8	8	850000000
60	36	5.6	5	115000000	60	119	2.9	8	900000000
127	42	5.6	4	280000000	113	90	2.7	8	895000000
64	36	3.4	5	348000000	133	130	0.9	6	1500000000
70	36	5.7	6	245000000	135	70	2.3	4	1350000000
78	36	0.85	6	300000000	204	350	0.35	5	3500000000
314	108.9	1.9	4	750000000	280	160	1.1	9	4500000000
164	78	1.4	4	450000000	274	220	2.7	5	2850000000
711	42	8.4	5	287000000	137	130	2	10	1600000000
86	86	4.3	6	250000000	150	160	0.5	6.5	1500000000
74	74	5.7	6	325000000	144	160	0.7	7	2700000000
80	45	4.1	4	315000000	156	135	0.85	8	2750000000
204	420	0.12	5	3300000000	240	180	0.65	7	1750000000
101	60	3.2	5	585000000	117	135	0.4	7	1900000000
109	100	1.2	6	1500000000	124	160	1.4	4	950000000
145	85	2.8	6	550000000	135	200	0.45	4	1350000000
100	85	1.2	6	595000000	270	258	1.8	5	2500000000
196	149	0.3	6	1000000000	185	205	0.22	5	2600000000
114	58	1.3	7	710000000	252	90	0.7	8	1800000000
256	370	3.7	7	2500000000	150	200	0.45	7	1950000000
98	170	2.3	5	900000000	125	160	0.45	7	2000000000
89	120	2.6	4	450000000	101	70	2.1	4	525000000
361	250	3.3	5	1400000000	280	160	0.95	5	3600000000
106	106	0.85	5	500000000	111	140	0.35	6	950000000
114	57	1.3	7	695000000	140	158	1.3	4	1850000000
105	100	1.3	7	950000000	379	225	0.45	5	2300000000
90	56	1.3	7	650000000	165	190	1	5	1775000000
76	45	1.9	5	300000000	114	80	0.011	4	590000000
80	100	2.5	5	950000000	100	70	0.7	4	650000000
122	150	3.8	5	1100000000	130	200	1.1	5	730000000
139	200	1.3	7	2000000000	150	150	0.75	6	1600000000
109	57	1.5	7	730000000	150	160	0.35	4	1900000000
145	90	2.1	7	1350000000	250	100	2.6	4	1075000000
140	82	1.5	7	1000000000	220	154	0.65	3	850000000
102	45	0.75	5	530000000	360	365	0.35	10	1000000000
83	70	0.55	5	785000000	125	95	1.7	5	1050000000
110	70	3.3	5	795000000	731	300	0.2	4	3950000000
80	118	1	4	850000000	60	180	0.7	4	800000000
74	110	3.1	5	745000000	108	108	0.85	4	875000000
100	60	4	5	890000000	59	96	0.8	5	400000000
100	60	2.5	6	890000000	501	300	0.7	3	1700000000
112	76	2.7	8	810000000	90	60	1.4	4	785000000
131	72	3	8	380000000	95	60	1.4	4	770000000

95	60	1.4	4	749000000
95	60	1.4	4	720000000
90	45	0.4	5	600000000
80	100	0.58	5	750000000
200	418	0.45	5	5000000000
336	200	0.65	8	1700000000
91	45	3.6	6	299000000
91	70	3.6	6	436000000
320	105	4.4	3	370000000
420	180	3.3	5	593000000
442	200	5.3	4	450000000
610	150	8.9	3	575000000
100	72	9.4	4	450000000
750	100	7.5	5	350000000
750	249	7.5	5	500000000
657	170	3.2	7	1150000000
474	200	4.5	5	1200000000
200	164	0.18	5	1050000000
135	95	3.9	10	1350000000
123	120	0.15	8	2100000000
226	200	0.4	5	1200000000
160	138	1	7	2700000000
113	140	4	7	2000000000
100	200	1.8	6	1300000000
124	130	0.12	6	1500000000
200	250	0.12	6	1700000000
200	150	0.12	6	1500000000
120	100	0.12	6	1300000000
146	140	1.3	9	3300000000
259	356	0.6	12	5000000000
810	330	1.1	9	8500000000
108	109	0.45	7	1200000000
390	375	2.3	5	1350000000

REFERENSI

Alfalah, A., Stevenson, S., Heinig, S., & D'Arcy, E. (2022). Housing affordability in a resource rich economy: the case of kuwait. International Journal of Housing Markets and Analysis, 16(2), 336-353. https://doi.org/10.1108/ijhma-02-2022-0020

Ayeni, O. F., Kemiki, O. A., Popoola, N. I., & Musa, H. D. (2023). Assessment of the contribution of environmental attributes to residential property rental value in abuja. Environmental Technology and Science Journal, 13(2), 17-27. https://doi.org/10.4314/etsj.v13i2.2

Azmi, N., & Bujang, A. A. 2021. The Gap Between Housing Affordability and Affordable House: A Challenge for Policy Makers. Planning Malaysia Journal, Vol. 19, Issue 3. LINK

BPS (2022). Profil Kemiskinan DIY. Available at: https://yogyakarta.bps.go.id/pressrelease/2023/01/16/1351/profil-kemiskinan-d-i--yogyakarta-september-2022.html (accessed 11 March 2023)

Cirman, A. 2004. Housing Tenure Preferences in Societies with Marginal Rental Sectors: The Case of Slovenia. Toronto, s.n

Coulson, N. E. 1999. Why are Hispanic and Asian-American Homeownership rates so low? : immigration and other factors. Journal of Urban Economics, 1999. Elsevier LINK

Dewita, Y., Yen, B. T., & Burke, M. (2018). The effect of transport cost on housing affordability: experiences from the bandung metropolitan area, indonesia. Land Use Policy, 79, 507-519.

https://doi.org/10.1016/j.landusepol.2018.08.043

Diao, M. (2014). Selectivity, spatial autocorrelation and the valuation of transit accessibility. Urban Studies, 52(1), 159-177. https://doi.org/10.1177/0042098014523686

Dong, H. and Hansz, J. A. (2019). Zoning, density, and rising housing prices: a case study in portland, oregon. Urban Studies, 56(16), 3486-3503. https://doi.org/10.1177/0042098018813251

Econ. Perspect. 18, 191–214.

Feng, S., Peng, C., Yang, C., & Chen, P. (2021). Non-linear relationships between house size and price. International Journal of Strategic Property Management, 25(3), 240-253. https://doi.org/10.3846/ijspm.2021.1460

Ghasemi, M., & Ozay, N. (2018). A Discussion on Affordable Housing Projects; Case Study Mehr Housing, Iran. Journal of Contemporary Urban Affairs Volume 2, Number 3, pages 137-145 LINK

Goodman, L. S., & Mayer, C. 2018. Homeownership and the American Dream. Journal of Economic Perspectives. AEA LINK

Haider, M. and Miller, E. J. (2000). Effects of transportation infrastructure and location on residential real estate values: application of spatial autoregressive techniques. Transportation Research Record: Journal of the Transportation Research Board, 1722(1), 1-8. https://doi.org/10.3141/1722-01

Haurin, D. R., Dietz, R. D., Weinberg, B.A. 2002. The Impact of Neighborhood Homeownership Rates: A Review of The Theoretical and Empirical Literature. Journal of Housing Research. JSTOR LINK

Hill, R. J. and Gan, Q. (2008). Measuring housing affordability: looking beyond the median. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.1310294

IndoProgress (2023). Jogja Darurat Agraria: Tiada Tanah, apalagi Rumah. Available at: https://indoprogress.com/2023/02/jogja-darurat-agraria/ (accessed 11 March 2023)

Jiburum, U., Nwachukwu, M. U., Chike, H., Okonkwo, C. N., & Okeke, D. (2021). Determinants of public housing affordability for large income diversity groups in a new-town capital city: a case study of abuja, nigeria. SAGE Open, 11(3), 215824402110450. https://doi.org/10.1177/21582440211045079

Kaas, L., Kocharkov, G., & Preugschat, E. 2021. Low Homeownership in Germany - A quantitative Exploration. LINK

Kennedy, M., and Leonard, P. (2001). Dealing with Neighborhood Change: A Primer on Gentrification and Policy Changes. Brookings

Institution Center on Urban and Metropolitan Policy and Policy Link.

Kompas (2022). Pekerja di DIY Menjerit Sulit Beli Rumah, Pemerintah DIY Sebut Tak Ada Program Rumah Murah. Available at: https://yogyakarta.kompas.com/read/2022/11/01/172559278/pekerja-di-diy-menjerit-sulit-beli-rumah-pemerintah-diy-sebut-tak-ada?page=all. (accessed 11 March 2023)

Lin, S., Hsu, C., Zhong, T., He, X., Li, J., Tzeng, G., … & Hsieh, J. (2021). Exploring location determinants of asia's unique beverage shops based on a hybrid madm model. International Journal of Strategic Property Management, 25(4), 291-315. https://doi.org/10.3846/ijspm.2021.14796

Lisi, G. (2019). Income capitalisation method and hedonic model: an integrated approach. Journal of Property Investment &Amp; Finance, 37(3), 289-300. https://doi.org/10.1108/jpif-11-2018-0088

Lopez, E. and Paredes, D. (2018). Towards housing policies that consider household's preferences: estimating the demand for housing attributes in chile. International Journal of Strategic Property Management, 24(1), 24-36. https://doi.org/10.3846/ijspm.2018.320

Lorga, M., Januario, J. F., & Cruz, C. O. (2022). Housing Affordability, Public Policy, and Economic Dynamics: An Analysis of the City of Lisbon. Journal of Risk and Financial Management 15(12), 560. MDPI

Mao, Y., Chen, Q., Zhang, Z., & Hu, Y. (2023). Research on spatial differentiation of housing price and its influencing factors from the perspective of aging ——a hedonic analysis in guangzhou. Proceedings of the 2nd International Conference on Information, Control and Automation, ICICA 2022, December 2-4, 2022, Chongqi. https://doi.org/10.4108/eai.2-12-2022.2328005

Maslow, A. H. (1943). A theory of human motivation. Psychological Review. 50 (4): 370–96. CiteSeerX 10.1.1.334.7586 alt=Dapat diakses gratis. doi:10.1037/h0054346 – via psychclassics.yorku.c

Masoumi, H. E. (2021). Residential location choice in istanbul, tehran, and cairo: the importance of commuting to work. Sustainability, 13(10), 5757. https://doi.org/10.3390/su13105757

McLeod, M.S., Payne, G.T. and Evert, R.E. (2016), "Organizational ethics research: a systematic review of methods and analytical techniques", Journal of Business Ethics, Vol. 134 No. 3, pp. 429-443.

Mukti, K. E. (2018). The influence of housing attributes on housing price in east surabaya. Proceedings of the 2nd International Conference on

Indonesian Economy and Development (ICIED 2017). https://doi.org/10.2991/icied-17.2018.16

Mulliner, E., Malys, N., & Malienė, V. (2016). Comparative analysis of mcdm methods for the assessment of sustainable housing affordability. Omega, 59, 146-156. https://doi.org/10.1016/j.omega.2015.05.013

Murray, C. (2019). Marginal and average prices of land lots should not be equal: a critique of glaeser and gyourko's method for identifying residential price effects of town planning regulations. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.3328308

Murray, C. (2020). Marginal and average prices of land lots should not be equal: a critique of glaeser and gyourko's method for identifying residential price effects of town planning regulations. Environment and Planning A: Economy and Space, 53(1), 191-209. https://doi.org/10.1177/0308518x20942874

Owusu-Manu, D., Edwards, D. J., Donkor-Hyiaman, K. A., Asiedu, R. O., Hosseini, M. R., & Obiri-Yeboah, E. (2019). Housing attributes and relative house prices in ghana. International Journal of Building Pathology and Adaptation, 37(5), 733-746. https://doi.org/10.1108/ijbpa-01-2019-0003

Quigley, J.M.; Raphael, S., (2004). Is Housing Unaffordable? Why Isn't It More Affordable? J.

Rahadi, R. A., Wiryono, S. K. & Koesrindartoto, D. P. 2014. Factors Influencing the Price of Housing in Indonesia. International Journal of Housing Markets and Analysis, 8 (2), pp. 169-188

Rosiers, F. D., Laganá, A., Thériault, M., & Beaudoin, M. (1996). Shopping centres and house values: an empirical investigation. Journal of Property Valuation and Investment, 14(4), 41-62. https://doi.org/10.1108/14635789610153461

Sani, N. M. & Rahim, A. (2015). Price to Income Ratio Approach in Housing Affordability. Journal of Economics, Business and Management, Volume 3 Number 12. LINK

Soon, A. and Tan, C. (2019). An analysis on housing affordability in malaysian housing markets and the home buyers' preference. International Journal of Housing Markets and Analysis, 13(3), 375-392. https://doi.org/10.1108/ijhma-01-2019-0009

Stone, M. E. (2006). What is housing affordability? the case for the residual income approach. Housing Policy Debate, 17(1), 151-184. https://doi.org/10.1080/10511482.2006.9521564

Strassman, P. & A., B. 1994. Land, income, mobility and housing: The

case of Metro Manila. Urban Studies, 20 (1), pp. 267-285

Suhaida, M. S., Tawil, N. M., Hamzah, N., Che-Ani, A. I., Basri, H., Yuzainee, M. Y. (2011). Housing Affordability: A Conceptual Overview for House Price Index. Pricedia Engineering, Volume 20, 2011, Pages 346-353 Elsevier LINK

Tang, Q. and Jin, P. (2020). Analysis of influential factors of housing price in nanjing based on improved grey relational analysis. DEStech Transactions on Social Science, Education and Human Science, (mess). https://doi.org/10.12783/dtssehs/mess2019/33721

Theisen, T. and Emblem, A. W. (2020). The road to higher prices: will improved road standards lead to higher housing prices?. The Journal of Real Estate Finance and Economics, 62(2), 258-282. https://doi.org/10.1007/s11146-020-09751-y

Turnbull, G. K., Dombrow, J., & Sirmans, C. F. (2006). Big house, little house: relative size and value. Real Estate Economics, 34(3), 439-456. https://doi.org/10.1111/j.1540-6229.2006.00173.x

Voon, Z., Hooy, C., & Puah, C. (2020). An augmented measurement of the housing affordability cycles in malaysia. Malaysian Journal of Economic Studies, 57, 133-145. https://doi.org/10.22452/mjes.vol57no1.7

WargaJogja (2021). Di Jogja, Warga Lokal Nyaris Mustahil Membeli Rumah. Available at: http://wargajogja.net/politik/di-jogja-warga-lokal-nyaris-mustahil-membeli-rumah.html (accessed 11 March 2023)

Wibisono, N. S., Kwanda, T., & Anastasia, N. (2017). Analysis of landscape elements that affect property value based on the perception of housing residents in surabaya. DIMENSI (Journal of Architecture and Built Environment), 44(1). https://doi.org/10.9744/dimensi.44.1.95-100

Wilhelmsson, M. and Long, R. (2020). Impacts of shopping malls on apartment prices: the case of stockholm. Nordic Journal of Surveying and Real Estate Research, 5, 29-48. https://doi.org/10.30672/njsr.95437

Wyatt P. (2013). Property valuation, 2e. John Wiley dan Sons dan Blackwell.

Xu, T. (2008). Heterogeneity in housing attribute prices. International Journal of Housing Markets and Analysis, 1(2), 166-181. https://doi.org/10.1108/1753827081087778

Yap, J. B. H. and Ng, X. H. (2018). Housing affordability in malaysia: perception, price range, influencing factors and policies. International Journal of Housing Markets and Analysis, 11(3), 476-497. https://doi.org/10.1108/ijhma-08-2017-0069

Zabel, J. and Dalton, M. (2011). The impact of minimum lot size regulations on house prices in eastern massachusetts. Regional Science and Urban Economics, 41(6), 571-583. https://doi.org/10.1016/j.regsciurbeco.2011.06.002

Zhang, L., Zhou, J., Hui, E. C., & Wen, H. (2018). The effects of a shopping mall on housing prices: a case study in hangzhou. International Journal of Strategic Property Management, 23(1), 65-80. https://doi.org/10.3846/ijspm.2019.