Analysis of The Dynamics of Property Value Fluctuations in The Special Region of Yogyakarta

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ABSTRACT

The purpose of this study is to determine and identify the influence of physical property characteristics such as land area and building area; property legal characteristics in the form of property ownership rights; environmental characteristics in the form of designation zones on property values in D.I.Yogyakarta and apply the best equation method model in determining the value of large quantities of property in addition to the market approach method and cost and income approach. Access to research observation data in the form of primary data obtained in several ways, namely telephone interviews, personal interviews directly with property owners, and secondary data accessed by desk research of the DJTR spatial plan of the Ministry of ATR BPN, data access using purposive sampling models with non-probability sampling techniques, the number of observations as much as 135 data used. The research method uses multiple regression analysis ordinary least square method with Eviews 10 analysis tools, the form of the research regression model function using the selection of statistical criteria, applying the positivism paradigm with quantitative data in the form of Analytical survey, Identification of linear relationship behavior using the Mac Kinnon Test, and White Davidson MWD, Statistical criteria test in the form of F test, t-test, Determination Coefficient Test (R^2), Economic criteria test is applied to compare between the estimated parameter coefficients by economic theory, Classical Assumption Test using Normality, Linearity, Multicollinearity, and Heteroscedasticity Test. The results showed that the findings of property characteristics simultaneously or simultaneously on the variables of land area, building area, ownership rights, and designation zone significantly affect property values with a coefficient of determination level of 68.69%. Partially or individually, the findings revealed the influence of the characteristics of land area, building area, ownership rights, and designation zone positively and significantly on property values. Selection of the best model of the regression function equation, applying the log-log regression equation model in determining property value.

INTRODUCTION

The acceleration of economic growth is one aspect among various indicators of the welfare of a country's regional area. Inter-regional comparison assessment, as a measure of the results of the development of one region with other regions, is public information showing each regional area's accelerated development (Oh & Shin, 2023). Regional Original Revenue of each regional area is a source of regional income derived from the region's economic activities (Khoirudin & Khasanah, 2018). Each region must strive to increase the source of local revenue, both by increasing existing local revenue and by exploring new sources of local revenue through existing provisions and by maintaining the potential of economists (Kumoro & Ariesanti, 2017). The higher economic growth reflects better development and financial activities in the country's territory (Nasir et al., 2021). The Central Bureau of Statistics stated that after two years of the COVID-19 pandemic, several provinces in Indonesia experienced acceleration and delay in developing various regions. Many new investors during the COVID-19 pandemic suffered losses after the price of the shares they bought fell dramatically after the JCI began to correct (Naim et al., 2021). With the implementation of social distancing, PSBB, and PPKM, the wheels of the economy began to move slowly; the impact was that the system was not running correctly (Nasir et al., 2022). The Covid-19 pandemic has caused the economy to contract (Yuniarti & Sukarniati, 2021). D.I.Yogyakarta Province, according to statistics on the aspect of economic growth, experienced the lowest growth on the island of Java at 5.13% after Banten Province. Efforts to improve welfare have become the concern of all parties, including the government, in carrying out the role of development policy steps in various aspects of the field, both long-term and short-term development dimensions (Saleh, 2022).

The increase in the economic growth rate in the Special Region of Yogyakarta Province is the contribution of gross value added from the activities of various business sectors. Among them, the real estate or property business sector contributes significantly to the economic growth rate of D.I.Yogyakarta. Supported by the perception of the desire to settle and live in Yogyakarta, it places the most desirable position among other provinces in Indonesia. In addition to being identical as a place of cultural diversity, Yogyakarta is identical to a tourist spot and a place to study. This can create a gap between the increasing demand for land and the limited supply of land providers in the property sector. Land is limited, and it can't keep pace with the increase in urban development, resulting in an intensification of land use in the downtown area and uncontrolled expansion of developed land in the suburbs (Khoirudin et al., 2021). Indicated by the findings of abuse in the utilization of property in the form of village treasury land in various locations, D.I.Yogyakarta noted the findings as a significant criminal act increased significantly. Uneven development between regions in Indonesia

can also cause unequal economic growth between one region and another (Saleh & Wulandari, 2024). This is the impact of the global COVID-19 pandemic and has an impact on the world economy, including Indonesia (Asmara & Yekti, 2024).

The economic report of Yogyakarta, according to Bank Indonesia's regional macro data in 2022, shows that Yogyakarta's economic growth is significantly supported by the growth of the principal investment component, namely the ongoing National Strategic Project (PSN) supporting the airport including the construction of the Jogja-Solo and Jogja-Bawen toll roads and triggered by investment growth from the construction of the South Cross Road (JJLS) which is still ongoing, the leading investment performance grew positively by 4.97%. There is a condition of limited land, based on the need for the use of other interests, in addition to the development of the public sector, there is a need for land use from the interests of the private / private side as a commercial designation (Reite, 2023). As confirmed by banking financing indicators, according to Bank Indonesia data, there was significant growth in property loans by 11.85% and real estate loans by 12.28%.

Changes in land use have the potential to be massive due to limited land area, such as several findings of the use of rice fields into residential houses that are not by the regulations of the Regional Spatial Plan (RTRW), the designation of land that is not suitable certainly has an economic and social environmental impact (Hilbrandt & Dimitrakou, 2022), starting from the potential for pollution, namely the lack of land for household waste management and the decline in groundwater quality for the sustainability of life.

Regional spatial planning to maximize these regional assets urges the establishment of optimal spatial zones ranging from industrial and trade to residential areas for settlers (Anna, 2020). Although the reality of its designation is still a source of abuse that is not yet appropriate, data from the Yogyakarta Provincial High Prosecutor's Office in 2023 states that the state loss is around four billion rupiahs by naming several perpetrators, starting from village government implementing officials and investors (companies/private parties) as suspects in cases of allegedly receiving bribes or gratuities.

DIY Governor Regulation Number 34 of 2017 concerning Village Land Utilization in the section on provisions for non-agricultural use (shops, tourist objects, restaurants) or other commercial leases, states that the amount of rent or value figures must be based on the results of an assessment conducted by an Independent Appraiser or Public Appraiser profession. The issue of differences in value opinion in determining

the value of a property often occurs because the understanding of developers, communities, and banks is still limited to referring to the Tax Object Sale Value (NJOP); the discrepancy in value opinion often leads to lawsuits by value users (Chen et al., 2023). The level of uncertainty is getting higher in the primary and secondary property markets; it is challenging to create a fair sale and purchase transaction of an asset because the weak supply side is not comparable to the demand side of property assets, making price opinions in the community increasingly biased (Liapis et al., 2015). Inflation fluctuations will impact real estate sector investment. When inflation increases, monetary authorities tend to increase interest rates, which can lead to an increase in property sector costs (Kurniawan et al., 2023).

Based on the formulation of the problem above, it is essential that research on this topic be carried out related to the analysis of the process of assessing a property market value in DIY Province in general, is still understood using traditional methods manually and even tends to be subjective and limited to the approach of referring to NJOP, the urgency of research in addition to this is first, the understanding of the community or the user of the value related to the resulting value or price/transaction of a property is not only influenced by the land area of the building but needs to consider several legal characteristics of the property in the form of property ownership rights and environmental characteristics in the form of designation zones. Second, there are advantages to the best equation model using regression analysis; it is hoped that this model will be a potential benefit for assessing large quantities of property quickly and economically and estimating property determinants from various characteristics. This study aims to determine and identify the influence of property characteristic variables on property value to ensure fluctuations in market value in DIY province and apply the best equation method model in determining property value.

LITERATURE REVIEW

Value is understood as the strength or exchangeability of a commodity against other commodities. The development of property valuation insights explains that the notion of value is bound by more specific terms in its use; other meanings of value do not stand alone, such as market value, rental value, residual value, and so on (Buitrago-Mora & Garcia-López, 2023). The condition of discrepancy in understanding the term value needs to be uniform to respond to differences in the use of the terms cost, price, and value, both in concept and application, in the practice of appraisal (Boterenbrood, 2023).

According to research (Gholipour et al., 2023) cost is the money spent to obtain or produce a commodity. Price is the amount requested, offered, or paid in a transaction to obtain commodity rights. Value is understood as the amount of money worth

receiving at this time (present worth) for various benefits or benefits obtained in the future (future benefits). The components of value needed to support the creation of a property value include the criteria of desirability, usefulness, scarcity, and transferability (Kreppmeier et al., 2023).

Research (Clapp & Lindenthal, 2022) developed a new approach to estimating urban land values. The study extended the AMM theory by adding the assumption of partial irreversibility, implying that land values with structure can evolve differently from values other than market values, developing a hybrid model with a land residue method, and developing a novelty test of predictive accuracy. The house price index generated market value is used to estimate the hybrid economic structure and land value. The applied model shows the importance of identifying the building structure for HBU at the date of construction; the existing market balance is essential for identifying the selling price of the related property.

Research (Lin et al., 2023) addresses the valuation of ground hydrogen geological storage options for commercial development. The study applied a net present value (NPV) evaluation framework to evaluate asset value storage by integrating updated digital economic data analysis and market value-based operations. The research utilizes the CAPM and WACC models to determine the risk-adjusted calculation rate in building the NPV evaluation framework. The results show that there is a price spread between the acquisition and the marketed prices, significant property market information of the site development, and asset maintenance costs are the top three factors that most affect NPV and IRR.

According to research (Zakaria & Fatine, 2021) on valuation models and determinants of real estate property prices in Morocco proposing a new approach to modeling the real estate price index. Based on the regression approach, the basic idea of this study is to verify the importance of real estate characteristics in real estate prices in the market, and estimate a regression model that takes into account spatial autocorrelation. The findings of the research results generally indicate the identification that the land surface area and location of real estate with commercial residential neighborhoods, villas and apartments around have a significant influence on the value of property prices.

Research conducted (Gautier et al., 2023) studied the transaction price and time of sale or offer of new digitally accessed real estate agents in the Netherlands. Identifying the competition of property transaction registered platforms with low-cost classification. Using a dataset of residential real estate transactions, the study found strong evidence that sellers who use secondary market digital platforms will obtain higher prices and sell faster, although there is still a tendency to switch to traditional markets. The results show consistently that property sellers benefit from the secondary market transactions of various digital platform agents by optimizing property demand

market information, the research findings strengthen the conjecture that real estate agents have significant market power.

Based on the results of empirical research and several scientific theoretical foundations, there are conjectures or temporary answers (hypotheses) developed against the background of this study, the variables of land area and building area according to research (Boterenbrood, 2023), (Oh & Shin, 2023), (Reite, 2023), (Chen et al., 2023), (Clapp & Lindenthal, 2022), (Zakaria & Fatine, 2021) mention a positive and significant effect on property value and according to (Saleh, 2022) show a negative effect of land area on property value. His book (Wyatt, 2014) on property valuation explains that the size and physical form of the land area of a property is a concern in determining the convenience and economic aspects of the activities carried out on it to support the attractiveness of a property.

However, this only applies to the conditions of specific properties such as agricultural land; the more comprehensive the land size has the effect of decreasing value due to increasingly complex management and maintenance problems; this situation has reduced demand for large enough land areas. The characteristics of the building area are determined by various things, including the design of the building, which is adjusted to the type of use according to the tastes of property users; the mismatch of building design and taste will potentially reduce the value of a building, just as when the building design is by the use and even follows the trend of user tastes will create an increase in the value of the property. Hypotheses that can be concluded referring to the theoretical basis and some previous research are as follows.

1. H_A : Land area positively and significantly affects property value.
2. H_A : Building area positively and significantly affects property value.

Variables of property legal characteristics in the form of property ownership rights and environmental characteristics in the form of designation zones, according to research findings (Hilbrandt & Dimitrakou, 2022), (Anna, 2020), (Gautier et al., 2023) mention a positive and significant influence on property value. According to (Harjanto & Hidayati, 2019) in his book, the basic concepts of property valuation explain the importance of estimating the market value of property by considering the highest and best use analysis (HBU) for the identification of the most likely and possible uses of property to create optimization of profits from competitive property permitted. The principle of alternative HBU analysis is applied to meet several main criteria: physically possible, legally permissible, financially feasible, and maximally productive. Generally, every company wants to expand its business, requiring much additional capital (Khoirudin, 2017). Part of the legally permissible aspect is, of course, in addition to the permitted regulations, related to the necessity of the condition of the ownership rights to the property and the suitability of the designation zone of a property. The hypothesis contains conclusions for development referring to the theoretical basis as follows.

3. H_A : Land ownership rights have a negative effect on property values.

4. H_A : The designation zone has a positive and significant effect on property value.

The research road map shows the stages that will be carried out, starting from accessing primary data related to the use of research variables, namely data on physical property characteristics such as land area and building area; property legal characteristics in the form of property ownership rights; environmental characteristics in the form of designation zones and identifying the analysis of the influence of property characteristics on property values in D.I.Yogyakarta and revealing the analysis of discussions in an economic approach.

METHOD

This research data collection uses a purposive sampling model with non-probability sampling techniques from the population with a sample of unique characteristics according to the research objectives, namely properties with transactions (sold/bought) or is in the offering stage that occur with a maximum of 18 months from the valuation date. Researchers realize that it is difficult to access market data from the population of property objects studied as a whole, so the research considers limited costs and aspects of time and human resources so that research observations use the Slovin formula based on data obtained from primary and secondary data available in D.I.Yogyakarta as many as 111 observation samples of property offers and transactions.

The research data collection technique uses primary data obtained in several ways, namely telephone interviews, personal interviews directly with property owners, and secondary data accessed by desk research of the DJTR spatial plan of the Ministry of ATR BPN and access to additional information from other agencies such as MAPPI and the Central Bureau of Statistics. The data collection process is carried out by paying attention to the suitability of the data, ensuring its reasonableness and feasibility, and ensuring that it can be accounted for. According to the time dimension, the research used cross-section data totaling 111 data observation samples in DIY Province.

The research design applies the positivism paradigm with quantitative data. An analytical survey is applied to determine whether or not there is a correlation between physical property characteristics in the form of land area and building area, legal property characteristics in the form of property ownership rights, and environmental characteristics in the form of designation zones as independent variables and property market value as the dependent variable.

This study uses multiple regression analysis, the ordinary least square method, with the Eviews software analysis tool. From the function of the best regression model,

they use statistical criteria to identify linear relationship behavior using the Mac Kinnon Test and White Davidson MWD. Statistical criteria test is used to test the accuracy of the selected model in the form of an F test, t-test, and determination coefficient test (R^2). The economic criteria test is applied to compare the estimated parameter coefficients by economic theory. Classical Assumption Test to determine whether the estimation model meets the classical assumption criteria, namely using Normality, Linearity, Multicollinearity, and Heteroscedasticity Tests.

RESULT AND DISCUSSION
Result

Data acquisition in the research process amounted to 111 samples of observations of property offers and transactions scattered in the Special Region of Yogyakarta Province; the observation data paid attention to specific characteristics that were adjusted to a maximum of 18 months from the assessment date. The approach to obtaining data in the implementation is adjusted to the research planning schedule in January by adjusting the nature and sources of reliable information from the acquisition through direct information, communication tools, or written verification, which is carried out reasonably so that the information data is assumed to be correct.

The detailed observation data applied to the research is data on sale and purchase transactions and property offers from developers/agents or owners by paying attention to the specificity of the adjusted property value, including land area, building area, land ownership rights, and designation zone.

The description of the data analysis results in descriptive statistics shows an overview of the data applied in the study in detail. The descriptive statistical description contains information on the average, median, highest, and lowest values of the independent and dependent variables applied in the study as follows:

Table 1. Statistical Descriptive Data

Variable	Mean	Median	Maximum	Minimum
Property Value	1.796.649.116	1.320.000.000	10.564.680.000	231.240.000
Land Area	690	400	5102	54
Building Area	117	0	1949	0
Ownership Rights	0.86	1	1	0
Designation Zone	0.57	1	1	0

Source: primary data, processed (2024)

Based on Table 1, it is found that the property value in Yogyakarta Special Province has the highest value of IDR 10,564,680,000 with the lowest property value of IDR 231,240,000 and an average property value of IDR 1,796,649,116. These figures place the potential for a reasonably high property value gap condition electorally between districts and cities. The land and building area figures show the highest land area figure of 5102 m2 with the highest building area figure of 1949 m2, the lowest land area figure of 54 m2 with the lowest building area figure of 0 m2, and the average land area figure of 690 m2 with an average building area figure of 117 m2, the variable land and building area figures in the study indicate the existence of assets in the form of land buildings that have been developed both commercial and other designations are more dominant than assets that have not been developed. The variable of land ownership rights shows an average number of 0.86 with a median of 1, revealing that the data of the assets studied in the form of SHM in ownership rights still dominates over other ownership rights. The designation zone variable has an average number of 0.57 and a median of 1, indicating that the research assets in the service trade designation zone are still more dominant in the property market.

The selection of the best model proposed according to the formulation of statistical regression equations, in the form of a statistical criteria test approach and a Mackinnon, White & Davidson (MWD) test, revealed that the log-log model can be applied. The regression results of the function model showed a significant R-squared (R2) value of 0.68697 (68.69%), and the research regression equation is as follows:

LOGNP	=	7,829070 + 0,282960LOGLT + 0,143956LOGLB + 0,330197HK + 0.209867ZP
t-Statistic	=	(55,58901) (5,320390) (7,657179) (5,513919) (5,151977)
R-Squared	=	0,686972
Ajd R^2	=	0,675160

Description:

LOGNP	=	Property value (IDR)
LOGLT	=	Land area (m²)
LOGLB	=	Building area (m²)
HK	=	Ownership rights (SHM=1, other than SHM=0)
ZP	=	Zone designation (Service Trade Zone=1, other than ZPJ=0)

The application of the linear regression model function estimation in the study shows that the explanation of the variation of the independent variables of building land

area, ownership rights, and designation zone used on the dependent variable of property value is 68.69%.

The application of the economic criteria fulfillment test in the study to ensure the adjustment of the estimated parameter coefficients with economic theory is expected to show whether or not the test criteria pass the direction of the estimated parameter relationship to economic theory; the economic criteria estimation results are as follows:

Table 2. Economic Criteria Fulfillment Test Results

Variable	Economic Theory	Estimation Results	Description
Land Area	+/-	+	Appropriate
Building Area	+/-	+	Appropriate
Ownership Rights	+	+	Appropriate
Designation Zone	+	+	Appropriate

Source: primary data, processed (2024)

The criteria for the aspects of land and building area show conformity with economic theory; the market approach to the land area of the property area has a specific type of segment suitability so that the expected expansion of the land designation will be significant to the property's value. The building area in the market approach reveals suitability; optimizing the building area's development affects increasing the property's value. The aspect of property characteristics on ownership rights is that, based on the estimation results, the existence of property offers or transactions with conditions of ownership certificates outside property rights tends to cause a decrease in property value. The estimation results of the designation zone aspect show conformity; the property market in the service trade zone tends to cause an increase in the value of a property.

Applying the classical assumption test fulfills the statistical estimation model of normality testing to determine the normal distribution of the applied estimation model. Statistically, applying the observation sample with a distribution of more than N = 30 is considered normal. The estimation results show Normality Test-JB 2.5799 < Chi-Square of 11.1433. These results are concluded to be normally distributed.

Table 3. Normality Test Results JB

Normality Test-JB	Chi Square	Prob	Description
2,5799	11,1433	0,2753	Normally Distributed

Source: primary data, processed (2024)

To ensure that the research model applied is unbiased and consistent, it is necessary to know whether there is a relationship between the two variables, so linearity testing with the Ramsey RESET Test estimation model is applied in the study. The linearity test regression estimate shows that the applied model function is statistically linear based on the value (probability = 0.0335 > significance = 0.025).

Table 4. Ramsey Test Results

F-statistics	Prob	Significance	Description
4,6425	0,0335	0,025	linear

Source: primary data, processed (2024)

The application of independent variables in the study needs to ascertain whether there is a strong relationship or correlation between the independent variables used. The multicollinearity test estimate in the form of a correlation matrix between independent variables shows the correlation value of each variable is not more than 0.686972 ($R2$). These results reveal that the research data does not occur in multicollinearity.

The estimation results show that the VIF value of the independent variables used in the study is not more than 10 VIF, so each independent variable does not occur in multicollinearity. The results of the regression estimation of Variance Inflation factors are as follows.

Table 5. Correlation Matrix

Variable	Centered VIF < 10	Description
Land Area	1,3148	Non-Multikolinieritas
Building Area	1,3703	Non-Multikolinieritas
Ownership Rights	1,2189	Non-Multikolinieritas
Designation Zone	1,1848	Non-Multikolinieritas

Source: primary data, processed (2024)

This study ensures the inequality of variance of a residual for all observations of the linear model used; the heteroscedasticity test applies estimation. The results of the estimated value obtained Obs*R-Squared 10.22423 < than the Chi-square table of 11.1433 and the prob chi-square value (p = 0.0368 > @ 0.025) states that the research residuals are homoscedasticity accepted, the research model does not experience heteroscedasticity.

Table 6. Heteroscedasticity Result

F- statistics	Obs*R-Squared	prob Chi-square	Table Chi square
2,6885	10,22423	0,0368	11,1433

Source: primary data, processed (2024)

The results of heteroscedasticity indicate that this study is observationally a linear model free from inequality of variance of errors for all observations of each independent variable in the research model.

Test the fulfillment of statistical criteria simultaneously or simultaneously on the variables of land area, building area, ownership rights, and designation zone on property value. The study applies a confidence level of 98.5% or significant using (a) 0.025 degree of freedom (df) numerator = k-1 = 111-5 = 106, the estimated value obtained F-statistic of 58.15708 > F-table of 2.89. The research regression estimation results are as follows.

Table 7. F-Test Results

Variable	F- statistics	F-table	Description
Land Area			
Building Area			
Ownership Rights	58,15708	2,89	Significant Impact
Designation Zone			

Source: primary data, processed (2024)

The results of the F test in Table 9 reveal a simultaneous influence together on the variables of land area, building area, ownership rights, and designation zone significantly on the variable property value.

The regression estimate of the coefficient of determination in the form of R-squared (R2) on statistics with a value of 0.68697 so that the model of applying the variation of independent variables in the study on the ability to explain its effect on the dependent variable is 68.70%. The remaining value of 31.30% of the variation of the dependent variable can be determined by other independent variables that are not applied in this research model.

Test the fulfillment of statistical criteria in the study to show the accuracy of the model applied and the ability of the model to explain the formulation of research problems. First, in partial or individual testing of each independent variable (land area, building area, ownership rights, and designation zone) on the dependent variable (property value), according to the research regression results as follows.

Table 8. T-test results

Variable	Coefficient	t-Statistic	t-table	Prob,
Constanta	7.829070	55.58901	1,982	0.0000
Land Area	0.282960	5.320390	1,982	0.0000
Building Area	0.143956	7.657179	1,982	0.0000
Ownership Rights	0.330137	5.513919	1,982	0.0000
Designation Zone	0.209867	5.151977	1,982	0.0000

Source: primary data, processed (2024)

Discussion

Based on the results of the t-test in Table 2, the results reveal that the variable land area (5.3204), building area (7.6572), ownership rights (5.5139), and designation zone (5.1519) have a positive and significant effect on the property value variable. First, the practical meaning of the regression results can be understood that property value is influenced by land area significantly by a coefficient of 0.2829 so that changes in the land area there an increase or expansion of 1 m2 will affect the increase in property

value by 0.2829% the regression estimation results prove the hypothesis is accepted, namely the land area has a positive and significant effect on property value. Based on the results of empirical research and several scientific theoretical foundations, there are conjectures or temporary answers (hypotheses) developed against the background of this study, the variables of land area and building area according to research (Boterenbrood, 2023) (Oh & Shin, 2023), (Reite, 2023), (Chen et al., 2023), (Clapp & Lindenthal, 2022), (Zakaria & Fatine, 2021) mention a positive and significant effect on property value and according to (Saleh, 2022) show a negative effect of land area on property value. The script of theoretical insights on property valuation explains that the size and physical form of a property's land area are concerned with determining the convenience and economic aspects of the activities carried out on it to support its attractiveness. The effect of soil type and condition on property value can cover various aspects, including soil stability, drainage, risk of natural disasters, and the ability of the soil to support building structures. Stable soils are more desirable for development as they reduce the risk of ground movement that can damage building structures. Soils with high clay content or those in landslide-prone areas generally have lower property values. Land with good drainage capabilities will reduce the risk of flooding and waterlogging, damage property, and reduce living comfort. Properties in poorly drained areas are usually priced lower. The land use around the property also affects the value. For example, a property near an industrial or agricultural area may have a different value than a residential or commercial area property.

Second, the building area significantly has a coefficient of 0.1439 on property value; if there is an increase of 1 m2 in the building area, it will affect the increase in property value by 0.1439% with these results showing that the hypothesis is accepted, namely the building area has a positive and significant effect on property value. The characteristics of the building area are determined by various things, including the design of the building, which is adjusted to the type of use according to the tastes of property users. The mismatch of building design and taste will potentially reduce the value of a building, just as when the building design is in accordance with the use and even follows the trend of user tastes, it will increase the value of the property. Property value is calculated based on the price per square meter. The larger the building area, the higher the total property value, although the price per square meter can vary depending on the location and quality of construction. More spacious buildings often offer more functional space, such as additional bedrooms, living rooms, or workspaces. This can increase the property's appeal to potential buyers or tenants, which in turn increases the property's value. More spacious buildings provide more flexibility in interior design and layout. This can appeal to buyers looking for a home that can be customized to suit their needs and preferences. In some areas, property taxes are based on the size of the building. Larger buildings may be subject to higher taxes, which may affect buyers' and

investors' decisions. While it is common for more extensive square footage to increase property value, there are certain situations where more extensive square footage can decrease property value. Larger buildings require higher maintenance and upkeep costs, including cleaning, repairs, heating, cooling, and other utilities. Buyers may not be interested in properties that require high operational costs. In some markets, demand for huge buildings may be limited. For example, smaller and more efficient properties may be more desirable in dense urban areas. Buildings that are too large may be difficult to sell or rent out. Under certain economic conditions, buyers may prefer smaller and more affordable properties. More significant properties may be more challenging to sell or rent out when the market could be more active.

Third, the ownership rights variable significantly, with a coefficient of 0.3301, affects property value practically. An increase or improvement in the change in ownership rights to 1 certificate of ownership rights (SHM) will affect the increase in property value by 0.3301%. The regression estimation results prove that the hypothesis is accepted, namely that the ownership rights letter positively and significantly affects the property's value. Variables of property legal characteristics in the form of property ownership rights and environmental characteristics in the form of designation zones, according to the findings of research results (Hilbrandt & Dimitrakou, 2022), (Anna, 2020), (Gautier et al., 2023), mention a positive and significant influence on property value. The basic concept of property valuation's theoretical insights explains the importance of estimating the property's market value by considering the highest and best use analysis (HBU) to identify the property's most likely and possible uses and optimize profits from competitive property permitted. Title deeds are one of the most critical factors affecting property value. The type and validity of the title can provide legal security and influence the property's attractiveness to buyers or investors. A valid title provides legal security for the property owner. Without legal title, the risk of ownership disputes increases, discouraging buyers and lowering property values. Properties with legal titles that can be easily transferred to new owners are more valuable. Complicated or unclear title transfer processes can reduce a property's appeal. Properties with legal titles are more attractive to developers and investors as they reduce legal risks and ease the building and development process. Legal and clear title deeds are significant in assessing a property's value. Legal security, the type of title, the validity of the title, and the ease of the title transfer process all contribute to the property's attractiveness and market value. The issue of property rights in Yogyakarta has several unique aspects that distinguish it from other parts of Indonesia. Most of the land in Yogyakarta is Sultan Ground or Pakualaman Ground, which the Yogyakarta Palace and Pakualaman Duchy historically owned. This land is often leased to the public for a certain period rather than sold in total, with limited exceptions for public use. Many land disputes exist between the community and the Kingdom or government

over land ownership and use. These disputes are often caused by a lack of clarity regarding the legal status of the land as well as the civilian's understanding of the functional limitations of Crown or government land.

Fourth, the designation zone variable significantly, with a coefficient of 0.2098, affects property value. A change or increase in asset conditions in the form of 1 service trade designation zone will increase property value by 0.2098%. The estimation results show that the hypothesis is accepted: the designation zone has a positive and significant effect on property value. Legal aspects, in addition to permissible regulations, are related to the condition of property title and the suitability of a property's zoning designation. The Yogyakarta Regional Government applies strict zoning rules to preserve cultural and environmental characteristics. These restrictions affect property development and land use. There is an informal prohibition on selling land in certain areas to outsiders or large investors to prevent gentrification and maintain socio-economic balance. Zoning determines the types of buildings and activities allowed in an area. These restrictions can affect property values; for example, residential zones do not allow the construction of factories, so properties in these zones cannot be used for industrial purposes. Properties in zones that allow mixed-use zoning often have higher values due to the flexibility in developing land for multiple purposes, even if the application of the zone is limited to a specific area. Zoning can protect an area's environmental quality. For example, green or recreational zones increase the value of surrounding properties by offering attractive open spaces and cleaner air. Properties near dense industrial or commercial zones may face high air, noise, and traffic pollution, which can lower the value of surrounding residential properties. Properties in zones close to significant transportation infrastructure (toll roads, train stations, airports) tend to have higher values due to better accessibility. Zones with easy access to public facilities such as parks, schools, hospitals, and shopping centers usually increase the value of surrounding properties. Zoning changes can have a significant impact on property values. For example, a zone change from residential to commercial usually increases property values due to increased income potential. Zones with strict restrictions on development (such as conservation zones) may have more stable values but with limited growth potential. The certainty and stability of zoning assure investors and buyers that land use will not change drastically in the future, which can provide certainty of property value.

CONCLUSSION

The study's results summarize the findings, are precise and transparent regarding the problems that have been formulated, and answer matters related to the research objectives. It shows the existence of property characteristics simultaneously or simultaneously on the variables of land area, building area, ownership rights, and

designation zone, which significantly affect property value with a coefficient of determination of 68.69%. Partially or individually, it reveals the influence of the characteristics of land area, building area, ownership rights, and allotment zones positively and significantly on property values.

Researchers have limitations in the implementation of research, but these limitations are not an obstacle. The first limitation related to collecting property information data during the interview process is that the resource person, as the subject of observation, is not willing to provide information virtually because they want a direct physical meeting. The positive benefits should be if the researcher does not experience this, namely allowing property information in the sample to be accessed more accurately and fulfilled. The second limitation of researchers is that they are limited in time and cost so that each city district is limited to collecting sample property information data; if there is the ability of researchers to expand the research location area around such as central Java, which is adjusted to the formulation of the problem, it will increase objectivity based on the representation of broader observation data.

There are practical implications, namely the contribution of research findings to strengthening practitioners and theorists regarding the development of existing scientific theories. First, there is a need for the expansion of diverse property objects such as commercial properties as well as agriculture and plantations with more realistic property characteristics, and a large number of property valuation models need to be carried out in comparative studies in terms of efficiency and application. The second contribution of research findings is that public insight regarding the formation of a property's value or purchase and sale price needs to be provided by educating the public about property correctly so that the public applies the knowledge that property value is not only influenced by land and building area. The government is expected to make a policy on the community's property value insight education programe.

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