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# The Effect of Campus Existence on Boarding House Rental Prices: A Case Study of Universitas Muhammadiyah Yogyakarta

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**Abstract:** The establishment of the Universitas Muhammadiyah Yogyakarta (UMY) campus has acted as a catalyst for economic expansion in the local neighborhoods, particularly evident in the real estate sector, characterized by the proliferation of boarding houses. This study endeavors to comprehensively examine the impact of the presence of Universitas Muhammadiyah Yogyakarta on the rental rates of boarding houses. The research's primary objective is to make a valuable contribution to the domain of property economics, utilizing secondary data derived from online platforms specializing in boarding house listings, notably Mamikos. A dataset encompassing 200 entries was gathered from the Mamikos website, encompassing variables such as boarding house rental fees, the proximity of the boarding houses to UMY, room dimensions, available facilities, and the categorization of boarding houses based on gender. The analysis of the dataset employs a multiple regression model, applying the Ordinary Least Square (OLS) technique. The findings derived from this study underscore several significant observations. Notably, the distance between the boarding house and the UMY campus displays a significant and, negative correlation with boarding house prices. This indicates that the rental rates of boarding houses tend to be higher the closer they are situated to the UMY campus. Conversely, factors such as room size and provided facilities exhibit a positive and considerable influence on the boarding house rental rates. Additionally, the study ascertains that gender-based differentiation does not lead to a significant variance in the rental charges between male and female boarding houses. In summary, this research effectively elucidates the intricate relationship between the proximity to UMY, room dimensions, facilities, and the rental pricing of boarding houses, thereby contributing valuable insights to the realm of property economics.

**Keywords:** Boarding House; Facilities; Rental Price; UMY

**JEL Classification:** R31; R23

## Introduction

The Special Region of Yogyakarta (DIY) has earned a reputation as a premier educational hub within Indonesia. The province boasts a total of 51 higher education institutions, encompassing both public and private establishments. In 2021, the count of active students within DIY reached an impressive 266,491 individuals who were engaged in various studies. This number underwent a substantial surge of 187,509 students, constituting a notable 58% increase by 2022. Consequently, the present count stands at approximately 454,000 active students in the DIY Province. The most recent data from 2020 regarding student distribution based on their regional

origins highlights that out of the 145 thousand students present in the DIY Province, around 52 thousand hail from local regions, while the remaining 93 thousand originate from outside the province. This noteworthy discrepancy underscores the phenomenon of student migration. Intensified migration patterns inevitably generate amplified spatial needs (Ambraini et al., 2020). The resultant scarcity of space and dwindling land availability have prompted transformations in land utilization within the outskirts of Yogyakarta City. One catalyst for this transformation has been the establishment of several educational facilities aimed at accommodating the growing number of higher education institutions. Particularly intriguing for our investigation is the Universitas Muhammadiyah Yogyakarta (UMY), which stands as the largest private university in terms of student enrollment within the DIY Province. As of the 2018/2019 academic year, UMY hosted a student population of 32,518 individuals.

The UMY campus is situated in the Kasihan District of Bantul Regency, established back in 1981. The presence of this campus has engendered a reliance on local community support services. Tertiary institutions consistently exert a profound influence on their environs by necessitating the establishment of facilities that cater to various needs (Haris & Ernawati, 2013). These supportive facilities encompass temporary accommodations, dining establishments, photocopying services, healthcare provisions, and more. The vicinity surrounding the UMY campus is conspicuously vibrant, evident from the surge in student numbers as earlier noted. The heightened academic activity generates fresh avenues for supplemental income generation. This surge in economic prospects has, in turn, prompted considerable transformations in land use and the socio-economic framework of the communities neighboring the UMY campus. The expanding populace in the UMY locality has spurred a demand for more efficient space utilization, resulting in an amplified need for land resources. Campuses are often heralded as catalysts for economic progress. The establishment of a campus in a city draws students to that location, consequently augmenting the city's revenue streams (Haris & Ernawati, 2013).

Undoubtedly, the emergence of this prospect has significantly spurred local residents residing in the vicinity of the UMY campus to embark on a flurry of entrepreneurial endeavors aimed at bolstering academic undertakings. Among these initiatives, the establishment of temporary accommodations, particularly boarding houses, stands out prominently. The landscape is witnessing a burgeoning growth in the boarding house industry, with these establishments sprouting up in close proximity to the campus. Notably, students arriving from outlying regions naturally gravitate toward these boarding houses, seeking a temporary abode during their academic pursuits. The resounding demand has engendered a continuous surge in the popularity of the boarding house enterprise, particularly among landowners neighboring the UMY campus. The consistent influx of revenue, coupled with the promise of enduring profitability, has catalyzed the establishment of diverse boarding house models within the UMY campus vicinity, each marked by distinct rental pricing structures.

Several factors are purported to exert influence on the pricing of boarding houses, encompassing their proximity to the UMY campus, room dimensions, available facilities, and the gender-specific attributes of these accommodations. Notably, the distance

between a boarding house and the UMY campus stands out as a pivotal determinant, wherein shorter distances are directly associated with heightened student mobility and effectiveness. This factor stands as the most dominant consideration influencing students' boarding house preferences, as highlighted by Paruntu et al. (2021). Furthermore, distinctions among boarding houses extend to their diverse classifications and facilities. Variations in the suite of facilities provided inevitably lead to disparities in rental costs. A direct correlation can be observed, where an increased array of facilities translates into higher boarding house charges, as established by Kurniawan (2015). Likewise, the expanse of room dimensions plays a contributory role in determining rental prices, with more spacious quarters commanding higher rates. Finally, gender-specific specifications of boarding houses have an impact on their rental rates. Broadly categorized into male and female boarding houses, these distinctions encompass different rental brackets. Overall, the interplay of these factors collectively shapes the pricing dynamics of boarding houses within the UMY campus vicinity.

The objective of this study is to investigate the existence of a location-based premium, specifically focusing on whether boarding houses in close proximity to the UMY campus command higher rental rates. This research endeavor holds the potential to make a valuable contribution to the realm of property economics. It distinguishes itself by employing secondary data extracted from Mamikos, a boarding house rental platform. This platform offers insights into estimated rental prices as perceived by property owners. By utilizing a refined search approach, where the keyword "UMY" is employed within a 5-kilometer radius filter, potential distortions arising from neighboring campuses are mitigated. Notably, this study stands apart as it is the first of its kind to utilize data sourced from boarding house rental platforms to conduct a property economic analysis within the context of Indonesia. Existing similar research predominantly relies on primary data acquisition through survey questionnaires (Wickramaarachchi, 2016; Yu & Setiyaningrum, 2019; Paruntu et al., 2021).

Numerous prior studies delve into the factors underpinning rental prices of boarding houses, particularly those situated near campuses. The majority of these studies draw upon primary data collected on-site. In an international context, Feng (2019) investigates the impact of higher education institutions on housing rental prices, using Beijing as a case study. Employing a hedonic pricing model, the study assesses how independent variables influence rental price development. The findings suggest that the relationship between higher education institutions and rents exhibits variation. The presence of a campus exerts influence on the rental market, attributed to campus expansion and population growth.

Within the local context, Ambraini et al. (2020) explore the effect of the Indonesian Islamic University (UIN) campus development on nearby settlements. Employing qualitative descriptive analysis, the research draws from observations and interviews. Results demonstrate that governmental policies, UIN Campus growth, and student habitation impact settlement development around the campus. Notably, the area directly adjoining the integrated UIN campus sees the most pronounced development.

A parallel inquiry was conducted by Ramadhani (2020) concerning boarding houses around the Batanghari University Jambi vicinity. Employing the historical method, this research systematically compiles and critically evaluates historical sources. It underscores that the boarding house industry's evolution intersects with infrastructure, education, and entrepreneurship. The presence of the private tertiary institution, Batanghari University in Sungai Putri Village, catalyzed the boarding house sector's emergence. The village community features diverse economic activities including trading and entrepreneurship, fostering significant boarding house industry growth.

Meanwhile, Harris and Ernawati (2013) scrutinize the Indraprasta University (Unindra) PGRI campus's influence on Jagakarsa District's growth in South Jakarta. Combining quantitative and qualitative analyses through surveys, the study assesses the campus's impact on West Cape District's development, applying the trickling-down effect theory for qualitative assessment. Outcomes demonstrate a correlation between Unindra campus presence and the surrounding area's progress, particularly in trade activities and office services.

In a different vein, Nugraha (2019) explores students' considerations when selecting boarding houses in Mamuju, West Sulawesi. The study adopts the focus group discussion (FGD) method, supplementing it with questionnaires to triangulate data from FGD participants, all students from the 2019 Management Study Program at Mamuju Muhammadiyah College of Economics. Results unveil that security, comfort, facility completeness, rental costs, proximity to educational institutions, food and grocery sources, and public facilities drive students' choices. Among these criteria, security proves the most pivotal while the distance to public facilities carries relatively less importance.

## **Research Method**

This study focused on boarding houses located within a 5-kilometers radius of UMY to ensure a clear distinction from neighboring campuses. The integrated UMY campus, situated on Jalan Brawijaya, Geblagan, Tamantirto, Kasihan District, Bantul Regency, DIY, is promoted through the Mamikos website. The research objective pertains to the rental prices and characteristics of these boarding houses, including their proximity to the UMY campus, room dimensions, available facilities, and the differentiation between male and female boarding houses.

For this study, a quantitative research approach was adopted, utilizing secondary data of a cross-sectional nature, gathered from the Mamikos platform. Cross-sectional data involves multiple observations at a specific time point (Sugiyono, 2011). Quantitative research involves the observation and statistical analysis of samples from a particular population to test research hypotheses (Sugiyono, 2011). Notably, the sample collection occurred on March 3, 2023. The research employed purposive sampling, a technique guided by specific considerations (Sugiyono, 2011). The study's predefined criteria involved retrieving boarding house data from the Mamikos website using the keyword "UMY" within a 5 km radius.

During data collection, several factors were considered. The determination of the required sample size utilized the Slovin formula, considering a 5% margin of error (Slovin, 1960).

$$n = \frac{N}{1+Ne^2} \quad (1)$$

Where

$n$  : Number of samples

$N$ : Number of population

$e$ : Sampling error (5%)

The Mamikos website shows a total of 425 boarding houses within the vicinity of the UMY campus, all filtered by distance. Utilizing the Slovin formula mentioned earlier, the study is designed to incorporate a sample size of 200 boarding houses that align with the study's criteria. As per Sugiyono (2021), multiple regression constitutes a predictive or anticipatory framework employing interval or ratio scale data for the dependent variable, with the presence of more than one independent variable. The methodology adopted for this study involves the Ordinary Least Square (OLS) technique for multiple linear regression. OLS aims to minimize the sum of squared errors between the actual and predicted values of the dependent variable for each corresponding independent variable value (Sugiyono, 2011). By satisfying the conditions of independent variables and classical assumption tests, the OLS method emerges as the optimal choice among various regression approaches (Liza, 2017). The regression equation model embraced in this study is articulated as follows:

$$\log Y = \alpha + \beta_1 \log X_1 + \beta_2 \log X_2 + \beta_3 X_3 + \beta_4 X_4 + e \quad (2)$$

Information:

$Y$ : The price of room rental (IDR/month)

$\alpha$ : Constant

$\beta$ : Regression coefficient

$X_1$ : Distance of boarding houses from UMY (km)

$X_2$ : Room size (m<sup>2</sup>)

$X_3$ : Number of facilities (unit)

$X_4$ : Type of boarding house (male = 1, female = 0)

$e$ : Error term.

The dependent variable in this study is the natural logarithm of the boarding house rental price offered by proprietors through the Mamikos website. Incorporating natural logarithms for various variables serves the purpose of reducing data disparities, by simplifying substantial numerical values without altering the original value proportions (Gujarati, 2003). The rental price denotes the fee set by boarding house owners for potential occupants, denominated in rupiah. On the contrary, independent variables are influential factors that initiate changes in the dependent variable (Sugiyono, 2011). Within this study, several independent variables are considered. Firstly, the distance between the boarding house and the campus is measured in meters. The indicator variable gauging the distance from the UMY campus will ascertain the boarding house's valuation, whereby greater distance from the campus corresponds to diminished rental values, and

conversely. Secondly, the room sizes are assessed in square meters for each boarding house. Larger room dimensions correlate with elevated rent rates, and inversely, smaller dimensions correspond to reduced rates. Thirdly, the number of facilities represents how many units are provided by proprietors to potential tenants in each boarding house. The provision of a greater number of facilities by boarding house owners is likely to result in higher rental rates, while a lower number of facilities corresponds to lower rates. Finally, the categorization of boarding houses into male and female dormitories represents an additional independent variable. This variable assumes a dummy value approach, with a value of 1 assigned to male boarding houses and 0 designated for female boarding houses.

## Result and Discussion

The main objective of this study is to scrutinize the impact of the UMY campus's presence on the rental prices of boarding houses, employing data retrieved from the Mamikos website. The investigation centers on the rental price variable as the dependent factor, while room size, the distance between boarding houses, available facilities, and the type of boarding house (male/female) serve as the independent variables. To perform analysis, a multiple regression model has been employed using the Ordinary Least Square (OLS) technique. The outcomes of this analysis are succinctly outlined in Table 1, which encapsulates the OLS estimation findings for each individual independent variable.

**Table 1.** Results of Multiple Linear Regression Analysis

Variables	(1) Price
Log (Distance)	-0,070** (0,032)
Log (Room size)	0,357*** (0,079)
Facility	0,188*** (0,013)
Gender	-0,028 (0,044)
Constant	12,77*** (0,316)
Observations	200
R-squared	0,565

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Source: Mamikos (processed)

### The Effect of the distance of boarding house on price

The distance between the boarding house and the campus exerts a significant negative influence on the boarding house prices, displaying statistical significance at a 5% level. This observation indicates that for each 1% increase in the distance of a boarding house from the UMY campus, an average reduction of 0.07% occurs in the monthly rental price.

While the interpretation might seem somewhat intricate, a clear inference can still be drawn: as the distance from the UMY campus increases, the corresponding monthly rental price for boarding houses diminishes. The proximity of a boarding house to the campus plays a decisive role, as those in closer proximity offer enhanced accessibility.

Travel expenses represent a crucial factor in individuals' home selection process, contributing to rental value augmentation. People are often willing to pay a premium for properties located nearer to campus areas, as this curtails transportation costs. This aligns with the findings of Rahayu and Hartiningtyas (2022), who explored students' boarding house decisions within the UIN Sayyid Ali Rahmatullah Tulungagung campus vicinity. Their research underscored the significant impact of location on rental prices and students' inclination to select specific boarding houses. Hence, a boarding house's proximity to the campus reduces transportation expenditures, encouraging students to favor such accommodations. This scenario further incentivizes owners to set higher rental prices for boarding houses located in closer proximity to the campus.

#### **The Effect of room size on price**

Based on the findings presented in Table 1, it is evident that the size of the room holds a significant and positive effect at a significance level of 1%. This signifies that for every 1% increase in the size of the rooms within the boarding houses, there is an average upsurge of 0.35% in the rental rates. Though this relationship might seem intricate, it indicates that as the spaciousness of the rooms increases, there is a corresponding increase in the monthly rental costs. This finding aligns with prior investigations that have affirmed the influence of room size on both pricing dynamics and the decision-making process of prospective occupants in their choice to rent a boarding house (Owusu-Ansah, 2013; Oloke et al., 2013; Wickramaarachni, 2016; Wijoyo & Maimunah, 2019).

#### **The Effect of facilities on price**

Boarding house facilities exhibit a positive and significant effect on the pricing of boarding houses at a 1% level of significance. This underscores that for each additional unit of facility in a boarding house, there is an average increase of 18.8% in its rental price. The variable denoting the count of homestay facilities also wields a positive and significant influence on the monthly rental rates of boarding houses. In essence, as the boarding house furnishes more facilities to its occupants, the corresponding monthly rental price ascends. This observation aligns seamlessly with the findings of Rahayu and Hartiningtyas (2022), indicating that boarding houses boasting an extensive array of comprehensive facilities can distinctly sway students' decisions to rent rooms, consequently exerting an impact on the rental pricing structure. Furthermore, pivotal factors in determining the valuation of rental residences, or house pricing, encompass toilet and bathroom provisions inside the room (Oleke et al., 2013; Amenyah & Fletcher, 2013), alongside communal spaces such as kitchens, dining areas, and living rooms (Owusu-Ansah, 2013).

### The Effect of gender on price

There is no difference in rental prices between male and female boarding houses on average. This may be due to the slight difference in facilities between male and female boarding houses so that it does not really affect the rent. Hence, it can be concluded that the boarding house type is not a significant determinant when it comes to establishing rental prices within the vicinity of the UMY campus.

### Conclusion

Based on our research into how the presence of the UMY campus influences boarding house prices, we have drawn several key conclusions. Firstly, the distance between the boarding house and the UMY campus has a significant and negative effect on the monthly rental rates. In simpler terms, the farther a boarding house is from UMY, the lower its monthly rent tends to be. Secondly, the size of the boarding house rooms has a positive and significant effect on the monthly rental price. In other words, larger rooms tend to command higher monthly rents. Thirdly, the facilities offered by the boarding house also have a positive and significant influence on the monthly rental price. Each additional facility in a boarding house is linked to an increase in the monthly rental cost. Finally, our analysis revealed no statistically significant difference in monthly rent prices between male and female boarding houses. In summary, this study provides empirical evidence that can help owners of boarding house rental services in setting appropriate rental prices.

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