

Analysis of The Determinants of Income: Working Hours, Rate and Age Among GRAB Drivers in Mataram City, West Nusa Tenggara Province

Dimas Satria Wijaya¹, St. Maryam²

^{1,2}Faculty of Economic and Business, University of Mataram, Indonesia

ABSTRACT: This study aims to analyze the factors that influence the income of GRAB drivers in Mataram City. The variables studied include working hours, rate, and age. Multiple linear regression analysis is the technique chosen by the researcher after collecting data using a questionnaire instrument. Working hours, rate, and age were proven to have a positive and significant effect on income. The coefficient of determination (R^2) of 0.850120 indicates that 85% of income variation can be explained by these three independent variables. The researcher concludes that increasing working hours, rate, and age can increase the income of GRAB drivers in Mataram City.

KEYWORDS: Working Hours, Rate, Age, Income

I. INTRODUCTION

Efforts to build the economy continue to be encouraged to improve the welfare of the people by developing various economic sectors, expanding employment opportunities, and enhancing the quality of life. One important aspect of economic development is fair income distribution, where income from developing economic sectors can be enjoyed by all levels of society (Sayifullah, 2021). Successful economic development is not only reflected in the increasing gross domestic product (GDP) growth rate but also in the ability of economic sectors to distribute the results of progress evenly to the community, thereby reducing social and economic disparities (Sukmaadi & Marhaeni, 2021).

Transportation is a crucial infrastructure in economic development because everyone needs transportation to fulfill various life needs, such as working, doing business, and moving from one place to another (Saraswati et al., 2021). In addition, transportation also plays an important role in the distribution of goods to various locations, enabling the efficient distribution of goods and services. Public vehicles, such as buses, trains, and motorcycle taxis, are essential for connecting many areas, especially in densely populated cities (Surya et al., 2021). With adequate transportation infrastructure, economic activities within the community can function optimally and facilitate the mobility of residents, contributing to increased productivity and well-being (Rini et al., 2024).

Along with technological developments and the demand for more efficient transportation services, innovations such as online motorcycle taxi services have emerged. The presence of GRAB makes it easier for people to access transportation quickly through a smartphone application (Angellie, 2022). One of the companies that pioneered online motorcycle taxi services is GRAB, which not only focuses on various things such as transportation, goods delivery, and various other services. By using a digital platform, GRAB provides an easier transportation alternative to meet users' needs, making it a practical modern transportation solution amidst the hustle and bustle of the city (GRAB, 2025).

GRAB has expanded to various cities in Indonesia, including the city of Mataram. As this application becomes increasingly popular, the number of GRAB drivers in Mataram continues to grow each year (GRAB, 2022). Although this reflects positive growth for the digital economy and creates many job opportunities, it also impacts increasingly fierce competition among drivers. With the increasing number of drivers, the income earned by each driver tends to decrease. This happens because more drivers are competing to get passengers or orders, while the rate charged remain the same or even decrease. Many factors influence drivers' income, including the effect of working hours. The longer the time spent working, the higher the opportunity to earn income. The rate received by drivers is also an important factor, as a low rate will directly affect their income. In addition, the age of the driver can also influence the income earned, where younger drivers may be able to work longer hours, while older drivers may be more

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limited in terms of stamina or physical endurance. These three factors are interrelated and affect how much income an online motorcycle taxi driver can earn.

The purpose of writing this journal is to Analysis of the Determinants of Income: Working Hours, Rate and Age among GRAB Drivers in Mataram City. By analyzing these factors, it is expected to provide deeper insights into how online motorcycle taxi drivers can increase their income, as well as offer recommendations for platforms like GRAB to improve the welrate of their drivers. This study is expected to contribute to the improvement of policies related to app based transportation in Indonesia, particularly in addressing the challenges faced by online motorcycle taxi drivers in Mataram City.

II. LITERATURE REVIEW

A. Income Theory

According to Milton Friedman's theory quoted in (Mankiw, 2003), people's income is divided into several categories, including permanent income and temporary income. Permanent income refers to earnings that are consistently received over a determined and predictable period of time, such as fixed income, wages, and salaries. In contrast, temporary income is income that is unpredictable.

According to Rondonuwu & Tendur (2022), when income increases, people's purchasing power will increase, which will drive increased consumption of goods and services. People tend to allocate more spending on more diverse and high quality goods, both daily necessities and luxury items. If income decreases, people's purchasing power will decrease, so they tend to limit purchases of non essential goods. Ultimately, a decrease in income can cause people to focus on basic needs and delay or reduce consumption of less important goods. This demonstrate the significant influence of income on consumption patterns in society.

B. Working Hours

Working hours refers to the time spent carrying out work, which can be done both during the day and at night (Law Number 13 of 2003 concerning Manpower, 2003). The Central Statistics Agency states that the number of working hours in a job is the total time in hours spent working, which does not include official rest periods or time spent on activities other than work during the previous week. Busro M (2018) states that working hours are often used as a basis for determining the amount of wages paid by companies, such as wages calculated per day, per hour, per week, or per month. However, there are regulations governing maximum working time limits, the provision of rest periods, and compensation for those who exceed the stipulated working hours.

C. Rate

Rate are the costs paid by consumers based on the distance traveled per passenger per kilometer. The purpose of setting rate is to ensure optimal use of transportation services, taking into account the route or route traveled. These rate determinations relate to various economic dimensions, including operational efficiency in the provision of transportation services. Rate are the price consumers must pay for transportation services, which can be determined based on a rental agreement, bargaining, or government regulations. The cost of transportation modes is determined by the generally applied rate system, unless there are specific provisions stipulated in the rate book (Warpani, 2002).

D. Usia

Age is defined as the period elapsed since a person's birth until the present. Age is an important indicator in determining an individual's developmental stage and contributes to many areas such as education, health, social, and economic development (Seventeen et al., 2023). Age refers to the period since a person's birth and can be measured in chronological units of time. From a developmental perspective, normal humans can be identified by similar degrees of anatomical and physiological maturity (Sonang et al., 2019). Based on various definitions of age, age can be defined as the length of a person's life, calculated from birth to their last birthday. According to (Dahlan et al., 2018), in this age group, the aging process is ongoing, characterized by changes in the function of various organs such as the heart, lungs, and kidneys. In addition, degeneration also occurs in the body, including osteoporosis, disorders of the immune system that functions to fight infections, as well as an increased risk of allergies and cancer.

III. METHODOLOGY

This researcher chose to apply a descriptive and analytical design with a quantitative approach to analyze the effect of working hours, rate, and age on Grab driver income in Mataram City in 2025. This approach was chosen because it can measure the relationship between the variables studied numerically. The population of this study was all Grab drivers operating in Mataram City in 2025. Given the large number of drivers, the researcher used a purposive sampling technique based on the criteria of Grab drivers who had worked for more than one month and were actively operating in the area. A sample of 150 drivers was taken to

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ensure broad representation and valid data. Data collection was carried out using a questionnaire given to Grab drivers, consisting of closed-ended questions regarding the number of hours worked per day, rate received, driver age, and income earned.

The collected data will be analyzed using multiple linear regression to test the effect of working hours, rate, and age on online motorcycle taxi driver income. The regression model used is as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon$$

Dimana:

Y = Income

X_1 = Working Hours

X_2 = rate per kilometer

X_3 = Age

β_0 = Intercept

$\beta_1, \beta_2, \beta_3$ = Koefisien regresi

ϵ = Error term

A. Statistical Test

F Test (Simultaneous)

The requirements for the F-test (simultaneous) are as follows:

1. If the significance value is < 0.05 or H_0 is rejected and H_a is accepted, it means that the independent variable has a significant effect on the dependent variable.
2. If the significance value is > 0.05 or H_0 is accepted and H_a is rejected, it means that the independent variable does not have a significant effect on the dependent variable.

T Test (Partial)

The conditions that the partial test has are as follows:

1. If the probability (significance) is < 0.05 or the calculated t-test is $>$ the tabulated t-test, then H_0 is rejected and H_a is accepted.
2. If the probability (significance) is > 0.05 or the calculated t-test is $<$ the table t-test, then H_0 is accepted and H_a is rejected.

Coefficient of Determination (R^2)

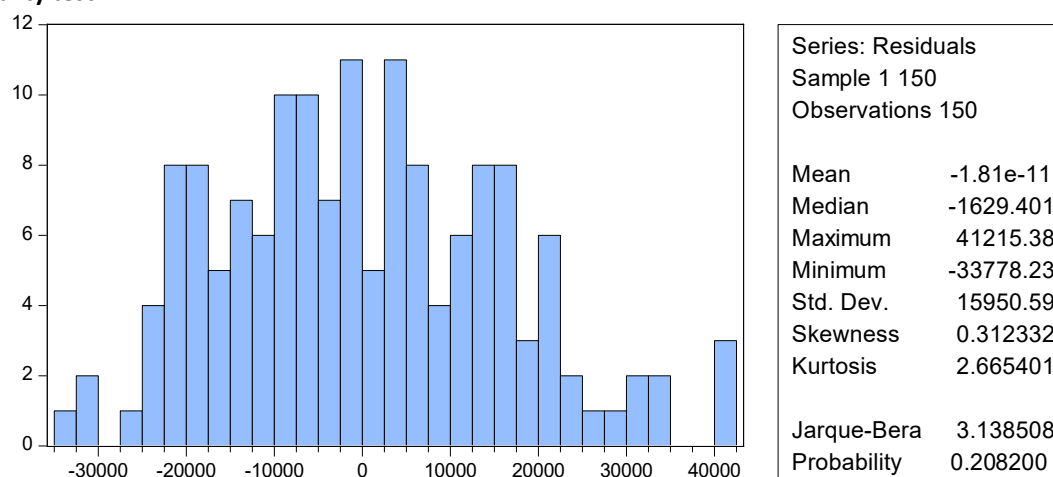
The coefficient of determination (R^2) ranges from 0 to 1. If the R^2 value is closer to 1, it indicates that the results for the regression model are good or the independent variables as a whole can explain the dependent variable. Meanwhile, if the R^2 value is closer to 0, it means that the independent variables as a whole cannot explain the dependent variable.

IV. RESULT AND DISCUSSION

A. Classical Assumption Test

Normality Test : This test aims to determine whether the regression model data is normally distributed. This test uses the JB (Jarque-Bera) statistic calculated with a 5% significance level. Data is considered normal if the JB probability value is greater than 0.05 and abnormal if the value is less. The results of the normality test can be seen in the following graph:

Table 1. Normality test



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The test results obtained a Prob. JB value of $0.208200 > 0.05$, thus concluding that the residuals are normally distributed, thus meeting the assumption of normality.

Multicollinearity Test : The multicollinearity test aims to determine whether a correlation exists between independent variables in the regression model. To determine the presence of multicollinearity in the regression model, the variance inflation factor (VIF) can be determined, provided the VIF is <10 . The results of the multicollinearity test are shown in the following table:

Table 2. Multicollinearity Test

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	54444993	31.45300	NA
X1	352142.0	23.31074	1.700558
X2	0.551826	40.29887	1.415921
X3	31831.01	22.11983	1.491151

Based on the results of the multicollinearity test, each independent variable—working hours (X_1) of 1.70058, rate (X_2) of 1.415921, and wages (X_3) of 1.491151—has a VIF <10 , thus concluding that there is no multicollinearity.

Heteroscedasticity Test: This test aims to test whether the regression model experiences unequal residual variances in each observation. If the residual variances from each observation are constant, this is called homoscedasticity, and if they are different, it is called heteroscedasticity. One way to determine whether heteroscedasticity exists in a multiple linear regression model is to use the Glejser test. This test is carried out by regressing the independent variables against the residuals of the regression model. If the probability value for each variable is greater than 0.05, it means there is no heteroscedasticity problem in the regression model, and conversely, if the probability value for each variable is less than 0.05, there is a heteroscedasticity problem. The results of the heteroscedasticity test can be seen in the table below:

Table 2. Heteroscedasticity Test

Heteroskedasticity Test: Glejser				
F-statistic	1.882047	Prob. F(3,146)	0.1352	
Obs*R-squared	5.584852	Prob. Chi-Square(3)	0.1337	
Scaled explained SS	4.965702	Prob. Chi-Square(3)	0.1743	
Test Equation:				
Dependent Variable: ARESID				
Method: Least Squares				
Date: 10/25/25 Time: 23:27				
Sample: 1 150				
Included observations: 150				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	15214.86	4171.325	3.647487	0.0004
X1	-587.1236	335.4703	-1.750151	0.0822
X2	-0.250622	0.419949	-0.596793	0.5516
X3	196.9919	100.8603	1.953116	0.0527
R-squared	0.037232	Mean dependent var	12993.61	
Adjusted R-squared	0.017449	S.D. dependent var	9189.909	
S.E. of regression	9109.376	Akaike info criterion	21.09830	
Sum squared resid	1.21E+10	Schwarz criterion	21.17858	
Log likelihood	-1578.373	Hannan-Quinn criter.	21.13092	
F-statistic	1.882047	Durbin-Watson stat	1.585967	
Prob(F-statistic)	0.135178			

Based on the results of the heteroscedasticity test using the Glejser test, the significance value for variable (X_1) is 0.08222, for variable (X_2) is 0.5516, and for variable (X_3) is 0.0527. Because the significance values for all four variables are greater than 0.05, it can be concluded that there are no symptoms of heteroscedasticity.

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B. Multiple Linear Regression Test

Multiple linear regression analysis is a method used to model the relationship between multiple independent variables and one dependent variable. The results of the data processing can be seen in the following table:

Tabel 4. Multiple Linear Regression Test

Dependent Variable: Y				
Method: Least Squares				
Date: 10/25/25 Time: 23:16				
Sample: 1 150				
Included observations: 150				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-56407.24	7378.685	-7.644620	0.0000
X1	6491.168	593.4156	10.93866	0.0000
X2	9.422391	0.742850	12.68411	0.0000
X3	752.3103	178.4125	4.216691	0.0000
R-squared	0.850120	Mean dependent var	139753.3	
Adjusted R-squared	0.847040	S.D. dependent var	41200.76	
S.E. of regression	16113.64	Akaike info criterion	22.23902	
Sum squared resid	3.79E+10	Schwarz criterion	22.31931	
Log likelihood	-1663.927	Hannan-Quinn criter.	22.27164	
F-statistic	276.0379	Durbin-Watson stat	1.356883	
Prob(F-statistic)	0.000000			

$$Y = -56407.2432732 + 6491.16822075 \cdot X_1 + 9.42239132127 \cdot X_2 + 752.310302325 \cdot X_3$$

Description:

Y = Income X_1 = Working Hours X_2 = Rate X_3 = Age

Berdasarkan hasil persamaan regresi linier berganda di atas, dapat dijelaskan bahwa:

1. The constant value is negative, at -56407.243, indicating a one-way relationship between the dependent and independent variables. This means that if all independent variables, namely working hours (X_1), rate (X_2), and age (X_3), have a value of 0 or remain unchanged, the value of the dependent variable, namely income (Y), is -56407.243.
2. The coefficient value of the working hours variable (X_1) is positive, at 6491.168. This indicates that there is a one-way relationship between the working hours variable (X_1) and the income variable (Y). This indicates that if the working hours variable increases by one unit, the income level will increase by 6491.168, assuming the values of other variables are held constant.
3. The coefficient value of the Rate variable (X_2) has a positive value of 9.422, which explains that the tariff variable (X_2) and the income variable (Y) have a positive relationship. This shows that, if the Rate variable increases by one unit, the income level will have an increase of 9.422, assuming the value of other variables is considered constant.
4. The coefficient value of the age variable (X_3) is positive, at 752.310. This indicates that there is a one-way relationship between age (X_3) and income (Y). This indicates that, if the age variable increases by one unit, the income level will increase by 752,310, assuming the values of other variables are held constant.

C. Statistical Test

F test (Simultaneous): The F test is used to determine whether the independent variables simultaneously influence the dependent variable. The results of the F test can be seen in the following table:

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Tabel 5. F test (Simultaneous)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-56407.24	7378.685	-7.644620	0.0000
X1	6491.168	593.4156	10.93866	0.0000
X2	9.422391	0.742850	12.68411	0.0000
X3	752.3103	178.4125	4.216691	0.0000
R-squared	0.850120	Mean dependent var	139753.3	
Adjusted R-squared	0.847040	S.D. dependent var	41200.76	
S.E. of regression	16113.64	Akaike info criterion	22.23902	
Sum squared resid	3.79E+10	Schwarz criterion	22.31931	
Log likelihood	-1663.927	Hannan-Quinn criter.	22.27164	
F-statistic	276.0379	Durbin-Watson stat	1.356883	
Prob(F-statistic)	0.000000			

Based on the results above, the calculated F-value is 276.0379, with a significance level of 0.00000, meaning the significance level is below 0.05 ($0.0000 < 0.05$). This indicates that the hypothesis in this study accepts H_a and rejects H_0 . Therefore, it can be concluded that the variables of working hours, rate, and age simultaneously influence GRAB Driver income in Mataram City.

T test (Partial) : The partial T-test is used to determine whether the independent variables in a regression model have a significant effect individually on the dependent variable. The results of the t-test can be seen in the following table:

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-56407.24	7378.685	-7.644620	0.0000
X1	6491.168	593.4156	10.93866	0.0000
X2	9.422391	0.742850	12.68411	0.0000
X3	752.3103	178.4125	4.216691	0.0000
R-squared	0.850120	Mean dependent var	139753.3	
Adjusted R-squared	0.847040	S.D. dependent var	41200.76	
S.E. of regression	16113.64	Akaike info criterion	22.23902	
Sum squared resid	3.79E+10	Schwarz criterion	22.31931	
Log likelihood	-1663.927	Hannan-Quinn criter.	22.27164	
F-statistic	276.0379	Durbin-Watson stat	1.356883	
Prob(F-statistic)	0.000000			

The results of the Partial T-test above can be explained as follows:

1. The effect of working hours (X_1) on income (Y). The partial t-test result for the working hours variable has a significant value of 10.93866, or greater than 0.05 ($10.93866 > 0.05$). Therefore, it can be concluded that the working hours variable does not significantly influence GRAB Driver income in Mataram City.
2. The effect of rate (X_2) on income (Y). The partial t-test results for the rate variable showed a significant value of 12.68411, or greater than 0.05 ($12.68411 > 0.05$). Therefore, it can be concluded that the rate variable does not significantly influence GRAB Driver income in Mataram City.
3. The effect of age (X_3) on income (Y). The partial t-test for the wage variable showed a significant value of 4.216691, or greater than 0.05 ($4.216691 > 0.05$). Therefore, it can be concluded that the income variable does not significantly influence the income of GRAB drivers in Mataram City.

Coefficient of Determination (R^2): The coefficient of determination (R^2) test is used to determine the extent of influence of the independent variable on the dependent variable.

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Tabel 7. Coefficient of Determination (R^2) Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-56407.24	7378.685	-7.644620	0.0000
X1	6491.168	593.4156	10.93866	0.0000
X2	9.422391	0.742850	12.68411	0.0000
X3	752.3103	178.4125	4.216691	0.0000
R-squared	0.850120	Mean dependent var	139753.3	
Adjusted R-squared	0.847040	S.D. dependent var	41200.76	
S.E. of regression	16113.64	Akaike info criterion	22.23902	
Sum squared resid	3.79E+10	Schwarz criterion	22.31931	
Log likelihood	-1663.927	Hannan-Quinn criter.	22.27164	
F-statistic	276.0379	Durbin-Watson stat	1.356883	
Prob(F-statistic)	0.000000			

Based on the results of the coefficient of determination (R^2) test, the R-Square value is 0.850120, meaning that the variables of working hours, rate, and age together influence income by 85%, while the remaining 15% is influenced by other factors not examined.

D. Discussion

The effect of working hours (X_1) on income (Y): Based on data analysis, the regression coefficient for the working hours variable is 6491.168 with a significance level of $6491.168 > 0.05$. This indicates that working hours have a positive and significant effect on the income of GRAB drivers in Mataram City. This means that a one-hour increase in working hours will increase the income of GRAB drivers in Mataram City by 6491.168. The results of this study are consistent with research by Nursyamsu et al., 2020; Sinaga et al., 2024.

Effect of Rate (X_2) on Income (Y): Based on data analysis, the regression coefficient for the rate variable is 9.422 with a significance level of $9.422 > 0.05$. This indicates that the rate has a positive and significant effect on the income of GRAB drivers in Mataram City. This means that a one-unit increase in the rate will increase the income of GRAB drivers in Mataram City by 9.422. This finding aligns with research by (Ar Rizqi et al., 2024; Marthen Rohi Riwu et al., 2025).

Effect of Age (X_3) on Income (Y): Based on data analysis, the regression coefficient for the age variable is 752.3103 with a significance level of $752.3103 < 0.05$. This indicates that age has a positive and significant effect on the income of GRAB drivers in Mataram City. This means that a one-unit increase in age will increase the income of GRAB drivers in Mataram City by 752.3103. The studies that have been conducted are in line with the research results by (Fahrudin et al., 2023; Saputra, 2021).

V. CONCLUSIONS

Based on the research results and discussion regarding the influence of working hours, rate type, and age on the income of GRAB drivers in Mataram City, the following conclusions can be drawn:

1. Working hours, rate type, and age partially have a positive and significant influence on the income of GRAB drivers in Mataram City.
2. Working hours, rate type, and age simultaneously have a significant influence on the income of GRAB drivers in Mataram City.

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