

The Influence of Tourist Arrivals, Regional Original Revenue, Foreign Direct Investment, and Domestic Investment on Gross Regional Domestic Product in the Special Region of Yogyakarta Province

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Abstract. The success of regional development can be assessed through economic growth as reflected in Gross Regional Domestic Product (GRDP). The Special Region of Yogyakarta has an economic structure dominated by the tourism sector; therefore, tourist arrivals, Regional Original Revenue (ROR), and investment consisting of Foreign Direct Investment (FDI) and Domestic Direct Investment (DDI) are important factors in driving economic growth. Fluctuations in tourist arrivals and investment indicate instability in their contribution to the regional economy. This study aims to analyze the effect of tourist arrivals, ROR, FDI, and DDI on GRDP in the Special Region of Yogyakarta. The method used is multiple linear regression with time-series data for the period 2014–2024 sourced from the Central Statistics Agency. The results show that all variables simultaneously affect GRDP. Partially, tourist arrivals and ROR have a positive and significant effect, while FDI and DDI do not show a significant effect.

Keywords: tourist arrivals, ROR, FDI, DDI, GRDP

I. Introduction

Regional economic development is an important indicator used to assess the level of progress and welfare in a region, which is commonly reflected in the growth of Gross Regional Domestic Product (GRDP). GRDP represents the total value of goods and services produced within a region over a certain period, making it a key measure of economic performance. A higher GRDP growth rate generally indicates better economic conditions, increased productivity, and improved living standards for the population. Therefore, understanding the factors that influence GRDP is essential for formulating effective development policies at the regional level.

The Special Region of Yogyakarta is widely recognized as one of Indonesia's main tourism destinations, supported by its rich cultural heritage, educational institutions, and natural attractions. Tourism plays a significant role in supporting the region's economic performance. An increase in tourist arrivals leads to higher demand for goods and services such as accommodation, food and beverages, transportation, and local products. This creates a multiplier effect, where economic benefits spread across various sectors including hospitality, trade, and creative industries. As a result, tourism not only contributes directly to regional income but also supports job creation and business development, particularly for small and medium enterprises.

In addition to tourism, Regional Original Revenue (ROR) is another important factor in regional economic development. ROR reflects the financial capacity and independence of local governments in generating revenue from their own sources, such as local taxes, retributions, and profits from regionally owned enterprises. Higher ROR allows local governments to allocate more resources toward infrastructure development, public services, and social programs. Improved infrastructure, such as roads, transportation systems, and public facilities, can increase economic efficiency and attract more economic activities, which in turn contribute to GRDP growth.

Investment also plays a crucial role in driving regional economic growth. Both Foreign Direct Investment (FDI) and Domestic Direct Investment (DDI) contribute to increasing capital formation, expanding production capacity, and introducing new technologies. These factors can enhance productivity and create employment opportunities. However, the contribution of investment to economic growth often depends on the type of investment, the sectors targeted, and the time required for project realization. Some investments may generate immediate economic effects, while others require a longer period before their impact can be observed.

Despite the important roles of tourism, ROR, and investment, fluctuations in tourist arrivals and investment realization indicate that their contributions to GRDP are not always stable. Changes in external conditions, policy implementation, and economic dynamics can influence these variables and their impact on regional economic performance. Therefore, it is necessary to conduct further analysis to better understand these relationships. This study aims to analyze the influence of tourist arrivals, ROR, FDI, and

DDI on GRDP in the Special Region of Yogyakarta, in order to provide insights for improving regional economic development strategies.

II. Literature Review

Economic growth theory explains that an increase in output is driven by the accumulation of capital, labor expansion, and technological progress (Mankiw, 2019). Capital accumulation includes investment in physical assets such as infrastructure, machinery, and production facilities, which enhance productive capacity. Labor contributes through both quantity and quality, meaning that a larger and more skilled workforce can generate higher output. Meanwhile, technological advancement improves efficiency, allowing the same amount of inputs to produce greater results. In regional economic analysis, Gross Regional Domestic Product (GRDP) is commonly used as an indicator to measure economic performance, as it reflects the total value of goods and services produced within a specific region over a certain period.

Tourism is considered one of the key drivers of regional economic growth. An increase in tourist arrivals leads to higher demand for accommodation, transportation, food services, and local products. This demand stimulates business activities and encourages the growth of small and medium enterprises. Additionally, tourism creates employment opportunities, both directly in the tourism sector and indirectly in supporting industries. According to Brida et al. (2016), regions with a well-developed tourism sector tend to experience more stable and sustainable economic growth because tourism generates continuous economic circulation within the region.

Regional Original Revenue (ROR) reflects the financial capacity and independence of regional governments. A higher level of ROR indicates that a region is less dependent on central government transfers and has greater flexibility in managing its budget. This financial strength allows local governments to invest in infrastructure development, improve public services, and support economic activities. For example, better roads, transportation systems, and public facilities can enhance productivity and attract more investment. As explained by Sukirno (2016), strong fiscal capacity plays an important role in accelerating regional economic development.

Investment, including Foreign Direct Investment (FDI) and Domestic Direct Investment (DDI), is another important factor influencing economic growth. Investment increases the stock of capital, introduces new technologies, and improves managerial practices. These contributions can enhance productivity and expand production capacity. However, the impact of investment is not always immediate. The effectiveness of investment depends on the sectors in which it is allocated, the scale of the projects, and the time required for implementation. For instance, investments in infrastructure or manufacturing may take longer to generate output compared to investments in trade or services. Todaro and Smith (2020) highlight that the long-term benefits of investment are closely related to how efficiently resources are utilized.

Based on these theoretical perspectives, tourist arrivals and ROR are expected to have a direct and positive influence on GRDP, as both variables are closely linked to ongoing economic activities and government capacity. On the other hand, FDI and DDI may show different effects depending on how and where the investments are implemented, as well as the time needed for these investments to contribute to economic output. However, previous studies show mixed results regarding the impact of investment on regional economic growth, indicating the need for further empirical analysis, particularly in regions with strong tourism-based economic structures such as Yogyakarta

III. Research Method

This study applies a quantitative research approach to analyze the relationship between tourist arrivals, Regional Original Revenue (ROR), Foreign Direct Investment (FDI), and Domestic Direct Investment (DDI) on Gross Regional Domestic Product (GRDP) in the Special Region of Yogyakarta. The quantitative approach is used because this study focuses on measuring the influence between variables using numerical data and statistical analysis. The data used in this study are secondary data obtained from the Central Statistics Agency. The data are in the form of time-series data covering the period from 2014 to 2024. The unit of analysis is the regional economy of the Special Region of Yogyakarta. The dependent variable in this study is GRDP, which reflects regional economic performance. The independent variables consist of tourist arrivals, ROR, FDI, and DDI. Tourist arrivals are measured by the number of visitors, ROR is measured in regional revenue value, while FDI and DDI are measured based on realized investment value.

The empirical model used in this study is multiple linear regression to examine the effect of independent variables on the dependent variable. The regression model is formulated as follows:

$$GRDP = \beta_0 + \beta_1 \text{Tourist} + \beta_2 \text{ROR} + \beta_3 \text{FDI} + \beta_4 \text{DDI} + \varepsilon$$

The data analysis technique is carried out using regression analysis to identify both simultaneous and partial effects. The simultaneous effect is tested using the F-test, while the partial effect is tested using the t-test. In addition, the coefficient of determination (R^2) is used to measure how well the independent variables explain variations in GRDP.

IV. Results and Discussion

Table 1. Multiple Linear Regression Result

Variable	Coefficient	t-Statistic	Prob
C	102345.67	3.596	0.011
Tourist	0.002145	3.279	0.016
ROR	5.874321	2.738	0.029
FDI	0.000012	0.667	0.527
DDI	-0.000004	-0.733	0.487

Source: EViews 13 Output

The regression results show that tourist arrivals and ROR have positive coefficients, indicating that increases in these variables are followed by increases in GRDP. The probability values for tourist arrivals (0.016) and ROR (0.029) are below 0.05, meaning both variables have a significant effect. Meanwhile, FDI and DDI have probability values above 0.05, indicating that they do not have a significant effect on GRDP in this model, although DDI shows a negative coefficient direction.

Table 2. T-test (Partial Test)

Variable	t-Statistic	Prob.	Description
Tourist	3.279	0.016	Signifikan
ROR	2.738	0.029	Signifikan
FDI	0.667	0.527	Tidak Signifikan
DDI	-0.733	0.487	Tidak Signifikan

Source: EViews 13 Output

The partial test results indicate that only tourist arrivals and ROR have a significant effect on GRDP, as their probability values are below the 5% significance level. This means changes in these variables are directly associated with changes in GRDP. In contrast, FDI and DDI do not show a significant effect because their probability values exceed 0.05, suggesting their contribution to GRDP is not directly observed.

Table 3. F-test (Simultaneous Test)

Description	Value
F-statistic	27.85
Prob(F-statistic)	0.0003

Source: EViews 13 Output

The simultaneous test shows that the probability value of the F-statistic is 0.0003, which is lower than the significance level of 0.05. This indicates that all independent variables tourist arrivals, ROR, FDI, and DDI jointly have a significant effect on GRDP. In other words, although not all variables are individually significant, their combined influence is meaningful in explaining variations in GRDP. This result also suggests that the regression model as a whole is appropriate for analyzing the relationship between the selected variables and regional economic performance during the study period.

Table 4. Coefficient of Determination

Description	Value
R-squared	0.947
Adjusted R-squared	0.912

Source: EViews 13 Output

The R-squared value of 0.947 indicates that the model explains 94.7% of the variation in GRDP, while the remaining 5.3% is influenced by other factors outside the model. The adjusted R-squared value of 0.912 shows that after adjusting for the number of variables, the model still has strong explanatory power, indicating that the regression model used is reliable.

The development of tourist arrivals in the Special Region of Yogyakarta shows a consistent upward trend over the observed period. The number of tourists increased from 3,346,180 in 2014 to 8,090,875 in 2024, and this increase is followed by the growth of GRDP from 79,536 to 124,590. The regression results indicate that tourist arrivals have a probability value of 0.016, which confirms a significant effect on GRDP. This indicates that the increase in tourist activity is closely associated with higher regional economic output.

A clear change occurred in 2020 when tourist arrivals dropped sharply to 1,848,548, compared to 6,549,381 in 2019. In the same period, GRDP was recorded at 101,699, which is lower than the previous growth trend. This condition shows that the decline in tourism activity directly affected economic performance. After that, tourist arrivals increased again to 4,294,725 in 2021, then 6,474,115 in 2022, and reached 8,090,875 in 2024, followed by a steady increase in GRDP. This pattern further strengthens the evidence that tourist arrivals have a close relationship with regional economic growth.

Regional Original Revenue (ROR) also shows a similar pattern. ROR increased from 1,464.6 in 2014 to 2,481.51 in 2024, along with the growth of GRDP. The regression results show a probability value of 0.029, indicating that ROR has a significant effect on GRDP. This reflects that higher regional revenue contributes to economic development through government spending, infrastructure development, and the provision of public services.

On the other hand, Foreign Direct Investment (FDI) and Domestic Direct Investment (DDI) do not show a consistent relationship with GRDP. For example, DDI reached 6,131,714 in 2018 and 6,298,839 in 2019, but GRDP increased gradually without a sharp rise. Similarly, FDI peaked at 1,634,364 in 2022, but GRDP followed a steady trend. The regression results confirm this condition, where FDI has a probability value of 0.527 and DDI 0.487, indicating no significant effect. This suggests that investment has not yet provided a direct contribution to economic output during the study period.

In addition, the coefficient of determination shows that the model has strong explanatory power. The R-squared value of 0.947 indicates that 94.7% of the variation in GRDP can be explained by tourist arrivals, ROR, FDI, and DDI. Meanwhile, the adjusted R-squared value of 0.912 confirms that the model remains reliable after considering the number of variables used. This result strengthens the overall findings, showing that the selected variables collectively provide a strong explanation of regional economic performance. These findings indicate that the economic structure of the Special Region of Yogyakarta is highly dependent on the tourism sector, making tourism a key driver of regional economic growth.

However, the findings of this study also highlight that the role of investment in influencing GRDP is not as strong as commonly expected in economic theory. While investment is generally considered a key driver of economic growth, the results of this study show that FDI and DDI do not have a significant effect within the observed period. This indicates that the impact of investment may depend on factors such as sector allocation, implementation effectiveness, and the time lag required for investment to generate economic output.

From a policy perspective, these findings suggest that strengthening the tourism sector and optimizing ROR should remain key priorities for regional development. At the same time, improving the quality and direction of investment is necessary to ensure that FDI and DDI can contribute more effectively to economic

growth. Better coordination between government policies and investment strategies is needed so that investment can be more aligned with the region's economic structure and development goals.

V. Conclusion

This study concludes that tourist arrivals and Regional Original Revenue (ROR) have a significant influence on Gross Regional Domestic Product (GRDP) in the Special Region of Yogyakarta, while Foreign Direct Investment (FDI) and Domestic Direct Investment (DDI) do not show a significant effect. The findings indicate that tourism activity and regional fiscal capacity are the main factors driving economic growth in the region. These results are supported by both statistical analysis and observed data trends, where increases in tourist arrivals and ROR are consistently followed by increases in GRDP.

The novelty of this study lies in integrating tourism, fiscal capacity, and investment variables within a single empirical model using recent time-series data from 2014 to 2024. This study provides a clearer understanding of how different economic factors interact in a region that relies heavily on tourism. It also highlights that not all commonly assumed growth factors, such as investment, have an immediate or direct impact on regional output.

The implications of this study suggest that local governments should prioritize strengthening the tourism sector and optimizing ROR as key strategies to support economic growth. At the same time, efforts are needed to improve the effectiveness of investment allocation so that FDI and DDI can contribute more significantly to regional economic performance in the future.

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