

Factors Affecting GRDP in Central Java: The Role of Zakat as A Moderating Variable

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Abstract

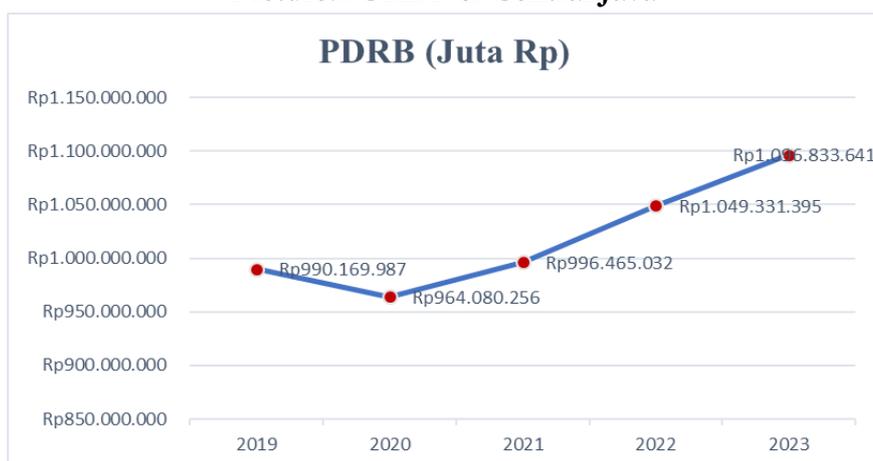
This study examines the effect of education level, number of workers, and government expenditure on GRDP with Zakat as a moderating variable in Central Java from 2019 to 2023. The data analysis method used is panel data regression with moderating variables (MRA test). Based on the model selection results, the chosen model is FEM. The analysis results indicate that Education Level has a significant negative effect on GRDP, then the Number of Workers has a significant positive impact on GRDP and Government Expenditure has a positive insignificant effect. Then the zakat variable can moderate the Education Level of GRDP, but then zakat is unable to moderate the Number of Workers and Government Expenditure on GRDP in Central Java.

Keywords: Education, Labor, Government Expenditure, GRDP, Zakat

INTRODUCTION

GRDP is the amount of added value that can be realized by all business units in the region or the total value of all goods and services realized by all economic sectors in a region. The higher the GRDP, the higher the economic growth. Indonesia is a developing country that is trying to build in a planned and gradual manner without ignoring equality and stability (Putri, 2020). The goal of national development is to achieve high economic growth, which will ultimately enable an increase in the standard of living and welfare of the entire community (Amdan & Sanjani, 2023).

Picture.1 GRDP of Central Java



Source: BPS data processed 2024

GRDP growth is closely related to human resources, this relationship shows that quality human resources can create a healthy and conducive business climate to encourage economic growth. With education, people will gain insight, expertise, abilities, and provisions for work. Education can be seen from the highest diploma/STTB held (Fahlewi et al., 2020).

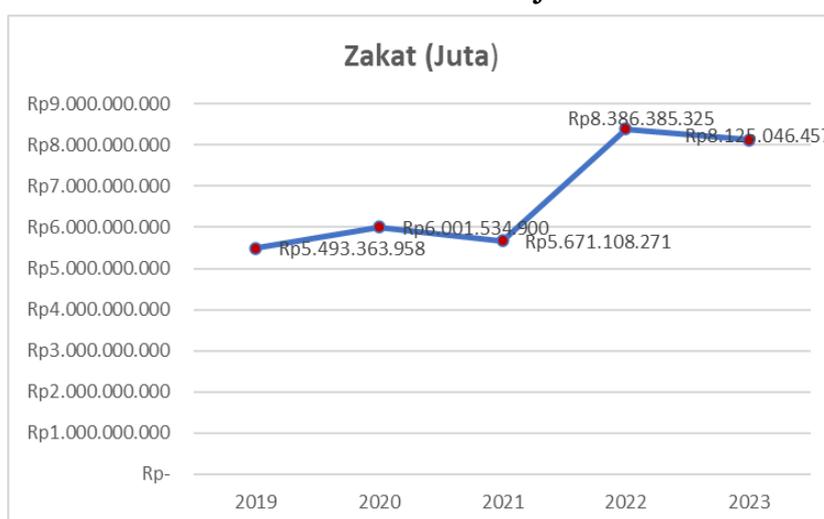
The average number of educators in Central Java who have diplomas from high school to college in the 2019-2023 period has increased from year to year. However, during that period the average was still at 30%, and in 2022 and 2023 it stagnated at an average of 34%.

In national development, labor, both as consumers and as productive labor, plays an vital role in determining the rate of economic growth. Compared to other means of production such as raw materials, land, water, and so on, labor is an important component in the production process because humans are the ones who move or operate all these resources to produce valuable goods, which will have an impact on the amount of GRDP (Susanto, 2012). Data shows that labor productivity in Central Java in 2019-2020 during the COVID-19 pandemic decreased by 65,982 people from the previous year because many were laid off. After Covid, the 2021-2023 period has increased every year. The highest number of workers in 2023 was 19,988,875 people.

Government spending is a key component of fiscal policy used to regulate the economy to regulate the course of the economy. This is determined annually in the State Budget (APBN) at the national level and the Regional Budget (APBD) at the regional level (Lova, 2022). The is designed to meet the needs of the community by considering the potential diversity of different regions so that it can increase the GRDP in a region. According to the data, the average government expenditure in the 2019-2023 period is stable at 2 billion.

Moderating variable Zakat is thought to have a role in explaining the influence of independent variables on dependent variables. In a study conducted by (Purwanti, 2020). It was found that the zakat that was successfully collected had a positive effect on Indonesia's economic growth. Every 1 billion rupiah increase in zakat collected will increase economic growth by 0.12%. Based on data from BPS, as shown in the following graph:

Picture.2 Zakat of Central Java



Source: BAZNAS data processed 2024

The graph shows that Central Java has high Zakat potential. Supported by data from Baznas showing that the average distribution of zakat in 2019-2021 was 5 billion and in 2022-

2023 the average distribution of zakat increased to 8 billion. So it is hoped that zakat that is collected properly can increase Indonesia's economic growth.

RESEARCH METHODS

This study is a quantitative study using secondary data based on regional and time span called panel data. Data analysis techniques use regression tests, hypothesis tests, and MRA tests to test moderating variables. This study uses data from regencies/cities in Central Java Province, 29 regencies and 6 cities. The total observation is 5 years x 35 regencies/cities = 175 data obtained from related institutions such as BPS (The Central Statistics Agency) and BAZNAS.

RESULTS AND DISCUSSION

Understanding and basics of GRDP

GRDP is used to determine the economic conditions of a region within a certain period of time. GRDP is the sum of the added value generated by all business units in a particular region, or the sum of the value of final goods and services produced by all economic units in a particular region. (BPS Central Java Province, 2022) . GRDP can be calculated using two approaches, namely: 1) Production approach, which calculates the added goods and services created by all economic activities by calculating the difference between the gross production value of each industry and the costs used to produce the goods or services. 2) Income approach, which is to add up income from various production factors that contribute to the production process in one period.

Labor

Labor is one of the important factors in determining economic growth. Labor is the working age population aged 15-64 years who can produce goods or services when there is a demand for labor and are willing to carry out production activities. According to Law Number 25 of 1997 concerning Manpower, labor is anyone who does or will do work aimed at producing goods or services, both in employment relationships and outside employment relationships (BPS Central Java Province, 2024)

The Central Statistics Agency (BPS) defines the concept of workforce as divided into two, namely: 1) The workforce consists of residents who are already working and those who are unemployed or looking for work. The workforce is also defined as workers who are truly involved or trying to be involved in productive activities such as making goods or services within a certain period of time (Noor et al., 2016). 2) Not the workforce, namely those who are still in school, taking care of the household, retirees, and others. Labor has a role as one of the main capital implementing development which can realize the welfare of all Indonesian society, including the workers themselves.

Government spending

The budget given to a sector shows that the government is committed to solving problems in that sector. As a form of fiscal policy, the central government stipulates the State Budget Law (UU-APBN) every year as the government's right and commitment to carry out development (Mongan, 2019). The regional government stipulates the Regional Budget Regulation (APBD) every year in accordance with the development policies of each region.

This is in accordance with the principle of regional autonomy that has been implemented since Law Number 22 of 1999 concerning Regional Government.

The classification of government spending according to its function is divided into nine functions: Order and security function, Economy, Environment, Housing and public facilities, Health, Tourism, Education, and Social protection. (Ariansyah, 2018)

Zakat

Zakat can be used as a form of capital for small businesses, so it has a very large influence on various aspects of people's lives, one of which is the influence on the economic sector. Another influence of zakat is to make income distributed fairly among the Muslim community. In other words, professional and productive management of zakat can help the economy of weak communities and help the government in improving the country's economy. Zakat is considered an instrument to overcome various economic problems (Muhammad & Ridwan Mas'ud, 2005) .

In the macroeconomic scope, problems such as economic growth, inflation, unemployment, and poverty are considered to be able to be overcome by optimizing the role of zakat. Among these missions according to (Muhammad & Ridwan Mas'ud, 2005) :

- a. The mission of economic and business development is guided by common and universal economic and business measures.
- b. The mission of implementing business ethics and law
- c. The mission is to build economic strength for Islam so that it becomes a source of funds to support Islamic preaching.

Classical Economic Growth Theory

This theory gained popularity in the 19th and 20th centuries and one of the famous figures of this theory was Robert M. Solow (1956). Solow's economic growth model considers the elements of labor force growth, capital stock, and technological progress (Exogenous) high and low eco-development that interact in the economy. (Meiriza et al., 2023) . Short-term economic growth can be achieved by improving efficiency in the use of capital and labor inputs. While long-term economic growth is influenced by the accumulation of capital which is the main key to achieving an optimal and stable growth path (Nurwanda & Rifai, 2018). Solow's economic growth model explains the importance of the role of capital in the rate of economic growth per worker. Technological progress in the Solow model is set to explain long-term economic growth. The high and low growth of this technology by Solow and other theorists is assumed to be exogenous or not influenced by other factors (Mayasari & Mahinshapuri, 2022).

Table 1. Hypothesis Testing

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	10.96086	0.804348	13.62701	0.0000
LNX1	-0.630313	0.296387	-2.126654	0.0360
LNX2	0.535503	0.248330	2.156415	0.0335
LNX3	0.036371	0.177215	0.205235	0.8378
LNX1Z	0.031848	0.013797	2.308279	0.0231
LNX2Z	-0.003926	0.011198	-0.350612	0.7266
LNX3Z	-0.002476	0.008126	-0.304744	0.7612
Y(-1)	1.02E-08	2.39E-09	4.261902	0.0000
R-squared	0.997463 Mean dependent variable			16.96374
Adjusted R-squared	0.996401 SD dependent var			0.623511
SE of regression	0.037406 Akaike information criterion			-3.490648
Sum squared residual	0.137122 Black criterion			-2.608155
Log-likelihood	286.3453 Hannan-Quinn critter.			-3.132029
F-statistic	939.5803 Durbin-Watson stat			1.807159
Prob(F-statistic)	0.000000			

Source: processed with eviews 12

Effect of Education Level on GRDP

From the panel data regression test, the coefficient value of the education level variable is -0.630313 with a probability value of 0.0360 which indicates <0.05 . So it can be concluded that H1 is rejected, meaning that the Education Level variable has a significant negative effect. In theory, in the Solow model of economic growth, education is considered as part of improving the quality and productivity of the workforce. However, in this theory, the effect of education level will be limited if it is not balanced with technological advances. This means that if the government focuses on improving education, this research is supported by Fahlewi et al (2020) and Cahyono & Saraswati (2014) who say that the Education Level variable has a negative and significant effect on GRDP.

The Influence of the Number of Workers on GRDP

From the panel data regression test, the coefficient value of the Number of Workers variable is 0.535503 with a probability value of 0.0335 which indicates <0.05 . So it can be concluded that H2 is accepted, meaning that the Number of Workers variable has a positive and significant effect on GRDP. Indeed in the theory used in this study, the increase in the number of workers and the quality of the workforce will affect the output of the economy. This means that the greater the number of workers, the greater the production of goods and services, the effect of which is to increase GRDP. This research is supported by (Novita Panelewen et al., 2020).

Effect of Government Spending on GRDP

From the panel data regression test, the coefficient value of the Government Expenditure variable is 0.036371 with a probability value of 0.8378 which indicates > 0.05 . So it can be concluded that H3 is rejected, meaning that the Government Expenditure variable has an insignificant positive effect on GRDP. This insignificant result could be due to the limited research period. Basically, capital stock is a very important factor in development and supports increased economic activity. Government spending is something that every decision on its use must be appropriate. Research in line with Mahzalena & Juliansyah (2019) and Hakib (2019) concluded that government spending has an insignificant positive effect on GRDP.

Table 2. MRA Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	10.96086	0.804348	13.62701	0.0000
LN _{X1}	-0.630313	0.296387	-2.126654	0.0360
LN _{X2}	0.535503	0.248330	2.156415	0.0335
LN _{X3}	0.036371	0.177215	0.205235	0.8378
LN _{X1Z}	0.031848	0.013797	2.308279	0.0231
LN _{X2Z}	-0.003926	0.011198	-0.350612	0.7266
LN _{X3Z}	-0.002476	0.008126	-0.304744	0.7612
Y(-1)	1.02E-08	2.39E-09	4.261902	0.0000

Source: processed with Eviews 12

The Influence of Education Level on GRDP Moderated by Zakat.

From the panel data regression test, the coefficient value of the Education Level variable moderated by zakat is 0.031848 with a probability value of 0.0231 which indicates < 0.05 . So it can be concluded that H4 is accepted, meaning that the Education Level variable moderated by zakat has a significant positive effect on GRDP or strengthens the relationship between education and GRDP of Central Java Province. Zakat, which is a financial instrument of Sharia economics, can be used as a support to improve people's welfare. Zakat itself functions to reduce economic inequality and improve the economic empowerment of underprivileged communities. This study is supported by Az-Zahro (2024) and Bahjatulloh (2022) who say that zakat has a positive impact on education.

The Influence of the Number of Workers on GRDP Moderated by Zakat

From the panel data regression test, the coefficient value of the Number of Workers variable moderated by zakat is -0.003926 with a probability value of 0.7266 which indicates > 0.05 . So it can be concluded that H5 is rejected, meaning that the variable Number of Workers moderated by zakat has an insignificant negative effect on GRDP. Zakat is unable to moderate the Number of Workers on GRDP. Zakat, although it helps in poverty alleviation, has not significantly improved the quality or skills of the workforce in the informal sectors. Therefore, zakat is unable to moderate the relationship between the number of workers and GRDP, because more fundamental changes in the quality of the workforce

have not occurred. This study is supported by Cahyo (2022) and Latifatur Rifa & Agus Waluyo (2023) who say that zakat is unable to moderate the workforce on economic growth.

The Influence of Government Expenditure on GRDP Moderated by Zakat

From the panel data regression test, the coefficient value of the Government Expenditure variable moderated by zakat is -0.002476 with a probability value of 0.7612 which indicates > 0.05 . Therefore, it can be concluded that H6 is rejected, meaning that the Government Expenditure variable moderated by Zakat has a negative and insignificant effect on GRDP. Zakat, which is an Islamic financial instrument with great potential, will be able to support various government policies through appropriate policies so that the impact on the general public and on regional economic growth can increase. This study is supported by Siregar et al (2023) and Wahyuni (2021) who say that Zakat is unable to moderate Government Expenditure.

CONCLUSION

Based on the analysis conducted to determine the role of zakat on the influence of education level, number of workers, and government spending on Gross Regional Domestic Product (GRDP) in Central Java for the 2019-2023 period, the findings indicate that the level of education has a negative and significant influence on GRDP in the region. On the other hand, the variable of the number of workers has a significant positive influence on GRDP in Central Java. Although government expenditure has a positive influence on GRDP, its influence is not significant during the observation period. The results of the observation indicate that an increase in government spending can be associated with a decrease in the level of GRDP in Central Java. Meanwhile, the role of zakat as a moderating variable has different results. On the other hand, zakat is able to moderate the influence of education level on GRDP. However, Zakat is not able to moderate the relationship between the workforce variable and GRDP or government spending on GRDP in the region in 2019-2023.

Research recommendations suggest focusing on increasing GRDP through the allocation of Local Original Income (PAD), General Allocation Fund (DAU), inflation suppression, Foreign Investment (PMA), and Domestic Investment (PMDN). Although zakat is unable to moderate the relationship between labor and government spending, the role of zakat cannot be denied. As the purpose of Islamic philanthropic zakat, zakat has great potential if it is empowered properly. By implementing these suggestions, it is hoped that efforts to increase GRDP in the region can be more effective

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