Determinants of Indonesia's Economic Growth in the 2021-2022 Period with Per Capita Income as an Intervening Variable

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Abstract. This study aims to analyze the effect of population, labor absorption and zakat on Indonesia's economic growth in 2012-2022 with per capita income as an intervening variable. This study is a type of quantitive research using secondary data. Multiple linear regression techniques, path analysis and Sobel test are used to test the hypothesis. Based on data testing, the results show that population has a significant positive effect on economic growth, labor absorption ha a negative but insignificant effect on economic growth, zakat has a positive but insignificant effect on economic growth, per capita income has a significant positive effect on economic growth. Through the Sobel test, the results show that there is no intervening effect of population, labor absorption, or zakat variables on Indonesia's economic growth through per capita income.

Keywords: Population, Labor Absroption, Zakat, Economic Growth, Per Capita Income

1 Introduction

The main objective of economic development is to achieve economic growth by increasing a country's national income. This can be illustrated through real GDP which can be obtained in quarterly or annual time intervals. The welfare of a country's people can be an indicator of its economic growth. The better the economic growth of a country, the better the welfare of the people. The Central Statistics Agency (BPS) released data on Indonesia's economic growth in the third quarter of 2023 compared to the third quarter of 2022, increasing by 4.94% on an annual scale (year-on-year).

Fig. 1. Graph of Economic Growth in Indonesia 2012-2022

Figure Graph 1 illustrates that Indonesia's economic growth from 2012 to 2022 fluctuated. In fact, in 2020, it experienced a negative contraction due to the Covid-19 pandemic. Although it has revived in 2021, if observed from the graph, economic growth in Indonesia during 2012-2022 is still relatively low and has not reached the ideal figure of 6-7%, so it is less than optimal in improving people's welfare. In the second quarter of 2020, the Indonesian economy shrank by 5.32% (year-on-year). In the second quarter of 2021, the Indonesian economy began to experience positive growth (year-on-year), in line with the increase in Gross Domestic Product (GDP), ADHB, and ADHK as before the pandemic. Currently, Indonesia's economic growth is still relatively low when compared to other countries, which can be seen from the poverty rate, unemployment, and social inequality which are still high. Indonesia with a large population has not been balanced by high economic activity so that it has not been able to increase productivity that drives economic growth. Indonesia's economic growth (year-on-year) can be influenced by policy decisions taken by the government. In addition, there are several factors that influence economic growth in Indonesia.

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The first factor is population. The population of Indonesia has always increased from year to year including from 2012 to 2022. Based on BPS data, in 2022 the population of Indonesia will reach 275.7 million people, an increase from the previous year where in 2021 the population of Indonesia was 272.6 million people. This figure continues to increase every year. However, the large population in Indonesia still has low productivity, so if the population growth rate continues to increase and is not balanced by economic activity, it will cause an imbalance in economic activity which will ultimately lead to unemployment. This situation requires special attention from the government to ensure that this large population can be directed to become human resources that actively contribute to the development process. According to research conducted by Salsabila (2021), it states that population has a significant effect on economic growth. Meanwhile, research conducted by Yenny dan Anwar (2020) states that population has no effect on economic growth.

The second factor is labor absorption. One measure of the success of economic development through industrialization is the wide opening of employment opportunities. Labor absorption is the quantity of labor used by a sector or business unit. Population growth each year will affect the growth of the workforce. The number of labor absorption in Indonesia is still relatively low. The open unemployment rate in February 2023 was 146.62 million people, an increase of 2.61 million people in February 2022 (yoy). Employment conditions, both concerning the unemployment rate and the working population, cannot be separated from the performance of the existing economic sectors. According to Udara (2018), labor absorption is considered to be able to affect economic growth, but according to Saefurrahman (2017), labor absorption is considered unable to affect economic growth.

Zakat is a social instrument in Islam. The existence of zakat can certainly make a major contribution to the country's economy through productive zakat. The potential for collecting zakat in Indonesia is very large considering that zakat is an obligation for every Muslim and the majority of the Indonesian population is Muslim. Zakat can be a measure to regulate welfare, both on a micro and macroeconomic scale. However, the large Muslim population has not been balanced by the realization of large zakat collection so that its potential to improve the economy is also not optimal. Badriyah dan Munandar (2021) said that zakat can affect economic growth. In contrast to Ridlo dan Sari (2020) who stated that zakat cannot affect economic growth. This study contributes to the analysis of Indonesia's economic growth through several independent variables by adding the intervening variable of per capita income.

The intervening variable of per capita income is used because in neo-classical theory, the number of residents can affect the absorption of per capita income. In addition, a large population provides the potential for the availability of labor, so that if many people work, it will encourage companies to increase productivity and increase people's income. If these conditions are met, then the obligation of Muslims to pay zakat can increase so that more zakat will be collected.

2 Literature Review

2.1 Neo-Classical Economic Growth Theory

The Neo-Classical growth theory introduced by T. W. Swan and Solow in 1956 explains that production growth is influenced by one or more of three elements, namely: the quality of the workforce caused by increasing levels of education and population growth, increasing the number of aspects of production, as well as technological progress and additional capital. On the other hand, the number of residents also determines the quality of the workforce itself (Todaro, 2013).

2.2 Imam Al-Ghazali's Islamic Economic Theory

According to Al-Ghazali's thinking, the concept of social welfare depends on the search for and maintenance of five basic goals, namely, religion (al-din), life (nafs), descendants (nasl), property (mal), and reason (aql). In addition, Al-Ghazali defines the economic aspect of the social welfare function within the framework of a tripartite hierarchy of individual and social utilities, namely needs (daruri), pleasure (hajat), and luxury (tahsinaat) (Karim, 2004: 283).

Based on neo classical economic growth theory and similar research that has existed, the following hypotheses is obtained:

Null Hypothesis 1 (H1): population has a positive and significant effect on economic growth
Null Hypothesis 2 (H2): Labor absorption has a positive and significant effect on economic growth
Null Hypothesis 3 (H3): Zakat has a positive and significant impact on economic growth
Null Hypothesis 4 (H4): Population has a significant positive effect on per capita income
Null Hypothesis 5 (H5): Labor absorption has a significant positive effect on per capita income
Null Hypothesis 6 (H6): Zakat has a positive and significant impact on per capita income growth
Null Hypothesis 7 (H7): Economic growth is positively and significantly influenced by per capita income

Null Hypothesis 8 (H8): Population has a significant positive effect on economic growth through per capita income as an intervening variable

Null Hypothesis 9 (H9): Labor absorption has a positive and significant effect on economic growth through per capita income as an intervening variable

Null Hypothesis 10 (H10): Zakat has a positive and significant influence on economic growth through per capita income as an intervening variable

3 Methods

This research is a type of quantitative research using secondary data in the form of quarterly data sourced from the Central Statistics Agency (BPS) and the Indonesian National Zakat Agency (BAZNAS). The population used is the total population data, labor absorption, zakat, economic growth and per capita income in Indonesia for the period 2012-2022. To test the influence of the intervening variable, the researcher uses Path Analysis using the following regression equation:

$$Z: \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e_i$$
$$Y: \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta 4Z + e_2$$

Description:
Y   : economic growth
Z   : per capita income
X1 : population
X2 : labor absorption
X3 : zakat

Next, to test the indirect effect using the Sobel test. The test is carried out by testing the strength of the indirect effect between X to Y through Z. The following is the Sobel test formula used:

$$Sp2p3 = \sqrt{P3^2 SP2^2 + P2^2 SP3^2 + SP2^2 SP3^2}$$

P3   : Mediating variable coefficient
P2   : Independent variable coefficient
SP2 : Standard error of independent coefficient
SP3 : Standard error of mediation

Before conducting the Sobel test, the first thing that must be done is to conduct a classical assumption test including multicollinearity, heteroscedasticity and normality tests. Furthermore, a hypothesis test is carried out including the coefficient of determination (R^2), F test, and T test.

4 Result and Discussion

4.1 Results

Table 1. Model Summary Coefficient of Determination Test

R-squared	0.968664	Mean dependent var	14.70090
Adjusted R-squared	0.965450	S.D. dependent var	0.133744
S.E. of regression	0.024860	Akaike info criterion	-4.444482
Sum squared resid	0.024102	Schwarz criterion	-4.241733
Log likelihood	102.7786	Hannan-Quinn criter.	-4.369293
F-statistic	301.3946	Durbin-Watson stat	0.993413
Prob(F-statistic)	0.000000		

Based on the test results in table 1 above, it shows a strong relationship between the independent variables and the dependent variables, and the coefficient of determination (R^2) value is 0.968, which means that 96% of the variation in the independent variables affects the dependent variable and the remaining 4% is influenced by several other factors.

4.1.1 F Test

Table 2. F test results

R-squared	0.968664	Mean dependent var	14.70090
Adjusted R-squared	0.965450	S.D. dependent var	0.133744
S.E. of regression	0.024860	Akaike info criterion	-4.444482

Sum squared resid	0.024102	Schwarz criterion	-4.241733
Log likelihood	102.7786	Hannan-Quinn criter.	-4.369293
F-statistic	301.3946	Durbin-Watson stat	0.993413
Prob(F-statistic)	0.000000		

Based on the results of the statistical test presented in table 2, the results of the F test in this study produced a coefficient value of 301.3946 with a prob (F-statistic) of 0.000000 <0.05. Therefore, simultaneously all independent variables have a positive and significant influence on economic growth.

4.1.2 T-test

Table 3. Regression results of equation 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-26.54349	2.132115	-12.44937	0.0000
LOG_X1_JP	3.272773	0.182982	17.88577	0.0000
LOG_X2_TK	-0.002306	0.004189	-0.550557	0.5851
LOG_X3_Z	0.006432	0.006430	1.000222	0.3234
LOG_Z_PK	0.078502	0.029801	2.634175	0.0120

Table 4. Regression results of equation 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-14.55679	11.07551	-1.314322	0.1962
LOG_X1_JP	1.510777	0.940981	1.605533	0.1162
LOG_X2_TK	-0.018349	0.022037	-0.832649	0.4100
LOG_X3_Z	-0.017621	0.034003	-0.518216	0.6072

Based on tables 3 and 4, it can be seen that:

a) The population variable at the 5% alpha coefficient shows a coefficient value of 3.272773 and a probability value of 0.0000 <0.05. This means that the population variable has a positive and significant effect on economic growth.

b) The labor absorption variable at the 5% alpha coefficient shows a coefficient value of -0.002306 and a probability value of 0.5851> 0.05. This means that the labor absorption variable has a negative and insignificant effect on economic growth.

c) The zakat variable at the 5% alpha coefficient shows a coefficient value of 0.006432 and a probability value of 0.3234> 0.05. This means that the zakat variable has a positive and insignificant effect on economic growth.

d) The per capita income variable at the 5% alpha coefficient shows a coefficient value of 0.078502 and a probability value of 0.0120 <0.05. This means that the per capita income variable has a positive and significant effect on economic growth.

e) The population variable at the 5% alpha coefficient shows a coefficient value of 1.51077 and a probability value of 0.1162 > 0.05. This means that the population variable has a positive and insignificant effect on per capita income.

f) The labor absorption variable at the 5% alpha coefficient shows a coefficient value of -0.018349 and a probability value of 0.4100 > 0.05. This means that the labor absorption variable has a negative and insignificant effect on per capita income.

g) The labor absorption variable at the 5% alpha coefficient shows a coefficient value of -0.017621 and a probability value of 0.6072 > 0.05. This means that the zakat variable has a negative and insignificant effect on per capita income.
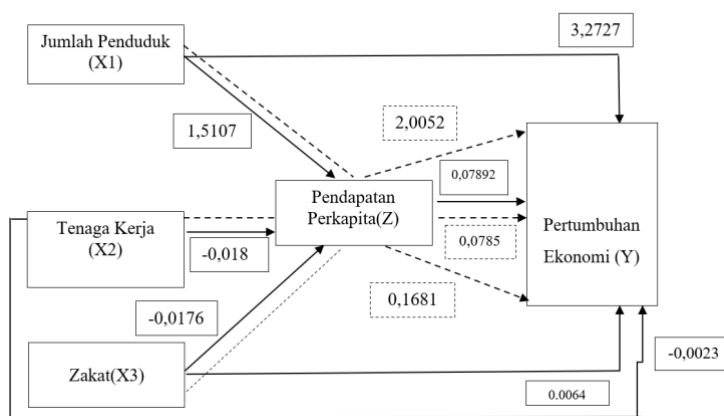
4.1.3 Path Analysis

Fig. 2. Graph of Path Analysis

Path analysis is conducted to determine whether there is a direct influence of the independent variable and the dependent variable through the intervening variable. Then the Sobel test is conducted to determine the indirect influence of the per capita income variable as an intervening variable:

a. Population size on economic growth through per capita income (X1 against Y through Z)

$$\text{t population} = \frac{p^2 \ p^3}{sp^2 \ p^3} = \frac{2,22810}{1,38877} = 1,60436$$

t count 1.60436 is smaller than t table (N 44) 1.68023 at alpha 0.05, so it can be concluded that there is no intervening effect.

b. Absorption of labor towards economic growth through per capita income (X2 against Y through Z)

$$t \text{ population} = \frac{p^2 \ p^3}{sp^2 \ p^3} = \frac{-0,02706}{0,3251} = -0,01687$$

t count -0.01687 is smaller than t table (N 44) 1.68023 at alpha 0.05, so it can be concluded that there is no intervening effect.

c. Zakat on economic growth through per capita income (X3 against Y through Z)

$$t \text{ population} = \frac{p^2 \ p^3}{sp^2 \ p^3} = \frac{-0,017621}{0,050153} = -0,50153$$

t count -0.50153 is smaller than t table (N 44) 1.68023 at alpha 0.05, so it can be concluded that there is no intervening effect.

4.2 Discussion

4.2.1 Population on economic growth

Based on the results of the analysis, it shows that the population variable has a positive and significant effect on economic growth at alpha 5%, because the value of the coefficient is positive and the probability value is 0.000 <0.05, thus the population variable has a significant effect on economic growth. This study is in line with research conducted by Salsabila (2021) and Darma (2021) which states that the key to advancing economic welfare is population growth. If the population increases, there will be more scientists, inventors, or engineers who will contribute to innovation and technological progress where the increasing population accompanied by technological developments can further increase economic growth. The results of the study are not in line with the research of Yenny and Anwar (2020) that the population has no effect on economic growth.

4.2.2 Labor absorption on economic growth

Based on the results of the analysis, it shows that the labor absorption variable has a negative and insignificant effect on economic growth at alpha 5%, because the value of the coefficient is negative and the probability value is 0.5851> 0.05, thus it has no significant effect on economic growth. Increasing labor absorption does not necessarily encourage economic growth. Labor plays a very vital role in the economy, but if workers do not have

the necessary skills and resources, a number of workers do not have high productivity. If this condition continues, workers will not be able to make a significant contribution to economic growth (Saefurrahman et, al. 2017). In addition, another factor that causes the labor to have no effect in the industry is due to the use of technology in modern times today. This is in line with the perspective of Islamic economics that Islam does not prohibit the concept of technological change, even in fact Islam supports technological progress. Islam also sees that technological factors are very important in economic growth.

4.2.3 Zakat on economic growth

Based on the results of the analysis, it shows that the zakat variable has a positive and insignificant effect on economic growth at alpha 5%, because the value of the coefficient is positive and the probability value is 0.3234> 0.05, thus it has no significant effect on economic growth. This explains that the realization of zakat which is getting bigger does not always or very little can increase economic growth.

This study is in line with the research conducted by Ridlo & Setyani (2020) which states that zakat has not been able to influence economic growth because the realization of zakat collection in Indonesia is still not optimal, even though the majority of the Indonesian population is Muslim. This is because one of the reasons is that zakat literacy in Indonesia is still very low. However, research by Widya dan Permatasari (2021) states that zakat has an effect on economic growth.

4.2.4 Population to per capita income

Based on the results of the analysis, it shows that the population variable has a positive and insignificant effect on per capita income at alpha 5% because the value of the coefficient is positive and the probability value is 0.1162> 0.05. This study is in line with research conducted by Masniadi (2012) which states that increasing population nationally can reduce national per capita income. This is because the increasing population will cause more income/GDP to be divided as a logical consequence of the increasing population.

4.2.5 Labor absorption on per capita income

Based on the results of the analysis, it shows that the labor absorption variable has a negative and insignificant effect on per capita income at alpha 5% because the value of the coefficient is negative and the probability value is 0.4100> 0.05. This study is in line with research conducted by Fahira (2022) which states that labor is one of the resources to produce goods and services. An increase in income will be obtained if the amount of productivity increases, but if the workforce is not balanced with other resources that can support increased production, the income obtained will not be too large. Robiansyah (2015) states that per capita income is significantly influenced by labor absorption.

4.2.6 Zakat on per capita income

Based on the results of the analysis, it shows that the zakat variable has a negative and insignificant effect on per capita income at alpha 5% with a negative coefficient value and a probability value of 0.4100> 0.05. This study is in line with the research conducted by Robi (2019) which states that the distribution of zakat funds to mustahik to be productive can increase income. This can be achieved if there is regular assistance and its management can be carried out properly. However, not all mustahik are able to manage zakat funds properly so that the output or income obtained by mustahik cannot increase. The results of Widyoko (2023) study state that per capita income is influenced by zakat.

4.2.7 Per capita income on economic growth

Based on the results of the analysis, it shows that the per capita income variable has a positive and significant effect on economic growth at alpha 5% with a positive coefficient value and a probability value of 0.0120 <0.05. This study is in line with research conducted by Sari (2022) which states that per capita income is a benchmark for the economy and an indicator of economic growth. Higher per capita income illustrates the welfare of society and the economic development of a country. However, Ferdiansya (2023) stated that the economic growth of the community, especially in Central Java Province, was not significantly influenced by per capita income.

4.2.8 Population on economic growth through per capita income

Based on the results of the analysis, it shows that the t value of the population is 1.60436 <t table 1.68023 at alpha 0.05. This explains that there is no intervening effect between population and economic growth. It is possible that there are other factors that can mediate between population and economic growth. So the hypothesis that states that the greater the population, the higher the economic growth through per capita income is rejected. Population can affect economic growth but not through per capita income because a high population but if not balanced with balanced employment causes inequality.

4.2.9 Absorption of labor to economic growth through per capita income

Based on the results of the path analysis, it shows that the t-value of labor absorption is -0.01686 < t table 1.68023 at alpha 0.05. This explains that there is no mediating effect between labor absorption and economic growth. It is possible that there are other factors that can mediate between labor absorption and economic growth. Increasing income levels cause community welfare to increase. Increasing levels of community consumption also increase the production of goods and services so that it will absorb labor.

4.2.10 Zakat on economic growth through per capita income

Based on the results of the analysis, it shows that the t-value of zakat is -0.01686 < t table 1.68023 at alpha 0.05. This explains that there is no mediating effect between zakat and economic growth. It is possible that there are other factors that can mediate between zakat and economic growth. The greater the national income of a country means that there is an increase in its economic growth. Economic growth will lead the country towards prosperity and welfare. The benchmark of zakat as a welfare regulator can truly be used as a standard guideline, both in the context of micro and macro economics. However, in reality, zakat has not been able to increase a country's national income significantly because the realization of zakat in Indonesia is still not optimal. So that zakat cannot influence economic growth through per capita income.

5 Conclusion

Based on the research that has been conducted, it can be concluded that the population has a significant positive effect on economic growth. Labor absorption has a negative and insignificant effect on economic growth. Zakat has a positive and insignificant effect on economic growth. The population has a positive and insignificant effect on per capita income. Labor absorption has a negative and insignificant effect on per capita income. Zakat has a negative and insignificant effect on per capita income. Per capita income cannot mediate the effect of population, labor absorption and zakat on economic growth in Indonesia.

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