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# Determinants of Economic Growth in Java: Per Capita Expenditures, Population, and Contribution of Indonesian Democracy

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**Abstract:** The Golden Indonesia Vision 2045 targets sustainable, equitable and inclusive economic development, with an emphasis on the “Sustainable Economic Development” pillar. Java, as Indonesia's strategic region, is the highest contributor to the National Gross Domestic Product (GDP). In the 2019-2023 period, the global economic contraction due to the COVID-19 pandemic and the impact of simultaneous regional elections in Indonesia are challenges. This study examines the effect of per capita expenditure, population, and the Indonesian Democracy Index (IDI) on economic growth in Java. Using secondary data from six provinces and panel data regression analysis, the results show that per capita expenditure has a positive and significant effect on economic growth, while population has a negative and significant effect. IDI shows a positive but statistically insignificant relationship. The findings emphasize the importance of increasing purchasing power, population productivity through education and technology, and strengthening substantive democracy to achieve sustainable economic growth. This research provides insights for policy makers in optimizing regional potential to support Indonesia's national economic growth goals.

**Keywords:** Economic Growth; Per Capita Expenditure; Population; Democracy; Java Island



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**INTRODUCTION**

Economic growth is the process of increasing output continuously within a certain period, as one of the main indicators in assessing the economic development performance of a country. According to Hidayat (in Nisa & Rafikasari, 2022), the welfare and development of an economy depends on its growth rate, which is assessed through its national output income. The Golden Indonesia Vision 2045 targets sustainable, equitable and inclusive economic development, with a focus on Pillar 2, “Sustainable Economic Development”. This pillar aims to encourage Indonesia to become an advanced and globally competitive economy, with a high per capita income. The target to be achieved in per capita income is around USD 23,000-30,000 by 2045 (Ministry of National Development Planning/Bappenas, 2022). Achieving this target requires strong and stable economic growth, as well as support from various economic and non-economic factors to ensure its success.

Java is a strategic region of Indonesia that is the highest contributor to the National Gross Domestic Product (GDP). Java Island has 6 provinces namely DKI Jakarta, West Java, Central Java, DI Yogyakarta, East Java and Banten. The average contribution of the provinces in Java to the national GDP over the last 5 years (2019-2023) is around 57.97% (BPS, 2024). Java is the center of industry, services, and trade, and has more developed infrastructure compared to other regions in Indonesia. Spatially, there are variations in the level of contribution within each province.

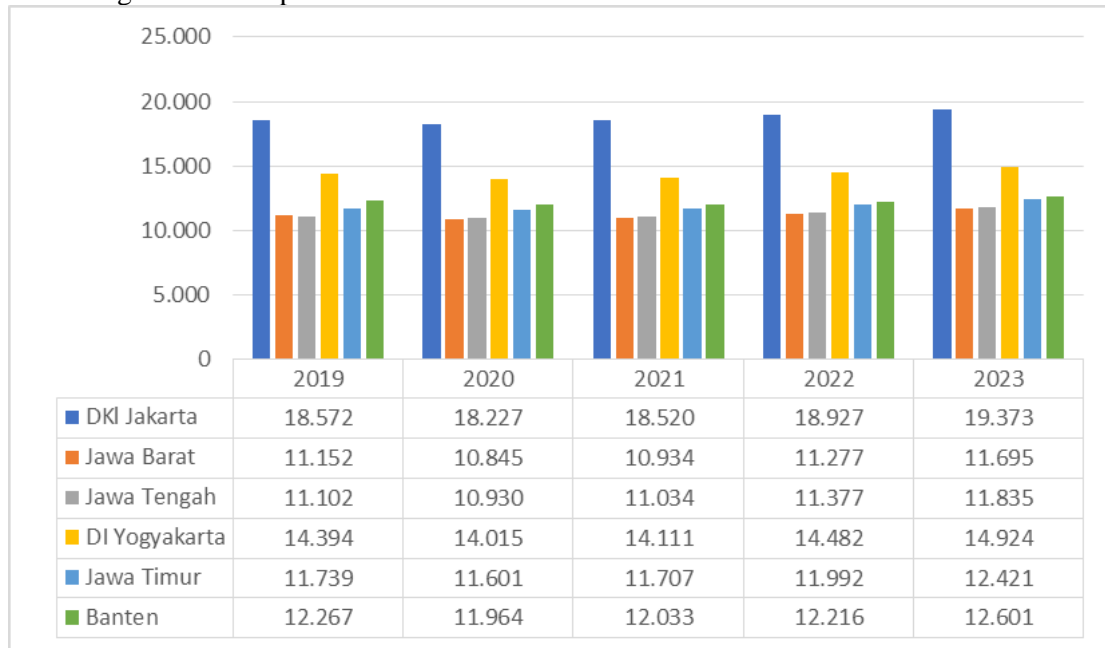


**Figure 1. GRDP Rate at Constant 2010 Prices (%) of Provinces in Java Island 2019-2023**  
 Source: BPS (data processed), 2024

The figure above shows the rate of GRDP dynamics of the 6 provinces of Java Island during the 2019-2023 period. In 2019, the growth rate was quite stable with DI Yogyakarta recording the highest rate of 6.59%. However, there was a drastic decline (2020) due to the COVID-19 pandemic, with all provinces contracting, such as DI Yogyakarta and Banten which fell to -2.67% and -3.39%. Recovery began to be seen in 2021 to 2023, with growth stabilizing in the range of 5%-6% across all provinces.

Java Island has a high population (human capital) so that consumption is able to drive economic growth in the short term, the long term is determined by capital accumulation and increased productivity. Sukirno (in Huda & Indahsari, 2021) argues that it is important to analyze household

consumption because many countries whose consumption has contributed as much as 60-70% of their national income and its impact is able to determine fluctuations in economic activity from time to time. According to Yunita (in Muda et al., 2019), per capita expenditure provides a representation of the level of purchasing power of the Purchasing Power Parity (PPP) society and is used as one of the components to review the status of human development in a region. Some previous studies by Muda et al. (2019), Huda & Indahsari (2021), and Swastika & Arifin (2023) state that both partially and simultaneously, per capita expenditure has a significant effect on economic growth at the provincial level.

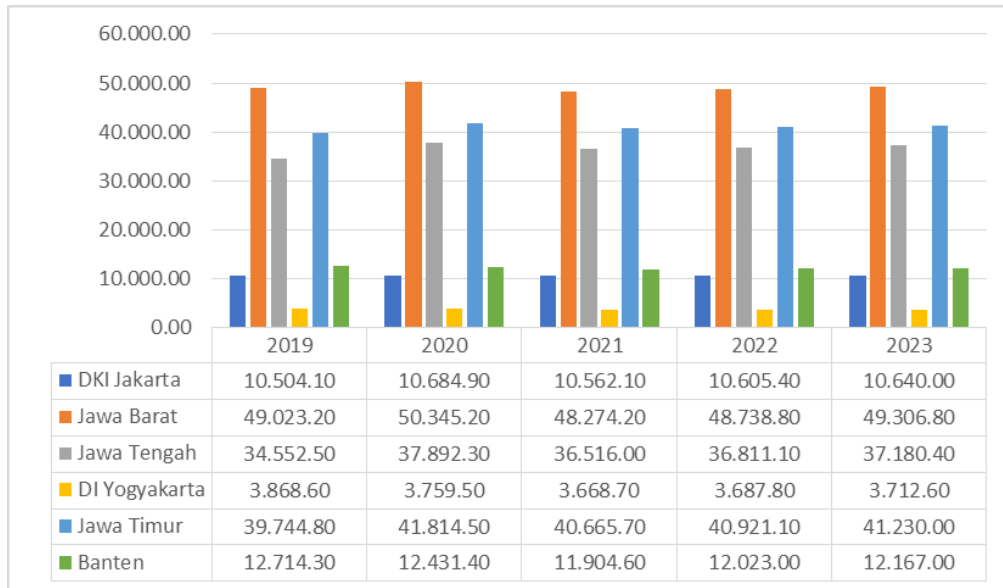


**Figure 2. Expenditure per Capita (Thousand Rupiah/Person/Year) of Provinces in Java Island 2019-2023**

Source: BPS (data processed), 2024

The figure above shows the per capita expenditure (in thousands of rupi-ah/person/year) in the 6 provinces of Java Island for the period 2019-2023. DKI Jakarta consistently has the highest per capita expenditure every year, reaching 19,373 thousand rupiah in 2023. The province with the lowest expenditure is West Java, which in 2023 recorded 11,695 thousand rupiah. In general, all provinces show an increase in per capita expenditure from year to year, although the increase varies in each province.

Demographically, Java is the island with the highest population in Indonesia. This high population can be both a potential and a threat for Java in boosting economic growth. According to Todaro (in Permana et al., 2024) low population growth increases the rate of economic growth, on the other hand, a high population will have an impact on reducing the economic growth rate of a region. Previous research from Purwati & Prasetyanto (2022) states that population has a significant effect on economic growth in Indonesia. While research from Damanik & Lubis (2022) and Permana et al. (2024) the results state that population does not have a significant effect on economic growth partially, but has a simultaneous effect by considering other variables in the study.



**Figure 3. Total Population of Provinces in Java Island (Thousand) 2019-2023**  
 Source: BPS (data processed), 2024

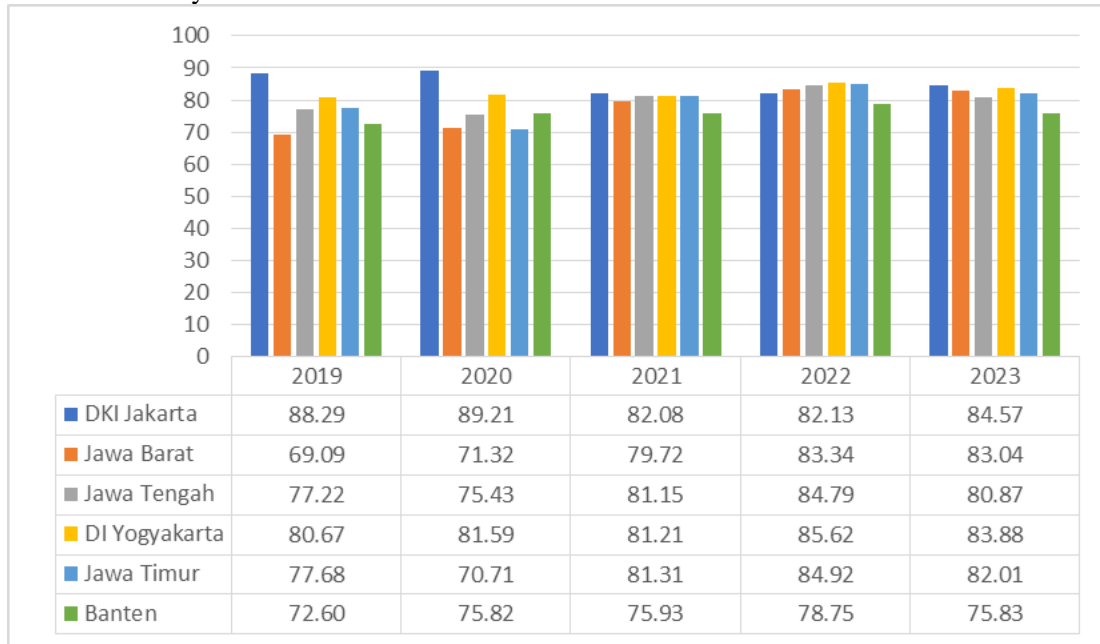
The figure above shows a moderate upward trend in population in each province. West Java is the province with the highest population, followed by East Java and Central Java. DKI Jakarta has a stable population of around 10-11 million, while DI Yogyakarta and Banten have much smaller populations, with Banten reaching around 12 million in 2023. Throughout the period, the largest population increases occurred in West Java and East Java.

Measuring global competitiveness is increasingly important in the face of global uncertainty that has an impact on slowing economic growth. The Global Competitiveness Report (GCR) is an annual report published by the World Economic Forum (WEF) containing the global competitiveness of countries in the world. In 2019, Indonesia was ranked 50th out of 141 countries with a score of 64.6 (Coordinating Ministry for Economic Affairs of the Republic of Indonesia, 2020). Meanwhile, in 2023, Indonesia experienced an increase in rank from 44th to 34th, up 10 ranks which is included in the highest category in the world (Cabinet Secretariat of the Republic of Indonesia, 2023). In supporting Indonesia's competitiveness in the global arena, many components are needed, including the quality of institutions and effective governance; freedom and innovation; political stability; protection of human rights and social justice; and investment confidence and business ecosystem.

On the other hand, the phenomenon of simultaneous Regional Head General Elections (Pilkada) that took place in 2020 in various regions of Indonesia is also associated with political and economic dynamics. During regional elections, government spending tends to increase, especially for campaigns and populist infrastructure development. This can provide a short-term boost to the regional economy. However, political instability during or after the elections can create uncertainty, discourage investment, and slow economic growth. Policies generated after local elections also affect economic governance and regional development policies. According to Nurjaman (in Novanto, 2024) problems in society are solved more by political means than by economic means and the labor market is not only from the circulation of information of economic actors but also the intervention of laws formed by regulators or power holders. According to Mankiw (in Novanto, 2024), the economy in a country will not be separated from the role of political factors.

The implementation of a country's democracy affects its economic performance, as expressed by Acemoglu et al. (in Damanik & Lubis, 2022), stated that democratic systems can encourage economic growth. The IDI published by BPS is a reference in seeing the development of democracy in Indonesia. Previous research by Hutasoit et al. (2024) stated that IDI has a significant effect on economic growth both partially and simultaneously. Some previous studies

Damanik & Lubis (2022), Permana et al. (2024), and Adib et al. (2019) with the results of IDI research have no partial effect but simultaneously on economic growth by considering other variables in the study.



**Figure 4. Indonesia Democracy Index (IDI) of Provinces in Java Island 2019-2023**

Source: BPS (data processed), 2024

Based on the figure above, it shows a trend that tends to stabilize between 2019 and 2023. DKI Jakarta consistently has the highest IDI score, with an increase from 88.29 (2019) to 84.57 (2023). Meanwhile, DI Yogyakarta and East Java show small fluctuations with IDI scores in the range of 80 to 84. The provinces of West Java, Central Java and Banten also show a relatively stable trend, albeit with a slight decline in certain years. Overall, democracy on Java Island was strong during the period.

In 2019-2023, a period where the global economy is experiencing a contraction due to the presence of the COVID-19 pandemic coupled with the democratic shock of the simultaneous Pilkada. Of course, the recovery of each province will have different characteristics. This is of interest to the author to review various economic and non-economic factors such as Per Capita Expenditure, Population, and IDI in boosting economic growth in Java, which despite the contraction remains the largest contributor to the National GDP. The lack of research with related variables in Java, especially on the IDI variable which is still rarely researched on an island scale, especially Java, is expected to be a finding and contribution to Java as the center of the national economy. Through this research, it is also hoped that the Central Government and Provincial Governments will have an overview in taking an appropriate policy to optimize the potential of each region in order to increase the economic growth of Java Island which ultimately impacts on national economic growth in the future.

**LITERATURE REVIEW**

**Economic Growth**

Economic growth is the process of changing the economic condition of a country that occurs continuously towards a better state over a certain period. In addition, it is also defined as a process of increasing the production capacity of an economy which is described through an increase in national income (Izza et al., 2023).

Economic growth is one of the main indicators in assessing the economic performance of a region. A high economic growth rate is a measure of the high success of a region's development. Conversely, the lower the economic growth rate, the benchmark for the success of regional development is also low and the economic conditions are weak (Nisa & Rafikasari, 2022).

According to Sukirno (in Darmawan, 2020), economic growth is a change in the level of economic activity from year to year. So, to see the level of economic growth, we must compare the national income of various years calculated at constant prevailing prices.

According to Kambono and Marpaung (in Zein and Sumanto, 2022), an increase in the production of goods and services by the community is called economic growth.

According to Subandi (in Rofli and Ardyan, 2017), economic growth is an increase in GDP / GNP without considering the size of population growth and whether or not there are changes in the economic structure.

According to Suryana (in Utami, 2020), economic growth is an increase in GDP or GRDP without considering whether the increase is greater or less than population growth and regardless of changes in the economic structure.

The formula for calculating the PRDB growth rate is as follows.

$$\text{GRDP Growth Rate} = \frac{\text{GRDP}_t - \text{GRDP}_{t-1}}{\text{GRDP}_{t-1}} \times 100$$

## **Economic Growth Theory**

### **Keynesian Theory**

According to Sukirno (in Swastika & Arifin, 2023), Keynesian theory states that economic activity depends on aggregate demand, which can be seen from the aggregate expenditure made by the economy in a certain period. When individuals have high purchasing power, they tend to consume a lot of goods and services, which will encourage the production of goods and services and create jobs so as to spur economic growth.

### **Adam Smith and David Richardo Theory**

Adam Smith's theory of economic growth states that economic growth is a process of combining population growth with technological advances so as to increase output. David Ricardo also argued that population growth that is getting bigger until it doubles has an impact on increasing the amount of abundant labor. The abundance of labor causes wages to fall, low wages impact the economy in "stationary states" so that technological advances are needed to avoid it (Huda & Indahsari, 2021).

### **Endogenous Growth Theory**

Endogenous growth theory explains that investment in physical and human capital plays an important role in determining long-term economic growth. This theory also considers political stability, government policies, bureaucracy, infrastructure, laws and regulations and the international exchange base as crucial factors that also affect economic growth (Ma'ruf & Wihastuti, 2008).

### **Per Capita Expenditure**

Per capita expenditure is an indicator of community welfare. According to Gatot (in Swastika & Arifin, 2023), the level of household welfare can be seen through the poor or non-poor status of a household which is seen through the average per capita expenditure per month of a household.

Per capita expenditure is the total cost used for consumption by all household members in one month, which is then divided by the number of household members. This calculation has been adjusted for purchasing power parity levels. Overall, this includes all consumption expenditures made by the household (Swastika & Arifin, 2023). The BPS survey calculates per capita expenditure by summing data on total expenditure (food and non-food) per month (in rupiah) divided by the number of household members. The calculation of per capita expenditure can be illustrated as follows.

$$\text{Per Capita Expenditure} = \frac{\text{Total Expenses (Food or Non-Food) Per Month}}{\text{Total Household Members}}$$

According to Todaro (in Huda & Indahsari, 2021), Simon Kuznet's research states that one of the characteristics of modern economic growth is the high growth of output per capita. GRDP per capita refers to the growth of output per capita. When output per capita increases, there will be changes in consumption patterns. Changes in people's consumption patterns indicate that people's purchasing power is increasing.



### Total Population

Population plays an important role in economic development. Population is a number of people who live in a certain area. According to BPS, all people who are domiciled for a period of six months or more or those who are domiciled for a period of less than six months but have the aim of settling are defined as the population (Purwati & Prasetyanto, 2022).

According to Subri (in Damanik & Lubis, 2022), population is often related to the growth (income per capita) of a country. According to Todaro (in Ma'ruf & Wihastuti, 2008), a nation's economic growth consists of three main determining components, namely capital accumulation, which includes all forms or types of new investment invested in land, physical equipment, and human resources; population growth, which increases the size of the labor force in the coming years; and technological progress.

According to Todaro (in Damanik & Lubis, 2022), economic growth is the long-term increase in a country's capacity to provide various goods to its population. This shows that population has a close relationship with economic growth. High population growth can support an increase in GRDP, thus having a positive impact on economic growth. On the other hand, high population growth can also hinder economic development due to the increased burden on the country's resources and infrastructure.

According to Todaro (in Permana et al., 2024), developing countries with high population growth have more burdens than developed countries. This is because they are dependent on developed countries. Developing countries have lower incomes compared to developed countries, so this can cause population growth as an obstacle to economic development.

### Indonesian Democracy

The IDI is a measurement tool initiated by BAPPENAS in 2008 to monitor the development of democracy in Indonesia. The IDI measurement is based on democracy scores in each province in Indonesia. The main objective is to quantify the progress of democracy at the provincial level, so as to support sustainable political development planning in Indonesia, as well as ensure alignment with regional autonomy (Hutasoit et al., 2024).

According to Fajri et al. (in Hutasoit et al., 2024), the benchmarks of IDI assessment are systems, mechanisms, and procedures (procedural democracy) as well as substantive issues (freedom, justice, and democratic behavior or manners of society). Then, these measures are specifically derived into 3 (aspects) namely Civil Liberties, Political Rights, and Democratic Institutions. The three aspects of democracy are then elaborated into 11 variables and 28 indicators (BPS, 2022).

The implementation of democracy in a country affects its economic performance, as expressed by Acemoglu et al. (in Damanik & Lubis, 2022), stated that democratic systems can encourage economic growth. This opinion is based on panel data research covering several countries for 50 years. The findings show that democracy can contribute to economic growth and has a significant and large impact. However, this view differs from Barro (in Damanik & Lubis, 2022), who states that democracy does not directly affect economic growth. Instead, democracy influences factors such as social capital and human capital, which in turn are influenced by the quality of governance.

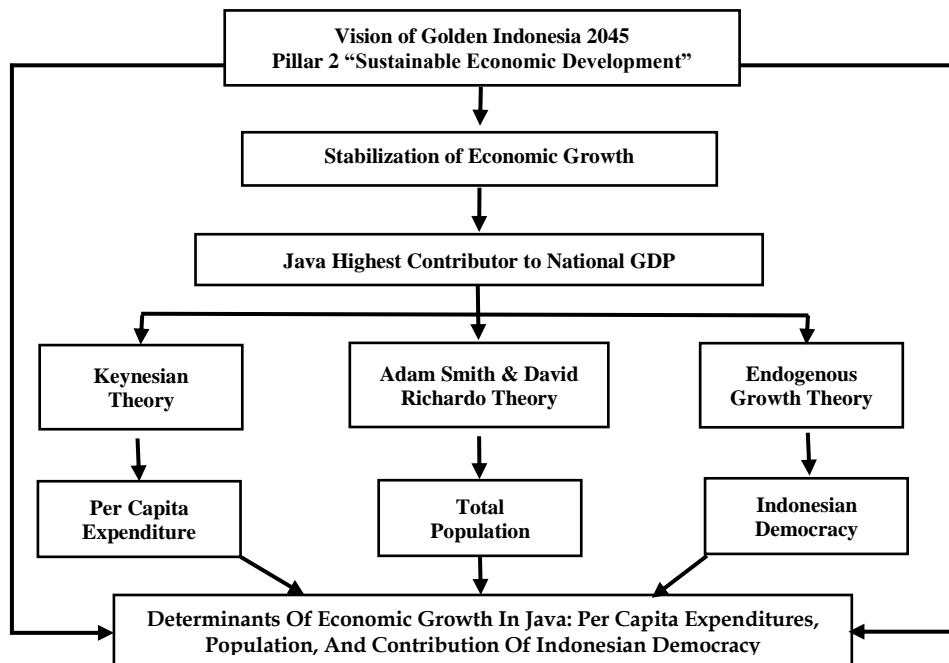
Moh. Hatta's ideas on democracy and the economy are reflected in Article 33 of the 1945 Constitution, which is the basis of Indonesia's economic system. *Article 33 Paragraph (1) of the 1945 Constitution, the economy is structured as a joint effort based on the principle of kinship.* A healthy democracy creates space for people to participate in economic decision-making, in line with the inclusive "joint venture" principle. This supports equitable economic growth and reduces inequality. *Article 33 Paragraph (2) of the 1945 Constitution states that the branches of production that are important to the state and which control the livelihood of many people are controlled by the state.* Democracy enables more transparent control over the management of strategic sectors. Strong democratic institutions (part of the IDI) ensure public oversight of economic policies, avoiding monopolies by certain groups.

*Article 33 Paragraph (3) of the 1945 Constitution states that the earth, water and natural resources contained therein shall be controlled by the state and used for the greatest prosperity*

of the people. Democracy ensures that the management of natural resources is carried out in a fair and transparent manner for the welfare of the people. Democratic stability supports policies that ensure the sustainability of economic development. Article 33 Paragraph (4) of the 1945 Constitution states that the national economy is organized based on economic democracy with the principles of togetherness, equitable efficiency, sustainability, environmental insight, independence, and maintaining a balance of progress and national economic unity. Economic democracy can only develop if democratic institutions are strong. A weak democracy tends to create policy imbalances, while a strong democracy supports sustainable and inclusive development.

**Research Framework**

The framework is defined as the author's train of thought (scheme of thought or rationale) to strengthen the indicators behind the research. In this framework, the researcher explains the main research problem as follows.



**Figure 5. Research Framework**

Source: Author (2024)

Based on the picture of the framework above, researchers will discuss economic growth in Java (2019-2023) which is analyzed through various factors from both the economic and non-economic sides such as consumption (per capita expenditure), demographics (population) and democratic stability (IDI).

**Hypothesis Development**

**Relationship between Per Capita Expenditure and Economic Growth**

Per capita expenditure is an indicator of welfare that reflects people's purchasing power. According to Keynesian theory, increased household consumption will increase aggregate demand, which in turn drives economic growth. When an individual has high purchasing power, they tend to consume a lot of goods and services, which will encourage the production of goods and services and create jobs, thereby spurring economic growth (Huda & Indahsari, 2021). Previous research by Muda et al. (2019) and Swastika & Arifin (2023) support the Keynesian theory showing that per capita expenditure has a positive effect on economic growth.

**H1:** Per capita expenditure is expected to have a positive and significant influence on economic growth in Java.



### Relationship between Population and Economic Growth

Population growth can have both positive and negative impacts on the economy. Adam Smith's theory states that an increase in population accompanied by technological advances can increase economic output. Without technological innovation, rapid population growth can lead to economic stagnation (Huda & Indahsari, 2021).

**H2:** Population is expected to have a negative and significant influence on economic growth in Java.

### Relationship between Indonesian Democracy and Economic Growth

A stable democracy can support economic growth by creating a stable political environment, encouraging investment, and ensuring equitable income distribution. Endogenous growth theory considers that political stability, government policies, bureaucracy, infrastructure, laws and regulations and the international exchange base are crucial factors that also affect economic growth (Ma'ruf & Wihastuti, 2008). According to research by Acemoglu et al. (in Damanik & Lubis, 2022), democracy contributes significantly to economic growth, although Barro (1996) states that the effect is not direct, but through social and human capital. Previous research by Hutasoit et al. (2024) supporting endogenous growth theory shows that IDI has a positive and significant effect on economic growth.

**H3:** The Indonesian Democracy Index is expected to have a positive and significant influence on economic growth in Java.

## METHOD

This research uses a quantitative approach through emphasizing data analysis with statistical procedures. A quantitative approach is a research approach that uses numerical data to answer the hypothesis of a study (Waruwu et al., 2023). The type of data used is secondary data from six provinces in Java Island in the period 2019 to 2023. The data are annual data: GRDP rate at constant 2010 prices (%), per capita expenditure (thousand rupiah/person/year), population (thousand people), and IDI (%). Secondary data is data obtained indirectly from the object of research (Sari & Zefri, 2019). Data sourced from the Central Statistics Agency (BPS) and literature studies through several references such as journals, articles and materials related to the research. This research uses the library re-search method. Library research is a researcher conducting a literature study through books, scientific articles, journals, magazines, internet data, and other sources of documentation needed in research (Harahap, 2014).

### Data Analysis Method:

This study uses panel data regression analysis method with the help of Stata 14 software analysis tool. The panel data regression model used in this study is explained through the following equation:

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \varepsilon_{it}$$

Description:

$Y$  : Economic Growth

$\beta_0$  : Constant Value

$i$  : Province

$t$  : Time

$X_1$  : Per Capita Expenditure

$X_2$  : Total Population

$X_3$  : Indonesia Democracy Index

$\varepsilon_{it}$  : Error Term

Because there are variables that have different units such as  $X_1$  and  $X_2$ , they are converted into natural logarithms.

**Selection of the Best Model**

In panel data analysis before conducting the hypothesis testing stage, first select an estimation model consisting of three approaches, namely the Common Effect Model (CEM), Fixed Effect Model (FEM) and Random Effect Model (REM) (Gujarati & Porter, 2013). The estimation model selection step uses three tests including: Chow test (CEM vs FEM); Hausman test (REM vs FEM); and Langrange Multiplier test (CEM vs REM).

**Classical Assumption Test**

The classic assumption test is used to produce a regression model that meets the BLUE (Best Linear Unbiased Estimator) criteria. In linear regression with the OLS approach, there are several tests including linearity, normality, multicollinearity, heteroscedasticity and autocorrelation tests. However, not all classical assumption tests must be performed on each model with the OLS approach. In panel data, only two classical assumption tests must be carried out, namely the multilnearity and heteroscedasticity tests (Basuki, 2021).

**Hypothesis Test**

According to Gujarati dan Porter (2013), the T test is a test used to see the significance or influence of each independent variable individually on the dependent variable by holding other variables constant. Meanwhile, the F test is a test used to see whether together (simultaneously) the independent variables are significant to the dependent variable. The coefficient of determination ( $R^2$ ) is a quantity that describes how much the percentage of the dependent variable can be explained by the resulting regression equation, then the rest is explained by other variables outside the study (Ekananda, 2016).

**RESULTS AND DISCUSSION**

**Best Model Selection Results**

**Chow Test**

The test is used to select the best estimation model between CEM and FEM. If the Prob. > 0.05  $\alpha$ , then  $H_0$  is accepted and  $H_1$  is rejected. Therefore, the best model is CEM. Conversely, if the value of Prob. < 0.05  $\alpha$ , then  $H_0$  is rejected and  $H_1$  is accepted. Then, the best model is FEM (Gujarati & Porter, 2013).

**Table 1. Chow Test**

| <i>Effect Test</i>     | <i>Statistic</i> | <i>d.f.</i> | <i>Prob.</i> |
|------------------------|------------------|-------------|--------------|
| <i>Cross-section F</i> | 3.65             | (5, 21)     | 0.0157       |

Source: Data processed by researchers (2024)

Based on table 1, the chow test results show Prob. of 0.0157 < 0.05, meaning that the selected model is FEM. Then, proceed to the Hausman test.

**Hausman Test**

The test is used to select the best estimation model between REM and FEM. If the Prob. > 0.05  $\alpha$ , then  $H_0$  is accepted and  $H_1$  is rejected. Then, the best model is REM. Conversely, if the Prob. < 0.05  $\alpha$ , then  $H_0$  is rejected and  $H_1$  is accepted. Then, the best model is FEM (Gujarati & Porter, 2013).

**Table 2. Hausman Test**

| <i>Test Summary</i>         | <i>Chi-Square Statistic</i> | <i>Prob.</i> |
|-----------------------------|-----------------------------|--------------|
| <i>Cross-section Random</i> | 17.70                       | 0.0005       |

Source: Data processed by researchers (2024)

Based on table 2, the hausman test results show Prob. of 0.0005 < 0.05. Therefore, the best model used in this study is the FEM model.

**Classical Assumption Test Results**

In panel data, there are only two classical assumption tests that must be carried out, namely multicollinearity and heteroscedasticity tests (Basuki, 2021). According to Ghazali (in Novanto,

2024), the classical assumption tests of the FEM model are multicollinearity test and heteroscedasticity test.

**Multicollinearity Test**

**Table 3. Multicollinearity Test**

|               | <i>log_X1</i> | <i>log_X2</i> | <i>X3</i> |
|---------------|---------------|---------------|-----------|
| <i>log_X1</i> | 1.0000        |               |           |
| <i>log_X2</i> | -0.8295       | 1.0000        |           |
| <i>X3</i>     | 0.5751        | -0.3806       | 1.0000    |

Source: Data processed by researchers (2024)

Based on table 3, the multicollinearity test results show that the correlation coefficient between X1 and X2 is -0.82 < 0.85, X1 and X3 are 0.57 < 0.85, and X2 and X3 are -0.38 < 0.85, meaning that it can be concluded that it is free of multicollinearity (passes the multicollinearity test).

**Heteroscedasticity Test**

**Table 4. Heteroscedasticity Test**

| <i>Breusch-Pagan / Cook-Weisberg test for heteroskedasticity</i> |        |
|------------------------------------------------------------------|--------|
| <i>Chi-Square</i>                                                | 1.87   |
| <i>Prob. Chi-Square</i>                                          | 0.1715 |

Source: Data processed by researchers (2024)

Based on table 4, the Breusch-Pagan heteroscedasticity test results show that the Prob. value is 0.1715 > 0.05, meaning that there are no symptoms of heteroscedasticity (passing the heteroscedasticity test).

**Regression Results**

**Table 5. Regression Analysis of Fixed Effect Model (FEM)**

| <i>Y</i>          | <i>Coefficient</i> | <i>Prob.</i>    |
|-------------------|--------------------|-----------------|
| <i>log_X1</i>     | 78.01629           | 0.002           |
| <i>log_X2</i>     | -5.090247          | 0.015           |
| <i>X3</i>         | .053963            | 0.697           |
| <i>_cons</i>      | -188.557           | 0.002           |
| <i>R-squared:</i> |                    |                 |
| <i>within</i>     | = 0.5130           |                 |
| <i>between</i>    | = 0.1146           | F (3,21) = 7.37 |
| <i>overall</i>    | = 0.0128           | Prob > F = 0015 |

Source: Data processed by researchers (2024)

Based on table 5 above, the following mathematical equation resulting from the regression analysis is:  $Y_{it} = -188.557 + 78.01X_1 - 5.09X_2 + 0.05X_3 + \epsilon_{it}$

**Hypothesis Test Results**

**Partial Test (T-Test)**

Based on table 5 above, partial analysis testing (t-test) shows that:

- a. The Per Capita Expenditure variable (*log\_X1*) obtained a significant value smaller than alpha ( $0.002 < 0.05$ ), then  $H_0$  is rejected and  $H_a$  is accepted, meaning that Per Capita Expenditure has a positive and significant effect on Economic Growth in Java.

- b. The Total Population variable ( $\log\_X2$ ) obtained a significant value smaller than alpha ( $0.015 < 0.05$ ), then  $H_0$  is rejected dan  $H_a$  is accepted, meaning that Total Population has a negative and significant effect on Economic Growth in Java.
- c. The IDI variable ( $X3$ ) obtained a significant value greater than alpha ( $0.697 > 0.05$ ), then  $H_0$  is accepted dan  $H_a$  is rejected, meaning that IDI has a positive and insignificant effect on Economic Growth in Java.

#### **Simultaneous Test (F-Test)**

Based on table 5 above, the significant value of Prob (F-statistic) is  $0.0015 < 0.05$ , then  $H_0$  is rejected dan  $H_a$  is accepted, meaning that Per Capita Expenditure ( $X1$ ), Total Population ( $X2$ ), and IDI ( $X3$ ) simultaneously affect Economic Growth ( $Y$ ) on Java Island.

#### **Test Coefficient of Determination (R-Squared)**

Based on table 5 above, the R-squared value of 0.5130 means that the Per Capita Expenditure ( $X1$ ), Total Population ( $X2$ ), and IDI ( $X3$ ) variables are able to explain Economic Growth ( $Y$ ) in Java Island by 51.3% and the remaining 48.7% is explained by other variables outside the study that are not included in the model

## **DISCUSSION**

### **Per Capita Expenditure on Economic Growth in Java Island**

Per capita expenditure is an indicator that describes the purchasing power of the community and the level of household consumption. The results showed that per capita expenditure has a positive and significant effect on economic growth in Java. According to Sukirno (in Swastika & Arifin, 2023), Keynesian theory states that economic activity depends on aggregate demand, which is viewed from aggregate expenditures made by the economy in a certain period. When individuals have high purchasing power, they tend to consume a lot of goods and services, which will encourage the production of goods and services and create jobs, thus spurring economic growth. Previous research by Swastika & Arifin (2023) and Muda et al. (2019) show that per capita expenditure has a significant positive effect on economic growth in areas with high levels of household consumption such as DKI Jakarta Province and North Sulawesi.

On the other hand, in contrast to previous research by Huda and Indahsari (2021) which states that per capita expenditure has no effect on economic growth. According to Padli et al. (in Huda & Indahsari, 2021), household consumption does not have a significant effect on economic growth because it triggers a decrease in income which results in a decrease in people's purchasing power for goods. This also affects people's consumption patterns. According to Susanti and Zamora (in Huda & Indahsari, 2021), the slowing performance of household consumption and exports has led to a decline in economic growth.

Based on Figure 6 below, provinces with high per capita expenditure, such as DKI Jakarta, have a more stable and fast-recovering GDP rate after the COVID-19 pandemic. Meanwhile, provinces with lower per capita expenditure, such as Central Java, show a slower economic recovery. This further emphasizes the importance of increasing people's purchasing power in accelerating economic recovery and boosting the economy in the future.

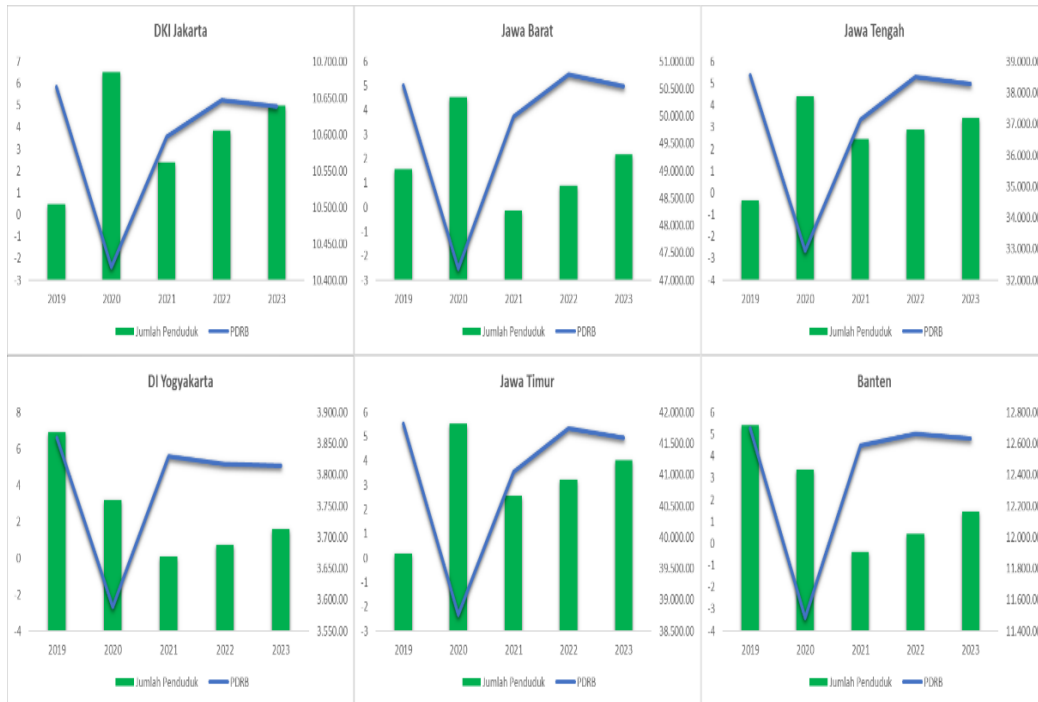


**Figure 6. GDRP and Per Capita Expenditure of Provinces in Java Island 2019-2023**  
 Source: BPS (data processed), 2024

**Population on Economic Growth in Java Island**

The high population in Java Island can be both a potential and a threat to the economy. The results showed that population has a negative and significant effect on economic growth in Java. High population does not guarantee an increase in economic growth without technological progress. The theory of economic growth proposed by Adam Smith states that economic growth is a process of combination between population growth and technological progress so as to increase output. David Ricardo also argued that population growth that is getting bigger until it doubles has an impact on increasing the amount of abundant labor. The abundance of labor causes wages to fall, low wages impact the economy in “stationary states”, so technological advances are needed to avoid it (Huda & Indahsari, 2021).

A large population is not always directly proportional to an increase in economic output. According to Todaro (in Damanik & Lubis, 2022) economic growth is the long-term increase in a country's capacity to provide various goods for its population. This shows that population has a close relationship with economic growth. High population growth can hinder economic development due to the increased burden on the country's resources and infrastructure. Previous research by Damanik & Lubis (2022) showed that population has a negative impact on economic growth if it is not accompanied by an increase in the quality of human resources. In contrast to previous research by Purwati & Prasetyanto (2022) which states that population has a positive and significant effect on economic growth because the population is a market for goods and services produced. In addition, the population acts as a production factor so that an increase in population will increase the number of production factors.



**Figure 7. GRDP Rate and Population of Provinces in Java Island 2019-2023**

Source: BPS (data processed), 2024

Based on Figure 7 above, provinces with high populations such as West Java and East Java do not always have better GRDP rates than provinces with smaller populations such as DI Yogyakarta. This shows that a large population can be a challenge, especially when population growth is not accompanied by increased productivity and technological progress, as described in the theory. In contrast, DKI Jakarta, which has a smaller population but higher productivity levels, is able to maintain a stable and fast-recovering GRDP rate.

**Indonesian Democracy on Economic Growth in Java Island**

The IDI reflects the quality of democracy, political stability, civil liberties and political rights in a region. The results show that IDI has a positive (non-significant) influence on economic growth in Java. The positive (non-significant) results suggest that the quality of democracy has the potential to support economic growth, but its impact may not be directly felt and is more pronounced through factors such as the quality of institutions and stable policies. This is in line with Barro (in Damanik & Lubis, 2022) who states that democracy does not directly affect economic growth, but rather through social capital and human capital factors that ultimately affect the quality of governance.

The positive relationship is also consistent with endogenous growth theory, which explains that investment in physical and human capital plays an important role in determining long-term economic growth. This theory also considers political stability, government policy, bureaucracy, infrastructure, laws and regulations and the international exchange base as crucial factors that also affect economic growth (Ma'ruf & Wihastuti, 2008). Previous research by Acemoglu et al. (in Damanik & Lubis, 2022) supports the theory, which found that strong democracy significantly increases economic growth by creating inclusive policies, encouraging public participation, and building effective institutions. In addition, research by Hutasoit et al. (2024) showed that IDI has a significant effect on economic growth simultaneously, especially when this variable is considered together with social stability and supportive investment.

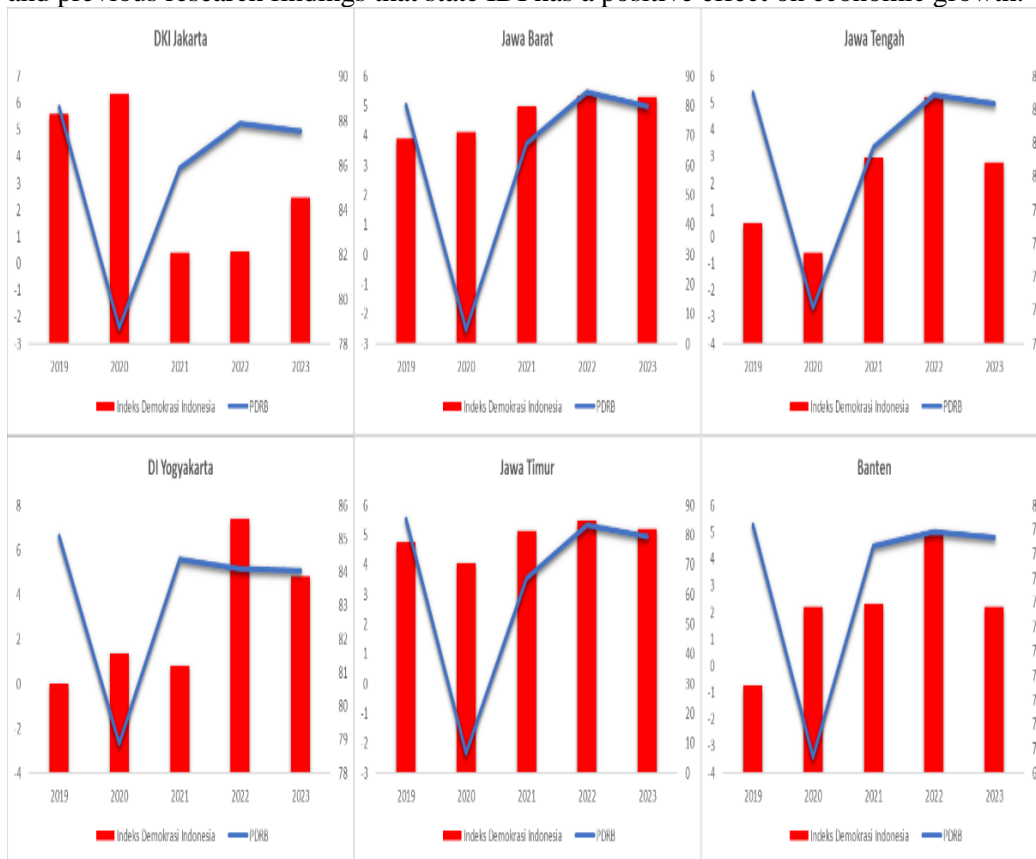
In contrast to previous research by Damanik & Lubis (2022) that IDI has no significant or negative effect, meaning that democracy is able to inhibit economic growth. According to Huntington (in Damanik & Lubis, 2022), developing countries cannot afford democracy because



the system is inefficient in economic growth. The rapid economic development under authoritarian governments in some countries is a reflection of the effectiveness of authoritarian governments in economic performance.

Good democracy (as reflected in the IDI) creates an enabling environment for transparency, accountability and public participation. The insignificant results of the study indicate that democracy in Java Island itself has not been fully optimized in promoting economic growth. Moh. Hatta's idea of economic democracy in *Article 33 Paragraph (4) of the 1945 Constitution states that the national economy is organized based on economic democracy with the principles of togetherness, equitable efficiency, sustainability, environmental insight, independence, and maintaining a balance of progress and national economic unity.* The idea emphasizes the importance of social justice and economic management based on the principle of togetherness. A healthy democracy should encourage inclusive and fair economic policies. The insignificant effect of the IDI may reflect that these principles of economic democracy have not been fully implemented in Java. In addition, there may also be a gap in the implementation of formal and substantive democracy. Formal democracy reflected by indicators of civil liberties, political rights, and the role of democratic institutions may not be fully aligned with substantive democracy that ensures people's participation in economic decision-making. As a result, the effect of democracy on economic growth has not been optimal.

Based on Figure 8 below, DKI Jakarta has the highest and stable IDI, indicating a faster economic recovery compared to provinces such as DI Yogyakarta and Banten, which experience IDI fluctuations. This shows that democratic stability in DKI Jakarta has the potential to create a conducive investment climate and support economic growth, in line with endogenous growth theory and previous research findings that state IDI has a positive effect on economic growth.



**Figure 8. GRDP Rate and Indonesia Democracy Index (IDI) of Provinces in Java Island 2019-2023**

Source: BPS (data processed), 2024

## CONCLUSION AND SUGGESTIONS

### Conclusion

Java Island is Indonesia's strategic region in welcoming the Golden Indonesia Vision 2045 on the Second Pillar, namely "Sustainable Economic Development". This study aims to analyze the effect of per capita expenditure, population, and democracy on economic growth in Java during the 2019-2023 period. Based on the analysis that has been done, the results show that per capita expenditure has a positive influence on economic growth in Java. This result is in accordance with Keynesian theory, which states that high purchasing power will increase aggregate consumption, which in turn can drive economic growth. Provinces with high purchasing power (DKI Jakarta) tend to experience faster economic recovery when experiencing contraction because they have higher per capita expenditure than other provinces in Java.

Population has a negative influence on economic growth in Java. This indicates that a high population, if not accompanied by increased productivity and technological advances, has the potential to create a burden on the economy. This result is in line with Adam Smith and David Richardo's theory that population growth can have a negative impact on the economy if it is not balanced with increased labor productivity and technology adoption. Provinces with high population increases (West Java and East Java) do not always have higher GRDP rates than provinces with smaller populations such as DI Yogyakarta.

Political stability and the quality of democracy represented by the IDI have a positive (insignificant) influence on economic growth in Java. This positive result is in line with endogenous growth theory, which considers political stability and democracy as one of the important factors in influencing economic growth. The positive, but insignificant result is due to the effect of democracy on economic growth that will be felt in the long run or indirectly through social capital and human capital that have an impact on improving institutions and governance (quality of government). DKI Jakarta, which has the highest and stable IDI, shows a faster economic recovery than provinces such as DI Yogyakarta and Banten, which experience IDI fluctuations.

### Suggestion

Suggestions recommended based on the research results are: First, increase per capita expenditure through an increase in community income. An individual's per capita expenditure is highly dependent on his or her income level. The higher the income received, the higher the resulting expenditure or consumption. Provincial governments with relatively low per capita expenditure (West Java, Central Java, and East Java) in the range of 10,000-11,000 thousand rupiahs, need to develop a policy or program to increase community income through improving labor skills. Improving labor skills will produce a qualified workforce. Then, with this qualified workforce, the government should provide employment in productive sectors so that workers are not unemployed and cause social problems that have a negative impact on economic growth. In addition, targeted subsidy programs for low-income households can also increase purchasing power and support aggregate consumption, which in turn can have a positive impact on regional economic growth.

Second, control and development of the productive population. High human capital must be matched with high quality so that it can create high productivity. Local governments in provinces with relatively high population growth (West Java and East Java) need to focus on improving the productivity of the population through investments in education, skills training and technology. Improving access to vocational education and training programs that match industry needs will help optimize the contribution of a large population to the economy. In addition, the government should encourage the adoption of technology in key economic sectors, so that the abundant workforce can be utilized more productively and support sustainable economic growth.

Third, improving the implementation of substantive democracy. Provincial governments with fluctuating IDIs (DI Yogyakarta and Banten) need to improve the implementation of substantive democracy by ensuring that civil liberties, political participation, and the role of democratic institutions run optimally, in accordance with the principles of economic democracy promoted by Moh. Hatta in Article 33 of the 1945 Constitution. This can be realized through: a)

Improving the quality of democratic institutions at the regional level, especially in the management of strategic sectors that have a direct impact on the community's economy. b) Strengthening public oversight and transparency of economic policies, so that economic decisions are more inclusive and in favor of the people. c) Encouraging synchronization between political democracy and economic democracy, so that community participation is not only limited to elections or politics, but also in making economic development policies that are equitable and just. With these various recommended steps, it is hoped that the positive effect of IDI on economic growth will become more significant, in line with the ideals of social justice and economic democracy in Article 33 of the 1945 Constitution.

### IMPLICATIONS

This study implies that high per capita expenditure can increase economic growth by boosting people's purchasing power. The provincial government can use this finding to formulate policies that boost people's income, such as skills training programs and job creation. In addition, this study indicates that a high population without productivity has the potential to be a burden on the economy, so it is necessary to develop the education and technology sectors to increase the productivity of the population. Finally, political stability and good democracy, although the impact is not significant in the short term, have the potential to contribute positively to economic growth through improved quality of governance and more inclusive economic policies.

### LIMITATIONS

This study has several limitations. First, the study only covers six provinces in Java during the 2019-2023 period, so the results may not be generalizable to other regions in Indonesia. Second, the variables used are limited to three variables, namely per capita expenditure, population, and the Indonesian Democracy Index, so they do not include other factors that may affect economic growth, such as investment, infrastructure, or fiscal policy. Third, the insignificant effect of democracy on economic growth in this study could be due to data limitations or the lack of indicators that reflect substantive democracy. Further research could include a longer time period and additional variables to provide more comprehensive results.

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