

Impact Of Macroeconomic Variables And Zakat On Poverty Alleviation: Evidence From Indonesian Panel Data Analysis

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ABSTRACT

Purpose: This study examined the impact of macroeconomic variables and zakat on poverty alleviation.

Design/methodology: This study is a quantitative study with a regression analysis method of panel data in districts/cities in Central Java, West Java, and East Java, from 2018 to 2022. Additional testing on a subsample in East Java was conducted to ensure the consistency of the results.

Findings: The findings indicate that the Human Development Index, gross domestic product, and zakat negatively affect poverty levels, while the regional minimum wage positively affects poverty alleviation. Further, the study fails to find any significant impact of government expenditure on poverty alleviation. The test in East Java indicates that only the regional minimum wage and government expenditure affect poverty levels. This suggests that poverty is a complex issue that varies from region to region, necessitating region-specific poverty alleviation policies.

Practical implications: These results suggest that the synergy between government and society is crucial for poverty alleviation in Indonesia, and policies should be tailored to the specific conditions of each region.

Originality/Value: This study provides insights into the complex relationship between macroeconomic variables and poverty alleviation, highlighting the regional differences in the impact of these variables.

Keywords: Poverty, Human Development Index, Government Spending, Zakat

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A. INTRODUCTION

According to data from the Indonesian Central Bureau of Statistics (2023), the highest percentage of poor residents is in the Maluku and Papua islands, at 19.68 percent. In contrast, the lowest percentage of poor residents is in Kalimantan, at 5.67 percent. However, in terms of the total number of poor residents, the majority are on the island of Java (13.62 million people), while the lowest number of poor residents is found in Kalimantan (0.97 million people). Table 1 illustrates the data.

Table 1. Number and Percentage of Poor Population by Island in Indonesia

Island	Percentage of Poor Population (%)			Number of Poor Population (in million people)		
	Urban Areas	Rural Areas	Total	Urban Areas	Rural Areas	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Sumatra	7.97	10.33	9.27	2.20	3.47	5.67
Java	7.40	11.81	8.79	7.85	5.77	13.62

Bali and Nusa Tenggara	8.50	17.73	13.29	0.65	1.44	2.09
Kalimantan	4.45	6.88	5.67	0.38	0.59	0.97
Sulawesi	5.87	13.16	10.08	0.50	1.54	2.04
Maluku and Papua	6.13	26.73	19.68	0.16	1.35	1.51
Indonesia	7.29	12.22	9.36	11.74	14.16	25.90

Source: Central Bureau of Statistics, 2023

The percentage of the population classed as poor on each island is divided into two categories: urban and rural (Badan Pusat Statistik Indonesia 2023). From September 2016, their numbers steadily decreased until September 2019. However, this trend changed with the onset of the COVID-19 pandemic. The pandemic, which began in early 2020, increased the number of poor people. This increase occurred due to the significant economic impact of COVID-19, such as companies cutting operational costs by reducing their workforce, which resulted in many layoffs (Rahmawati and Kholilah 2023). As of March 2023, the number remained higher than the pre-pandemic levels of September 2019. Figure 2 shows the fluctuations in the number of poor people over a decade in Indonesia.

The data indicates that poverty and its influencing variables are highly crucial subjects for research, particularly regarding the synergy between government and society in reducing poverty levels. Macroeconomic variables illustrate the government's efforts to provide stimulus for poverty alleviation. Meanwhile, zakat represents active participation by the community for poverty alleviation through Islamic philanthropic funds (Suprayitno 2020; Tarique, Mahmud, and Hasan 2016).

Previous studies utilized various macroeconomic indicators, such as the Human Development Index (HDI), regional minimum wage (UMR), gross regional domestic product (GRDP), and government expenditure (Mazidah and Rahmatika 2021; Nurwayullah and Huda 2022; Suprayitno 2020) with differing results. The divergent findings regarding the impact of the macroeconomic variables present a gap in the research. This study also incorporates community synergy through zakat funds, as a novel aspect of the research. Zakat is a significant Islamic economic instrument that is beneficial for national economic stabilization. Several studies demonstrate that zakat can directly reduce poverty levels (Suprayitno 2020; Tarique, Mahmud, and Hasan 2016). Furthermore, zakat can transform recipients into payers through productive zakat (Choiriyah et al. 2020; Herianingrum et al. 2024).

The first macroeconomic variable is the Human Development Index (HDI), which comprises several components, such as life expectancy, expected years of schooling, mean years of schooling, and per capita expenditure (Soleh and Wahyuni 2021). HDI can illustrate the level of work productivity; a low HDI value corresponds to low work productivity, and vice versa (Mongan 2019). Several studies have suggested that low productivity affects income levels. The lower the productivity, the lower the potential for income generation. A low income is a characteristic of poor populations (Andhykha, Handayani, and Woyanti 2018; M. N., Wahyuni, Zakaria, Widyaningrum, R. Saputra, D., Prihastari, E. B. Ramadani, and Nurhayati 2021; Soleh and Wahyuni 2021; Widjajanto and Agus 2020). The second macroeconomic variable is the regional minimum wage (UMR). It is a form of protection implemented by the government to promote income equality among laborers, employees, and workers (Putra, Mahesa, and Yasa 2019). It is often used to describe income increases in a region (Mustika, Setyowati, and Alam 2019), so its size impacts the number of poor people.

The third macroeconomic variable is the gross regional domestic product (GRDP). GRDP represents the total value of goods and services produced by certain individuals within a specific period, typically one year (Mazidah and Rahmatika 2021; Nurwayullah and Huda 2022; Suprayitno 2020). GRDP is an indicator for assessing the government's success in resource use to achieve its objectives, one of which is poverty alleviation (Mustika, Setyowati, and Alam 2019). Previous studies have demonstrated that GRDP positively affects poverty (Andhykha, Handayani, and Woyanti 2018). This result indicates that the higher the GRDP, the greater the number of poor people. It suggests that a high GRDP reflects increasing economic inequality within the community. In contrast, other studies have shown that GRDP negatively affects poverty. The finding indicates that the higher the GRDP, the lower the number of poor people, which implies that more people are involved in the production process, thus reducing the number of poor individuals (Widya Ningsih, Fitriyana, and Hernisyafitri 2022).

The final macroeconomic variable of this study is government expenditure. Government expenditure reflects the government's policies aimed at achieving the set goals (Soleh and Wahyuni 2021). Supratiyoningsih & Yuliarmi (2022), in their research, explain the Keynesian theory, which posits that government expenditure goes in line with economic growth. An increase in government expenditure also shows an uptrend in economic growth, which can be observed in the produced output and income. One policy or solution offered by the government is low-interest financing with government subsidies, in the form of working capital loans (Jaya 2018). The higher the government expenditure, the greater the potential for poverty alleviation through direct fund allocations to the poor.

A community effort to reduce poverty levels involves the optimization of the role of BAZNAS (Badan Amil Zakat Nasional) in the collection and distribution of zakat funds. BAZNAS contributes to poverty alleviation through the zakat of the public (Suprayitno 2020; Tarique, Mahmud, and Hasan 2016). Several studies have proven the effectiveness of zakat in reducing poverty levels (Mazidah and Rahmatika 2021; Nurwayullah and Huda 2022; Suprayitno 2020). The distribution of zakat funds to *mustahiq* (the ones eligible to receive zakat funds), including the poor, is a tangible form of community participation in reducing the number of poor individuals. Additionally, the potential zakat funds that BAZNAS can collect are substantial. Table 2 shows that the potential provincial-scale zakat in Indonesia reaches Rp. 4.37 trillion.

Table 2. Zakat Potential by Province

No.	Province	Zakat Potential (in billion Rp)	No.	Province	Zakat Potential (in billion Rp)
1.	Aceh	195.4	18.	West Nusa Tenggara	105.4
2.	North Sumatra	201.9	19.	East Nusa Tenggara	19.2
3.	West Sumatra	149.0	20.	West Kalimantan	73.7
4.	Riau	116.9	21.	South Kalimantan	102.0
5.	Jambi	91.1	22.	Central Kalimantan	61.8
6.	South Sumatra	160.1	23.	East Kalimantan	85.3
7.	Bengkulu	68.6	24.	North Kalimantan	20.7
8.	Lampung	134.6	25.	South Sulawesi	217.6
9.	Bangka Belitung	31.3	26.	Southeast Sulawesi	92.9
10.	Riau Island	33.6	27.	Central Sulawesi	79.1
11.	Banten	105.0	28.	West Sulawesi	33.7
12.	DKI Jakarta	302.9	29.	North Sulawesi	29.6

13.	West Java	535.4	30.	Gorontalo	37.9
14.	Central Java	505.4	31.	Maluku	42.2
15.	DI Yogyakarta	81.9	32.	North Maluku	38.3
16.	East Java	547.4	33.	West Papua	18.5
17.	Bali	27.5	34.	Papua	27.0
Jumlah					4,372.0

Source: Baznas, 2023

The potential for zakat receipts is proportional to that of poverty alleviation through the distribution of zakat funds. The highest zakat receipts in Indonesia are in three provinces in Java based on Baznas in table 2. Table 2 shows that the largest zakat potential lies in three provinces on Java: East Java with Rp.547.4 billion, followed by West Java and Central Java with Rp.535.4 billion and Rp.505.4 billion, respectively (Zaenal, Choirin, Hartono, et al. 2022). However, the largest number of poor people, as in Table 1, is also found in Java. These two data points present a contradictory phenomenon between the number of poor people and the potential for zakat receipts, which is novel to the research. Zakat and macroeconomic variables influence poverty in Indonesia (Islamiyati & Hany, 2020). This aligns with the research by Mariyanti & Mahfudz (2016), which states that government policies should focus on empowering the poor through real-sector economic activities, which results in high ZIS (zakat, infaq, and sadaqah) collections. Therefore, this study aims to empirically examine the impact of HDI, UMR, GRDP, government expenditure, and zakat on poverty alleviation.

B. LITERATURE REVIEW

1. Poverty Alleviation

Poverty is closely related to an inadequate standard of living and is characterized by a condition in which an individual experiences material deprivation compared to others, or based on generally accepted living standards in society. The three indicators of poverty are the Headcount Index (HCI), the Poverty Gap Index (PGI), and the Poverty Severity Index (PSI) (Soleh and Wahyuni 2021). The Headcount Index (HCI - P0) measures the proportion of the population whose income is below the poverty line (PL). The Poverty Gap Index (PGI - P1) measures the average income shortfall of the poor compared to the poverty line. A higher index value indicates that the average income of the poor is further from the PL. The Poverty Severity Index (PSI - P2) describes the degree of expenditure inequality among the poor. A higher index value indicates a greater level of expenditure inequality among the poor (Soleh and Wahyuni 2021).

2. Human Development Index

The HDI can be a parameter for assessing people's quality of life wisely, and determining the level of development at the regency or even national level (Cahyanti and Fevriera 2020). A high level of HDI affects economic growth through society's ability to contribute to increasing society's productivity and creativity (Muqorrobin and Soejoto 2017). The composition of the HDI is based on health, education, and people's purchasing power (Prasetyoningrum and Sukmawati 2018). Apart from education, health also plays a role in increasing income. The influence of health on income includes improving the population's health, which will increase their labor force participation. Increasing one's education is often associated with increasing incomes or wages (Prasetyoningrum and Sukmawati 2018).

The HDI is a regulation for human quality assessment. The indicators in the HDI consist of health, education, income, and purchasing power. Developing the quality of human life can be an effective approach to poverty alleviation strategies. The concept of human development is considered more essential than focusing only on national income (Rohmi, Jaya, and Fahlevi 2021). Prasetyoningrum & Sukmawati (2018) state that HDI negatively affects poverty. A better HDI can reduce poverty levels (Prasetyoningrum & Sukmawati, 2018; Budhijana, 2020; Dharmmayukti et al., 2021; Praja et al., 2023; Aini & Islamy, 2021).

H₁: The HDI affects poverty alleviation.

3. Regional Minimum Wage

The regional minimum wage is the minimum monthly salary paid, which includes the basic wage or remuneration along with any fixed allowances, to workers in the lowest positions who have less than one year of work experience in a specific sector (Siregar, Lubis, and Inayah 2023). On the other hand, the sectoral minimum wage is a salary standard applied in a province and adjusted according to the capacity of the sector. The wage system is a structure that determines how salaries are organized and set with the aim of improving welfare (Siregar, Lubis, and Inayah 2023).

The salary or wage system commonly used in countries can be viewed from two perspectives. First, the minimum wage functions as a means of protection for employees, so that the income they receive does not decrease and remains sufficient for their daily needs. Second, it also acts as a protection mechanism for companies to maintain the level of productivity of their employees.

The increase in the wages of workers brings about improvements in welfare and community income, which can stimulate economic activities and help people escape the cycle of poverty. By raising the minimum wage, the need for a decent standard of living is fulfilled, thereby enhancing the overall quality of life (Megantara and Sri 2020). The minimum wage can be one way to reduce poverty. Therefore, the regional minimum wage affects poverty (Mawaddah et al., 2023; Safitri et al., 2022).

H₂: The regional minimum wage affects poverty.

4. Gross Regional Domestic Product

Gross regional domestic product (GRDP) is an important indicator for assessing the economic conditions of a region or province in a certain period, a year is common (Jaya & Kholilah, 2020, Wellyanti, 2019), and there are three methods of calculating the regional economic growth. The first is with the income approach, where the GRDP is calculated by adding up all the profits from production factors, including wages, salaries, rent, and capital obtained during the production process in the area, within a certain period. The second is by the expenditure approach, where the GRDP is calculated from the total components of final demand, including consumption expenditure by households and private institutions, government consumption, domestic gross fixed capital formation, and net exports. The third is using the production approach. With this approach, the GRDP is calculated from the total value of goods and services produced by economic units in an area, reduced by the total gross production costs of each sector during a certain period, usually one year.

An increase in GRDP affects the rate of economic growth, regardless of whether the increase is great or small (Alfakhirah and Jaya 2024). The decline in a region's GRDP affects the quality of household consumption, and, if the population's income level is limited, many

poor households are forced to change their staple food patterns to the cheapest items in reduced quantities. Therefore, the GRDP affects poverty (Giovanni, 2018; Leonita & Sari, 2019; Aini & Islamy, 2021).

H₃: The GRDP affects poverty.

5. Government Expenditure

Government expenditure is a combination of diverse products created to provide services for the community, including the provision and maintenance of public goods, public services, and administrative services. Every activity the government presents, which is reflected in expenditure, should contribute positively to local and national development in terms of the economy and human resources. According to Soleh & Wahyuni (2021), obligatory government expenditure includes employee salaries, debt interest payments, subsidies, and purchasing goods. Meanwhile, non-obligatory expenses include capital investment, social assistance, and others.

Government expenditure is one component of fiscal policy that aims to increase the rate of investment and employment opportunities, maintain economic stability, and create an equal distribution of income (Amalia et al. 2015). The higher the government expenditure, the higher the poverty rate in the area. This is in line with the result of the research by Soleh & Wahyuni (2021), which shows that government expenditure has a positive and significant effect on poverty. According to Pratama & Utama (2019), government expenditure has a direct effect on poverty.

H₄: Government expenditure affects poverty

6. Zakat

Zakat is a part of the wealth that every Muslim who meets the necessary criteria, must give to certain people with certain conditions (Romdhoni 2017). In economic terms, it refers to the act of transferring wealth from the rich to the poor. Therefore, it is one of the instruments believed to affect poverty alleviation. The four types of assets that are objects of zakat are income above the minimum *an-nisab*, productive assets that are idle for a year, unexpected profits and money that is not reinvested within a year as zakat, and inheritance (Zaenal et al. 2023).

According to Yusuf Qardhawi, zakat is the third pillar of Islam. It aims to alleviate the socio-economic problems with business capital, which affect people's living standards, such as poverty, unemployment, and so on. The distribution of zakat to *mustahiq* can create jobs (Haidir 2019). Nafi'ah (2021) also stated that zakat has affected poverty alleviation in 34 provinces in Indonesia (Abdelmawla, 2014; RatnaSari & Firdayetti, 2019; Khoirunniswah et al., 2023; Hariyanto & Nafi'ah, 2023).

H₅: Zakat affects poverty

C. METHOD

This research employed quantitative research methods to examine the effect of the macroeconomic variables and zakat on poverty alleviation. The researchers collected annual secondary data from the official BPS website for Central Java, West Java, and East Java for the HDI, RMW, GRDP, government expenditure, and poverty variables during the period from 2018 to 2022. Meanwhile, zakat data was obtained from the financial reports of BAZNAS for

Central Java, West Java, and East Java from 2018 to 2022. These three provinces were chosen because they are the provinces with the highest level of potential zakat receipts and the largest number of poor people in Indonesia. This research adopted purposive sampling to select cities/regencies in the three provinces. The sample's selection criteria were as follows: City/Regency with complete data from 2018 to 2022 including reports on Poverty, Human Development Index, Regional Minimum Wage, Gross Regional Domestic Product, Government Spending; and City/Regency whose zakah data is included in the BAZNAS financial report for each city and district in the province.

This research included one dependent variable, which was the poverty level, and five independent variables that represented the synergy of government and community efforts in overcoming poverty. The HDI, RMW, GRDP, and government expenditure describe the government's efforts, while zakat represents society's contribution. Table 3 explains the operational definition of each variable.

Table 3. Operational Definition of the Variables

Indicator	Operational Definition	Pattern	Unit
Human Development Index (HDI)	HDI is a summary measure of average achievement in three basic dimensions of human development: long and healthy life (health), knowledge (education), and a decent standard of living (income) (Paliova, McNown, and Nulle 2019).	$HDI = \frac{Health\ Index + Education\ Index + Income\ Index}{3}$ a. Health Index: Calculated based on life expectancy. b. Education Index: Based on the average length of schooling and expected length of schooling. c. Income Index: Based on the logarithm of GDP per capita.	Percent
Regional Minimum Wage (RMW)	RMW refers to the minimum wages the companies pay workers for the work they do (Iksan, Arifin, and Suliswanto 2020).	$RMW = Decent\ Living\ Needs\ (DLN) + Inflation + Economic\ Growth$	Rupiah
Gross Regional Domestic Product (GROSSREG)	GRDP is an important indicator for assessing the economic conditions of a region or province in a certain period: A year is common (Jaya and Kholilah 2020)	$GROSSREG = \sum (Production\ of\ Goods\ and\ Services) + Net\ Income\ from\ Outside\ the\ Region$	Rupiah
Government Expenditure (GOVEXP)	Government expenditure is a combination of the products created to	$GOVEXP = Employee\ Expenditure + Goods\ Expenditure + Capital\ Expenditure + Transfers\ to\ Regions + Debt\ Interest\ Payments$	Rupiah

Indicator	Operational Definition	Pattern	Unit
	provide services to the community, including the provision and maintenance of public goods, fees for public services, and administrative services (Soleh & Wahyuni, 2021)		
Zakat (ZAKAH)	Zakat is a financial obligation for capable Muslims, calculated based on their wealth and distributed to eligible recipients, such as the poor and needy, to promote social welfare and economic equity (Zaenal, Choirin, Anggraini, et al. 2022).	$ZAKAH = \text{Wealth} \times 2.5\%$	Rupiah
Poverty (POV)	Poverty rate is the percentage of the population living below the poverty line in a given population (Adji et al. 2020; Setiawan 2018)	The number of poor people is divided by the total population and then multiplied by 100	Percent

Source: Data processed, 2024

In Central Java, this study involved 18 regencies/cities; in West Java, 27 regencies/cities; and in East Java, 14 regencies/cities. The total number of observations was 59 samples multiplied by five years (from 2018 to 2022), resulting in 295 observations. The data analysis technique was panel data analysis, using the common effect model (CEM), the fixed effect model (FEM), and the random effect model (REM). This study used panel data analysis because the data was cross-sectional and time-series (Choiriyah et al. 2020). Therefore, three possible panel data estimation models were posed in this study. The first model was the ordinary least squares (OLS) model, which does not consider time and individual differences. The following is the OLS model's estimation.

$$POV_{it} = \beta_0 + \beta_1 HDI_{it} + \beta_2 RMW_{it} + \beta_3 GROSSREG_{it} + \beta_4 GOVEXP_{it} + \beta_5 ZAKAH_{it} + \varepsilon_{it} \dots (1)$$

The second model was the fixed effect model (FEM), which considered the possibility that the intercepts differed between cities/regencies in the three provinces, while the slopes were the same among the cities/regencies during the study period. The following is the FEM estimation model.

$$POV_{it} = (\beta_0 + \lambda_i) + \beta_1HDI_{it} + \beta_2RMW_{it} + \beta_3GROSSREG_{it} + \beta_4GOVEXP_{it} + \beta_5ZAKAHit + \varepsilon_{it} \dots (2)$$

The third model was the random effect model (REM), which estimated the possibility that the disturbance variables were correlated between time and individuals. The following is the REM estimation model.

$$POV_{it} = \beta_0 + \beta_1HDI_{it} + \beta_2RMW_{it} + \beta_3GROSSREG_{it} + \beta_4GOVEXP_{it} + \beta_5ZAKAHit + (\varepsilon_{it} + \lambda_i) \dots (3)$$

This study employed additional testing on a subsample in East Java, to ensure the consistency of the test results. The additional testing was conducted on the East Java subsample, because the potential zakat receipts and the number of poor people were the highest among the three provinces.

D. RESULT AND DISCUSSION

1. Human Development Index Affects Poverty Alleviation

The probability value for the HDI was 0.000, with a coefficient value of -0.218, meaning the coefficient was negatively distributed. It indicated that HDI negatively affected poverty alleviation. This finding aligns with the proposed hypothesis. Hasan (2021) states that the HDI negatively affects poverty; the phenomenon in Indonesia shows an increase in poverty because economic growth is concentrated only in certain sectors. Varlitya et al. (2018) emphasize that increasing economic opportunities, education, and equitable distribution Employment for all groups among the regions, without disparities, is crucial. If disparities exist, it becomes more challenging to reduce poverty, and HDI may exacerbate poverty.

The research result is different from that of the previous research, which stated that HDI could increase workers' productivity, thereby providing improved incomes that contributed to meeting their needs, as well as a better standard of living (Fajriah 2021; Landapa and Purbadharmaja 2021). Fulfilling these main needs increases the quality of the HDI, so that it can reduce poverty levels (Prasetyoningrum & Sukmawati, 2018; Budhijana, 2020; Dharmmayukti et al., 2021; Praja et al., 2023; Aini & Islamy, 2021).

The additional testing in East Java demonstrated a different result. The HDI did not affect poverty alleviation. This result occurred for reasons because the differences in results between East Java and the larger sample regarding HDI and zakat are due to several structural factors. In East Java, HDI does not significantly impact poverty alleviation because of disparities in access to basic services and economic infrastructure, leading to an uneven distribution of its benefits (Ardina 2024). Additionally, the increase in HDI correlates with rising unemployment, as educated individuals struggle to be absorbed into the labor market (Ardina 2024). Unequal distribution of resources and economic policies across regions also weakens the effectiveness of HDI in reducing poverty, contrasting with findings from the larger sample, which indicate a positive impact of HDI on poverty reduction (Hasan 2021; Varlitya, Masbar, and Nasir 2018).

Apart from HDI, the effectiveness of zakat in alleviating poverty in East Java may also be lower than in the broader sample. This discrepancy could stem from differences in distribution systems and public participation in zakat, leading to suboptimal impacts. On a national scale, zakat is often seen as a crucial instrument for poverty reduction, but its

effectiveness depends on how well the funds are distributed fairly and accurately (Aini and Islamy 2021; Fajriah 2021). Therefore, variations in policy implementation and structural factors are the key reasons why East Java's results differ from those of the larger sample.

2. Regional Minimum Wage Affects Poverty Alleviation

The probability value of RMW was 0.000, with a coefficient of 1.770, which meant that the coefficient value had a positive distribution. Therefore, RMW positively affects poverty alleviation. This result corresponds to that of Ghinastri & Syafitri (2024), who found that increasing the MSE can increase the unemployment rate, due to restrictions on wage adjustments (wage rigidity). Restrictions on wage adjustments cause an imbalance in the demand and supply of labor. Excess labor is not fully absorbed into the market, which causes an increase in unemployment.

In contrast, the examination of the research data in East Java showed that the RMW had no further effect on poverty (Devereux, 2005 cited in Murti & Kurniawan, 2020) because the skills or supply of unskilled or below-standard labor determines wages at the level of exploitation. The high level of wages is not balanced by the increase in companies' business results, so companies carry out layoffs, which result in a loss of people's income, so they become trapped below the poverty line (Fajriah 2021).

3. Gross Regional Domestic Product Affects Poverty Alleviation

The GROSSREG probability value was 0.006, with a coefficient value of -1.110, which meant that GROSSREG negatively affects poverty alleviation. Therefore, the higher the GROSSREG, the lower the poverty level in the area. Increasing GROSSREG in a region affects the quality of households' consumption. The high-income level of the population means that the household sector does not need to change its staple food patterns to the cheapest goods, so the number of products in circulation increases (Giovanni, 2018; Leonita & Sari, 2019; Aini & Islamy, 2021). The large number of goods in circulation indicates that people have many consumption choices, which brings about an increase in economic growth. Rapid economic growth can reduce poverty, which is an indicator of the success of regional development (Fajriah 2021; Ulfah, Mukhtar, and Wiralaga 2023).

Additional testing in East Java demonstrated different results, as GROSSREG did not affect the level of poverty alleviation in East Java. This result explains that increasing GRDP cannot increase or decrease poverty levels (Anggoro and Kriswibowo 2023; Kuncara, Mukodim, and Segoro 2013). It contradicts previous research, which found that GRDP has a negative effect on poverty levels in East Java (Herlambang and Rachmawati 2023). The difference in the result of this research indicates that the drive to increase investment and infrastructure development must be directed at all sectors, not only focused on the sectors that bring about high economic growth, such as manufacturing, technology, and tourism (Herlambang and Rachmawati 2023).

4. Government Expenditure Affects Poverty Alleviation

The GOVEXP probability value was 0.277. The coefficient value of 5.170 showed a positive distribution, so government expenditure did not affect poverty alleviation. This is in line with the results of research by Soleh & Wahyuni (2021), who found that there are many types of government expenditure, and not all government spending policies reduce poverty. Government expenditure cannot reduce poverty levels if the allocation of regional funding is not appropriate (Pratama and Utama 2019). The government's efforts in the health sector, since

2016, have been allocated to fulfill the mandatory health budget spending of at least five percent of the State budget. Government spending on the health sector continued to increase from 1992 to 2021, yet it did not affect the poverty rate (Carolina 2022). This suggests that while investments in healthcare may improve public well-being, they do not immediately translate into economic empowerment for impoverished individuals.

In contrast to the previous research by Masduki et al. (2022), quality government expenditure can reduce poverty levels. Government expenditure on education is right on target, because it helps poor people obtain a proper education so that in the end they can improve their economic condition (Carolina 2022). It corresponds to research that says government expenditure has a significant negative effect on poverty alleviation.

5. Zakat Affects Poverty Alleviation

The probability value of zakah was 0.0041 with a coefficient value of -1.120, which meant that zakat negatively affects poverty alleviation. This is in line with that of research by Nafi'ah (2021), who states that zakat affects poverty alleviation in 34 provinces in Indonesia (Abdelmawla, 2014; Ratna Sari & Firdayetti, 2019; Khoirunniswah et al., 2023; Hariyanto & Nafi'ah, 2023). Therefore, government policies regarding zakat, infaq, and sadaqah can focus more on empowerment programs for the poor through real-sector economic activities, so they generate larger ZIS funds (Mariyanti & Mahfudz, 2016). Productively distributing zakat funds to *mustahiq* can create new jobs in society (Haidir 2019). This is different from the research result by Zaenal, Choirin, Anggraini, et al., (2022) who discovered that in East Java, zakat does not lead to poverty alleviation because the distribution of zakat funds is unequal, and they have not been optimally reaching the poor.

E. CONCLUSION

The research results suggest that HDI negatively affects poverty alleviation in the three provinces of Java with the highest zakat income. It indicates that progress in human resources can reduce poverty. However, in East Java, HDI has no effect due to unequal access to basic services, high unemployment, and the unequal distribution of resources. Besides, the RMW positively affects poverty alleviation, which means that an increase in RMW is directly proportional to the unemployment rate. However, in East Java, RMW has no effect, due to the low skill levels of the workforce and the high rate of employment termination. Meanwhile, GRDP negatively affects poverty alleviation. An increase in a region's GRDP has an impact on the quality of household consumption. This result is inversely proportional to the GRDP in East Java, which suggests that GRDP does not exert any effect on the poverty level.

It is important to implement policies that improve the zakat distribution system to make it more equitable and effective. This can be achieved by utilizing digital technology for zakat collection and distribution while enhancing transparency. In addition, government expenditure needs to be aligned with poverty alleviation goals by prioritizing sectors that directly impact poverty reduction, such as education and job creation. An evaluation of government expenditure, especially in East Java, should be conducted to ensure more targeted fund allocation. Furthermore, synergy between the government, private sector, and society is crucial for the success of poverty alleviation efforts. The government can encourage corporate social responsibility (CSR) programs and strengthen microfinance initiatives. By involving

various stakeholders, zakat distribution and poverty reduction programs can be more focused and directly impactful to the communities in need.

The limitations of this study include its reliance on secondary data, which could affect the accuracy of the findings, as well as potential biases in zakat reporting. Future research should incorporate economic condition variables, especially in the case of unforeseen events, such as the COVID-19 pandemic, which impacted all economic sectors, including poverty levels, due to massive job losses.

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