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Can Zakat Contribute to Achieving Sustainable Development Goals? A Case Study on Java Island, Indonesia

Dapatkah Zakat Berkontribusi pada Pencapaian Tujuan Pembangunan Berkelanjutan? Studi Kasus Pulau Jawa, Indonesia

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ABSTRACT

In this paper, zakat is intended to stimulate sustainable development goals. This research aims to examine the impact of zakat on human development programs using the variables of economic growth, poverty, human development index, Gini index, and gender development index. This research uses panel data covering all provinces on the island of Java for the 2010-2020 period. The data analysis model uses the Panel Vector Error Correction Model (PVECM). This research found a two-way causal relationship between economic growth and zakat, while poverty, the human development index and the Gini index do not have a one-way or two-way causal relationship with zakat. The gender development index variable only has a one-way causal relationship with zakat. The findings further state that in the short and long term, zakat negatively and significantly affects economic growth. In the short and long term, zakat has no effect on poverty, the human development index, and the Gini index. In the short term, zakat has no effect on the Gini index. On the other hand, in the long term, zakat has a positive and significant effect on the Gini index. These results provide challenges and opportunities for stakeholders to improve zakat management. Zakat in Indonesia can be a fiscal policy tool to realize sustainable development goals.

Keywords: Welfare, Zakat, SDGs, PVECM

ABSTRAK

Dalam tulisan ini, zakat dimaksudkan untuk merangsang tujuan pembangunan berkelanjutan. Tujuan dari penelitian ini adalah untuk menguji dampak zakat terhadap program pembangunan manusia dengan menggunakan variabel pertumbuhan ekonomi, kemiskinan, indeks pembangunan manusia, indeks gini dan indeks pembangunan gender. Penelitian ini menggunakan menggunakan data panel yang mencakup seluruh provinsi di pulau jawa periode 2010-2020. Model analisis data menggunakan Panel Vector Error Correction Model (PVECM). Penelitian ini menemukan bahwa ada hubungan sebab akibat dua arah antara pertumbuhan ekonomi dan zakat, sedangkan kemiskinan, indeks pembangunan manusia dan indeks gini tidak mempunyai hubungan sebab akibat baik satu arah maupun dua arah dengan zakat. Variabel indeks pembangunan gender hanya mempunyai hubungan sebab akibat satu arah dengan zakat. Temuan selanjutnya mengatakan bahwa dalam jangka pendek dan jangka panjang, zakat berpengaruh negatif dan signifikan terhadap pertumbuhan ekonomi. Dalam jangka pendek dan jangka panjang, zakat tidak berpengaruh terhadap kemiskinan, indeks pembangunan manusia dan indeks gini. Dalam jangka pendek, zakat tidak berpengaruh terhadap indeks gini. Sebaliknya dalam jangka panjang, zakat berpengaruh positif dan signifikan terhadap indeks gini. Hasil ini memberikan tantangan sekaligus peluang bagi pemangku kepentingan untuk meningkatkan pengelolaan zakat. Zakat di Indonesia dapat digunakan sebagai alat kebijakan fiskal untuk mewujudkan tujuan pembangunan berkelanjutan.

Kata Kunci: Kesejahteraan, Zakat, SDGs, PVECM

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I. INTRODUCTION

Zakat development has a relationship with sustainable development goals. The Puskas BAZNAS report, in 2020, the potential for zakat will increase by IDR 327.6 trillion or around 30.3% of total GDP (Puskas BAZNAS, 2021). Meanwhile, the distribution of zakat funds in Indonesia has increased significantly every year. Based on the National Zakat Amil Agency (BAZNAS) financial report, in 2008, the Zakat funds distributed amounted to IDR 12 billion. This value increases yearly until 2020 when it reaches IDR 290 billion. All zakat funds are distributed in five areas; the first is the economic sector, which includes community development, livestock empowerment, micro financing, and economic empowerment. The second is the social, humanitarian sector, which includes the distribution of aid to communities affected by disasters, starting with clothing, food, and shelter. The third is the education sector, which includes ensuring the continuity of education programs for the underprivileged/poor groups. The fourth area is advocacy and da'wah, which includes strategic studies and dakwah for converts to Islam (muallaf). Lastly is the health sector, which includes health service assistance for underprivileged/poor people.

Zakat is considered a fiscal instrument to facilitate pro-government programs to reduce poverty. If we look at the role of zakat in increasing income distribution (part of sustainable development goals), zakat has two roles; the first is that zakat functions to reduce the level of income that is ready to be consumed (disposable income) by the rich community groups (muzakki). Therefore, implementing zakat is expected to reduce the consumption levels of the rich. This will have a positive impact, namely reducing the impact of rising commodity prices. Second, zakat functions as a medium for income transfer to increase the purchasing power of poor people. In this case, it is hoped that by receiving zakat, the poor segment of society will increase its purchasing power to interact with the rich segment of society (Priyono, 2016).

On the other hand, the contribution of zakat in Indonesia cannot be said to be maximal towards sustainable development goals. Ridlo & Setyani (2020) explain that zakat has a positive but insignificant effect on economic growth. This problem is caused by the fact that not all residents in Indonesia are Muslim, so zakat funds in Indonesia have not been distributed properly and evenly, which has no impact on economic growth. Another factor is that collecting zakat still comes from individuals (such as MSMEs), so it becomes an obstacle to not maximizing the collection of zakat funds distributed to mustahik. Regarding poverty, the influence of zakat in its realization still has a negative and significant effect on poverty (Fauziyah, 2016). This opinion is due to the policy of utilizing zakat funds, which only prioritizes productive programs, such as long-term investment development (assistance with education costs), economic empowerment assistance for the needy, assistance for dealing with natural disasters, other humanitarian assistance, as well as assistance for the development of religious institutions. The problem of poverty in Indonesia is still visible in various regions, including small rural and urban areas.

In contrast to inequality, according to the results of research conducted by Hasanuddin (2016), zakat, in its realization, can reduce inequality in the Cirebon city and district, but the inequality reduction index is small, namely 0.01242. Reducing inequality was successful because of support from the lowest groups, which optimized available resources to increase income. This opinion aligns with Rini et al., (2018), who revealed that zakat could reduce inequality in Bogor Regency by 27%. This condition is caused by the activities of community groups, which can create increased income for other less fortunate communities. Therefore, within a national (macroeconomic) framework, zakat funds can increase the purchasing power of poor people and economic growth to narrow the gap between rich and poor people (Heryanto, 2020).

Regarding human development, zakat can have a positive influence on improving human development, especially mustahik in the city of Bogor. This result can be seen from the increase in the HDI value, from 47 before the zakat distribution to 49 after the zakat distribution. Therefore, giving zakat to mustahik can influence their income level and reduce poverty (Murniati & Beik, 2012). Karuni (2020) also supports this research, who revealed that zakat has a significant positive relationship with increasing access to human development. According to him, there are 3 reasons; first, from an economic perspective, where zakat distributed to mustahik can create prosperity. Second, from an educational perspective, zakat can contribute to mustahik getting a decent education. Third, from a health perspective, zakat can be distributed to improve the health status of mustahik. In the gender position, the realization of developing the zakat utilization system through a gender mainstreaming approach has not yet touched on the awareness of the importance of managing capital. People depend on

institutions to provide capital (Solihah et al., 2019). Another factor lies in zakat institutions, which do not yet have separate data for men and women in collecting and receiving benefits. So, it can be said that zakat institutions are not yet gender sensitive. A gender-sensitive budget is a budget that can help meet the living needs of both men and women equally (Pratiwi, 2016).

With the background described above, this paper aims to examine the relationship between zakat and sustainable development goals. Several things prompted the author to conduct this research. Discussion of this issue is very important to understand the extent of zakat's contribution to sustainable development goals in Indonesia, especially in the Java Island region, because the potential for provincial scale zakat is in the Java region, namely East Java Province amounting to IDR 547.4 billion, followed by West Java and Central Java with potential IDR 535.4 billion and IDR 505.4 billion respectively. On the other hand, an overview of the 2018 ZIS collection is based on 5 large islands in Indonesia: Java Island, Sumatra Island, Sulawesi Island, Kalimantan Island, and Papua Island (Puskas BAZNAS, 2020). Furthermore, the function of zakat as an instrument for poverty alleviation has been mandated by Law No. 23 of 2011 in Article 3. In accordance with Article 3B in the Law, it is stated that zakat management aims to realize community welfare and alleviate poverty. This goal seems successful if we look at poverty data over the last few years. For example, in 2019, poverty data on the island of Java decreased significantly since 2012. Poverty in DKI Jakarta decreased by 0.22 per cent; in Central Java, it decreased by 4.54 per cent; in East Java, it decreased by 3.03 per cent; in Yogyakarta, it decreased by 4.35 per cent and in Banten, it decreased by 0.76 per cent. These facts make it very important to research to see the extent of the role of zakat in sustainable development goals (in terms of poverty alleviation).

Several authors argue that the collection and distribution of zakat will contribute to economic growth (Khasandy & Badrudin, 2019; Ridlo & Setyani, 2020; Suprayitno, 2019, 2020). Other research shows that zakat can reduce poverty gaps, income gaps and poverty levels (Abdelbaki, 2013; Ayuniyyah et al., 2018; Bouanani & Belhadj, 2020; Choiriyah et al., 2020; Embong et al., 2013; Gamon & Tagoranao, 2018; Ali et al., 2015). Other research shows that the targeted distribution of zakat can improve human development (Arwani & Wahdati, 2020; Nurzaman, 2016; Pasha & Pratama, 2021; Widiastuti et al., 2022). However, research on zakat with a gender development index is still limited. Researchers only found this discussion in the research of Fatimatuzzahra and Fathoni (2023), which also discussed Islamic social finance, not specifically regarding zakat. The novelty of this paper lies in the study of zakat with the gender development index. This work is expected to explain the relationship between zakat salam and support sustainable development goals and be relevant to relevant government agencies, zakat institutions, academics, industry professionals and stakeholders.

II. LITERATURE REVIEW

Sustainable Development Goals (SDGs)

The Sustainable Development Goals are a global development agreement that continues the previous development goals agreement, namely the Millennium Development Goals (MDGs), whose period ended in 2015. The SDGs have a concept related to the increasingly crucial issues of exploitation of natural resources, environmental damage and climate change, social protection, security of energy and food sources and more pro-poor development (Supriyanto et al., 2017). The SDGs program is strengthened in Presidential Regulation of the Republic of Indonesia Number 59 of 2017, explaining the Implementation of Achieving Sustainable Development Goals. The SDGs are implemented inclusively through joint movements with government and non-government stakeholders. One embodiment of this principle is the establishment of the SDGs National Coordination Team, which consists of four participation platforms, namely: (1) Government and Parliament (both national and regional), (2) Community Organizations, (3) Philanthropy and Business Actors, and (4) Academics. Furthermore, there are 17 SDGs programs, and complete information can be seen in the table as follows:

Table 1. SDGs Program and Information

No	SDGs Program	Information
1	No Poverty	End poverty in all forms everywhere
2	Zero Hunger	Eliminate hunger, achieve food security and good nutrition, and promote sustainable agriculture

3	Good Health and Well Being	Ensure healthy lives and improve the welfare of all residents of all ages
4	Quality Education	Ensure inclusive and equitable quality education and increase lifelong learning opportunities for all
5	Gender Equality	Achieving gender equality and empowering women
6	Clean Water and Sanitation	Ensure the availability and sustainable management of clean water and sanitation for all
7	Affordable and Clean Energy	Guarantee access to affordable, reliable, sustainable, and modern energy for all
8	Decent Work and Economic Growth	Promote inclusive and sustainable economic growth, productive and comprehensive employment opportunities, and decent work for all
9	Industry, Innovation and Infrastructure	Building resilient infrastructure, increasing inclusive and sustainable industries, and encouraging innovation
10	Reduced Inequalities	Reducing intra- and inter-country disparities
11	Sustainable Cities and Communities	Making cities and settlements inclusive, safe, resilient, and sustainable
12	Responsible Consumption and Production	Guarantee sustainable production and consumption patterns
13	Climate Action	Take urgent action to address climate change and its impacts
14	Life Below Water	Preserve and sustainably utilize marine and ocean resources for sustainable development
15	Life on Land	Protect, restore, and increase sustainable use of terrestrial ecosystems, sustainably manage forests, stop desertification, reverse land degradation, and stop biodiversity loss
16	Piece, Justice and Strong Institutions	Strengthening inclusive and peaceful societies for sustainable development, providing access to justice for all, and building effective, accountable, and inclusive institutions at all levels
17	Partnerships for the Goals	Strengthen implementation tools and revitalize global partnerships for sustainable development

Source: Kementrian PPN/Bappenas (2021).

Zakat

Zakat means being fertile and holy, whereas, in its realization, zakat is a mechanism that implies the transfer of assets from rich communities to mustahik communities. Thus, zakat can increase and strengthen the capital (K) of the poor. On the other hand, zakat funds are used to achieve goals aimed at improving and strengthening the quality of education and skills (L) of poor people's human resources (Muhammad, 2012). Based on this simple and common economic logic, it is believed (ilmul yaqin) that society's economic productivity is a function of strengthening capital (K) and human resources (L). This can be related to the following formula.

$$Q = f(K,L)$$

This formula means that zakat (transfer payments) from rich communities managed by BAZ or LAZ professionally will increase the productivity and income of most poor communities. The higher K (transfer payment) and L (skills and education of the poor), the income of the poor and their economic welfare will also increase (Muhammad, 2012). Regarding the connection between zakat and SDGs, there are several differences between zakat and SGDs; the main thing is that zakat fundamentally comes from Islamic teachings, while SDGs have no link to religion. Nevertheless, the agreement at the World Zakat Forum held in Jakarta in February 2017 stated that there is considerable connection and interest among zakat organizations in pursuing the SDGs further. There are several clear similarities between SDGs and zakat. Many things listed in the SDGs reflect Islamic values. SDGs are about reducing poverty and hunger and reducing inequality by sharing wealth. The SDGs program can fulfill the *qathiyyat* requirements required by Imam al Ghazali so that the wider community can realize and enjoy the benefits.

In general, the programs contained in the SDGs have fulfilled the objectives of maqashid Sharia, namely religion, soul, mind, lineage, and property. Istishlah or maslahah al mursalah is in accordance with the demands of the Sharia and religious intentions, but there is no religious argument stating whether its existence

is recognized. The istishlah approach can be used as a guideline in realizing the SDGs. Therefore, the SDGs program, which does not explicitly have a legal basis, can be based on the concept of istishlah. If analyzed from a sociological aspect, based on the principles of fiqh, the SDGs can be implemented (Ahwan Faizin et al., 2018). These goals are in line with the principles of zakat in Islam. The Islamic faith has five fundamental goals known as Maqasid al Sharia. These goals include the protection of faith, life, offspring, reason, and wealth (Noor & Pickup, 2017). The following is the explanation:

1. Faith (hifdhul iman): In a supplication, the Prophet Muhammad asked for protection from unbelief and poverty simultaneously. Poverty and poverty can make a person's beliefs vulnerable and can give rise to the perception that the way out of poverty is to depend on other people. A person facing poverty may lack the ability to act freely. Reducing people's vulnerabilities can help strengthen their beliefs. This is in line with Goals 1, 2, 3, 6, and 10 on poverty, health, water, hunger, and inequality. The SDGs are fundamentally about reducing vulnerability, equipping communities with the capacities and resources they need, and ensuring that institutions -institutions can be trusted to provide the services that people are entitled to so that they are empowered to make choices according to what is best for them.

2. Life (hifdhun nafs): Poverty can result in the loss of life from a lack of essential nutrition, clean water and sanitation, life-saving medicines, and poor health conditions. If zakat can help someone buy essential food, life-saving medicines, and access to clean water and healthcare, then it can help save lives. This is in line with Goals 2, 3, 6, 8 and 11. Ensuring healthy lives and promoting well-being are important in sustainable development. Heredity (hifdhun nasl): War and conflict, climate change, environmental disasters, and infectious diseases can cause epidemics or loss of life on a wide scale, endangering the survival of entire communities and other species affected by their environment. Not much different; fear of poverty can lead to despair, and a vicious downward spiral towards poverty can affect future generations and fatally destroy the environment. Zakat, which helps people escape the trap of poverty, promotes peace, and protects the environment, is consistent with human sustainability. This is in line with SDGs 3, 5, 7, 11, 12, 13, 14, 15 and 16. There are worrying trends in how humans destroy the environment, exploit natural resources, and change the climate irreversibly for future generations.

3. Intellect (hifdhul aqal): Poverty, poor health, and food insecurity can lead to stunting, poor education, and impact intellectual abilities. Zakat can facilitate access to healthy food, quality education and make them more productive. This is in line with SDGs 1, 2, and 9. Children must have access to education and nutritious food to build human capital. Wealth (hifdhul maal): When a person fulfills the obligation to pay zakat, he can purify his wealth. Although wealth may be reduced due to paying zakat, on a social level, it helps the circulation of wealth benefit everyone by generating economic activity and a social safety net. This is in line with Goals 1, 3, 8, and 10. Zakat contains the nature of wealth transfer, reflected in Goal 10 in the SDGs, which focuses on reducing inequality.

Zakat on Economic Growth

In its realization, zakat can be managed in a productive direction, creating decent jobs and contributing to economic growth (Afwan Faizin et al., 2018). Participation from the authorities is needed so that zakat can encourage economic growth. First, there needs to be increased knowledge of muzakki to increase their intention to pay zakat so that they can and are willing to pay zakat. Second, there is an obligation/interference from the government in collecting and distributing zakat. Therefore, the contribution of zakat to economic growth will be higher. This requires services from higher quality zakat institutions/institutions (Jedidia & Guerbouj, 2021). Zakat's realization has positively and significantly impacted Malaysia's economic growth in the long and short term (Suprayitno, 2019).

H1: zakat has a positive effect on economic growth

Zakat on Poverty

In its realization, zakat can be used productively as an empowerment program for underprivileged community groups to overcome unemployment, poverty, and economic inequality. The right way to distribute zakat is to empower mustahik by developing an entrepreneurial spirit (social entrepreneurship) to earn their living and create a decent life (Furqani et al., 2018). Choiriyah et al., (2020) explain that zakat significantly influences reducing the ratio of poor people in Indonesia. This opinion was then strengthened by Fauziyah (2016), who showed that zakat negatively and significantly impacts poverty. Sari et al., (2019)

argue that poor people can escape poverty through zakat. Thus, it can be interpreted that the more people do zakat, the lower the poverty will be.
H2: zakat has a negative effect on poverty.

Zakat on the Human Development Index

Zakat is one of the main economic sources for every Muslim country. Optimally utilizing Zakat funds can also improve every Muslim's quality and potential. Including efficient and systematic Zakat management can encourage this potential as an instrument of human development, especially among Muslims (Meerangani, 2019). In this case, the role of Zakat is to provide funds directly by redistributing wealth so that human development can be realized (Karuni, 2020). Research by Murniati & Beik (2012) shows that the realization of zakat positively impacts human development for mustahik in the city of Bogor. Karuni (2020) also expressed the same opinion, revealing that zakat has a significant positive relationship with increasing access to human development, including research from Suprayitno et al., (2017), which argues that zakat has a positive influence in both the short and long term on HDI in five regions within the country of Malaysia. Thus, it can be interpreted that the more people do zakat, the higher the human development index will be.
H3: zakat has a positive effect on HDI.

Zakat on the Gini Index

One alternative to overcome inequality and poverty is to collect zakat funds and distribute the zakat on target. Zakat can increase the income of weak communities and reduce poverty to create equitable development (Fitri et al., 2021). In this case, zakat is an independent social assistance tool, a moral obligation for rich people to help those poor and neglected so that squalor and poverty are eradicated from society (Chapra, 1992). In reality, zakat can reduce inequality in Cirebon, but not significantly (Hasanuddin, 2016). Rini et al., (2018) also revealed that zakat can reduce inequality in Bogor, but the value is small, namely 27%. Thus, it can be interpreted that the more people do zakat, the inequality index will decrease.
H4: zakat has a negative effect on the Gini index

Zakat on the Gender Development Index

Involving women in programs to improve community welfare is an option that must be developed. Gender mainstreaming, in this case, is the right policy. Women are vulnerable to the poverty crisis (Solihah et al., 2019). The productive zakat program aims to empower women and improve the family economy. In this case, women are part of the family and must be the family's economic support to survive. Therefore, women's empowerment is an alternative for placing women as part of the government's efforts to improve the economy, one of which is through the National Zakat Amil Agency, namely the productive Zakat empowerment program (Susilawati, 2019). The influence of zakat in realizing its utilization through a gender mainstreaming approach still does not touch the aspect of awareness of the importance of managing capital (Solihah et al., 2019). Another factor lies in zakat institutions, which do not yet have separate data for men and women in collecting and receiving benefits. So, it can be said that zakat institutions are not yet gender-sensitive (Pratiwi, 2016). Thus, it can be interpreted that the more people do zakat, the lower the gender development index will be.
H5: zakat has a negative effect on gender equality.

III. RESEARCH METHOD

This type of research is quantitative. The data operationalized in this research is a panel data collection consisting of all provinces on the island of Java from 2010 to 2020. Other provinces do not have complete data regarding the variables studied. Therefore, the determination on the island of Java in this study was due to data availability reasons. The time series data from this research consists of data on zakat fund collection as an independent variable and data on Gross Regional Domestic Product, Poverty, Human Development Index, Gini Index, and Gender Development Index as dependent variables.

Meanwhile, the cross-section data consists of 6 provinces in Java. This data comes from statistical reports published by the Indonesian Central Bureau of Statistics. The zakat variable is proxied by the amount of zakat funds collected. Gross regional domestic product at constant prices according to expenditure is a proxy for the economic growth variable. Then poverty is proxied by the number of poor people. The human development index is proxied by the human development index. This index explains how people can access income, health,

education, and development results. Therefore, HDI is formed into three main basics: a long and healthy life, knowledge, and a decent standard of living.

Next is the Gini index variable, which is proxied by the Gini ratio. The Gini Index is used to measure the overall level of income inequality. The Gini ratio value ranges between 0 (zero) and 1 (one). A Gini ratio value closer to 1 indicates a higher level of inequality. Furthermore, the gender development index variable reflects the active role of women in the economic and political fields. The higher the gender development index, the higher the role of women in these two social fields. Using the index as a benchmark for gender development refers to previous empirical studies (Klasen & Schüler, 2011; Raj, 2017). The operational definition of variables can be seen in the table below.

Table 2. Operational Definition of Variables

Variables	Definition	Source
Zakat (X1)	Zakat linguistically means to purify, grow, or develop. Meanwhile, according to the Sharia term, ' zakat means giving out a certain amount of wealth to people entitled to it (mustahik). Furthermore, zakat also has an important role in Islamic teachings and human development, namely, for the welfare of the people (Hafidhuddin, 2019).	National Zakat Statistics
Gross Regional Domestic Product (Y1)	Economic growth can be measured using Gross Regional Domestic Product (GRDP), with the growth rate based on constant prices. In this case, increased economic growth and equal income distribution are needed to improve people's welfare. A country's ability to develop its resource potential is a process of economic growth. The greater the quantity and quality of existing resources, the greater the potential for a country to increase its economic growth (Purba et al., 2021).	Indonesian Central Statistics Agency
Number of Poor Population (Y2)	Todaro (2012) explains that poverty is the inability to meet minimum living standards that match the life needs for food, shelter, clothing, and the like. $$P_\alpha = \frac{1}{n}\sum_{i=1}^{q}[\frac{z - yi}{z}]^2$$ Information: α = 0, 1, 2 z = Poverty line yi = The average monthly per capita expenditure of residents who are below the poverty line (i=1,2,…,q), yi < z q = The large number of residents who are below the poverty line n = Total population If α=0, obtainable head count index (P0), if α=1 obtainable poverty gap index-P1 and if α=2 called poverty severity index-P2	Indonesian Central Statistics Agency
Human Development Index (Y3)	The Human Development Index (HDI) is a summary measure of average achievement in key dimensions of human development: a long and healthy life, knowledge, and decent living standards. The HDI is the geometric mean of normalized indices for each dimension (United Nations Development, 2019). $$HDI = \frac{1}{3}\,(life\ expectancy\ index) + \frac{1}{3}\,(education\ index) + \frac{1}{3}\,(purchasing\ power\ index)$$	Indonesian Central Statistics Agency
Gini Index (Y4)	The Gini index measures the extent to which the distribution of income or consumption among individuals or households within an economy deviates from a perfectly equal distribution. A Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality (World Bank, 2013). The data is obtained through the Gini ratio for all provinces on the island of Java in per cent units. The formula is as follows: $$GR = 1 - \sum fi\,[Y_i + Y_{i-1}]$$ Information: fi = total per cent (%) of recipients of income class i.	Indonesian Central Statistics Agency

	Y_i = cumulative amount (%) of income in class i. The GR value lies between zero and one. If GR = 0, income inequality is perfectly even, meaning that everyone receives the same income as everyone else. If GR = 1, it means that income inequality is perfectly unequal or that income is only received by one person or group.	
Gender Development Index (Y5)	GDI measures gender inequalities in achievement in three basic dimensions of human development: health, measured by female and male life expectancy at birth; education, measured by female and male expected years of schooling for children and female and male mean years of schooling for adults ages 25 years and older; and command over economic resources, measured by female and male estimated earned income (United Nations Development, 2019). The data was obtained through the gender development index in per cent units in all provinces on the island of Java. The formula is as follows: $$GDI = \frac{HDI_f}{HDI_m}$$ Information: GDI = gender development index HDI_f = female human development index HDI_m = male human development index	Indonesian Central Statistics Agency

The hypothesis testing method for this research uses PVECM (Panel Vector Error Correction Model). The equations used in this research are as follows:

$$ZKT_{it} = \beta_0 + \sum_{i=t}^{m}\beta_1\, ZKT_{t-1} + \sum_{i=t}^{m}\beta_2\, GRDP_{t-1} + \sum_{i=t}^{m}\beta_3\, NPP_{t-1} + \sum_{i=t}^{m}\beta_4\, HDI_{t-1} + \sum_{i=t}^{m}\beta_5\, GI_{t-1} + \sum_{i=t}^{m}\beta_6\, GDI_{t-1} + \varepsilon_{it} \quad (1)$$

$$GRDP_{it} = \beta_0 + \sum_{i=t}^{m}\beta_1\, GRDP_{t-1} + \sum_{i=t}^{m}\beta_2\, ZKT_{t-1} + \sum_{i=t}^{m}\beta_3\, NPP_{t-1} + \sum_{i=t}^{m}\beta_4\, HDI_{t-1} + \sum_{i=t}^{m}\beta_5\, GI_{t-1} + \sum_{i=t}^{m}\beta_6\, GDI_{t-1} + \varepsilon_{it} \quad (2)$$

$$NPP_{it} = \beta_0 + \sum_{i=t}^{m}\beta_1\, NPP_{t-1} + \sum_{i=t}^{m}\beta_2\, ZKT + \sum_{i=t}^{m}\beta_3\, GRDP_{t-1} + \sum_{i=t}^{m}\beta_4\, HDI_{t-1} + \sum_{i=t}^{m}\beta_5\, GI_{t-1} + \sum_{i=t}^{m}\beta_6\, GDI_{t-1} + \varepsilon_{it} \quad (3)$$

$$HDI_{it} = \beta_0 + \sum_{i=t}^{m}\beta_1\, HDI_{t-1} + \sum_{i=t}^{m}\beta_2\, ZKT_{t-1} + \sum_{i=t}^{m}\beta_3\, GRDP_{t-1} + \sum_{i=t}^{m}\beta_4\, NPP_{t-1} + \sum_{i=t}^{m}\beta_5\, GI_{t-1} + \sum_{i=t}^{m}\beta_6\, GDI_{t-1} + \varepsilon_{it} \quad (4)$$

$$GI_{it} = \beta_0 + \sum_{i=t}^{m}\beta_1\, GI_{t-1} + \sum_{i=t}^{m}\beta_2\, ZKT_{t-1} + \sum_{i=t}^{m}\beta_3\, GRDP_{t-1} + \sum_{i=t}^{m}\beta_4\, NPP_{t-1} + \sum_{i=t}^{m}\beta_5\, HDI_{t-1} + \sum_{i=t}^{m}\beta_6\, GDI_{t-1} + \varepsilon_{it} \quad (5)$$

$$GDI_{it} = \beta_0 + \sum_{i=t}^{m}\beta_1\, GDI_{t-1} + \sum_{i=t}^{m}\beta_2\, ZKT_{t-1} + \sum_{i=t}^{m}\beta_3\, GRDP_{t-1} + \sum_{i=t}^{m}\beta_4\, NPP_{t-1} + \sum_{i=t}^{m}\beta_5\, HDI_{t-1} + \sum_{i=t}^{m}\beta_6\, GI_{t-1} + \varepsilon_{it} \quad (6)$$

The PVECM model is a model that can be used if the results of the data being tested are not stationary but are stationary in data differences, and cointegration occurs (Widarjono, 2018). In practice, this research uses panel data, a combination of time series and cross-section data. Next, the combined data was tested using the PVECM model. Firstly, Stationarity Test: the data stationarity test can be carried out with the ADF (Augmented Dicky Fuller) or PP (Phillips-Perron) unit root test or with other tests according to the form of trend contained in each variable. The lag length greatly influences the ADF and PP or other test results. The length of the Lag of the ADF and PP unit root tests can be carried out using the criteria from AIC (Akaike Information Criterion) or SIC (Schwarz Information Criterion) or other criteria (Widarjono, 2018). Second, Determination of Optimal Lag: determining the optimal Lag is a crucial stage in the PVECM model. The purpose of building the PVECM model is to understand the behavior and correlation of each variable in the system. Generally, problems that arise if the lag length is too small will make the model unusable because it cannot explain the relationship.

Third, PVECM Stability Test: stability testing in the PVECM system is closely related to determining Lag. The ability of PVECM can be known from the value of its nominal Roots rotary characteristics. A PVECM system is considered stable if all the rotations in the AR table have a modulus smaller than one (1) and are all within the circular unit. Fourth, the Cointegration Test: the cointegration test was carried out to determine a long-term relationship between these variables. As stated by Engle-Granger, the existence of non-stationary variables means a high probability of a long-term relationship between variables (Widarjono, 2018).

This research uses Johansen's Cointegration Test. As the cost integration testing criteria is based on tracestatistics, if the tracestatistic value tic is greater than the critical value of 5%, meaning that the alternative hypothesis states that there is an acceptable integration. Fifth, the Granger Causality Test: In the PVECM model, the Granger causality test is used to identify whether variables have a two-way correlation or just one direction.

Sixth, PVECM Model Estimation: PVECM is a restricted auto-regressive vector panel model. This additional restriction needs to be given because there is a form of data that is not stationary but is coherent. PVCM restricts long-term behavioral relationships between available variables so that they converge into integration relationships. However, PVCM still allows for some dynamic changes in the short term. This term is called error correction (error correction) because it will be corrected if there is a deviation in the long-term balance. Gradually, through short-term partial matching. Seventh, the PVECM Impulse Response Test: the impulse response analysis method is used to track the response of endogenous variables in the PVECM system, which occurs due to a shock or change in the disturbance variable (Widarjono, 2018). Eighth, Variance Decomposition Test: the forecast error variance decomposition method, better known as variance decomposition, is used to predict the percentage contribution of variance to each variable; this is due to changes in certain variables in the PVECM system (Widarjono, 2018).

IV. RESULT AND DISCUSSION

Result

This research aims to describe the influence of zakat on success in the SDGs program, which is represented by 5 variables, namely GRDP, NPP, HDI, GI, and GDI. The results of descriptive statistics in this research can be seen in Table 3.

Table 3. Descriptive Statistics Results

	GRDP	NPP	HDI	GI	GDI	ZAKAT
Mean	849000000	9.712879	72.38788	0.393197	91.67667	39134.27
Maximum	1840000000	16.83000	80.77000	0.449000	94.98000	703067.0
Minimum	64678968	3.420000	65.36000	0.337000	86.94000	23.00000
Std Dev	555000000	4.104341	4.635899	0.027440	2.201792	93329.13
Obs	66	66	66	66	66	66

Based on the results of the descriptive statistics, the data for each variable in this study amounted to 66 observations from 2010-2020. The GRDP variable had a minimum IDR 64,678,968.20 million in 2010 in DI Yogyakarta Province. The maximum value was IDR 1,836,198,485.83 million in 2019 in DKI Jakarta Province. The average value (mean) is 8.49E+08 (Rp. 849,000,000 million). Then, the standard deviation value is 5.55E+08 (Rp. 555,000,000 million).

Followed by the NPP variable with a minimum value of 3.42% in 2019 in DKI Jakarta Province. The maximum value was 16.83% in 2010 in DI Yogyakarta Province. The average value (mean) is 9.71%. Then, the standard deviation value is 4.10%. The HDI variable has a minimum value of 65.36%, which occurred in 2010 in East Java Province. The maximum value was 80.77% in 2020 in DKI Jakarta Province. The average value (mean) is 72.38%. Then, the standard deviation value is 4.63%. Then, the GI variable has a minimum value of 0.34%, which occurred in 2010 in East Java Province. The maximum value was 0.449% in 2012 in Daerah Istimewa Yogyakarta Province. The average value (mean) is 0.393197. Then, the standard deviation value is 0.027440. The GDI variable has a minimum value of 86.94%, which occurred in 2010 in West Java Province. The maximum value was 94.98% in 2016 in DKI Jakarta Province. The average value (mean) is 91.67667%. Then, the standard deviation value is 2.201792%. Finally, the zakat variable has a minimum value of IDR 23,000,000, which occurred in 2013 in Central Java Province. The maximum value was IDR 703,067,000,000 in 2014 in East Java Province. The average value (mean) is IDR 39,134,270,000. Then, the standard deviation value is IDR 93,329,130,000.

The next step is to test the hypothesis: the first step in conducting a panel data test is a unit root test. This test is carried out to determine whether the data is stationary. To get good and correct regression results, the data used in the research must be stationary. The research data has the potential to be non-stationary because there is a unit root at the level. Therefore, it is necessary to test the stationarity of the data. The stationary test

carried out in this research used the Levin, Lin & Chu t method. To determine whether data is stationary, compare the Levin, Lin & Chu t value and the critical value (test critical value). If the Levin, Lin & Chu t value is greater than the critical value of 5%, then there is a unit root, or the data is not stationary. Vice versa, if the Levin, Lin & Chu t value is smaller than the critical value of 5%, then there is no unit root or the data is stationary. The following are the results of the stationarity test at the levels in this research.

Table 4. Stationary at Level

Variables	Statistic	Prob	Information
GRDP	3.82154	0.9999	Not Stationary
NPP	-3.84676	0.0001	Stasioner
HDI	16.0473	1.0000	Not Stationary
GI	0.47195	0.6815	Not Stationary
GDI	4.74077	1.0000	Not Stationary
ZAKAT	-1.41021	0.0792	Not Stationary

The table 4 explains that only the NPP variable is stationary at level level with a probability value of 0.0001 or less than the critical value of 0.05. Meanwhile, the GRDP, HDI, GI, GDI, and zakat variables are not stationary at the level because their probability values are greater than the critical value of 0.05. Therefore, the data stationarity test must be continued at the first difference level. The test results at the first difference level can be seen in Table 5.

Table 5. Stationary at the First Difference Level

Variabel	Statistik	Prob	Keterangan
GRDP	-2.82100	0.0024	Stationary
NPP	-3.83349	0.0001	Stationary
HDI	-2.58898	0.0048	Stationary
GI	-10.4732	0.0000	Stationary
GDI	-5.36789	0.0000	Stationary
ZAKAT	-8.51129	0.0000	Stationary

Based on the data stationarity test at the first difference level, as in the table 5, it shows that all the variables tested, namely GRDP, NPP, HDI, GI, GDI, and zakat, are stationary at the first difference level, as their probability values are less than the critical value of 0.05. If all data has been declared stationary, it can be continued to the next testing stage. In this research, because the results obtained from the stationarity test showed that not all data was stationary at level, the estimation model chosen was the Panel Vector Error Correction Model (PVECM).

Next, we determine optimal Lag using the final prediction error correction (FPE) criteria or the smallest AIC, SC and HQ value from several proposed lags. Based on the optimal lag test results, as seen in the table below, it shows an asterisk (*) at lag 4 (four). Thus, the Lag selected is four. Then, it can be continued to the next stage, namely the VAR stability test. The following is a table of optimal lag test results.

Table 6. Optimal Lag Test Results

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-1059.997	NA	2.11e+18	59.22205	59.48597*	59.31417
1	-1010.536	79.68754	1.03e+18	58.47421	60.32164	59.11901
2	-967.3680	55.15874*	8.24e+17	58.07600	61.50696	59.27350
3	-914.6033	49.83335	5.39e+17	57.14463	62.15910	58.89481
4	-848.3304	40.50007	3.44e+17*	55.46280*	62.06080	57.76568*

Next is the PVECM Stability Test: This test was carried out to determine how much Lag the PVECM model will use to achieve stability. The PVECM model must be stable to ensure that the estimation results have higher validity than the model used. The PVECM model is said to have good stability if the modulus number is below number one. After carrying out stability tests, the researchers obtained a stable PVECM model at the twelfth Lag. The test results below show that the modulus value is below number one (1), which means that the PVECM model used in the research is stable. Thus, it can be concluded that Ho is rejected and Ha is accepted in this modelling. The PVECM stability test results can be seen in the following table.

Table 7. PVECM Stability Test

No	Root	Modulus
1	-0.504735 - 0.448908i	0.675482
2	-0.504735 + 0.448908i	0.675482
3	-0.669657	0.669657
4	0.175970 - 0.601908i	0.627103
5	0.175970 + 0.601908i	0.627103
6	0.625902	0.625902
7	-0.228142 - 0.471482i	0.523778
8	-0.228142 + 0.471482i	0.523778
9	0.473462	0.473462
10	0.121347 - 0.399997i	0.417998
11	0.121347 + 0.399997i	0.417998
12	-0.067626	0.067626

The cointegration test aims to see the long-term relationship or balance between variables. Cointegration testing in this research uses the Johansen Cointegration Test method. Based on the results of the Johansen cointegration test below, it can be concluded that cointegration occurs. This can be seen from the probability value of 0.0000 or less than 0.05, so it can be said that there is a relationship between variables, especially in the long term. Thus, the model chosen is PVECM. The results can be seen in the table as follows.

Table 8. Johansen Cointegration Test

ADF	*t-Statistic*	Prob.
	-8.121899	0.0000
Residual variance	4.95E+16	
HAC variance	2.80E+16	

The Granger causality test is an analysis method that can show whether a variable has a one-way or two-way relationship or even has no relationship with other variables. If the probability value is less than the critical value of 5%, then there is a causal relationship between variables. Vice versa, if the probability value is greater than the critical value of 5%, then there is no causal relationship between variables. The results of the Granger causality test can be seen in the table as follows.

Table 9. Granger Causality Test Results

Null Hypothesis	Obs	F-Statistic	Prob.
D(ZAKAT,1) does not Granger Cause D(GDRP,1)	48	8.85075	0.0006
D(GDRP,1) does not Granger Cause D(ZAKAT,1)		58.1764	6.E-13
D(ZAKAT,1) does not Granger Cause D(NPP,1)	48	0.12349	0.8841
D(NPP,1) does not Granger Cause D(ZAKAT,1)		0.75722	0.4751
D(ZAKAT,1) does not Granger Cause D(HDI,1)	48	0.94860	0.3952
D(HDI,1) does not Granger Cause D(ZAKAT,1)		0.05243	0.9490
D(ZAKAT,1) does not Granger Cause D(GI,1)	48	0.16856	0.8454
D(GI,1) does not Granger Cause D(ZAKAT,1)		0.06611	0.9361
D(ZAKAT,1) does not Granger Cause D(GDI,1)	48	1.73006	0.1894
D(GDI,1) does not Granger Cause D(ZAKAT,1)		4.45747	0.0174

The results of the Granger causality test show that, statistically, the variables zakat and GRDP have a two-way relationship. This can be seen from the probability value of zakat on GRDP, which is 0.0006 or less than the critical value of 0.05. On the other hand, GDP for zakat has a probability value of 6.E-13 (0.0000000000006) or smaller than the critical value of 0.05. So, it can be said that the GRDP variable has a causal relationship with zakat, either one way or two ways. The zakat variable on NPP can be seen from its probability value, namely 0.8841 or greater than the critical value of 0.05. On the other hand, NPP's probability value for zakat is 0.4751 or greater than the critical value of 0.05. So, it can be said that the NPP variable does not have a causal relationship with zakat, either one way or two ways.

The zakat variable on HDI can be seen from its probability value, 0.3952, or greater than the critical value of 0.05. On the other hand, the HDI for zakat has a probability value of 0.9490 or greater than the critical value of 0.05. So, it can be said that the HDI variable does not have a causal relationship with zakat,

either one way or two ways. The zakat variable on GI can be seen from its probability value, namely 0.8454 or greater than the critical value of 0.05. On the other hand, the IG for zakat has a probability value of 0.9361 or greater than the critical value of 0.05. So, it can be said that the IG variable does not have a causal relationship with zakat, either one way or two ways. The zakat variable on GDI can be seen from its probability value, namely 0.1894 or greater than the critical value of 0.05. On the other hand, the GDI for zakat has a probability value of 0.0174, or smaller than the critical value of 0.05. So, it can be said that the GDI variable only has a one-way causal relationship between the GDI variable and zakat.

PVECM estimates determine the short-term and long-term for each variable. For short-term PVECM estimation results, you can see Table 10.

Table 10. Short-term PVECM estimates

Variables	Coefficient value	T-statistic
D(GDRP(-2),2)	-0.000292	-3.54532
D(NPP(-2),2)	13176.55	0.46892
D(HDI(-2),2)	-9275.681	-0.13559
D(GI(-2),2)	-448294.1	-0.89338
D(GDI(-2),2)	64627.19	1.66446
D(ZAKAT(-2),2)	-0.049781	-0.54517
Note: T-tabel (α=0,05) = 2,0003		

Table 10 shows that the GRDP variable in short-term relationships has a coefficient value of -0.000292 with a t-statistic value of -3.54532 > t-table 2.0003 at a significance of 0.05. This means that in the short term, the GRDP variable has a negative and significant effect on zakat; with this, it can be seen that H0 is rejected and H1 is accepted. The NPP variable in short-term relationships has a coefficient value of 13176.55 with a t-statistic value of 0.46892 < t-table 2.0003 at a significance of 0.05. This means that in the short term, the NPP variable does not affect zakat; with this, it can be seen that H0 is accepted and H2 is rejected. The HDI variable in short-term relationships has a coefficient value of -9275.681 with a t-statistic value of -0.13559 < t-table 2.0003 at a significance of 0.05. This means that in the short term, the HDI variable does not affect zakat; with this, it can be seen that H0 is accepted and H3 is rejected.

The IG variable in short-term relationships has a coefficient value of -448294.1 with a t-statistic value of -0.89338 < t-table 2.0003 at a significance of 0.05. This means that in the short term, the IG variable does not affect zakat; with this, it can be seen that H0 is accepted and H4 is rejected. The GDI variable in short-term relationships has a coefficient value of 64627.19 with a t-statistic value of 1.66446 < t-table 2.0003 at a significance of 0.05. This means that in the short term, the GDI variable has no effect on zakat; with this, it can be seen that H0 is accepted and H5 is rejected. The zakat variable in short-term relationships has a coefficient value of -0.049781 with a t-statistic value of -0.54517 < t-table 2.0003 at a significance of 0.05. This means that in the short term, the zakat variable has no effect on the zakat variable itself; with this, it can be seen that H0 is accepted and H6 is rejected.

Next, the long-term PVECM estimation results can be seen in the following table.

Table 11. Long-Term PVECM Estimates

Variables	**Coefficient value**	**T-statistic**
D(GRDP(-1),1)	-	-
D(NPP(-1),1)	37611622	0.94822
D(HDI(-1),1)	1.50E+08	1.48669
D(IG(-1),1)	4.52E+09	3.08742
D(GDI(-1),1)	-94955760	-1.27365
D(ZAKAT(-1),1)	-1754.975	-5.08695
T-tabel (α=0,05) = 2,0003		

The table 11 shows that the NPP variable in long-term relationships has a coefficient value of 37611622 with a t-statistic value of 0.94822 < t-table 2.0003 at a significance of 0.05. This means that in the long term, the NPP variable has no effect on zakat; with this, it can be seen that H0 is accepted and H1 is rejected. The HDI variable in long-term relationships has a coefficient value of 1.50E+08 (150000000) with a t-statistic value of 1.48669 < t-table 2.0003 at a significance of 0.05. This means that in the long term, the HDI variable has no effect on zakat; with this, it can be seen that H0 is accepted and H2 is rejected.

The IG variable in long-term relationships has a coefficient value of 4.52E+09 (4520000000) with a t-statistic value of 3.08742 > t-table 2.0003 at a significance of 0.05. This means that in the long term, the IG variable has a positive and significant effect on zakat; with this, it can be seen that H0 is rejected and H3 is accepted. The GDI variable in long-term relationships has a coefficient value of -94955760 with a t-statistic value of -1.27365 < t-table 2.0003 at a significance of 0.05. This means that in the long term, the GDI variable has no effect on zakat; with this, it can be seen that H0 is accepted and H4 is rejected. The zakat variable in long-term relationships has a coefficient value of -1754.975 with a t-statistic value of -5.08695 > t-table 2.0003 at a significance of 0.05. This means that in the long term, the ZAKAT variable has a negative and significant effect on GRDP; with this, it can be seen that H0 is rejected and H5 is accepted.

After carrying out the PVECM estimation test, the next step is to carry out the Impulse Response test. The function of the Impulse Response test is to see the response of a variable when there is a shock to another variable. Based on the picture below, the zakat impulse response to GRDP shows a positive trend in the second period, then decreases until the third period. Furthermore, the graph tends to fluctuate until the tenth period. This means that in the long term, the response of zakat to GRDP tends to fluctuate toward a positive trend until the end of the period. The impulse response of the zakat variable to NPP shows a negative trend until the last period; a positive response is only shown in the second period. This means that in the long term, Zakat's response to the NPP tends to be a negative trend. The impulse response of the zakat variable to HDI shows a positive trend throughout the period. The decline only occurred in the second and sixth periods. This means that in the long term, the response of zakat to HDI tends to fluctuate toward a positive trend until the end of the period. The impulse response of the zakat variable to GI shows a positive trend; the first period is negative, and then it fluctuates in the third to sixth periods. This means that in the long term, the response of zakat to GI tends to fluctuate toward a positive trend until the end of the period. The impulse response of the zakat variable to GDI shows a positive trend. The decline only occurred in the second and sixth periods. Furthermore, the graph tends to fluctuate until the tenth period. This means that in the long term, the response of zakat to GDI tends to fluctuate toward a positive trend until the end of the period. The results of the Impulse Response test can be seen in the table as follows.

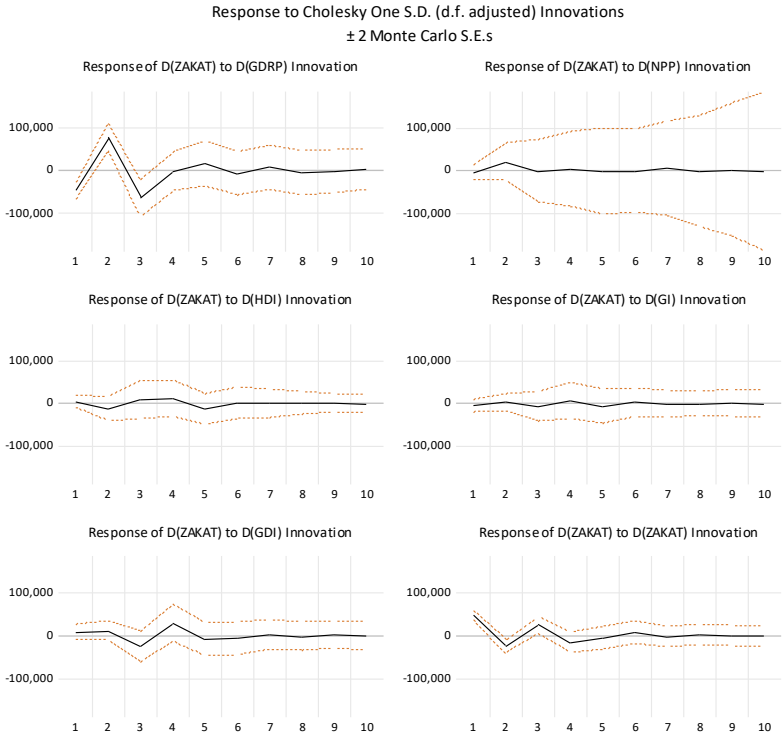

Figure 3. Impulse Response PVECM Response to Cholesky OneS.D. Innovations

The next step is to carry out a Variance Decomposition test, which can provide information about the proportion of movement in the influence of one variable's shock on the shock of another variable, both in the current and future periods. In other words, the Variance Decomposition test aims to measure each independent variable's contribution or influence on the dependent variable (Basuki, 2016). The results of the variance decomposition test can be seen in the table below.

Table 12. Variance Decomposition Test Results

Period	S.E.	D(GRDP,1)	D(NPP,1)	D(HDI,1)	D(IG,1)	D(GDI,1)	D(ZAKAT,1)
1	68439.77	11.89413	10.69656	0.799779	5.763732	0.762439	70.08335
2	86401.72	28.91823	10.82002	1.282799	8.457163	1.154524	49.36726
3	103677.8	20.08386	22.24049	0.897794	6.907584	0.865661	49.00461
4	111154.9	21.91808	20.93296	1.530733	10.29306	0.982411	44.34277
5	120953.8	18.51202	29.84845	1.541819	8.712823	0.898274	40.48662
6	129312.3	21.19129	27.53766	1.437951	10.54279	1.355975	37.93434
7	135674.4	19.45069	30.75497	1.306277	9.613390	1.291120	37.58355
8	140894.2	20.64916	28.70269	1.215839	11.03818	1.665127	36.72900
9	146307.0	19.42948	30.67839	1.133694	10.37220	1.570072	36.81616
10	150808.1	20.60834	28.94777	1.067647	11.25912	1.811013	36.30611

The results of the Variance Decomposition test show that the GRDP variable's influence on zakat first increased from the first period to the tenth period, but the influence fluctuated. The largest influence value was in the second period at 28.91%. The influence of the NPP variable on zakat increased from the first period to the tenth period, but the influence fluctuated. The largest influence value was in the seventh period at 30.75%. The influence of the HDI variable on zakat increased from the first period to the tenth period, but the influence fluctuated. The largest influence value was in the fifth period at 1.54%.

The influence of the IG variable on zakat increased significantly from the first period to the tenth period, but the influence fluctuated. The largest influence value was in the tenth period at 11.25%. The influence of the GDI variable on zakat increased significantly from the first period to the tenth period, but the influence fluctuated. The largest influence value was in the tenth period at 1.81%.

Discussion

Based on the test results with the PVECM model, it can be seen that the GRDP variable has a causal relationship, both one-way and two-way, with zakat. Then, in the short and long term, zakat has a negative and significant effect on GRDP. This proves that the test results are not in accordance with the hypothesis proposed by the researchers, where zakat has a negative and significant effect on GRDP. Thus, it can be seen that H0 is rejected, and H1 is accepted. The test results are in accordance with the theory, where Purba et al., (2021) revealed that increased economic growth and equal income distribution are needed to improve community welfare. This can be done by developing resource potential, a process of economic growth. The greater the quantity and quality of existing resources, the greater the potential for a country to increase its economic growth. This can be seen from the support of the BAZNAS program, which realizes the distribution of zakat funds for equitable and fair social welfare. There are 2 distributions in the program, namely consumptive distribution and productive utilization (Puskas BAZNAS, 2021). The results of this research are in accordance with Khasandy & Badrudin (2019), who state that zakat does not have a positive effect on economic growth in Indonesia. This is due to the framework of the zakat sector, which must be improved so that the operationalization of the zakat system can run more effectively. In this case, managers must design policies to strengthen collection mechanisms and develop transparent and easy-to-use methods for distributing zakat so that it benefits people in need and can have a positive and significant impact on economic growth at both the micro and macro levels. Another problem was expressed by Anindita (2019), who showed that zakat does not have a positive effect on economic growth in Indonesia in the short and long term. This is due to differences in the collection system and distribution process with other countries. Apart from that, the distribution of zakat funds is still not targeted at improving the community's economy.

Based on the test results with the PVECM model, it can be seen that the NPP variable does not have a causal relationship, either one way or two ways, with zakat. Then, in the short and long term, zakat has no effect on NPP. This proves that the test results do not follow the hypothesis proposed by the researchers, where zakat has no effect on NPP. Thus, it can be seen that H0 is accepted, and H2 is rejected. The test results are not

in accordance with theory, where Purba et al., (2021) revealed that poverty is a lack of material things, social needs, income, access to certain resources, and other poverty issues. Therefore, conditions of poverty in general are exemplified by suffering from malnutrition, poor health, high levels of illiteracy, poor environment, and lack of access to adequate infrastructure and public services. In reality, zakat is still not able to eradicate poverty as a whole. Poor planning and organization of zakat is the main reason, especially the lack of information about the potential of zakat in each region (Pratama & Yuni, 2020). Another factor is the imbalance between the number of people required to pay zakat and the number of poor people (Anindita, 2019).

Based on the test results with the PVECM model, it can be seen that the HDI variable does not have a causal relationship, either one way or two ways, with zakat. Then, in the short and long term, zakat has no effect on HDI. This proves that the test results do not follow the hypothesis proposed by the researchers, where zakat has no effect on HDI. Thus, it can be seen that H0 is accepted, and H3 is rejected. The test results are not in accordance with theory, where Anggraini (2018) explains that the HDI is used to classify whether a country is a developed country, a developing country, or an underdeveloped country, as well as to measure the influence of economic policies on the quality of life. Apart from that, Purba et al., (2021) added the basic idea of human development: creating positive growth in the economic, social, political, cultural, and environmental fields, as well as human welfare changes. Zakat is the main essence of human development. It is hoped that the poor who are entitled to receive zakat can live healthier and more prosperous lives. Therefore, zakat is directed not only for consumption needs, but also for productive purposes, such as health, education and a decent life. So that the contribution of zakat can enable every individual to achieve a more sustainable prosperous life (Ahwan Faizin et al., 2018).

The results of this research are in accordance with Susilowati (2020), who shows that zakat has no effect on HDI. This is due to a person's lack of understanding about the role of zakat in the welfare of society. So, there is a need to understand zakat in society so that zakat can contribute to HDI. This research is supported by Karuni (2020), who shows that zakat has a significant positive relationship with increasing access to human development. According to him, there are 3 reasons; first, from an economic perspective, where zakat distributed to mustahik can create prosperity. Second, from an educational perspective, zakat can contribute to mustahik getting a decent education. Third, from a health perspective, zakat can be distributed to improve the health status of mustahik.

Based on the test results with the PVECM model, it can be seen that the IG variable does not have a causal relationship, either one way or two ways, with zakat. Then, in the short term, zakat has no effect on GI. On the other hand, in the long term, zakat has a positive and significant effect on GI. This proves that the test results do not follow the hypothesis proposed by the researchers, where zakat has no effect on GI. Thus, it can be seen that H0 is accepted, and H4 is rejected. The test results are not in accordance with theory, where Neo-Classics reveals that regional development disparities occur due to differences in resources, labor, and capital owned by each region. Neo-classics argue that inequality will increase at the start of development in developing countries because the opportunities and opportunities that exist are generally utilized by regions whose development conditions are already better.

Meanwhile, areas that are still very underdeveloped cannot take advantage of opportunities due to limited facilities and infrastructure and the low quality of human resources (Purba et al., 2021). Zakat can reduce inequality by ensuring that the program targets given or distributed can be applied fairly, proportionally, and objectively to those who need it without discriminating against certain groups (BAZNAS, 2017). The results of this research are in accordance with Hasanuddin (2016) and Rini et al., (2018), who show that zakat can reduce inequality. Reducing inequality was successful because of the support of groups that could optimize available resources to create increased income for other less fortunate communities.

Based on the test results with the PVECM model, it can be seen that the GDI variable only has a one-way causal relationship, namely between the GDI variable and zakat. Then, in the short and long term, zakat has no effect on GDI. This proves that the test results do not follow the hypothesis proposed by the researchers, where zakat has no effect on GDI. Thus, it can be seen that H0 is accepted, and H5 is rejected. The test results are not in accordance with theory; where if you look at the criteria in the SDGs program,

what needs to be ensured in managing the zakat program, especially for the beneficiaries, is that it must be balanced, both men and women. This includes other programs, both directly and indirectly. So, equal distribution of programs based on gender is important. For example, how can zakat program managers ensure that women are present and have a voice in making decisions about aid (both in form, amount, etc.) in the assessment process? In this case, the Zakat program is expected to strengthen women's mastery of information and communication technology. So, efforts are made to ensure that zakat program assistance can be equally distributed to men and women (BAZNAS, 2017). The results of this research are in accordance with Solihah et al., (2019) and Pratiwi (2016), which show that zakat has no effect on GDI. This is because the utilization of zakat through a gender mainstreaming approach still does not address the aspect of awareness of the importance of managing capital. This is because people always depend on institutions that provide capital. Another factor lies in zakat institutions which do not yet have separate data for men and women, both in the process of collecting and receiving benefits.

V. CONCLUSION

This research examines the role of zakat in 5 SDGs programs in Indonesia (study of all provinces on the island of Java) for the period 2010 to 2020 using the Panel Vector Error Correction Model (PVECM) method. We found that there is a causal relationship, both one-way and two-way, between GRDP and zakat. Furthermore, the variables NPP, HDI, and GI do not have a causal relationship, either one way or two ways, with zakat. The IPG variable only has a one-way causal relationship between the IPG variable and zakat. This result can be seen from the PVECM test. In the short and long term, zakat has a negative and significant effect on GRDP. In the short and long term, zakat has no effect on NPP, HDI, and GDI. In the short term, zakat has no effect on GI. On the other hand, in the long term, zakat has a positive and significant effect on GI. This result can be seen from the Granger causality test.

Zakat is one of the pillars of Islam, and it discusses a prosperous, equitable, and just socio-economic life. Of course, referring to what was exemplified by Rasulullah SAW, that the target of economic growth is equality and justice in accordance with achieving prosperity as exemplified by Rasulullah SAW, in the long term, zakat can overcome poverty through fiscal and monetary policies, zakat should not be directed only to consumption needs only, but also for productive needs, such as health, education and a decent life. Zakat can reduce inequality by ensuring that the program targets given or distributed can be applied fairly, proportionally, and purposefully to those who need it, without discriminating against certain groups (such as minority groups). Apart from that, the zakat program delivered can strengthen women's mastery of information and communication technology. So, efforts are made to ensure that assistance with the Zakat program can be equally distributed to both men and women. These results present challenges and opportunities for stakeholders to manage zakat using good and sharia-compliant strategies. Apart from that, everyone entitled to zakat will feel its benefits throughout the country.

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