THE INFLUENCE OF ZAKAT AND MACRO VARIABLES ON ECONOMIC GROWTH

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Abstract

The objective of this study is to analyse the impact of Zakat distribution, inflation, consumption, and international trade on the economic growth of Indonesia using the Vector Error Correction Model (VECM) analysis. The VECM analysis comprises several tests, including the unit root test, stability test, cointegration test, and Granger causality test. This study found that consumption, exports, imports, and Zakat exert a favourable influence on economic growth; however, inflation has an adverse impact on economic growth. Zakat expenditure indicated a positive relationship with gross domestic product level in the long term. The results of the Granger causality test implied a two-way causal interconnection between Zakat expenditure and economic growth. Zakat can trigger the country's economic expansion by increasing consumption, investment, or government spending, and an increase in national income will encourage an increase in Zakat distribution. Moreover, the augmentation of national income will foster an upsurge in the distribution of Zakat. The future tax potential is immense because the total population of Indonesian Muslim residents in 2022 is predicted to be 241.7 million people, or the equivalent of an 87.02 per cent increase.

Keywords: Zakat Distribution, Granger Causality Test, Economic Growth, Vector Error Correction Model

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1. INTRODUCTION

Economic development refers to the systematic efforts aimed at enhancing the overall economic growth of a nation through changes in the economic structure, namely changes in the agricultural sector, industry, and services (Todaro & Smith, 2020). Many factors can influence a country's economic growth, such as changes in population, technological advances, increases in human resources, availability of natural resources, and changes in people's behaviour. From an Islamic economic standpoint, the precise allocation and empowerment of Zakat, infaq, and sadaqah money can have a significant impact on economic growth. Zakat can be a driving factor for economic growth through increasing consumption of the poor and providing investment assistance for small and medium businesses. This research will examine the role of Zakat in encouraging economic growth and how government policies encourage economic growth through the distribution of Zakat, infaq, and sadaqah. The community empowerment program carried out by the Amil Zakat Institution (LAZ) in Indonesia aims to reduce the number of poor people in Indonesia. Zakat management should take into account

the production rate and permanent effects, with the aim of enhancing the economic situation of the family (Mustahik) or the group of Zakat receivers (Herianingrum et al., 2023).

Zakat is an integral component of the social welfare regulations in Islam, encompassing both physical and religious dimensions of existence. It serves as a comprehensive system that spans several aspects such as finance, economics, social dynamics, politics, ethics, and spirituality (Marpaung, 2020). The system operates as a financial and economic system since the utilization of Zakat funds is based on predetermined wealth. Zakat serves as a sustainable financial source for Baitul Mal in Islam. Additionally, it is classified as a social system owing to its role in providing relief and support to individuals in need, assisting them in overcoming various vulnerabilities, tragedies, and mishaps through humanitarian aid. Zakat serves the function of mitigating feelings of envy and resentment among the less fortunate towards the wealthy, contributing to the unity of Muslims in Indonesia and worldwide. Furthermore, Zakat plays a role in the political system, as the government's involvement in regulating, collecting, and distributing Zakat must adhere to principles of justice, equality, and prioritization of the impoverished, in line with the teachings of the Koran (Al-Qur'an) and hadith. Zakat is also a moral system because the purpose of Zakat is to cleanse the soul from stinginess. The analysis and implementation of Islamic principles pertaining to Zakat in the Al-Qur'an and Hadith necessitate adherence to Islamic law, which mandates the allocation of Zakat to eligible beneficiaries. Zakat funds are not only used to increase consumption but can also be developed into working capital, helping to boost the income of Zakat recipients. If Mustahik's income increases, it will increase the consumption of Zakat recipients and ultimately influence economic expansion.

In Surah Al-Baqarah: 267 of the Al-Qur'an, Allah says that Zakat is divided into two parts, namely the results of the pious deeds of the believers and what We bring out for thee from the face of the earth, namely agricultural and mining products. The correspondence between Zakat, infaq, and sadaqah on the economy can have temporary and long-term impacts. In the short term, if Zakat is only distributed and used directly by Zakat recipients for consumption needs only, it will have a short-term impact. Zakat will have a long-term impact if it is used not only to fulfil consumer consumption but also to empower the community. Zakat, infaq, and sadaqah, in the long-term economy, have the potential to increase the income of Zakat recipients in the future and elevate their status to become muzzaki or Zakat payers. The number of Indonesian Muslim residents in 2022 is projected to be 241.7 million people out of Indonesia's total population of 270 million people, constituting 87% of the population. The potential of Zakat, infaq, and sadaqah in Indonesia holds significant promise in boosting economic growth. Additional factors influencing economic growth include consumption, inflation, exports, and imports. Additional determinants of economic growth include consumption, inflation, as well as exports and imports. The relationship between exports and economic growth is a subject of interest for numerous research organizations. Exports play a pivotal role in international trade, representing the dominant aggregate output. Theoretical perspectives on international trade in various literature demonstrate how trade openness benefits economic growth by increasing net exports. Implementing economic policies that streamline and reduce barriers, particularly for small and medium enterprises, by enabling the importation of capital and semi-finished goods can effectively lower production expenses (Mahadevan & Suardi, 2011).

According to Mankiw (2010), a country that does not have cooperative relations with other nations will encounter challenges in fulfilling its domestic requirements. Numerous studies have explored the relationship between inflation and economic growth, although there is considerable controversy over the exact nature of this association (positive versus negative; linearity versus non-linearity). The majority of researchers feel that elevated inflation exerts a detrimental influence on economic growth. (Chowdhury, 2014). Other research conducted by Mohseni and Jouzaryan (2016) shows that the association between inflation and unemployment in regard to economic growth is consistently problematic. In summary, the findings of existing studies are inconclusive and perplexing, despite the prevailing notion in theoretical literature that a negative correlation exists between inflation and unemployment with respect to economic growth in numerous countries. Prolonged inflation, according to researchers, negatively impacts economic growth, as an increase in inflation leads to a decline in economic activity. Moreover, Lucas (1976) discussed that inflation exerts a favourable, short-term effect which, ultimately, leads to adverse effects in the long term on the economic growth of several countries.

In a study conducted by Ekanayake (1999), the relationship between exports and economic growth in Asian countries was examined with cointegration and error correction models (ECM). The findings revealed a positive connection between exports and economic growth in the short term across several Asian countries, except Sri Lanka. The inflation in Sri Lanka exerts a limited impact on economic growth. However, in the extended run, a robust association of exports and economic growth across all Asian nations will be seen. The Hecksher-Ohlin theory (Appleyard et al., 2010) explains that exports influence a country's economic growth, as every country exports goods manufactured with labour-intensive and cost-effective production factors. The nation will gain profit since it will boost national income and increase the rate of development and economic expansion. Empirical studies in China show the positive marginal impact of physical capital stock, working capital, export trade and import trade on gross domestic product. The most significant influence of these variables is export trade, physical capital, working capital, and then import trade. Therefore, each region must strive to increase the value of export trade, and the impact of increasing export value will influence economic growth in China's provinces (Chen et al., 2019).

According to Mankiw (2010), imports are the activity of bringing goods from other countries into the territory of one's own country. International

trade encompasses the exchange of products and services between two or more nations. A country's reliance on other nations will be influenced by the imports of commodities and services. Dependency on other nations will adversely affect a country's limited economic autonomy and, over time, will lead to a decrease in a country's economic growth. The objective of this study was to assess the effect of international trade, inflation, consumption, and the function of Zakat on the economic growth of Indonesia. The significance of Zakat stems from the majority of the Indonesian populace who adheres to Islamic law. The Al-Qur'an states that Zakat is the primary duty of a capable Muslim. "Establish prayer, pay alms-tax, and bow down with those who bow down" (The Nobel Quran, 2:43).

This paper is structured as follows. Section 1 evaluates the role of taxes in development. Section 2 reviews relevant literature regarding the impact of taxes and macro variables on economic development in a country. Section 3 determines the methodology used in empirical research with the Vector Error Correction Model (VECM). Section 4 reviews the results of the analysis and discuss the research findings. Section 5 provides the conclusions and limitations of the study.

2. LITERATURE REVIEW

According to Simon Kuznets, economic growth refers to the ability of a nation to provide goods and services to its population in the long term. This definition has three components: 1) economic growth is carried out continuously through increasing production of final goods and services; 2) technological progress is a driving factor for economic growth through increasing human resources and science and technology; 3) the distribution and significant use of technological advances obligates the existence of appropriate institutions and ideologies so that innovative discoveries can be utilized quickly and precisely (Jhingan, 2022). According to Wagner's law, economic growth will cause relations between industries and industry-society to become increasingly complicated and complex. Increasingly complex industrial relations have the potential to give rise to more significant market failure and negative externalities. The increasing negative externalities will heighten the government's role in maintaining economic stability. A macro literature review regarding national income is identified by the formula $Y = C + I + G + (X-M)$.

Meanwhile, net exports (X-M) are quite an essential factor in increasing national income. The results of research conducted by Akalpler and Adil (2017) regarding the interaction between net exports and economic growth indicate that there is a long-term cointegration link between these two factors in the United States. Imports of products and services exert a detrimental impact on economic growth.

Another factor that contributes to economic growth in Indonesia is Zakat. There is a plethora of literature that examines the role of Zakat from various aspects, both from the legal aspect (fiqh), its management, its potential, and its role in alleviating poor communities. Islamic economists have extensively researched the impact of Zakat on stimulating economic growth, highlighting its vital significance as a tool for economic advancement. The optimal role of Zakat can be an instrument in improving the people's economy. Zakat, infaq, and alms are inherent in Islamic teachings, as in the letter Az Zariyat 19 that in the assets one person owns, there are rights to other people (the poor). Therefore, the administration of Zakat, infaq, and sadaqah emerges as a viable remedy for Muslim nations in addressing issues of poverty. According to Mahomed (2017), Zakat is an obligatory expense for a Muslim who can afford it and is given to those who meet the requirements as recipients. Infaq, sadaqah, and Zakat have a substantial wealth impact on payers and recipients as well as the broader economy. The aim of distributing Zakat can be simplified to be able to purify assets for their owners through the payment of halal donations to the poor. As a social contribution, the purpose of seeking Zakat is to enhance the economic condition of its beneficiaries, with the goal of achieving wealth equality among individuals in society. It is essential to undertake measures in the foreseeable future to mitigate the disparity in wealth among those who identify as Muslims globally.

Studies on how Zakat can help reduce the number of individuals living in poverty have been analyzed by Sulaeman et al. (2021), which found that Zakat influences socio-economic welfare by reducing poverty rates during the 2002–2019 period in Indonesia. Studies by Sari et al. (2019) and Rahman et al. (2023) concluded that Zakat influences alleviating poverty. Zakat can be an instrument for poverty alleviation through Zakat management with poor community empowerment programs, which have an impact on increasing economic growth. This research proves that poor people can get out of poverty if they are empowered through Zakat assistance programs for productive businesses compared to those without Zakat assistance. In addition, the findings of the study are corroborated by prior research conducted by Shaukat and Zhu (2021), which utilized the panel system general moment (GMM) data approach and surveyed 38 Muslim countries from 1996–2015 and showed a significant favourable influence of Zakat on economic growth. Mohammed et al. (2021) and Saputri and Hamzah (2021) concluded that Zakat plays a role in encouraging increased economic welfare of society through economic growth. Recent research conducted by Hidayati et al. (2022) demonstrates that the allocation of Zakat, infaq, and sadaqah expenditure has a detrimental and substantial impact on economic growth.

The findings of this study suggest that the administration of Zakat, infaq, and sadaqah money in the immediate term does not align with the initiatives aimed at uplifting impoverished communities.

Another factor that influences economic growth in Indonesia, apart from Zakat distribution, is also influenced by inflation. Hu et al., (2021) found that inflation has a hump-shaped relationship with economic growth, but inflation has a negative influence on the welfare of the poor. A similar study by Wang et al. (2022) reported that the fluctuation in oil prices, which leads to inflation, has a quantifiable adverse effect on the economic growth of both oil-importing and oil-exporting nations. This research is supported by the results of research by Sarmah and Bal (2021), which shows that crude oil

prices have a positive effect on the inflation rate. This relationship can be shown through the negative influence between world crude oil prices and economic growth.

Research conducted by Mandeya and Ho (2022) found that the relationship between inflation or uncertainty in inflation and economic growth indicates that inflation has a negative impact on economic development. However, the literature regarding inflation uncertainty is still inconclusive. Other research was conducted by Ekinci et al. (2020) with a threshold predicted value of 4.182% in inflation target countries. At levels lower than the limit, the correlation between inflation and economic growth is negligible. Conversely, when the inflation aim exceeds the barrier, it will adversely affect economic growth. Another study conducted by Dinh (2020) shows that the impact of the inflation rate on economic progress in Vietnam is positively related.

The relationship between government spending on investment and economic growth is shown by the results of research conducted by Alexiou (2009). The study discussed that expenditure on capital formation, development aid, private investment, and trade liberalization showed positive and substantial effects on economic growth. Other research conducted by Butkiewicz and Yanikkaya (2011) that in developing countries, government expenditure has an adverse effect on economic growth due to less efficient government in overcoming the poverty issues. Developing countries that are ineffective in managing government spending result in lower economic growth compared to countries whose regional spending is well managed. In order to promote economic expansion, developing nations need to restrict excessive government expenditure on consumption and instead allocate resources towards infrastructure development that facilitates cost-effective production.

Bakari and Mabrouki (2017) found a two-way causal relationship between imports to economic growth and exports to economic growth. Meanwhile, Khan et al. (2022) reported that imports influenced economic growth. The influence of imports is significant on economic growth because imports can absorb foreign technology, which can encourage exports, and then exports act as a driver of economic growth. Another research conducted by Okyere and Jilu (2020) concluded that there is no significant causal relationship between imports and economic growth, contrary to exports.

The interconnection between exports and economic growth was also proposed by Ali et al. (2018). The results of Ali et al.'s (2018) research concluded that there is a short-term causal association between exports and economic growth and from economic growth to imports. The findings of this research help policymakers or economic authorities to rethink the impact of exports, imports, inflation and gross capital formation (investment) on economic growth. This research is supported by the results of research conducted by Carrasco and García (2021) and Abdulla and Ali (2019) that found domestic exports, the share of high-technology imports, and imports of capital goods are positively related to economic growth. The results of this research are in accordance with those conducted by Sultanuzzaman et al. (2019) concluded that exports and technological progress have an impact on the economic performance of developing countries in Asia. The results of his research identified the positive and significant influence of exports and technology on the economic growth of developing countries in Asia. Another research conducted by Shadab (2021) concluded that there is a unidirectional causal relationship between export diversification and economic growth in the UAE. Meanwhile, other research conducted by Panta et al. (2022) shows that exports have not been proven to be able to encourage economic growth, both in the short and long term. Overall, research conducted by Panta et al. (2022) found no evidence to support the idea that foreign trade can encourage economic growth in the long term.

3. RESEARCH METHODOLOGY

This research utilized monthly data of 96 time series data from January 2011 to December 2019. This data includes data on GDP growth, Zakat, inflation, consumption, exports and imports. The variables used in this research are detailed as follows:

1) *Zakat*: in accordance with Islamic law, Zakat is a form of charity mandated to be distributed to eligible individuals and organizations. This charitable contribution can only be made by Muslims or Muslim-owned businesses. Zakat funds in Indonesia for this study were measured by the number of Zakat funds at BAZNAS (National Zakat Amil Agency) reported in rupiah units for the period January 2011 to December 2019.

2) *GDP*: it represents the total value of final goods and services produced in Indonesia within a year, measured in rupiah units.

3) *Inflation*: this variable signifies the percentage increase in prices of goods and services based on the base year 2010.

4) *Consumption*: it is the aggregate of household, private, and government expenditure, calculated in rupiah units.

5) *Exports and Imports*: these represent the value of goods sold abroad and purchased from abroad, respectively, measured in rupiah units.

Furthermore, the VECM model in this research is as follows:

$$\Delta GDP_{ti} = \beta_0 + \beta_{11}\,\Delta CONSt_{t-1i} + \cdots + \beta n1\Delta CONSt_{t-ni} + \beta_{12}\Delta INF_{t-2i} + \cdots + \beta_{n2}\Delta INF_{t-ni} + \beta_{13}\Delta EXPORT_{t-3i} + \cdots + \beta_{n3}\Delta EXPORT_{t-ni} + \beta_{14}\Delta IMP_{t-li} + \cdots + \beta_{n4}\Delta IMP_{t-2i} + \beta_{15}\Delta ZAKAT_{t-li} + \cdots + \beta_{n5}\Delta ZAKAT_{t-2i} + \varepsilon_t \quad (1)$$

where:
Δ: First difference
li: Lag 1
ni: Lag n
t: Time period
i: Series
β: Coefficient
CONST: Consumption
INF: Inflation
EXPORT: Exports
IMP: Imports
ZAKAT: Zakat
ε_t: Error term

In the VECM approach, the initial step involves conducting a unit root test for each variable to ascertain whether the data is stationary. Subsequently, once the data achieves stationary at the first difference, the estimation of the VECM model proceeds by determining the optimal lag length. This determining is crucial in VECM modeling (Lütkepohl, 2005). Through the assessment of the maximum lag length, it is known that the optimum lag length is a maximum of six. Furthermore, the results of the stability test show that the values of all moduli are below one, meaning that the utilized model adheres to the stability criteria. Therefore, the Impulse Response and Variance Decomposition Function are declared valid (Gujarati, 2003). The Variance Decomposition value obtained can be utilized to forecast the upcoming 20 years.

4. RESULTS AND DISCUSSION

All variables in this study satisfy the criteria for achieving first-order difference stationary (Table 1), followed by the optimum lag test (Table 2), stability test, cointegration test, and Granger causality test (Table 3), culminating in the VECM model regression (Tables 4 and Table 5).

The outcomes of the test results presented in Table 1 show that the level values of all variables are non-stationary. The examination proceeds to the testing at the first difference level, revealing that all GDP, Inflation, Consumption, Exports, Imports, and Zakat variables exhibit stationary at the first difference.

Table 1. Stationary test for level and first derivative data

Method	*Level*		*First difference*	
	Statistic	*Probability***	*Statistic*	*Probability***
*Levin, Lin and Chu t**	-0.03819	0.4848	-39.7667	0.0000
Im, Pesaran and Shin W-stat	-2.51351	0.0060	-36.7255	0.0000
ADF — Fisher Chi-square	67.2617	0.0000	314.937	0.0000
PP — Fisher Chi-square	44.7487	0.0000	274.958	0.0000

*Note: ** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.*
Source: Data processed.

After all variables achieve stationary in the first differential, the next stage in the regression of the VAR model involves conducting the optimal lag length test. The lag length determining indicator selected encompasses criteria such as Likelihood Ratio (LR), Final Prediction Error (FPE), Akaike Information Crition (AIC), Schwarz Information Crition (SC), and Hannan-Quin Crition (HQ). The modified LR statistical test conditions reveal that the optimal lag is identified at lag six (Table 2), marked with an asterisk on the AIC.

Table 2. Optimal lag length test

Lag	*LogL*	*LR*	*FPE*	*AIC*	*SC*	*HQ*
1	1361.921	138.3603	1.80e-19	-26.13706	-25.04958	-25.69682
2	1435.424	128.0833	8.61e-20	-26.87968	-24.86008	-26.06209*
3	1483.438	77.96406	6.92e-20	-27.11759	-24.16587	-25.92265
4	1542.149	88.35644	4.57e-20	-27.56730	-23.68346	-25.99501
5	1578.305	50.11710	4.84e-20	-27.57039	-22.75443	-25.62075
6	1640.411	78.70933*	3.16e-20*	-28.08735*	-22.33927	-25.76036

Source: Data processed.

The cointegration test was conducted before conducting the VECM regression using the Johansen Cointegration Test (Maddala & Wu, 1999). The results of the cointegration test show that five vectors possess statistical trace values and eigenvalues exceeding the critical value of 0.05. These values suggest the occurrence of cointegration in the model. Meanwhile, the causality test can be conducted using the Granger Causality method (Hurlin & Venet, 2001).

The causality test results in Table 3 reveal the following relationship between variables:

1) The inflation variable and the GDP variable exhibit a unidirectional relationship, with the GDP variable influencing the inflation variable.

2) The consumption variable and the GDP variable display a unidirectional relationship, with the GDP variable influencing the consumption variable.

3) The export variable and the GDP variable demonstrate a unidirectional relationship, with the export variable influencing the GDP variable.

4) The import variable and the GDP variable have a unidirectional relationship, with the import variable influencing the GDP variable.

5) The Zakat variable and the GDP variable exhibit a unidirectional relationship, with the Zakat variable influencing the GDP variable.

Table 3. Granger causality tests

Null hypothesis	*F-statistic*	*Prob.*
INF does not Granger Cause LGDP	6.59235	0.0020
LGDP does not Granger Cause INFL	1.07179	0.3463
LCONSI does not Granger Cause LGDP	23.0331	6.E-09
LGDP does not Granger Cause LCONS	0.17645	0.8385
LEXP does not Granger Cause LGDP	0.93676	0.3953
LGDP does not Granger Cause LEXP	7.58960	0.0008
LIMP does not Granger Cause LGDP	0.59133	0.5555
LGDP does not Granger Cause LIMP	3.61951	0.0303
LZAKAT does not Granger Cause LGDP	3.09149	0.0498
LGDP does not Granger Cause LZAKAT	6.35495	0.0025

Source: Data processed.

The results of the dynamic model regression are presented in Table 4 and Table 5. In the short term (Table 4), economic growth is adversely affected by the previous year's economic growth, economic growth from two years ago, economic growth from four years ago, and economic growth from six years ago. Economic growth is positively influenced by alterations in inflation from the previous year, changes in inflation from two years ago, and changes in inflation from three years ago. These findings align with the research conducted by Naseri and Zada (2013), which concluded a statistically significant positive relationship between inflation and economic growth.

Table 4. Estimates in the short time

Error correction	*D(L(GDP))*	*Error correction*	*D(L(GDP))*
CointEq1	-1.183082	*D(L(CONS(-4)))*	2.300311
	[-6.16759]***		[2.43373]**
D(L(GDP(-1)))	0.891222	*D(L(EXP(-1)))*	-0.036756
	[6.77893]***		[-3.39341]***
D(L(GDP(-2)))	0.871683	*D(L(EXP(-4)))*	-0.021923
	[5.31995]***		[-2.20655]**
D(L(GDP(-4)))	0.308992	*D(L(EXP(-5)))*	-0.021160
	[2.53885]**		[-2.14416]**
D(L(GDP(-6)))	0.422318	*D(L(IMP(-1)))*	0.029992
	[2.89641]***		[3.55633]***
D(INF(-1))	-0.002328	*D(L(IMP(-2)))*	0.025478
	[-2.14893]**		[3.20338]***
D(INF(-2))	-0.002495	*D(L(IMP(-4)))*	0.029464
	[-2.42345]**		[3.83577]***
D(INF(-3))	-0.002269	*D(L(ZAKAT(-3)))*	-0.030960
	[-2.20957]**		[-2.63116]**
C	-0.024503	*R-squared*	0.788215
	[-4.45336]***	*Adj. R-squared*	0.663833

*Note: [ ] t-value count; * significant at 10%; ** significant at 5%; *** significant at 1%.*

Table 4 shows that, in the short term, inflation, consumption, exports, imports, and Zakat distribution influence economic growth. Imports and consumption of goods contribute positively to economic growth, as high imports can stimulate the national industry. Many strategic industries in Indonesia rely on imported goods, such as machines/mechanical equipment, and their parts constitute the category of goods with the highest import value. At the same time, inflation, exports, and Zakat have a negative impact on economic growth in the short term due to their role in redistributing wealth from the affluent to the impoverished. Once the assets of the giving parties have reached the nisab and haul thresholds, the funds are transferred to the Zakat management institution. Subsequently, these funds are allocated to individuals in need, including those meeting the criteria for receiving Zakat, known as Zakat mustahik. Zakat distribution in the short term leads to a decrease in the spending of Zakat payers, consequently having a negative effect on economic growth.

Table 5 demonstrates that over an extended period, the determinants of economic status include inflation, consumption, exports, imports, and Zakat. Consumption, exports, imports, and Zakat exert a beneficial impact, whereas inflation exerts a detrimental impact on economic growth. The inflation rate has a detrimental impact on economic growth, where a 1% increase in inflation will lead to a decrease in the economy of -0.0057%, provided all other factors remain the same. These findings align with the research carried out by Munir and Mansur (2009), which indicated that inflation had a substantial detrimental effect on the rate of GDP expansion.

Table 5. Estimates in the long time

Cointegrating eq.	*CointEq1*
LOG(GDP(-1))	1.000000
INF(-1)	-0.005701
	[-2.55022]**
LOG(CONS(-1))	1.159787
	[62.4447]***
LOG(EXPORT(-1))	0.020293
	[2.27152]**
LOG(IMPORT(-1))	0.022289
	[3.21731]***
LOG(ZAKAT(-1))	0.004537
	[2.00236]**
C	2.631740

*Note: *** = significant at 1%; **= significant at 5%*
Source: Data processed.

Consumption has a favourable impact on long-term economic growth. Assuming all other things remain constant, a 1% rise in consumption will result in a corresponding 1.16% increase in economic growth. The findings of this study align with the research carried out by Alexiou (2009), which determined that government expenditure on capital formation, development aid, private investment, and trade liberalization had a favourable and substantial impact on economic growth.

Exports also have a beneficial impact on economic growth, where a 1% rise in exports will result in a 0.02% increase in economic growth, provided that all other factors remain the same. The findings of this study align with the research conducted by Taghavi et al. (2012), which established a direct and positive link between Iran's exports and long-term economic growth.

Imports positively influence economic growth. A 1% growth in imports will result in a 0.022% boost in economic growth, provided all other factors remain unchanged. The findings of this investigation align with the research carried out by Kim et al. (2007), which discussed that imports have

a substantial positive impact on productivity growth, although exports do not demonstrate the same effect. However, it is seen that import liberalization can provide a noteworthy and favourable contribution to economic growth under specific circumstances.

In the long term, Zakat influences economic growth. Every 1% increase in Zakat expenditure will increase economic growth by 0.004537%. The results of this research are in accordance with research conducted by Jedidia and Guerbouj (2020). The results of their research prove that Zakat will stimulate the country's growth by increasing consumption, investment, or government spending, ultimately spurring economic growth.

Variance decomposition prediction is a prominent tool in interpreting linear and nonlinear multivariate time series and impulse response models (Lanne & Nyberg, 2016). Variant Decomposition (VD) analysis aims to measure the magnitude of the composition or contribution of the independent variable to the dependent variable. In this research, VD analysis is focused on looking at the influence of independent variables.

Based on Table 6, the first period's GDP was predominantly impacted by a 100% GDP shock. During the first period, the factors of inflation, consumption, exports, imports, and Zakat had little impact on GDP. In the 12th period, the inflation variable contributed 6%, consumption 3.69%, exports 2.23%, imports 1.2%, and the Zakat variable contributed 5.68% to the shock. In the 30th period, the inflation variable contributed 7.11%, consumption 4%, exports 2.31%, imports 2.14%, and Zakat contributed a shock of 5.56%. In the 60th period, the inflation variable contributed 7.25%, consumption 4.05%, exports 2.32%, imports 2.17%, and Zakat contributed a shock of 5.61%.

Table 6. Variance decomposition

Variance Decomposition of D(LOG(GDP)):							
Period	***SE.***	***D(L(GDP))***	***D(INF)***	***D(L(CONS))***	***D(L(EXP))***	***D(L(IMP))***	***D(L(ZK))***
1	0.004378	100.0000	0.000000	0.000000	0.000000	0.000000	0.000000
12	0.007095	81.17613	6.003201	3.691358	2.234789	1.211840	5.682685
18	0.007325	79.81518	6.553826	3.828727	2.291292	2.025953	5.485022
24	0.007402	79.10232	7.057519	3.955574	2.301725	2.043745	5.539117
30	0.007430	78.84894	7.116001	4.001960	2.317113	2.149585	5.566403
36	0.007442	78.69218	7.226514	4.012020	2.319478	2.163336	5.586476
42	0.007446	78.64064	7.239267	4.028606	2.319701	2.166719	5.605064
48	0.007448	78.61112	7.249824	4.037928	2.321187	2.170925	5.609018
54	0.007449	78.59515	7.254029	4.044796	2.321246	2.171786	5.612992
60	0.007449	78.58738	7.255104	4.049431	2.321528	2.172224	5.614336

Source: Data processed.

IRF results show the length of time it takes for one variable to respond to another variable. The response function to shocks allows us to observe the dynamic response of each variable when an unavoidable shock occurs, measured in terms of one standard deviation. This reaction demonstrates the impact of the dependent variable shock on the independent variable. When the impulse response graphic depicts a trajectory converging towards the equilibrium state or reverting to the previous equilibrium state, it indicates that the response of a variable to a shock will diminish with time.

Figure 1 explains that the GDP response to the GDP shock itself was positive in the 1st to 20th periods, as seen from the IRF line, which is above the horizontal line from the first to the third period. Entering the 30th to 60th period, the GDP response to GDP shocks begins to stabilize, approaching zero.

Figure 2 explains that the inflation response to the GDP shock was positive in the first period and decreased negatively in the second to fourth periods, as indicated by the IRF line, which is above the horizontal line in the first period and tends to decrease in the second and fourth periods. Entering the 5th to 25th period, the response of inflation to GDP shocks fluctuates significantly, and it starts to stabilize near zero in the 25th to 30th period.

Figure 3 explains that the consumption response to the GDP shock was very fluctuating in the 1st to 25th period, as shown in the IRF line, which is above and below the horizontal line from the 1st to the 25th period. Entering the 25th to 60th period, the consumption response to GDP shocks begins to stabilize, approaching zero.

Figure 1. Response of D(L(GDP)) to D(L(GDP))

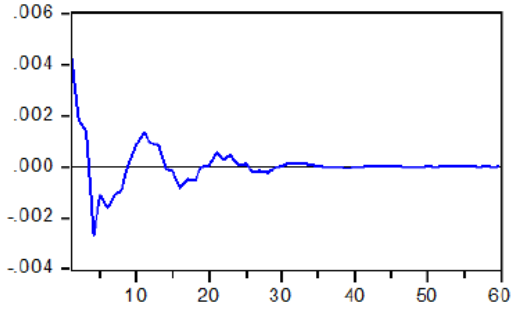

Figure 2. Response of D(INF)) to D(L(GDP))

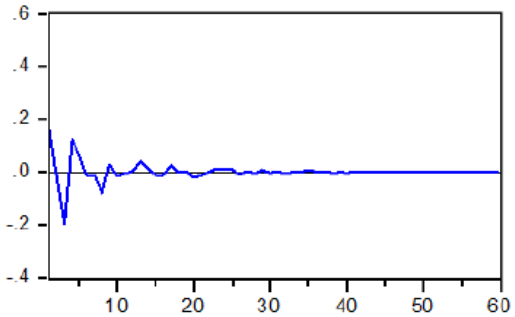

Figure 3. Response of D(L(CONS)) to D(L(GDP))

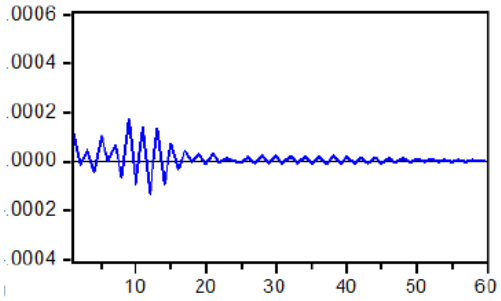

Figure 4. Response of D(L(EXP)) to D(L(GDP))

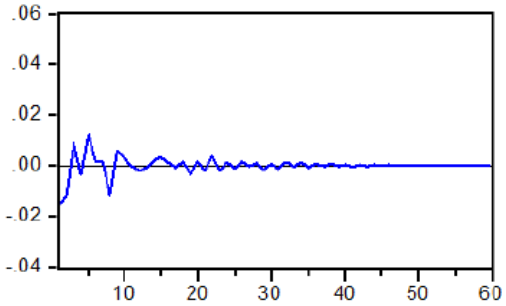

Figure 5. Response of D(L(IMP)) to D(L(GDP))

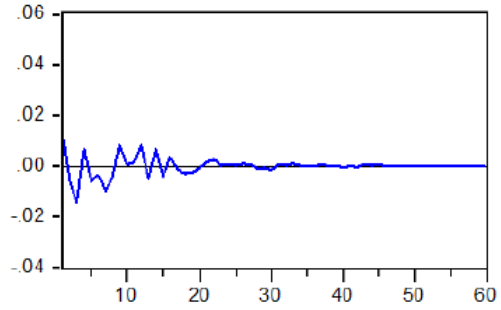

Figure 6. Response of D(L(ZAKAT)) to D(L(GDP))

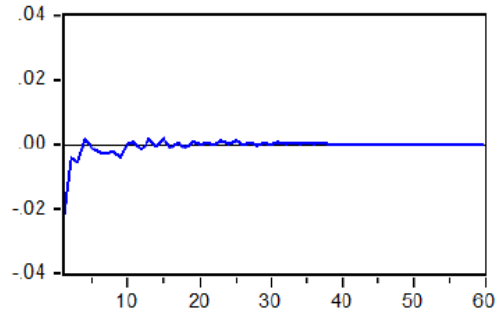

Figure 4 explains that the export response to GDP shocks fluctuates significantly from the 1st period to the 40th period, as seen in the IRF line above and below the horizontal line from the 1st to the 40th period. Entering the 41st period to the 60th period, the export response to GDP shocks began to stabilize, approaching zero.

Figure 5 explains that the response of imports to the GDP shock fluctuated highly from period 1 to period 22, which is indicated by the IRF line above and below the horizontal line from period 1 to period 22. Entering the 23rd period to the 60th period, the response of imports to GDP shocks began to stabilize, approaching zero.

Figure 6 explains that Zakat's response to GDP shocks had a negative impact from the 1st to the 20th period, displayed by the IRF line, which is below the horizontal line from the 1st to the 20th period. Entering the 21st to 60th period, Zakat's response to GDP shocks began to stabilize, approaching zero.

5. CONCLUSION

Consumption, inflation, exports, imports, and Zakat have a significant impact on the economic growth of Indonesia, both in the short and long term. Short-term Zakat distribution exerts a detrimental impact on economic growth, whereas long-term Zakat distribution yields a beneficial effect on economic growth.

As a part of the assets of Muslims, Zakat must be given to people who are less fortunate and meet the requirements to receive Zakat, and Zakat is a source of state revenue which is not counted as tax. The main problem with Zakat management in Indonesia is that the Zakat Amil Agency in Indonesia has not taken nearly enough initiatives, which has resulted in inadequate results for Zakat management. This has reduced the agency's capacity to effectively stimulate short-term economic growth. The Amil Zakat Agency formed by the government has not been productive and lacks professionalism in managing and distributing Zakat, infaq, and sadaqah. Meanwhile, the role of the Regional Zakat Amil Agency is only to receive levies, which are still limited to government civil servants and professional Zakat. In the future, increasing the role of government and private institutions such as Muhammadiyah and Nahdatul Ulama must be involved in managing Zakat and increasing the role of Zakat in economic development by increasing awareness among Muslims in paying Zakat.

Zakat is the central pillar of Muslims in protecting society from social disasters, so there is a need for research regarding the implications of the Zakat, infaq, and sadaqah (ZIS) fund empowerment program in alleviating poverty.

This research still has limitations, namely the data used from January 2011 to December 2019, so it is necessary to update the data again. Model development can be developed with the VECM Panel because funds managed by private institutions such as LAZISMU Muhammadiyah and LAZISNU Nahdhatul Ulama have not been included in this research.

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