



## Islamic Modeling Analysis of Income Inequality in Indonesia: With a Vector Error Correction Model (VECM)

Basri<sup>1\*</sup>, Muh. Asharif Suleman<sup>2</sup>, Zulfi Idayanti<sup>3</sup>, Herianti<sup>4</sup>

<sup>1,2,3,4</sup> Islamic State University of Sunan Kalijaga, Indonesia

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\*Corresponding author email:

[basribasyir862@gmail.com](mailto:basribasyir862@gmail.com)

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### Abstract

This study aims to examine the factors that influence income inequality in Indonesia from an Islamic perspective. Income inequality is a significant economic problem and requires a holistic approach for deeper understanding and sustainable solutions. The type of data used is time series data with a research period of 1998–2022. The research model used is the Vector Error Correction Model (VECM) to measure the long-term and short-term relationships of the labor force, government expenditure, and human capital variables on income inequality. The results of the study show that there is a long-term relationship between the labor force and government budget variables and income inequality. In the short term, the labor force and human capital affect income inequality. The results of this study are expected to contribute to the literature on the study of income inequality in general and specifically in Indonesia, become a reference for the development of more inclusive and equitable economic policies, and enrich the literature on the implementation of Islamic economics in the context of alleviating income inequality

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## INTRODUCTION

Income inequality is a crucial issue that is always interesting to discuss. For years, the topic has always given rise to critical debates in academic circles. Its impacts have caused public social unrest and socio-political instability, even causing violent conflicts in community life. Various studies have revealed that net and lower inequality is a primary requirement for achieving faster and more sustainable economic growth (Berg et al. 2018). Informed policy

debates require concrete evidence on how to resolve the phenomenon (I. A. Ferreira, Gisselquist, and Tarp 2022). In such conditions, policymakers and economists call for a distributive policy revolution to address inequality directly (Woo 2020). Liu, Jiang, and Xie (2019), consider that income inequality is an obstacle that must be resolved because it can hinder sustainable development. The statement Sachs (2015), is an important consideration because the world economy has achieved significant success in driving economic growth but has not achieved the same success, namely equal distribution of welfare. Despite these facts, income inequality is a problem that is the biggest challenge and hinders a harmonious life (Uzar 2020).

From the description above, it can be concluded that various considerations must be resolved to reduce income inequality. The first problem is trying to investigate the contribution of the workforce itself. Is a large proportion able to have a significant impact on income inequality? According to Cristea et al. (2020), when the demographic structure shifts towards an aging population, greater pressure will be placed on the productive age or workforce. When viewed from a positive perspective, a large workforce is an important resource for driving economic development and the progress of the country. However, from another perspective, the increase in the workforce often clashes with the government's ability to provide jobs (Suhandi, Wiguna, and Quraysin 2021). Data from the Indonesian Central Statistics Agency released the composition of the population based on the field of business as well as the structure of the workforce. The three business sectors that absorb the most labor are the agriculture, forestry, and fisheries sector, which reaches 28.64%; trade, repair, and maintenance of cars and motorbikes, which reaches 19.05%; and the processing industry, which reaches 13.28% (Statistic Indonesia Agency 2024). However, such conditions are why income inequality still shows a very sharp figure.

Several economists have attempted to provide a solution: income inequality must be addressed with a proportional government budget distributed to improve welfare. The classical redistribution theory popularized by Meltzer and Richard (1981), has become an important reference because the higher the inequality, the greater the redistribution. It is assessed that a more unequal society tends to redistribute more, but this is unlikely to result in better economic development. Therefore, Sidek (2021), proposes that one of the main fiscal redistributions is directed at the formation of physical capital and human resources, which leads to improving the quality of education. With adequate education and training, humans will obtain the appropriate capital to compete and accumulate wealth. If observed further, the government budget disbursed to support the acceleration of economic transformation, strengthening the quality of spending, encouraging targeted subsidies, encouraging economic growth and equity, and expanding employment opportunities reaches around 2,467.5 trillion. Of course, with such proportions, it is hoped that this policy can be touched by all levels of society (Sari 2020). However, the study of government budget allocations published by the World Bank must be evaluated.

An important note that must be a shared task for policymakers is to evaluate the gaps related to human capital and infrastructure that hinder competitiveness and the ability to

create jobs and reduce poverty in the long term. He continued that Indonesia needs to increase fiscal space and all resources by increasing domestic revenues, revolutionizing poor subsidy spending, and increasing the efficiency of public spending to maximize development (Sari 2020). Thus, when considering these challenges, solid and versatile policies are needed, as is a major restructuring of economic activities in both the public and private sectors to end income inequality. Therefore, economic development, as the main basis for eradicating income inequality from an Islamic perspective, requires unity and diversity. Unity in economic development according to Islam is one of its objectives, namely creating prosperity at all levels of society and prioritizing justice and equality as a form of good deeds and social piety. The needs of the people must be met, regulated, and maintained by the state so that every effort to meet the needs of the people between one and another remains in a position that is just, harmonious, and does not clash so that the rich get richer and the poor get poorer. Nor does it create an increasingly sharp income gap that can ultimately become a threat to political, social, and security stability, which is vital for sustainable economic development (Arie 2015).

Through the above considerations, the purpose of the study is to test whether the workforce, government spending, and human capital are able to reduce income inequality as expressed by theorists and the results of empirical studies. The main contribution in this study is to identify more critically the components that influence income inequality and try to compare them with the Islamic view. First, we choose the total workforce variable to find out the impact of the dependent variable. Then, government expenditures or government budgets are obtained from the total percentage of GDP. Furthermore, specifically for the human capital variable, we use the expected years of schooling indicator developed by UNDP. Specifically for the income inequality variable, we use the GINI ratio, which is mostly used by researchers who study the same topic. Second, this study tries to use the Vector Error Correction Model (VECM) model to evaluate the relationship between income inequality in both the long and short term.

To our knowledge, there has never been a study that tries to group the three variables, such as the workforce, human capital, and government spending, simultaneously to measure their impact on income inequality. These three variables are determined in the study because they have a very close correlation, such as the workforce and human capital, which are basically determined by individual capabilities. Meanwhile, the government budget as a form of government intervention that is allocated to the education and training sector has implications for improving the quality of the workforce and creating superior and competent human resources. Thus, the combination of these three components is thought to be able to reduce income inequality in Indonesia. As a form of novelty in this study, the researcher added a government budget variable, as this indicator is often a crucial issue and is debated by academics. For example, Monzer Kahf, one of the world's Muslim economists, revealed that one of the causes of the economic backwardness of Muslim-majority countries is the problem of public budget deficits. This issue is a very serious problem, considering that this phenomenon has occurred for decades (Kahf 1997). The majority of Muslim countries are developing countries and have large public debts. As a result of the deficit, it is difficult to

determine spending and allocate subsidies that lead to human resource development (Wibowo 2020).

This research is structured in the following way: Section 2 reviews the theories and empirical studies that are relevant to the research topic. Section 3 describes the research method and operational definitions of variables. Section 4 presents the results and discussion. Section 5 summarizes the conclusions, suggestions, and references.

**METHOD**

This study uses time series data with a research period of 1998–2022, through the Vector Error Correction Model (VECM) approach. This approach aims to analyze the long-term and short-term relationships of income inequality in Indonesia and to reveal the consistency of empirical studies and theories of income inequality. Through this study, the VECM model is used to observe and analyze the influence of the workforce, government spending, and human capital on income inequality in Indonesia. Basically, the VECM model is a method of analyzing time series data in the Vector Autoregressive (VAR) model, which is stationary at the level and first differencing levels that meet the stationary and cointegration tests. Therefore, the VAR models that do not have stations are as follows:

$$Y_t = \mu + \alpha_1 y_{t-1} + \alpha_2 y_{t-2} + \dots + \alpha_p y_{t-p} + \epsilon_t \tag{1}$$

From this equation, the VECM equation is formed as follows:

$$\Delta Y_t = \alpha \epsilon_{t-1} + \beta_1 y_{\Delta t-1} + \beta_2 y_{\Delta t-1} + \dots + \beta_p y_{\Delta t-p} + 1 + \epsilon_t \tag{2}$$

The equation model in this study is:

$$II = \beta_0 + \beta_1 LF_t + \beta_2 GE_t + \beta_3 HC + ut \tag{3}$$

Note:

II = Income Inequality

LF = Labor force

GE = Government Expenditure

In this study, the description of the variables is presented in the form of table 1.

Table 1. Definition Operational Variable

| Variabel          | Definition                                                                                                                                 | Proxied By              |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| Income Inequality | Refers to the term income inequality or income distribution (how the total amount of money paid to people is distributed to them)          | Gini Coeficient (0-100) |
| Labor Force       | The labor force is the population aged 15 years and over who provide labor for the production of goods and services during a given period. | Labor Force Total       |

|                        |                                                                                                                                                                           |                         |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| Government Expenditure | General government final consumption expenditure (formerly general government consumption) includes all current government spending on the purchase of goods and services | % PDB                   |
| Human Capital          | This study uses human resource data (expected years of schooling) which is the average length of schooling                                                                | Average Learning (UNDP) |

Source: Data Processed

## RESULT AND DISCUSSION

### Stationary Test

The first step to ensure the VECM model is to meet the stationary test. This study uses Augmented Dickey Fulley (ADF). Table 2 shows the results of the roots test at the level and First Difference levels.

Table 2 Stasioner Test

| Variable               | Level<br>Statistic | Prob   | 1 Difference<br>Statistic | Prob   |
|------------------------|--------------------|--------|---------------------------|--------|
| Gini Ratio             | -1.253635          | 0.6335 | -3.973747                 | 0.0061 |
| Labor Force            | -1.912804          | 0.3211 | -3.493232                 | 0.0177 |
| Government Expenditure | -1.007527          | 0.7337 | -4.884534                 | 0.0005 |
| <i>Human Capital</i>   | -0.635432          | 0.8446 | -5.113169                 | 0.0004 |

Source: Eviews Processed

### Lag Criteria Test

After conducting the stationary test, the next step is to conduct optimal lag using lag order selection criteria. The results can be presented in table 3. Table 3 shows the number of stars for each criterion that is considered the best criterion.

Table 3 Lag Optimal

| LAG | LOGL     | LR        | FPE       | AIC        | SC         | HQ         |
|-----|----------|-----------|-----------|------------|------------|------------|
| 0   | 128.0446 | NA        | 1.49e-10  | -11.27678  | -11.07841  | -11.23005  |
| 1   | 248.9945 | 186.9227* | 1.10e-14* | -20.81769* | -19.82583* | -20.58403* |
| 2   | 263.9767 | 17.70615  | 1.44e-14  | -20.72515  | -18.93981  | -20.30458  |
| 3   | 278.6643 | 12.01715  | 2.68e-14  | -20.60584  | -18.02702  | -19.99835  |

Source: Eviews Processed

### Stability Test

After conducting the lag criterion test, the next stage is to conduct a VAR stability test which aims to determine that the VECM model can be forecasted using IRF and VD. In determining the stability of the VECM, the modulus value must be less than 1 as a model that is considered stable as stated in table 4.

Table 4 Test Stability

| Root                  | Modulus  |
|-----------------------|----------|
| 0.992412              | 0.992412 |
| 0.874331 - 0.314728i  | 0.929252 |
| 0.874331 + 0.314728i  | 0.929252 |
| 0.290285 - 0.404681i  | 0.498028 |
| 0.290285 + 0.404681i  | 0.498028 |
| -0.249551 - 0.428123i | 0.495546 |
| -0.249551 + 0.428123i | 0.495546 |
| 0.075816              | 0.075816 |

Source: Eviews Processed

### Test Kointegration

The cointegration test aims to determine a stable long-term relationship between two or more non-stationary variables in a time series model. In this study, the cointegration test was conducted using the Johansen Cointegration Test. Therefore, in determining that this research model is feasible to use the VECM model, the test results are seen in table 5 with the provision of a probability value  $<0.05$ . so that it can be concluded that there is integration between variables and stationary at the first difference level.

Table 5 Result Test Kointegration

| Hypothesized No. of CE(s) | Eigenvalue | Trace Statistic | 0.05 Critical Value | Prob*  |
|---------------------------|------------|-----------------|---------------------|--------|
| None *                    | 0.723063   | 57.77689        | 47.85613            | 0.0045 |
| At most 1                 | 0.575583   | 29.52965        | 29.79707            | 0.0537 |
| At most 2                 | 0.379679   | 10.67480        | 15.49471            | 0.2323 |
| At most 3                 | 0.007670   | 0.169399        | 3.841465            | 0.6806 |

Source: Eviews Processed

### Test Kausalitas Granger

The causality test in the VECM model aims to determine the direction of the causal relationship between variables in a long-term relationship. Table 6 presents the results of the causality test with the provision of a probability value  $<0.05$ , so that a causal relationship can be considered.

Table 6 Result Test Causality

| Null Hypotesis                 | OBS | F-Statistic | Prob   |
|--------------------------------|-----|-------------|--------|
| LF does not Granger Cause GINI | 23  | 0.50299     | 0.6130 |
| GINI does not Granger Cause LF |     | 2.25596     | 0.1336 |
| GE does not Granger Cause GINI | 23  | 2.65151     | 0.0979 |
| GINI does not Granger Cause GE |     | 0.93656     | 0.4103 |
| HC does not Granger Cause GINI | 23  | 0.13216     | 0.8770 |
| GINI does not Granger Cause HC |     | 2.32369     | 0.1266 |
| GE does not Granger Cause LF   | 23  | 0.35686     | 0.7047 |
| LF does not Granger Cause GE   |     | 0.61939     | 0.5494 |
| HC does not Granger Cause LF   | 23  | 0.52434     | 0.6007 |
| LF does not Granger Cause HC   |     | 2.49026     | 0.1110 |
| HC does not Granger Cause GE   | 23  | 2.97297     | 0.0766 |
| GE does not Granger Cause HC   |     | 10.5853     | 0.0009 |

Source: Eviews Processed

The causality test in the VECM model aims to determine the direction of the causal relationship between variables in a long-term relationship. Table 6 presents the results of the causality test with the provision of a probability value  $<0.05$ , so that a causal relationship can be considered.

### VECM Model Regression

Table 7 shows the results of the VECM test in both the long and short term. This study uses a significance level of 5% to assess the variables of labor force, government expenditure, and human capital in influencing the gini ratio. In determining significance, the researcher compared the t-statistic value with the table value of 2.051. If the T-Statistic value  $>$  T-Table value, the variable is considered to have an influence. Therefore, the long-term and short-term analysis values can be seen in table 7.

Table 7 Long-Term and Short-Term Tests of VECM

| Variable                 | Coefficient | Std. Error | t-stat     | Information     |
|--------------------------|-------------|------------|------------|-----------------|
| <b>Long Run Results</b>  |             |            |            |                 |
| LF                       | -4.423305   | (0.73724)  | [-5.99979] | Significant     |
| GE                       | -0.119248   | (0.04386)  | [-2.71913] | Significant     |
| HC                       | 0.003485    | -(0.01260) | [ 0.27659] | Not Significant |
| <b>Short Run Results</b> |             |            |            |                 |
| CointEq1                 | -0.28231    | (-0.14411) | [-1.95903] |                 |

|                    |           |           |            |                 |
|--------------------|-----------|-----------|------------|-----------------|
| <b>D (LF (-1))</b> | -7.734902 | (1.82597) | [-4.23606] | Significant     |
| <b>D (LF (-2))</b> | 0.561914  | (0.55195) | [-1.01804] | Not Significant |
| <b>D (GE (-1))</b> | -0.063824 | (0.07801) | [-0.81816] | Not Significant |
| <b>D (GE (-2))</b> | -0.118006 | (0.26554) | [-0.44440] | Not Significant |
| <b>D (HC (-1))</b> | 0.011075  | (0.01059) | [ 1.04551] | Not Significant |
| <b>D (HC (-2))</b> | -0.928532 | (0.28383) | [-3.27141] | Significant     |
| <b>C</b>           | -0.001663 | (0.00199) | [-0.83585] |                 |

Source: Eviews Processed

Based on the research results obtained in Table 7, the long-term level shows that the labor force has a significant negative effect on income inequality. This fact shows that a 1% increase in the labor force will reduce income inequality by 4.42%. This finding is in line with Maxwell (1990), empirical study, which found that changes in female labor force participation have an impact on income inequality and distribution. Affirmation from the study F. H. G. Ferreira, Firpo, and Messina (2022), also revealed the same thing: improving the labor market can reduce income inequality in Brazil in 1995–2012. This finding emphasizes that potential and qualified workers can contribute around 53% to the decline in the Gini index. Therefore, it is important to observe when there is a large inequality; for example, the problem of wages that are too large can also harm both parties between the company and the workforce. Moreover, the company's operations are unable to reach their optimal point. Thus, a workforce with quality educational standards is also needed to reduce income inequality, because this can position itself as a resource needed by various corporations.

Meanwhile, Islam provides a more comprehensive view that a large workforce is not always able to have a significant impact on income inequality. Islam's main criticism of a useful workforce is that the ethics inherent in the Islamic concept of the dignity of labor must be applied (Azeez et al. 2023). Islam does not only prioritize the quantity of workers who have higher education specifications, but morals must be a reflection so that they can have a positive impact on their surroundings or in the work environment. According to Islam, the basic attitude for workers that must be developed is cooperation and helping each other in goodness and piety, not by cooperating in hostility or bringing down fellow workers (Arie 2015).

Furthermore, an interesting thing to discuss is the impact of government expenditure, which has a significant impact on income inequality. This is proven by the fact that a 1% increase in the government budget will reduce income inequality by -0.11%, which is in accordance with the hypothesis proposed. This finding is in line with research Sidek (2021), which revealed that government spending can reduce income inequality. This relationship is also in line with the Kuznets Curve theory that higher government spending will initially cause more inequality but will eventually have a significant impact after reaching a certain threshold.

Then, if analyzed in the theory of budget management according to Islam, which emphasizes that the government budget must be directed towards productive sectors, So that each instrument can reach its optimal point (Karim 2007). The Islamic view is that the



state and government must form a political will commitment so that the government budget can be distributed fairly and realize income equality and prosperity so that it is not only concentrated in certain groups while other groups or regions experience inaccessible gaps and suffering (Kusriyah 2022). Therefore, the management of the state budget from an Islamic perspective emphasizes the principles of justice, balance, and sustainability to reduce economic inequality.

One of the main strategies is through the implementation of zakat, infaq, sedekah, and waqf. Zakat, which is an obligation for every able Muslim, also aims to distribute wealth from the rich to the poor and help reduce social inequality. Infaq and sedekah, as forms of voluntary donations, also play an important role in providing direct assistance to those in need and supporting social programs that can improve community welfare. In addition, Islam recommends wise financial management by avoiding usury (interest), which can cause economic injustice. The Islamic economic system encourages investment in the productive real sector and creates jobs, thereby strengthening the local economy and increasing community income. By implementing these principles, it is hoped that there will be a more equitable distribution of wealth and a significant reduction in economic inequality.

Meanwhile, in the short-term analysis, the labor force variable also showed significant results or was in accordance with the proposed hypothesis. An increase in the labor force by 1% will reduce income inequality by -7.73%. This study is in line with the findings (Bonacini, Gallo, and Scicchitano (2021), that the short-term impact of labor on income inequality basically still requires policies such as long-term human resource interventions to play a more important compensatory role in the future. Therefore, the findings Wulandari and Rahmawati (2022), provide a more complex understanding that, in an effort to reduce inequality in the short term, the workforce must be equipped with vocational education and training programs that can provide the skills needed for better jobs. Thus, with the right intervention, the workforce can effectively reduce income inequality in the short term. Policies and programs that focus on improving skills, social protection, improving working conditions, and inclusiveness can provide significant results in reducing income inequality relatively quickly.

A surprising finding is in the human capital variable, which only has a significant impact on income inequality. This finding is in line with the research Castelló-Climent and Doménech (2021), that human resources are the main basis for overcoming income inequality in both the short and long term. Therefore, Islam provides a view for building quality human resources by placing them as a unity of caliph and abdu. A caliph is determined by his creativity in carrying out life in the world in order to act as its prosperity. As a servant, his creative ability must be based on morals and noble character, making him a person of high integrity.

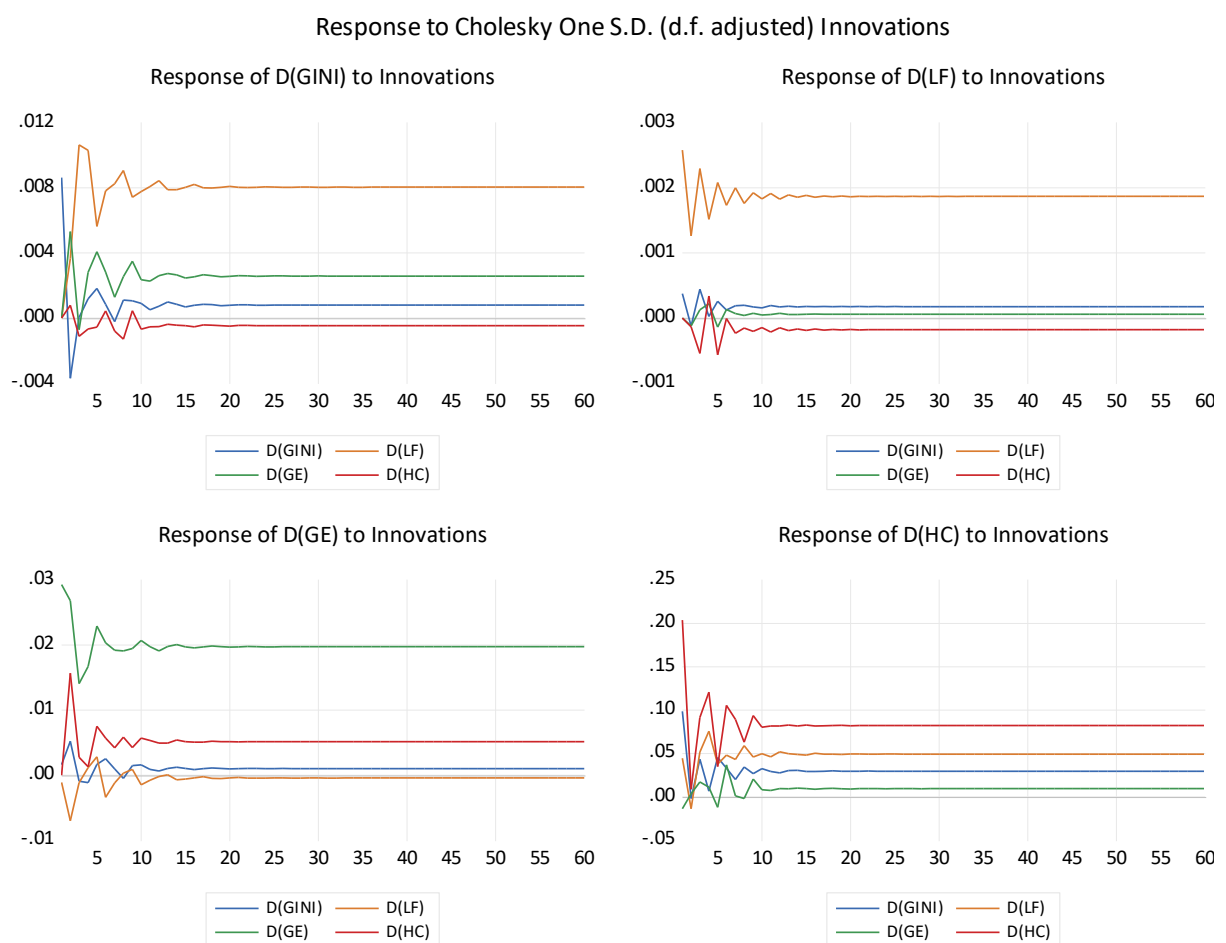
All of these things are certainly formed by a long educational process. This view is basically not much different from the mindset Becker (1992), which defines human capital as an investment in individuals through education, training, and work experience. Therefore, economic development as a way to overcome inequality is actually not only related to physical needs but also involves non-physical dimensions (spiritual). In fact, the success or

failure of economic development is determined by the quality of its people. Human quality development basically refers to education to shape the character and intelligence of the nation to carry out economic development while also overcoming social inequality.

### IRF dan IFD

The next analysis is related to the impulse response to observe the influence of shocks from one variable to another or the variable itself. Thus, the impulse response will provide an overview of the relationship between the magnitude of the influence between the variables and the estimated period to reach a more stable direction. Therefore, the results of the response analysis can be observed as follows:

Figure 2 Impulse Response



Source: Eviews Processed

The results of the processing in the form of an IRF graph, as shown in the figure, provide a visual illustration of how the response or shock from income inequality (the Gini ratio) to income inequality itself and three other variables that fluctuated from the initial period but at the end of the period began to show stable changes. Period 15 began to show stable results, which indicates the importance of policies that are able to overcome income inequality and have long-term implications.

Then, observations of the labor force response, both in the other three variables and the variable itself, also experienced the same situation. Period 15 also began to show stable indications and was positively responded to by the Gini ratio variable. This fact shows that, in the long term, optimization of the labor force indicator can have a positive impact on income inequality. This relationship means that a large workforce can minimize income inequality.

Further analysis revealed that the average response of the government expenditure level to the shock that occurred in the Gini ratio in Indonesia from the beginning to the 10th period began to experience a more stable level. This was also positively responded to by the Gini ratio variable. This fact has proven that, in the long term, the efficiency of the government budget will have a significant impact on income inequality.

Meanwhile, the response of the human capital variable to the Gini ratio shows a positive number. Then, a stable level is shown from the 10th period to the last period. These results indicate the importance of attention to human resources in the long term as the main basis for overcoming income inequality in Indonesia.

Tabel 8 Variance Decomposition GINI

| Response of<br>D(GINI): Period | D(GINI)   | D(LF)    | D(GE)     | D(HC)     |
|--------------------------------|-----------|----------|-----------|-----------|
| 1                              | 0.008627  | 0.000000 | 0.000000  | 0.000000  |
| 2                              | -0.003696 | 0.003656 | 0.005317  | 0.000786  |
| 3                              | 4.25E-05  | 0.010632 | -0.000712 | -0.001118 |
| 4                              | 0.001171  | 0.010304 | 0.002808  | -0.000671 |
| 5                              | 0.001817  | 0.005626 | 0.004076  | -0.000559 |
| 6                              | 0.000836  | 0.007812 | 0.002827  | 0.000440  |
| 7                              | -0.000215 | 0.008251 | 0.001280  | -0.000808 |
| 8                              | 0.001105  | 0.009069 | 0.002550  | -0.001299 |
| 9                              | 0.001054  | 0.007428 | 0.003489  | 0.000450  |
| 10                             | 0.000903  | 0.007768 | 0.002352  | -0.000686 |

Source: Data Processed

Table 8 explanation of the variance decomposition of GINI RATIO shows the contribution that occurs in the GINI RATIO variable, where the first period of GINI RATIO has not provided a significant contribution. Furthermore, if observed further, the third period shows a shock of 4.25%, as the largest shock value during the 10th period. However, in the long-term period (10th) it shows a fluctuating decline followed by other variables.

Tabel 9 Variance Decomposition Labor Force

| Response of<br>D(LF): Period | D(GINI)   | D(LF)    | D(GE)     | D(HC)     |
|------------------------------|-----------|----------|-----------|-----------|
| 1                            | 0.000372  | 0.002581 | 0.000000  | 0.000000  |
| 2                            | -0.000124 | 0.001261 | -0.000119 | -0.000135 |
| 3                            | 0.000442  | 0.002294 | 0.000126  | -0.000542 |

|           |          |          |           |           |
|-----------|----------|----------|-----------|-----------|
| <b>4</b>  | 2.42E-05 | 0.001517 | 0.000221  | 0.000337  |
| <b>5</b>  | 0.000256 | 0.002081 | -0.000139 | -0.000565 |
| <b>6</b>  | 0.000122 | 0.001733 | 0.000130  | -6.40E-06 |
| <b>7</b>  | 0.000188 | 0.002000 | 6.98E-05  | -0.000233 |
| <b>8</b>  | 0.000194 | 0.001760 | 3.90E-05  | -0.000155 |
| <b>9</b>  | 0.000170 | 0.001925 | 7.35E-05  | -0.000205 |
| <b>10</b> | 0.000157 | 0.001831 | 4.51E-05  | -0.000148 |

Source: Data Processed

The next discussion is about the observation of Forecast Error Variance Decomposition (FEVD), as presented in table 10, which displays the impact of labor force for 10 periods. In the short term, it can be seen that the third period experienced a very large shock (0.0022) and experienced a decline in the 10th period, namely (0.0018). However, a different thing is shown in the government expenditure variable which experienced a significant increase in the 10th period (4.51%).

Tabel 10 Variance Decomposition Government Expenditure

| <b>Response of D(GE): Period</b> | <b>D(GINI)</b> | <b>D(LF)</b> | <b>D(GE)</b> | <b>D(HC)</b> |
|----------------------------------|----------------|--------------|--------------|--------------|
| <b>1</b>                         | 0.001619       | -0.001117    | 0.029301     | 0.000000     |
| <b>2</b>                         | 0.005220       | -0.006985    | 0.026798     | 0.015662     |
| <b>3</b>                         | -0.000917      | -0.001136    | 0.014083     | 0.002743     |
| <b>4</b>                         | -0.001125      | 0.001167     | 0.016700     | 0.001305     |
| <b>5</b>                         | 0.001664       | 0.002814     | 0.022925     | 0.007540     |
| <b>6</b>                         | 0.002551       | -0.003391    | 0.020348     | 0.005698     |
| <b>7</b>                         | 0.000991       | -0.001165    | 0.019198     | 0.004227     |
| <b>8</b>                         | -0.000480      | 0.000309     | 0.019117     | 0.005859     |
| <b>9</b>                         | 0.001494       | 0.000907     | 0.019457     | 0.004238     |
| <b>10</b>                        | 0.001608       | -0.001463    | 0.020717     | 0.005702     |

Source: Data Processed

Further analysis, it can be observed that the government expenditure variable experienced the greatest shock since the early period. However, along with the increase in the period, the shock began to decrease as evidenced by the variance decomposition value of 0.20%.

Tabel 11 Variance Decomposition Government Expenditure

| <b>Response of D(HC): Period</b> | <b>D(GINI)</b> | <b>D(LF)</b> | <b>D(GE)</b> | <b>D(HC)</b> |
|----------------------------------|----------------|--------------|--------------|--------------|
| <b>1</b>                         | 0.098646       | 0.044590     | -0.013583    | 0.203805     |
| <b>2</b>                         | -0.001854      | -0.013568    | 0.003655     | 0.008795     |

|           |          |          |           |          |
|-----------|----------|----------|-----------|----------|
| <b>3</b>  | 0.043411 | 0.051551 | 0.017414  | 0.091639 |
| <b>4</b>  | 0.006629 | 0.075699 | 0.011336  | 0.120670 |
| <b>5</b>  | 0.045539 | 0.037842 | -0.011869 | 0.035140 |
| <b>6</b>  | 0.033006 | 0.048053 | 0.036884  | 0.105405 |
| <b>7</b>  | 0.020049 | 0.043355 | 0.001286  | 0.089432 |
| <b>8</b>  | 0.034540 | 0.058938 | -0.001942 | 0.063203 |
| <b>9</b>  | 0.026803 | 0.046045 | 0.020565  | 0.093674 |
| <b>10</b> | 0.032592 | 0.049891 | 0.008269  | 0.080296 |

Source: Data Processed

Further discussion, the value of Variance Decomposition of human capital since the early period began to show shocks (0.20%). However, until the end of the period the value of the variance began to decline and fluctuate. Then, if observed in the short term (period 4) experienced a fairly large shock, namely 0.12. while the shock in the gini ratio variable was 0.006.

## CONCLUSSION

This study analyzes income inequality in Indonesia through an Islamic approach using the Vector Error Correction Model (VECM). The results of this study indicate that the variables of labor force and government expenditure have a long-term effect on income inequality. Therefore, both variables must be improved as important elements to overcome inequality in a sustainable manner. In the short term, the labor force remains consistent in its influence on income inequality. In addition, the human capital variable has a short-term effect on reducing income inequality. These components must be evaluated by the government so that the allocation of budget distribution focuses on long-term investments that include increasing human resource capabilities. Likewise, the Islamic view emphasizes that as an effort to overcome economic problems, especially income inequality, it is to motivate the rich to be more active in distributing zakat and shadaqah as a form of obligation and fulfillment of the rights of the poor to the rich. Islam views zakat, or shadaqah, as not just a form of philanthropy; behind the achievement of a person's income are the rights of the poor that must be fulfilled. Therefore, Islam teaches that an effective strategy to eradicate income inequality is quality and integrity education because it ultimately has implications for the formation of competent and noble human resources.

Based on the findings of this study, the author provides suggestions that can be given, such as reducing inequality in Indonesia through revolutionary policies and arranging the budget as efficiently as possible so that distribution runs according to its corridor. For future researchers, focus more on critical studies of economic development based on the eradication of inequality by adding relevant variables and increasing the number of observations or years of research in order to reveal more comprehensive study results that are not multi-interpretable.

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