

The Impact of Globalization, Inequality, and Financial Sector Policies During the Pandemic in Indonesia

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Abstract

This study aims to examine the effects of economic globalization, income inequality, and financial sector policies using Indonesian macroeconomic variables. This study uses monthly time series data from 2010 to March 2021, when the Covid19 pandemic occurred and cross section data on 12 macroeconomic variables. The test uses a simultaneous equation with the 2SLS and AB-GMM methods to perform a regression test on the sample. The results show that there is evidence that 10 macroeconomic variables statistically predict Indonesia's financial sector policies significantly. Second, by using the variables that have been determined previously in the equations shown on the endogenous variables, it found that the level of inequality and financial sector policies does not influence that economic globalization. Similarly, financial sector policies not affected by the level of inequality. On the other hand, economic globalization affects financial sector policies negatively and significantly. Economic globalization also affects the level of inequality negatively and significantly. Meanwhile, financial sector policies have a positive and significant impact on the level of inequality. This means that even though there is a pandemic during the observation period, financial sector policies will continue to run according to circumstances and tend to be repressed. This is because in the face of globalization and income inequality in the midst of the pandemic, there has been a liberalization of the government through repressive financial sector policies.

Keywords: globalization; inequality; lending bank; financial policy; 2SLS AB-GMM

JEL Classification: G21; G38

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1. Introduction

The positioning of this paper builds on five points in the literature, notably: (i) globalization in the pandemic period is related to economic openness which is described by the level of Indonesia's exports and imports, then the acceptance of information and technology, as well as the existence of financial repression and its impact on financial sector policies; (ii) inequality, and unequal access to utilize resources that occur in a society have an impact on the quality of human resources due to financial repression in the era of globalization and pandemics in Indonesia; (iii) financial sector policies on the money supply explained by the amount of credit disbursed related to financial repression due to globalization during the pandemic, such as: inflation rate, interest rates, bad loans, and reserve requirement; (iv) financial policies during the pandemic in Indonesia are related to globalization, inequality, lending to the public, and financial repression as indicated by the reference interest rate (Bank Indonesia rate or BI rate); and (v) gaps in the literature. The study discuss the points in chronological order.

First, Globalization is seen as one of the principal factors influencing the economies. Indonesia are expected to be the most powerful emerging markets in the world because of their strong growth rate potentials over the following decades. As a result, these economies have attracted many investors for investment opportunities with the hope of receiving high returns. Indonesia has a few characteristics. For instance, have a large population with a sizeable youth workforce; geographically well positioned for international trade; have favorable demographics for at least the next 20 years and lastly, and largely commodity producers, thereby enabling foreign investors to invest in his economies (Olomola & Osinubi, 2018).

Economic globalization continues to widen inequality¹, both within and between countries. This happens because economic globalization is unfair. Even though economic globalization cannot be blamed as the cause of inequality, its presence leaves inequality problems. Instead of providing opportunities for society and the state to enjoy the various² benefits of economic integration through trade liberalization and economic privatization so that equality occurs, economic globalization makes the richer rich faster than the poor.

Second, the levels of inequality and poverty vary significantly across countries and regions. The Human Development Report in 2020² also shows that overall

¹As Demirgüç-Kunt & Levine (2009) point out, a less developed financial system may influence how important individual skills versus parental wealth, social status and political connections are for an individual's economic Opportunities. A poorly developed financial system may therefore increase the persistence of the gap between rich and poor. In addition, financial development or the general quality of a financial system may affect capital allocation, which in turn has an effect not only on economic growth in general, but also on the demand for labor across sectors, thus influencing income levels for different parts of society. A number of studies have linked finance to inequality with analyses based on arguments like these.

²The Human Development Report: <http://hdr.undp.org/>.

inequality has worsened. Furthermore, the distribution of both income and poverty vary significantly over time. While some countries undergo considerable declines, others experience increases in inequality (e.g. Beck et al., 2007). These patterns indicate that the understanding of what drives inequality is as important as ever.

Milanovic (2012) articulates inequality into three concepts. The first concept of inequality (Inequality 1) focuses on inequality between countries in the world. This inequality is calculated statistically based on differences in income (gross domestic products/GDP) of each country, using the Gini coefficient. The calculation is not based on population but each country is positioned the same as its position in the United Nations General Assembly which is one state one vote. Inequality 2, the same as Inequality 1, but the population is considered. The more the population of a country, the less samples are taken from that country, and vice versa. Inequality 3, which is then referred to as global inequality. Unlike the first two concepts, calculations in Inequality 3 are individual-based. Everyone in every country in the world is calculated based on their income. Thus, it will be seen that residents in one country are in equal to other residents in the same country, and residents in one country are in equal to residents in other countries. Furthermore, according to Solimano (2001), global inequality reflects two things, namely inequality between or across countries (inequality between/across countries) which is generally driven by differences in economic performance between each country and inequality within a country (within countries) which based on the ownership factor of the community's economic resources within a country. Thus, policies to reduce global inequality are focused on two things, namely increasing the average economic growth of poor countries, increasing the distribution of national income, and facilitating global redistribution to low-income countries.

In addition, it is also necessary to distinguish between international inequality and world or global inequality. The concept of international inequality refers to inequality between countries due to differences in income per capita of each country. The unit of analysis of this concept is the state and the difference in people's income within a country. Meanwhile, the world inequality unit of analysis is society in the world. The concept of world or global inequality in principle positions the rich and poor people in the world equally (Milanovic, 2001). Then, the world inequality index can be seen as the result of international inequality plus national (within) inequality (Yitzhaki, 1994 in Solimano, 2001).

Economic globalization which promises economic growth actually widens inequality because the distribution of economic growth is uneven (Chongvilaivan, 2014). Indonesia's economic openness only brings economic benefits to the West, while the East is lame. Inequality in Indonesia "grew" rapidly during 2002–2005, and experienced a leap in 2006 (Chongvilaivan, 2014). In 2009, inequality in Indonesia also increased, higher than in 2007.

Third, The study of bank lending related to financial policy refers to the opinion of Mishkin (1996) and Boivin et al. (2010) that the main feature of the bank lending channel is that a change in monetary policy will have a significant

impact on businesses that depend more on bank loans compared to businesses that can raise finances from the capital market and therefore can protect the portfolio when monetary policy changes. Likewise, the credit portfolio of banks that are unable to raise funds for lending other than deposits will be significantly affected compared to banks that are able to raise funds from other sources.

Measuring Financial Repression by Abiad & Mody (2003,2005) and Abiad et al. (2004) compiled indexes of financial repression along with five or six different "components" (credit controls, interest rate controls, entry barriers, regulation, and international capital flows, to which Abiad & Mody added privatizations) that were then combined into an aggregate index. Four years later, Abiad et al. (2008) extended this set by adding two additional components (securities market policy and prudential regulations).

Capital Adequacy Ratio (CAR) is the ratio used by regulatory authorities in the banking sector to assess the soundness of the banking system and ensure that banks can determine the level of capital adequacy from the possibility of losses arising from bank operations (Aspal & Nazneen, 2014). The higher the CAR ratio indicates the strengthening of banks and the increased ability of banks to protect funds from investors. This ratio ensures that banks are able to meet other obligations and risks such as operational risk, credit risk and market risk. Dreca (2013) argues that the capital adequacy ratio shows the bank's internal strength to bear the losses incurred when the bank is in a period of crisis.

Economic globalization has two approaches in measurement, namely; globalization of trade and globalization of finance. This study uses the measurement of trade globalization related to its closest impact on inequality and poverty. The policy on the money supply is related to financial repression, where the government dominates the market system, international trade, and the monetary system, especially during this pandemic. When the private sector is in a slump. These issues constitute research gaps on the forecasts of financial sector policies in Indonesia.

The purpose of this study is to fill this gap and build a forecast model for financial sector policies that are influenced by economic globalization and the complete level of inequality for Indonesia. In this respect, our approach differs from the literature in four ways. The results of measuring the influence using the global economic index with inequality in the period with the outbreak of the COVID-19 pandemic are the novelty of the findings of this study.

Our approach follows a simultaneous regression framework using the 2SLS and AB-GMM methods. This study uses monthly data for 12 macroeconomic variables. This study divides these macroeconomic variables into four simultaneous equations. groups: (i) similarities in the function of economic globalization (GB); (ii) equality in the inequality function (IQ) which measures income inequality and poverty; (iii) the equation in the bank lending function that measures financial policy in the distribution of bank lending (LB); (iv) identity equation which is a function of financial sector policy using the size of the money supply (FP).

2. Methodology

2.1. Data Set

This study demonstrate the importance of new equation model for financial sector policy using 12 macroeconomic variables for globalization, inequality, and financial repression. And also using variables for financial institution. These predictor variables are divided into the following four categories:

- (i) Three proxies of the globalization equation related to macroeconomic variables, namely: (a) the ratio of trade globalization obtained from the sum of exports and imports to GDP (Georgantopoulos & Tsamis, 2011), where the higher the globalization ratio indicates the more open the country's economy; (b) information technology development index; and (c) money supply as a proxy for financial repression, this proxy describes a realistic estimate of the budget deficit that must be financed by the central bank by printing new money (adding base money).
- (ii) Three proxies for inequality equations related to macroeconomic variables are: (a) The Gini coefficient (Gini Ratio) is a measure of inequality or aggregate inequality (in terms of overall) which ranges from zero (perfect equality) to one (perfect inequality); (b) Human development index (HDI) is a proxy that explains the success of the population in accessing development outcomes in obtaining income, health, education; and so on; and (c) Financial repression as proxies by the money supply as a financial policy.
- (iii) Five proxies for the equality of lending by the financial sector related to the assumption of financial repression in financial policy during the pandemic, are (a) total credit extended by financial institutions; (b) the ratio of the money supply related to financial policies; (c) the reference interest rate in the study It uses the Bank Indonesia (BI) rate; (d) Nonperformance loan (NPL) rate; and (e) Capital Adequacy Ratio (CAR).
- (iv) one proxy that explain financial sector policies related to assumptions in financial repression are used as proxies for the money supply, which is influenced by the level of globalization, the level of inequality, the amount of credit extended, and the inflation rate.

The data are taken from Central Bureau of Statistics, Indonesian banking statistics, the *Global Financial Database* and the choice of dataset is based purely on data availability. We provide detailed information on our dataset in Table 1.

2.2. Methodology

The starting point for developing a system of simultaneous equations for the macro model on the assumption of an open economy determined by 4 equations, namely:

- (1) Equation model of globalization associated with the policy of the financial

Table 1: Data Description

Variables	Description	Date	No. of obs.
G_t	Eleven-year globalization Rate	2010M12–2021M3	135
FP_t	Eleven-year financial sector policies Rate	2010M12–2021M3	135
$ITDI_t$	Eleven-year Information technology Development Index	2010M12–2021M3	135
NEV_t	Eleven-year Net Export Value	2010M12–2021M3	135
GR_t	Eleven-year Poverty rate ratio (Gini Ratio)	2010M12–2021M3	135
HDI_t	Eleven-year Human Development Index	2010M12–2021M3	135
FR_t	Eleven-year Financial Repression Rate	2010M12–2021M3	135
Inf_t	Eleven-year Inflation rate	2010M12–2021M3	135
NPL_t	Eleven-year Non-performance Loan of banking Rate	2010M12–2021M3	135
BLR_t	Eleven-year Equivalent rate (Bank Indonesia of rate)	2010M12–2021M3	135
CT_t	Eleven-year Credit total of banks in natural logarithm	2010M12–2021M3	135

Note: This table provides detail data description of all variables considered in this study.

sector, will take the following form:

$$GB_t = \alpha_0 + \alpha_1 FP_t + \alpha_2 ITDI_t + \varepsilon_{1t} \quad (1)$$

Here GB_t is the ratio of trade globalization which shows the level of openness of the Indonesian economy at time t , FP_t is financial sector policies that explains the combination of financial repression in the monetary system at time t , $ITDI_t$ is Information technology Development Index as part of globalization effect at time t , and ε_{1t} is the disturbance term. In analysis, the model will be estimated 11 times according to the time series period of 11 years.

Globalization is an important force in the global economy, which has touched nearly all aspects of human life. Research is ongoing on the relationship that exists among globalization, income inequality and poverty. Existing studies revealed that globalization has helped in determining inequality and poverty levels in an economy, while some studies are for globalization in reducing both, and some are against it. They are called optimists and pessimists.

This study uses one of the indicators of economic globalization developed and proposed by Georgantopoulos & Tsamis (2011). According to them, the level of economic globalization can be seen from two main indicators, namely: First, the trade globalization indicator which is calculated from the number of exports and imports to GDP. Second, the indicator of financial globalization is the total contribution of long-term direct investment (foreign direct investment) and indirect or short-term investment (portfolio investment) to GDP. The higher the globalization ratio, the higher the openness of the country's economy. These two measurements of globalization are called the de facto method (Alfaro & Charlton, 2006).

(2) The equation model that measures the level of poverty in this study uses the Gini coefficient (Gini ratio). Human resource quality ratio proxies are used to measure the influence of and its relation to globalization and financial policies

during the pandemic. Then, the inequality equation formula (IQ) is:

$$IQ_t = \beta_0 + \beta_1 HDI_t + \varepsilon_{2t} \quad (2)$$

Here IQ_t is Indonesia's Inequality coefficient that usually used to measure income and wealth inequality showed by Gini ratios at time t . HDI_t is Human Development Index is a comparative measurement of life expectancy, literacy, education and living standards. The HDI explains how the population can access development outcomes in terms of income, health, and education, at time t . In analysis, the model will be estimated 11 times according to the time series period of 11 years.

The Gini ratio or coefficient is a tool to measure the degree of inequality in the distribution of the population. It is based on the Lorenz curve, which is a cumulative expenditure curve that compares the distribution of a certain variable (e.g. income) with a uniform distribution that represents the cumulative percentage of the population.

(3) The formula for the financial policy equation regarding credit distribution is related to the assumption of financial repression during the pandemic in Indonesia, such as: total loans extended by banks, which influenced by interest rates (BI Rate), capital adequacy ratios, and non-performance loans, as follows:

$$LB_t = \gamma_0 + \gamma_1 FP_t + \gamma_2 BI_t + \gamma_3 CAR_t + \gamma_4 NPL_t + \varepsilon_{3t} \quad (3)$$

Here, LB_t is bank lending rate banking lending rate as proxied by total credit at time t ; FP_t is financial policy rate as part of the identity equation variable at time t , BI_t is equivalent rate or Bank of Indonesia rate is a policy interest rate that reflects the monetary policy stance or stance set by the central bank and announced to the at time t , CAR_t is Capital Adequacy Ratio of Indonesian banks at time t , NPL_t is indicators of asset health in a financial institution, be it a bank or fin-tech at time t , and ε_{1t} is the disturbance term. In analysis, the model will be estimated 11 times according to the time series period of 11 years.

The determination of proxies in the bank lending rate equation refers to the study of McKinnon (1973) was the first to use the financial dictum repression to refer to conditions in developing countries where the government intervenes extensively. According to him, developing countries generally have a less developed monetary system due to the private sector being less active, and foreign capital being a substitute for domestic capital. The assumptions used in the "financial repression" model are: First, the government is considered to have a realistic estimate of the budget deficit that must be financed by the Central Bank by printing new money (adding base money). Second, the monetary authority is considered capable of choosing a combination of policies regarding the supervision of foreign exchange trade, interest rate ceilings, and determination of bank reserves which are expected to minimize the use of inflation taxes without causing disruption to private capital formation. Third, the flow of foreign trade is suppressed by high tariffs, licenses and quota systems. If the above assumptions

are met, the country shows the characteristics of a repressed economy.

(4) The formula for the financial policy equation shown by the money supply is associated with assumptions on financial repression. The money supply variable is related to the level of globalization, inequality, and the level of bank loans and the rate of inflation. Then the equation formula is:

$$FP_t = GB_t + IQ_t + LB_t + INF_t \quad (4)$$

Here FP_t is Indonesia's financial policy which is proxied by the amount of money in circulation at time t , as a form of government monetary policy. GB_t is Indonesia's globalization rate at time t , IQ_t is Indonesia's Inequality rate at time t , LB_t is Indonesia's Credit Total in natural logarithm variable at time t , and INF_t is Indonesia's inflation rate variable at time t . In analysis, the model will be estimated 11 times according to the time series period of 11 years.

The role and monetary policy will be best compared to government policy. A side that must maintain an economy so that it runs well and sustainably and is able to run in accordance with the direction of development. A condition of very large inflation, when the money supply is in circulation, of course, monetary stability must be maximally maintained by absorbing money from the public by implementing a policy of raising interest rates to absorb funds from the public, on the other hand when the situation is deflation, the economy is sluggish, Bank Indonesia, carry out policies to spread money in the community, by lowering interest rates, so that the real sector moves well. The importance of this monetary policy, is a valuable stimulus for the economy.

The circulation of money in circulation needs to be a condition of prudence carried out by the Central Bank as the monetary authority when it reaches the public. This is a very important thought for the monetary authority to maintain monetary stability, so as to create a harmonious economic condition. The harmony of monetary conditions in the economy can be seen how conditions in the business world can still produce high output.

2.2.1. Parameter Estimation of Panel Data Simultaneous Equations

The test that must be done is to determine the estimation method in the simultaneous equation model is the identification of equations. If each structural equation is identified correctly or excessively then the estimation method used in the simultaneous equation system is 2SLS. In the simultaneous equation system of dynamic panel data, each structural equation is a dynamic panel data regression equation with exogenous variables. One of the exogenous variables contained in each structural equation is the explanatory endogenous variable. The following are the steps for estimating the simultaneous equation parameters of dynamic panel data with 2 SLS:

The specification of the model built consists of four models, namely: the globalization ratio model (GB) refers to Georgantopoulos & Tsamis (2011), the inequality ratio model measures the poverty level with income inequality (IQ)

refers to Demirgüç-Kunt & Levine (2009), the banking lending distribution model with the size of the amount of credit (LB) refers to monetary policy, and the financial policy model with a large amount of money in circulation (FP) refers to the assumption of financial repression of poverty. And the specification of the model that was built refers to the research of Anwar & Nguyen (2010). Based on the simultaneous equation system, the next observation process is:

- (i) Determine the endogenous variables and predetermined variables, namely:
The endogenous variables are:

$$GB_t, IQ_t, LB_t, FP_t$$

(There are 4 endogenous variables indicating the number of simultaneous equations).

- (ii) Determining predetermined variables, namely variables that are not included in endogenous variables, namely:

$$ITDI_t, HDI_t, BI_Rate_t, CAR_t, NPL_t, INF_t$$

- (iii) Substitute into the identity equation by making the reduced form:
FP_t Equation:

$$FP_t = GB_t + IQ_t + LB_t + INF_t$$

When making reduced forms of identity equations in financial sector policies, this study pays attention to and refers to the identification process of the simultaneous equation model (Koutsoyiannis, 1977). This process aims to determine the method in estimating the parameters. Simultaneous equation econometric model requires the number of equations to be equal to the number of endogenous variables.

Reduced form for the equation for the money supply (FP):

$$FP_t = (\alpha_0 + \alpha_1 FP_t + \alpha_2 ITDI_t + \varepsilon_{1t}) + (\beta_0 + \beta_2 HDI_t + \varepsilon_{2t}) + (\gamma_0 + \gamma_1 FP_t + \gamma_2 BI_rate_t + \gamma_3 CAR_t + \gamma_4 NPL_t + \varepsilon_{3t}) + INF_t$$

$$FP_t - \alpha_1 FP_t - \gamma_1 FP_t = (\alpha_0 + \beta_0 + \gamma_0) + \alpha_2 ITDI_t + \beta_2 HDI_t + \gamma_2 BI_rate_t + \gamma_3 CAR_t + \gamma_4 NPL_t + INF_t + (\varepsilon_{1t} + \varepsilon_{2t} + \varepsilon_{3t})$$

$$FP_t - \alpha_1 FP_t - \gamma_1 FP_t = (\alpha_0 + \beta_0 + \gamma_0) + \alpha_2 ITDI_t + \beta_2 HDI_t + \gamma_2 BI_rate_t + \gamma_3 CAR_t + \gamma_4 NPL_t + INF_t + (\varepsilon_{1t} + \varepsilon_{2t} + \varepsilon_{3t})$$

$$FP_t = \frac{\alpha_0 + \beta_0 + \gamma_0}{1 - \alpha_1 - \beta_3 - \gamma_1} + \frac{\alpha_2}{1 - \alpha_1 - \beta_3 - \gamma_1} ITDI_t + \frac{\beta_1}{1 - \alpha_1 - \beta_3 - \gamma_1} HDI_t + \frac{\gamma_2}{1 - \alpha_1 - \beta_3 - \gamma_1} BI_rate_t + \frac{\gamma_3}{1 - \alpha_1 - \beta_3 - \gamma_1} CAR_t + \frac{\gamma_4}{1 - \alpha_1 - \beta_3 - \gamma_1} NPL_t + \frac{1}{1 - \alpha_1 - \beta_3 - \gamma_1} INF_t + v_t$$

Where $v_t = e_{1t}, e_{2t}, e_{3t}$,

The equation for the money supply (FP):

$$FP_t = \zeta_0 + \zeta_1 ITDI_t + \zeta_2 HDI_t + \zeta_3 BI_Rate_t + \zeta_4 CAR_t + \zeta_5 NPL_t + \zeta_1 INF_t + v_t$$

Parameter Estimation Simultaneous Equation of GMM Arellano Bond Dynamic Panel Data:

- Estimating the value of the endogenous variable through the reduced form using the Arellano-Bond GMM.
 - Estimating the structural equation by substituting the endogenous variables on the right side with the estimated endogenous variables that have been obtained in step 1 using the Arellano-Bond GMM.
- (iv) In order for the equation to be identified, it must meet the "order conditions of identification". Model identification is determined on the basis of "order condition" as a requirement and "rank condition" as a condition of adequacy. The formulation of the identification of the structural equation model based on the order condition is determined by: $(K - M) > (G - 1)$. The results of the identification using the conditions of order, it is obtained that all equations are over identified, the following table identifies the conditions of order:

Table 2: Identifies the Conditions of Order

Equations	(K-k)	G-1	Result
1 (first)	9-3	4-1	
GB	6	3	Over identified
2 (second)	9-2	4-1	
IQ	7	3	Over identified
3(third)	9-4	4-1	
LB	5	3	Over identified
4(fourth)	9-4	4-1	
FP	5	3	Over identified

Note: This table reports equations can be identified correctly identified or too identified using the general principle of identifying structural equations in the simultaneous equation model (Gujarati, 2003), with the following results.

Where:

K = 9 variables (GB, FP, ITDI, IQ, HDI, LB, INF, NPL, BI, CAR)

G = 4 equations (GB, IQ, FR, FP)

3. Result and Analysis

This section discusses some of the main statistical features of several simultaneous equations which are endogenous variables with several predetermined variables.

3.1. Statistical Features of the Data

In order to test the null hypothesis of no predictability, it is first important to ascertain some of the key features commonly known from time series data: persistence, endogeneity, and heteroscedasticity. This is important, as these key issues distort key outcomes if not properly accounted for in predictable financial sector policy models. This research first determines the types of variables and makes reduced form equations from each equation. Next, test with 2SLS and AB-GMM methods. Then interpret the results of the regression test.

3.2. Predictability Test Results

The results for the Structural Equation Estimation test on financial policy indicators proxies by the money supply (LogFP) in this study using 2 SLS GMM-AB (or called a series of estimation methods "Two Stage Least Square Generalized Method of Moment Arellano and Bond"). First, this study discusses the predictability test results for simultaneous equations on the globalization function (GB), lending bank function (LB), and inequality function (IQ) using 2SLS regression test. The purpose of this study is to examine which groups of macroeconomic variables were found statistically to predict the level of globalization, inequality, and financial sector policies in Indonesia significantly. The findings are as follows:

Estimation test results of the level of economic globalization (GB):

Based on Table 3 in Globalization function, the estimation test results show that the coefficient of the economic globalization indicator (GB) has a positive and statistically significant effect. Indicators that determine the level of globalization, namely the money supply policy (LFP) and the information technology development index (R Square) have an influence of 81.75%. Other variables outside this observation amounted to 18.25%. Thus, every financial sector policy related to aspects of human life, economic openness, financial liberalization, and financial development that is appropriate backward looking can accelerate the achievement of high and sustainable economic growth. Financial policy with the amount of money in circulation (LFP) has a negative and significant effect on globalization (GB). If there is an increase in the money supply (LFP) by 1%, it will cause a decrease in the level of globalization by 275.06%. This is in line with the theory that globalization will directly increase the level of financial repression carried out by the government in financial liberalization and financial development. There is an opposite effect between the two (FP and GB) because in determining the FP indicator there is an element of inequality which shows the level of poverty or inequality in the income of the population. The negative influence of both (FP and GB) has an unpleasant impact on inequality and poverty.

Information technology development index (ITDI) has a positive and significant effect on economic globalization (GB). If there is an increase in the index of information technology development in Indonesian society (ITDI) by 1%, it will cause an increase in economic globalization by 26.62%. Theoretically, these results

prove that the ability to use and utilize technology and public information in all areas of life shows the openness of the country's economy. In order to realize the right target in economic globalization, the government can implement a policy, especially a policy in the financial sector with the aim of welfare and equitable distribution of people's income. Central government intervention should proportionally reduce and prevent inequality and poverty.

Estimation test results of bank lending rate equation (LB):

In the Table 3 shown the indicators that determine the policy of bank lending distribution (LB), namely: the money supply policy (LogFP), interest rates (BI rate), bank capital adequacy ratio (CAR), and bad debt (NPL) have an effect (R square) of 50.57%. Other variables outside this observation have an effect of 49.43%. The money supply policy (LogFP) has a positive and significant influence on the credit policy disbursed by banks (LB) by 94.52%. If there is an increase in the money supply policy (LogFP) by 1%, it will cause an increase in the policy on the amount of credit disbursed by 94.52%. This is common if the money supply is due to the large number of credit disbursements released by banks.

In Table 3 in the lending bank equation (LB), it is shown that there is a positive and significant effect between the interest rate (BI Rate) on the Lending Bank (LB). If there is an increase in the interest rate (BI rate) by 1%, it will cause an increase in the lending rate of banks by 8.3721%. This is in line with Tran et al. (2018) and Matousek & Solomon (2018) that theoretically the interest rate channel, for instance, works in a manner such that changes in monetary policy affect interest rates, then investment, then aggregate output or inflation. Increases in monetary policy rate expectedly increase market interest rates which increases the opportunity cost of funds at the disposal of banks. Increases in market interest rates also increase the cost of overnight borrowing for banks that borrow to cover their positions or to on-lend to clients. Unsurprisingly, therefore, monetary policy tightening delivers an upward adjustment in the bank lending rates consistent with the theoretical prescription.

Based on Lending bank (LB) function, it is shown that there is a negative effect which is significant between the capital adequacy ratios of banks (CAR) to Lending Banks (LB). If there is an increase in the bank's capital adequacy ratio (CAR) by 1%, it will cause a decrease in bank lending rates of 4.1454%. This is in line with Thoa & Anh (2017) argue that regulations for bank safety operations and the adequacy of bank capital have been standardized by the capital, asset quality, management, earnings, and liquidity (CAMEL) method and protection, effective financial structure, asset quality, rate of return and cost, liquidity and sign of growth (PEARLS) method.

The Non Performance Loan (NPL) level describes the condition of non-performing or non-performing loans caused by customer failure to pay. This bad debt is increasing during the current pandemic, because many debtors have lost their source of income. This study shows that the level of NPL has a positive and significant influence on the credit policy disbursed by banks (LB) by 5.787%.

If there is an increase in non-performing loans (NPL) by 1%, it will lead to an increase in the policy of the number of loans disbursed by 5.787%. Because, bad debt causes banks to lose their source of income. Then to increase income or replace lost income, the bank will redistribute new credit. Because credit is the main business of banking.

Estimation test results of Money Supply policy equation (LogFP):

Based on Table 3, it is shown that the structural equation for the financial sector policy indicators for the money supply (LogFP) is influenced by predetermined variables: economic globalization (GB), inequality (IQ), bank lending (LB), and the inflation rate indicated by R square of 80.656% statistically significant at the 5% level of significance. The level of economic globalization has a negative and significant effect of 35.78% on the money supply policy. If globalization increases by 1% it will reduce the money supply policy by 35.78%. This is in line with the globalization process which is increasingly open and globalizes the role of markets, investment, and the production process of transnational companies that legitimizes neoliberal policy ideology. In the end only for the welfare of a group of the bourgeoisie. Resulting in inequality and poverty in some other communities.

The Gini Index (GI) that shows the poverty level of a country is a proxy used to measure inequality (IQ) on the money supply policy (LogFP). The results show that inequality has no effect on the money supply policy (LogFP). This result is normative that the greater the inequality of income distribution or economic disparity, the greater the poverty. Because not everyone has a certain amount of money. The money supply is only owned and controlled by certain people.

Lending bank (LB) which shows the amount of credit disbursed by banks is a proxy used to measure financial sector policy on bank lending (LB) to money supply policy (LogFP). The results show that bank lending has no positive effect on the money supply (LogFP) policy. Because, this channel is based on the idea that banks are better placed to surmount the problem of information asymmetry inherent in the financial markets. This therefore gives banks a critical role to play in the credit channel. The bank lending channel operates on conditions that bank deposits cannot be perfectly substituted for other avenues of raising funds. In this regard, when a central bank embarks on an expansionary monetary policy, loanable funds increases or bank loan increases since bank deposits and reserves become more available. As the amount of bank loans increase, and since firms and consumers depend on bank loans, consumer and firm investment spending increases (Mishkin, 1996).

The inflation rate (INF) has a negative and significant effect on the money supply policy (LogFP) of 1.6896%. If there is an increase in inflation (INF) by 1%, it will cause a decrease in the money supply policy by 1.69%. Thus, the government is expected to make various efforts to maintain the availability of the money supply while still paying attention to changes in rising prices in order to maintain stability in the inflation rate. In order to protect people who do not

have enough money and weak purchasing power.

Estimation test results of Inequality equation (IQ):

Inequality determining indicators (IQ), namely: human development index (LogHDI), economic globalization (GB), and money supply policy (LogFP), have an influence (R square) of 9.894%. Other variables outside this observation have an effect of 90.106%. The human development index (LogHDI) has a negative and significant effect on inequality or income inequality which describes the poverty level of the community at 764.395%. If there is an increase in LHDI by 1% it will reduce the level of inequality by 764.40%. It is necessary to strive to continuously improve the human development index in Indonesia, so that the poverty rate continues to decline.

The level of economic globalization has a negative and significant effect on income inequality or inequality (IQ) of 7.30%. If economic globalization increases by 1% it will reduce the level of inequality by 7.30%. This result is the ideal condition that everyone hopes for. But the actual conditions are different, especially during this pandemic.

The money supply policy (LogFP) has a positive and significant effect on the level of inequality (IQ) of 35.75%. If there is an increase in the money supply policy (LogFP) by 1%, it will cause an increase in inequality in people's income (IQ) by 35.75%. This is because the ownership of the money supply is only controlled by a few people, namely people who are close to government power and controlling the economy.

3.3. Robustness Check

To test the consistency of the findings of this study, several resistance exercises were carried out. This study considers that several other factors such as economic globalization and the money supply are important in the dynamics of inflation and inequality. Therefore by varying the specifications both in interest rates, CAR, NPL, ITDI, HDI, and bank loan channels. In the identification equation, the inflation rate, the amount of credit disbursed, the level of inequality, and the money supply are proxies by the amount of money in circulation based on financial policy (FP). In addition, the exchange rate in rupiah is considered, and the monthly sample size is also considered starting from January 2010 to March 2021.

The results of the study in Table 4 show that the optimal lag of financial sector policies based on different lag selection criteria is two (2). We therefore take two lags of the financial sector policy variable (FP) for the purpose of estimating resilience.

After determining the selection lag, changing the size of the face value and varying the specifications and samples, this study estimates the degree of globalization of the economy and the channel of bank lending again. The results for the degree of globalization are reported in Table 3 and the results for the bank lending

Table 3: 2SLS Regression Test Results

Group	Variables	coefficient	Standard Error	T- statistic	Sig.
Globalization function					
$GB_t =$ Dependent Variabel					
1	LogFP	-2.750612	0.208960	-3.16334	0.0000
1	ITDI	0.266226	0.061849	4.30445	0.0000
1	C	18.93621	1.190989	15.89956	0.0000
1	R ²	0.817463			
Lending Bank function					
$LogLB_t =$ Dependent Variabel					
3	LogFP	0.945195	0.0251297	3.761265	0.0003
3	BI.Rate	0.083721	0.009066	9.234300	0.0000
3	CAR	-0.041454	0.013984	-2.964390	0.0035
3	LogNPL	0.057870	0.011238	5.149679	0.0000
3	C	-0.111008	1.450303	-0.076541	0.9391
3	R ²	0.50573			
Money Supply function					
$LogFP_t =$ Dependent Variabel					
4	GB	-0.357784	0.048518	-7.374298	0.0000
4	IQ	-0.214242	0.920297	-0.232796	0.8163
4	LB	0.103067	0.180650	0.570536	0.5693
4	INP	-0.016896	0.007692	-2.196599	0.0298
4	C	6.850391	0.927848	7.383098	0.0000
	R ²	0.806557			
Inequality function					
$IQ_t =$ Dependent Variabel					
2	LogHDI	-7.643945	1.003569	-7.61676	0.0000
2	GB	-0.073994	0.01920	-3.80327	0.0020
2	LogFP	0.357518	0.066064	5.411668	0.0000
2	C	12.07328	1.491583	8.094276	0.0000
	R ²	0.098940			

Note: This table reports test results for Globalization equation, Lending Bank equation, Money supply policy equation, and inequality equation.

Table 4: Lag Selection Criteria for Robustness

Lag	LogFP	GB	IQ	LB	INF
0	-124.2177	NA	3.324787	4.039280	4.073588
1	-53.47251	136.9261	0.350492	1.789436	1.858053
2	-38.75759	28.00581*	0.225196*	1.347019	1.449945*
3	-38.75759	1.31e-05	0.232603	1.379277	1.516511
4	-38.51038	0.454537	0.238362	1.403561	1.575104
5	-37.99197	0.936489	0.242156	1.419096	1.624948
6	-37.71852	0.485160	0.247987	1.442533	1.682693

Note: This table reports criterion for robustness

The * represents the lag order chosen by the criterion.

HQ: Hannan-Quinn information criterion;

SC: Schwarz information criterion;

AIC: Akaike information criterion;

FPE: Final prediction error;

LR: sequential modified LR test statistic (each test at 5% level).

channel are reported in Table 3 as well. At the level of economic globalization, all financial policy variables with money supply maintain the expected sign theoretically as well as statistically significant. Limiting the percentage of monetary policy or the financial sector ultimately increased inflation by 8.756%, although the effect was not statistically significant. For the bank loan channel, the results of the study found that the financial sector policy with the money supply would eventually increase by 287.61% following the percentage of financial repression in monetary policy. This study also observes that consistent with previous results, bank lending channels are relatively more effective.

The notion of financial sector development builds on the shares in money supply and is based on the concepts of informal, semi-formal, formal and non-formal financial sectors. For instance, an increase in the shares of the formal financial sector to the detriment of semi-formal and informal financial sectors is appreciated as financial formalization whereas the expansion of the informal financial sector at the expense of the semi-formal and formal financial sectors is qualified as financial informalization. In this perspective, the increase of the volume of money supply in circulation within a sector improves the underlying sector at the expense of other sectors (Tchamyou & Asongu, 2017).

4. Conclusion

This paper analyzes the simultaneous equation estimation of the relationship between the level of economic globalization as measured by the trade globalization ratio, income inequality which shows the level of poverty and income inequality using the Gini coefficient, and financial sector policies by taking into account the money supply following the assumption of financial repression when the government dominates the system. Markets, international trade, and the monetary system. Observations were made during the period 2010 to mid-2021, during which the Covid19 pandemic was still ongoing until this research was conducted. The sample and data used are monthly time series data for 12 macroeconomic variables and financial sector variables to test which variables contain sufficient information to statistically predict Indonesia's financial sector policies significantly before and during the period with the pandemic.

This study generate evidences that are: first, 12 macroeconomic variables and financial sector variables statistically predict Indonesia's financial sector policies significantly. Second, by using the determinants of globalization, the determinants of income inequality, and the financial sector policy variables determined in the function of the equations of the endogenous variables, it is found that economic globalization is not influenced by the level of inequality and financial sector policies. The financial sector related findings are broadly consistent with Asongu & Nwachukwu (2017) who have concluded that the association of information sharing offices and financial formalization is a decreasing function of financial activity. However, the complementarity of financial formalization and information sharing offices is positive and represents an increasing function of

credit access (or financial activity).

Similarly, financial sector policies are not affected by the level of income inequality. This means that financial sector policies during the observation period in the presence of a pandemic are not influenced by the level of globalization and the level of inequality in population income. And vice versa, the level of globalization and the level of inequality in population income are not influenced by government policies in the financial sector during the observation period with the Covid19 pandemic.

Third, the relationship between the equation functions on the contrary proves that economic globalization affects financial sector policies negatively and significantly. Economic globalization also affects the level of inequality negatively and significantly. Meanwhile, financial sector policies affect the level of inequality positively and significantly. That is, the level of globalization which greatly affects the level of inequality in population income and government policies in the financial sector during the observation period with the Covid19 pandemic.

The results of this study support the findings by Feenstra & Hanson (2003) providing a model along the lines where they show that globalization in such a model can increase inequality in the two countries engaged in trade with inputs, namely: skilled and unskilled labor. Where the difference in supply and demand will increase inequality. The point is that the study shows that globalization increases inequality in the relationship between two countries in the labor input trade model.

As a final note this conclusion, states that this study has considered robustness testing for sample evaluation. Therefore, it is concluded that the predictability evidence is consistent with the results of hypothesis testing and estimation.

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