Available online at: https://journals.researchsynergypress.com/index.php/jgrcs/index
Journal of Governance Risk Management Compliance and Sustainability (JGRCS)
ISSN 2776-9658 (online)
Volume 1 Number 2 (2021): 37-52

Financial Repression and Inequality towards Economic Growth during the Pandemic in Indonesia

Riris Aishah Prasetyowati[1], Endah Meiria[1]
[1] FEB UIN Syarif Hidayatullah Jakarta, Indonesia

Abstract

Background – During the pandemic, the global economy was greatly affected, including Indonesia. Currently, Indonesian government expenditure is focused on overcoming the impact of the pandemic by implementing policies in various sectors that have a major impact on vulnerable communities. This causes widespread poverty, which is indicated by the occurrence of income inequality due to government policies through financial repression that possibly affects economic growth.
Purpose – This study aims, first, to analyze the financial repression policies carried out by the Indonesian government during the pandemic (2019-2021 period) on Indonesia's economic growth as a developing country. The second objective is that the impact of financial repression carried out as a government policy will be studied more deeply on income inequality because most of the Indonesian population works in the informal sector. The third objective is to further analyze the relationship and impact of the two macroeconomic factors (financial repression and income inequality) simultaneously in the midst of a pandemic that affects economic growth in Indonesia.
Design/methodology/approach – This study uses a quantitative and descriptive exploratory approach with secondary data. Data analysis used simultaneous equations with 2 Stage Least Square.
Findings – The results of this study prove that income inequality and financial repression have no significant effect on the level of economic growth in Indonesia. However, in the opposite relationship, if the rate of economic growth is associated with the death rate of the population, which represents the condition of the COVID-19 pandemic, it shows a significant negative effect on the rate of economic growth and income inequality, as well as financial repression.
Research limitations – This study is limited by the data period during the pandemic (late 2019 to July 2021) and the availability of data from the Badan Pusat Statistik (Central Bureau of Statistics) and the World Bank.
Originality/value – The measurement of financial repression by the money supply and others, as a component of equation 1, and measurement of inequality using the Gini ratio or other poverty index as a component of equation 2. Both equations are linked to Indonesia's economic growth rate.

Keywords: *financial repression, inequality, economic growth, pandemic, simultaneous equation*

INTRODUCTION

Since March 2015, the trend of changes in the national poverty rate has consistently declined and shows the achievement of a single-digit poverty prevalence of 9.82% in 2018. This achievement is the first time in Indonesia's history and is politically assessed as an extraordinary development achievement. The slowdown in poverty reduction shows that poverty reduction is increasingly difficult (the last mile problem), but the sustainable development strategy implemented by the government is considered successful (Abdullah 2020; Tarigan et al. 2019). However, the number of Indonesians who suffer from poverty is still quite large, reaching 25.67 million people or 9.66% of the total population in September

Corresponding author
Endah Meiria, endah.meiria@uinjkt.ac.id
DOI: 10.31098/jgrcs.v1i2.718

2018. One of the causes of poverty that is not often discussed is disasters or disease outbreaks. The outbreak of the coronavirus, better known as the Covid-19 pandemic, has shaken the world since the end of 2019. The implementation of various policies in order to overcome the spread or efforts to break the chain of the spread of Covid-19 resulted in many economic activities contracting and even stopping production. This results in an increase in unemployment, a decrease in the productivity level of individuals and companies, and encourages the emergence of new poor people who, in aggregate, increase the number of poor people (Izzati 2020; Suryahadi et al. 2020). This study emphasizes the government to always strive for poverty alleviation in the community, throughout the country, for short, medium, and long-term programs.

The Central Bureau of Statistics noted that the number of poor people in Indonesia increased in 2020. The impact of the pandemic began to emerge in the first quarter of 2020. The percentage of poor people rose to 9.78% or an increase of 0.37% from March 2019. Then in September 2020, the number of poor people increased by 0.97%, or 2.76 million people annually. The total number of people classified as poor is 10.79% of the total population of 27.55 million. The pandemic also has an impact on poverty levels through employment. The Central Bureau of Statistics stated that 29.12 million people, or 14.28% of the total working-age population, were affected. Of this total, 2.56 million people are unemployed, while 1.77 million are unemployed. In addition, a total of 24.03 million people work with reduced working hours.

The increasing percentage of the poor is also accompanied by a worsening of the depth and severity of poverty. The poverty depth index increased from 1.61 in March 2020 to 1.75 in September 2020. The poverty depth describes the average distance between the expenditure of the poor and the poverty line. Meanwhile, the poverty severity index increased from 0.38 to 0.47. The poverty severity index describes the disparity of expenditure among the poor, indicating that poverty conditions are getting worse. As the number of poor people increases, the gap also widens. This can be seen from the GINI ratio or the level of inequality in spending by the Indonesian population, which widened to 0.385 in September 2020. This figure increased by 0.004 points compared to March's position of 0.381. The position of the GINI ratio in March also increased by 0.005 points compared to September 2019, which was 0.380.

The Covid-19 pandemic has had an impact on all levels of society, especially the low-income group, through a combination of supply and demand shocks that lead to a decline in productive activities, a reduction in income, and ultimately suppression of economic growth. This macroeconomic impact has resulted in a decrease in the average per capita expenditure at the household level. Gradually the family loses income and affects the purchasing power or household consumption (Bappenas 2020). BPS noted that the vulnerable population working in the informal sector fell into poverty with a total of 12.15 million people (BPS 2020b). As a result of the loss of jobs and income, many urban dwellers have moved back to the villages. This impact gets bigger and wider when a pandemic occurs and spreads quickly. Several times the government-issued social restrictions and even locked down several offices, shopping centers, and a number of other clusters. This condition has suppressed most of the economic activities.

Financial repression refers to policy steps taken by governments in developing countries to place some restrictions on channeling funds to intermediary institutions in the money market as a deregulation measure (Nezhad et al., 2012). Currently, developing countries are starting to develop financial systems by reducing the level of reserves and barriers to entering financial markets (McKinnon, 1973). Developing countries, including Indonesia, have begun to gradually reduce government intervention in modifying credit allocations. And began to transfer ownership of large state-owned banks to the private sector. Marked by the emergence of several private banks, the development of capital markets, as well as the

 ISSN 2776-9658 (online)

application of persuasive policies and facilities for foreign financial intermediaries to enter the financial markets of developing countries (Gupta, 2004).

Financial distortion triggers the imposition of financial repression but because of the wrong allocation of resources. As a result, hampering the growth of the financial sector also has a negative impact on economic development (King & Levine, 1993; McKinnon, 1973; Shaw, 1973; Roubini & Sala-i-Martin, 1992). On the other hand, according to Stiglitz (2000), financial repression policies in the early stages of development are actually needed to support economic growth. Where repressive financial policies help effectively convert savings into investments also support financial stability.

The different effects of repressive financial policies on growth depend on the level of economic development as well as the institutional arrangements of the country. In developing countries with transitional economic periods, where financial markets and regulatory systems have not yet developed, a certain level of financial pressure helps policies of financial repression because free-market mechanisms remain seriously constrained in the financial system, including in pricing and allocation of financial resources, and help for economic growth (Stiglitz, 2000).

Some government intervention through repressive financial policies can help improve the efficiency of financial transactions. Repressive financial policies may still cause some efficiency losses, but the benefits may be far greater. Because underdeveloped financial systems can easily suffer from financial crises and capital account controls can help protect the economy from internal and external financial shocks so as to maintain financial stability (Huang & Ge, 2019). However, when the economy reaches a growth stage, financial policy should rely more on innovation and industrial improvement rather than large input mobilization, as the effects of these repressive financial policies can turn negative (Chan, 2021).

This study uses a measurement of the relationship between repressive financial policies and inequality as an independent variable on economic growth as the dependent variable. Previous studies have shown that there is a negative and significant coefficient on inequality, so it can be concluded that inequality has a negative impact on growth. However, there is a direct relationship between repressive financial policies and economic growth.

Generally, the development of a strong financial sector plays an important role in promoting economic growth and reducing income inequality and poverty. However, the reality is that the important role that finances and sound financial systems play is evident in their great contribution to economic development through increasing total productivity, promoting economic competitiveness, and promoting market-driven dynamics (McKinnon, 1973; Shaw, 1973). ; Levine, 1997; Levine et al., 2000).

Based on the explanation above, this study aims: first, to analyze the financial repression policies carried out by the Indonesian government during the pandemic (2019-2021 period) on Indonesia's economic growth as a developing country. This is because the liberalization policy in the financial sector plays a major role in the economy of developing countries such as Indonesia. The second objective is that the impact of financial repression carried out as a government policy will be studied more deeply on income inequality because most of the Indonesian population works in the informal sector. The third objective is to further analyze the relationship and impact of the two macroeconomic factors (financial repression and income inequality) simultaneously in the midst of a pandemic that affects economic growth in Indonesia.

LITERATURE REVIEW

Financial Repression

McKinnon (1973) first used the dictum of financial repression to describe conditions in developing countries where the government intervened widely. According to him, developing countries generally

have a less developed monetary system, the private sector is less active, and foreign capital is a substitute for domestic capital. As a result, the government was forced to "repress" the market system, international trade, and the monetary system. The assumptions used in the "financial repression" model are: First, the government is considering having 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 relating to foreign exchange trade supervision, interest rate ceilings, and determination of bank reserves that are expected to minimize the use of inflation taxes without disrupting the formation of private capital. Third, high tariffs suppressed foreign trade flows, licenses, and quota systems. If the above assumptions are fulfilled, the country shows the characteristics of a developing country that is experiencing a repressed economy.

The definition of financial repression is the notion of a set of government regulations, laws, and other non-market restrictions preventing economic-financial intermediaries from functioning at the full capacity of government (Ito, 2008). Policies that cause financial repression include; control of interest rates, liquidity ratio requirements, high bank reserve requirements, capital controls, restrictions on market entry into the financial sector, credit limits or restrictions on the direction of credit allocation, and government ownership or control over banks.

Financial repression on interest rate distortion, the results of his research show that there is a negative influence between interest rate repression and several basic macroeconomic variables, such as the level of savings, investment, and economic growth (Xu & Gue, 2013). In addition, other repressive policies are also considered detrimental to financial development as entry restrictions in order to stabilize banks and protect the economy from the negative effects of bank failures and rental costs from competing for new entrants (Barth, Caprio, & Levine, 2006).

Income Inequality

The definition of income inequality is the unequal distribution of income among a population. The measurement of income inequality used is the Gini Index as proposed by the World Income Inequality Database (WIID) and the Organization for Economic Cooperation and Development OECD. Inequality is a sign of people's lack of mobility and income opportunities. Due to income inequality, a small part of the population holds power, so that human resources are not used optimally, consequently triggering economic instability and the risk of an economic crisis (Dabla-Norris et al., 2015). In addition, economies that experience high levels of income inequality usually tend to have lower levels of social mobility (Corak, 2013).

Inequality is the difference in outcomes and opportunities measured between people's income, wealth, and expenditure. Inequality of opportunity is difficult to measure because conditions are beyond one's control, such as gender and family background. Making it difficult to separate outcomes from opportunities (Dabla-Norris et al., 2015). Furthermore, the distribution of opportunities and outcomes is critical to understanding the nature and amplitude of income inequality. Social costs arise because of the high opportunity disparity. Thus, high-income variation weakens individual educational and occupational choices. In addition, inequality of results leads to misallocation of resources, increases corruption, and also a loss of trust in institutions, thereby worsening social cohesion and trust in the future, and even leading to financial crises (Rajan, 2010).

There is a considerable difference in developing countries compared to other developed countries, where infant and female mortality rates are higher in poor households due to access to health, education, and financial services that are affected by inequality of opportunity due to income inequality (Murray et,

 ISSN 2776-9658 (online)

al., 2013; Mokdad et al., 2018). On the other hand, when income inequality decreases in developing countries, access to better education for low-income households actually increases. While in developed countries, educational inequality, on average, is not influenced by income inequality (Caous & Huarng, 2020).

Previous research has shown that the dominant factor in income inequality to create a wider income gap between the poor and the rich is the education factor with a strong and significant contribution (Chongvilaivan and Kim 2015; Contreras et al. 2009; De Silva and Sumarto 2013; Santos and da Cruz Vieira 2013; Morduch and Sicular 2002; and Sapelli 2011). Another research related to income inequality is access to finance as a very important explanatory variable (Wan and Zhou 2004; Bae, Han, and Son 2012). Further other factors that influence income inequality, such as; Unequal access to education, are because people with low education tend to do low-paying jobs, which are usually done in the informal sector. The next factor is health services due to differences in wealth accumulation that determine (Wicaksono et al., 2017).

The Relation Between Inequality and Economic Growth

The relationship between financial development and inequality demonstrated through underdeveloped financial systems can increase the persistence of the gap between rich and poor. In addition, financial developments or the quality of the financial system, in general, can also affect the allocation of capital, thus having an impact on economic growth in general, as well as on labor demand across sectors. Consequently, it affects the income level of society as a whole (Demirguc-Kunt and Levine, 2009).

Levels of inequality and poverty vary widely between countries and regions, as well as the distribution of income and poverty, which varies significantly over time (Beck et al., 2007). 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 with one vote. Inequality 2, the same as Inequality 1, but the population is considered. The more the population of a country, the fewer samples taken from that country, and vice versa. Inequality 3, which is referred to as global inequality. Unlike the first two concepts, calculations in Inequality 3 are individual-based. People in every country in the world are calculated based on their income. Thus, it will appear that residents in one country are equal to other residents in the same country, and residents in one country are equal to residents in other countries.

The Relation Between Financial Repression and Economic Growth

According to McKinnon (1973) and Shaw (1973), the theory of financial repression explains the stereotype of state finances, where the financial system in a country is weak, underdeveloped, and depressed, which then the government takes control through interest rate policy. Then it has an impact on credit allocation, which is strongly influenced by political factors rather than commercial motives. Thus raising questions in the theory of financial repression about its dangers to economic growth.

Referring to the studies mentioned above, this study measures the level of financial repression following the model of Battilossi (2004). with an explanation of each parameter in the model according to the context of this study, as follows:

1. Requirement reserves

One of the standards of financial repression measurement is the ratio of bank reserves to deposits. To some extent, this standard is a determinant of monetary policy instruction. By definition, it is the ratio of required reserves. Factors such as required reserves may characterize some constituents of financial development. In countries which their financial system is undeveloped, banks may keep more reserves than the ratio of required reserves for responding to liquidity needs (Battilossi, 2004; and Glenn et al., 2002).

2. Real interest rate

A classic mechanism for repression of the financial system is that the interest rate is kept under a balanced level or be proportionate to the inflation rate. Since keeping the interest rate low reduces the government loan expenditures in the bank sector, governments that allocate most of their bank credits with legal restrictions to the government sector try to keep the interest rate low. According to McKinnon (1973) and Shaw (1973), the credit supply allocated to the supported sectors and specific factories, as well as to the recommended people by political authorities, lead to the interest rate is lower than its balanced level. This kind of interference in financial flow represents financial repression. The main idea on the back of this index is that controlling the nominal interest rate avoids its feedback in contrast to expected inflation alterations. The long duration of negative interest rate is evidence of strong financial repression (Gupta, 2004, Battiliossi 2004).

3. Financial intermediation

Financial intermediation level is also another standard of financial repression measurement. It is measured by the ratio of M2/GDP . The experimental literature showed that this ratio is generally low in economies facing financial repression and high otherwise.

4. Government debts

Government debts to the banking system can be a replacement for measuring government ability in financial interference. This parameter may be defined as the ratio of mercantile banks' debts from government to mercantile banks' debts to the private sector is definable. The greater the ratio, the more financial repression it shows. The government by special coding instructions, obliges the bank sector to allocate credits to special loaners, central government, or general institutions. The parameter to measure financial repression is the ratio of credit allocation from the government sector to credit allocated to the private sector, where the larger this ratio, the worse the financial repression (Battilossi, 2004).

5. The ratio of total credit presented to the private sector to gross national product. Financial repression occurs by allocating government credit to the private sector. And Private credit is the most expensive activity index for financial intermediaries (Glenn et al. 2002).

Hypothesis and Conceptual Map

From the explanation above, the hypothesis for this research are as follow:

H1: The relationship between financial repression to growth of GDP

H2: The relationship between inequality to growth of GDP

H3: The relationship between financial repression and inequality to the growth of GDP

ISSN 2776-9658 (online)

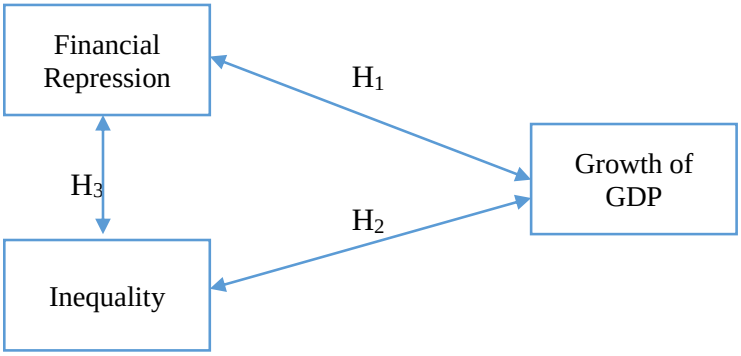

Figure 1. Conceptual Map

RESEARCH METHOD

Data set

This study demonstrates the importance of a new equation model for economic growth related to financial repression and income inequality using 11 macroeconomic variables for inequality, financial repression, and economic growth. This measuring variable is divided into three types, namely:

A. Four proxies for measuring Financial Repression Index (FRI) are as follows:

1. RIR real interest rate, the interest rate proxy, is used to observe government policies in raising and lowering interest rates over the past decade.
2. RR requirement reserves rate, the proxy for the minimum statutory reserve requirement in banks used in relation to interest rate instruments as a means for the government to issue policies in the financial sector.
3. GOVGt is the average real government consumption to real GDP; this proxy is used because government consumption is filled with government debt and is closely related to the interest rate on loans where the government has the authority to act liberally on these debts.
4. DEFt variable as the GDP deflator ratio, this proxy used in this study because of its ability to measure price changes in aggregate whose measurement results are an indicator of inflation that has an impact on economic growth.

B. Three proxies that explain income inequality related to assumptions in financial repression are as follows:

1. GGDP is per capita income growth, is a proxy for measuring the level of economic growth in Indonesia during the observation period (2010-2021) associated with income inequality and government policies in the financial sector or financial repression.
2. INF is the inflation rate.
3. FRI is the financial repression index, which is a proxy that represents the government's policy in suppressing interest rates in the financial sector, especially deposit rates to below the inflation rate. This aimed at lowering loan interest rates so that the government's liberalization behavior was carried out through policies in liquidating its debts. This will have an impact on economic growth through the population's per capita income and income inequality.

C. Four proxies of economic growth, as follows:

1. Ginit is income inequality, is a proxy used to determine the level of income inequality of the population during this observation period, namely from 2010-2021.
2. RGDPt per capita income (GDP Real), used to measure income per Indonesian population at constant prices without involving the inflation rate. The variable is used because most of the Indonesian population is working in the informal sector and not a fixed income. Residents who work in the informal sector or non-fixed income are not familiar with the calculation of periodic salary increases (applied to residents with fixed income and working in the formal sector because it takes into account the level of cost of living caused by inflation).
3. FEt, is Formal education, The level of formal education in Indonesia is used in the study to support observations on the level of income inequality as one of the determining factors. Formal education will have an impact on better job opportunities, so it will affect the total income level of the population and ultimately have an impact on economic growth.
4. CDt is Number of crude death rates; this proxy is used to represent the assessment caused by the covid-19 pandemic, where the change in the crude death rate is very clear in 2019, 2020, until mid-2021. This change in the crude death rate is a fact that proves the influence on the rate of economic growth in Indonesia.

The data taken from the Central Bureau of Statistics, Indonesian Banking Statistics, and determination of the data set based on the statistical description, shows the information on the characteristics of the data as follows. This table provides a detailed data description of all variables considered in this study.

Table 1. Data Description

Variables	Description	Date	No. of obs.
FRI_t	Ten-year financial repression index	2010-2021M7	11
RR_t	Ten-year requirement reserves rate	2010-2021M7	11
RIR_t	Ten-year real interest rate	2010-2021M7	11
$GOVG_t$	Ten-year average real government consumption to real GDP	2010-2021M7	11
DEF_t	Ten -year GDP deflator ratio	2010-2021M7	11
$Gini_t$	Ten – Year income inequality	2010-2021M7	11
$GGDP_t$	Ten-year GDP Growth	2010-2021M7	11
$INFL_t$	Ten-year Inflation rate	2010-2021M7	11
$RGDP_t$	Ten -year per capita income (GDP Real)	2010-2021M7	11
FE_t	Ten -year formal education	2010-2021M7	11
CD_t	Ten -year Number of crude death rate	2010-2021M7	11

Source: Authors' (2021)

Variables Operational Definition

The variables used in the research on the two simultaneous equations to be tested are as follows:

ISSN 2776-9658 (online)

Table 2. Variables Operational Definition

Type	Variables and Definition	Source
ENDOGENOUS	1. **GINI Coefficient**: a variable that measures the income inequality of the population per year.	Central Bureau of Statistics
	2. **GDP Growth**: Variables that measure Indonesia's economic growth during the observation period.	Central Bureau of Statistics
	3. **Inflation Rate**: The explanatory variable to determine the effect on the GINI variable.	Central Bureau of Statistics
	4. **Financial Repression Index**: Variables that measure the implementation of government policies in the financial sector are also explanatory variables on the GINI variable.	Central Bureau of Statistics & Indonesian Banking Statistics
EXOGENOUS	5. **GDP Real**: variable income per capita of the Indonesian population without involving the inflation rate as an explanatory variable of economic growth.	Central Bureau of Statistics
	6. **Formal Education Rate**: education level variable which is the explanatory variable for economic growth related to population income.	Central Bureau of Statistics
	7. **Crude Death Rate**: The crude mortality rate variable for the Indonesian population per year is to represent the measurable condition of the Covid-19 pandemic as an explanatory variable of economic growth.	Central Bureau of Statistics

Source: Authors' (2021)

Research Hypothesis

1. Hypothesis 1: Financial Repression has a significant effect on Indonesia's economic growth during the Covid-19 Pandemic Period.

H1.1: Economic growth has a significant effect on Inequality at a significance level of 5%.

H1.2: Inflation has a significant effect on Inequality at a significance level of 5%.

H1.3: Financial Repression has a significant effect on Inequality at a significance level of 5%.

2. Hypothesis 2: Income Inequality has a significant effect on Indonesia's economic growth during the Covid-19 pandemic period.

H2.1: The population's per capita income has a significant effect on Indonesia's economic growth during the Covid-19 pandemic period.

H2.2: The level of formal education has a significant effect on Indonesia's economic growth during the Covid-19 pandemic period.

H2.3: The crude death rate of the population has a significant effect on Indonesia's economic growth during the Covid-19 pandemic period.

3. Hypothesis 3: Financial Repression and Income Inequality simultaneously have a significant effect on Indonesia's economic growth during the Covid-19 pandemic period.

Research Models and Method

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. Based on the Battilossi (2004) model on the financial repression model using the Beim and Colominos index (2001), the equation model is as follows :

$$FRI = a + 50 * FR \quad (1)$$
$$FRI_t = a + 50FR_t \quad (2)$$
$$a = 50 - b\ (mean\ (FR_t)) \quad (3)$$
$$b = \frac{20}{sd(FR)} \quad (4)$$
$$FR_t = RR + GOVG_t - RIR_t - DEF_t \quad (5)$$

Where FRIt indicates the financial repression index, RIRt real interest rate, RRt requirement reserves rate. For the next variable, because it is related to economic growth, this research model uses the GOVGt is the average real government consumption to real GDP, and the DEFt variable, which is the GDP deflator ratio.

2. To examine the relationship between economic growth, financial repression, and income inequality, we consider the baseline model as follows:

$$Gini_t = \alpha_o + \beta_1\, GGDP_t + \beta_2 INFL_t + \beta_3\, FRI_t + e_t \quad (6)$$

Where; the periods t = 1,…, T, Gini is the Gini coefficient which measures income inequality, GGDP is per capita income growth, INF is the inflation rate, FRI is the financial repression index, and ɛt is the error term.

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 economic growth equation shown by annual growth GDP is associated with inequality and financial repression. Then the equation formula is:

$$GGDP_t = \alpha_o + \beta_1\, Gini_t + \beta_2 RGDP_t + \beta_3\, FE_t + \beta_4\, CD_t + e_t \quad (7)$$

Where t represents each time period (with t = 1, 2 ... T); GGDP is average annual growth during period t; Ginit, RGDPt, FEt, and CDt, are respectively, inequality, per capita income (GDP Real), Formal education, and Number of Crude Death rate during observation with pandemic period t; and eit is the error term.

The estimation method used is 2SLS. This research uses this method to obtain a simultaneous equation model and find out the factors that significantly affect financial repression, inequality, and economic growth.

- Endogenous variables consist of Inequality (Gini) and Economic Growth (GDP Growth).
- Exogenous variables are inflation (INFL), financial repression (FRI), income per capita (real GDP), formal education (FE), and the number of crude death of rates (CD).

 ISSN 2776-9658 (online)

FINDINGS AND DISCUSSION

Descriptive Analysis

The characteristics of the financial repression index (FRI), income inequality, GDP growth, inflation, real GDP, formal education rate, and crude death in Indonesia from 2010 to mid-2021 are presented in Table 2 as follows:

Table 2. Characteristics of Financial Repression, Inequality, and Economic Growth in the Period 2010 - 2021 with the Covid19 Pandemic in Indonesia

Characteristics	Financial Repression Index	GINI	Growth GDP	Inflation	Real GDP	Formal Education Rate	Crude Death Rate
N	12	12	12	12	12	12	12
Mean	-71.6978	0.3947	4.7219	4.1758	6.3547	2.4462	6.7917
Minimum	-87.45	0.38	-0.62	0.81	6.23	2.40	6.40
Maximum	-56.24	0.41	6.24	8.38	6.44	2.46	8.50
Standard Deviation	10.9857	0.01246	1.8732	2.4533	0.07080	0.02189	0.79938
Total Indonesia	-860.37	4.74	56.66	50.11	76.26	29.35	81.50

Note: *) Data is very temporary, and without data with a value of 0

The mean for FRI in Indonesia for a decade (2010 to 2020) has a value of - 71.70%, with a minimum value of -87.45% and a maximum value of -56.24%. With a standard deviation of 10.99%, it means that government liberalization in the financial sector is very high considering that Indonesia is included in the category of developing countries where government intervention in the financial sector plays a very high role. The very real role of the government in Indonesia is the interest rate policy, both the BI rate, deposit rates, and loan interest rates. This can be seen in the total FRI, which is the number of policies that have been issued by the government in the financial sector in order to suppress interest rates (financial repression) for a decade (2010-2021 period) of -860.37%. This is a fairly large value for the value of a financial sector policy that is full of government intervention because it is close to 1000%.

The variable level of income inequality, which is proxied by the GINI coefficient, shows characteristics with a mean of 0.3947, a minimum value of 0.38, and a maximum value of 0.41 with an observation error rate or standard deviation of only 0.01246. This means that the level of income inequality is still far from reaching the severity of poverty which has a relative value of 1 (one), and to be included in the category of severe poverty with a level of income inequality in society. Indonesia in this observational decade is still safe as a country that has not yet entered the category with the severity of poverty.

The characteristics of GDP Growth describe Indonesia's economic growth rate for a decade (ten years of observation) from 2010 to mid-2021. Indonesia's economic growth rate has an average value (mean) of 4.7219%. This is because it has a minimum value of -0.62% and a maximum value of 6.24%. During the observation period, economic growth experienced a decline of up to -5% in 2019-2020. The total economic growth of Indonesia for a decade is 56.66%, meaning that Indonesia still has a growth rate that is sufficient and safe for the survival of this country.

The inflation rate in Indonesia during the observation period has characteristics with an average (mean) of 4.1758%, where the minimum value of inflation in Indonesia is 0.81%, and the maximum value of inflation is 8.38%. This means that Indonesia is able to control the inflation rate that has almost reached

double digits. This is because of the government's liberalizing attitude in carrying out its financial policies. For a decade, Indonesia's total inflation was under control at 50.11%, so that Indonesia's economic growth remained optimistic that it would increase.

The characteristics of Real GDP in Indonesia show a mean value of 6.3547% with a minimum value of 6.23% and a maximum value of 6.44%. This means that the increase in real GDP without taking into account inflation is not high, and the total real GDP in Indonesia during the observation period (2010 to 2021) is 76.26%.

At the level of formal education in Indonesia during the period 2010 to 2021, it has a mean value of 2.4462%, with a minimum value of 2.40% and a maximum value of 2.46%. This means that the growth of the level of formal education of the Indonesian population tends to be low and slow, it can be seen that the total value of the level of formal education during the observation period is only 29.35%.

The characteristics of the crude death rate of the Indonesian population for the decade, for 8 years consecutively have been stagnant at 6.5%. However, from the end of 2019 to mid-2021, there was an increase of 2.1%, so that the mean crude death rate in Indonesia for a decade was 6.7917%, with a minimum value of 6.40% and a maximum value of 8.50%. The increase of up to 8.50% was due to the rampant outbreak of the COVID-19 pandemic that hit Indonesia from the end of 2019 until the middle of 2021 at this time. The sum of the crude mortality rates of the Indonesian population during the observation period was 81.50%. This significant change has become one of the focuses of this research as part of the journey of Indonesia's economic growth period.

Simultaneous Model with Estimation 2SLS

The estimation results of simultaneous modeling on the GINI equation model are for measuring Income inequality and the GDP Growth equation for measuring economic growth shown in equations (1) and (2) based on the 2SLS test calculations presented in Table 3. Simultaneous equation models in the two equations during the period observations from 2010 to 2021 is to include the pandemic variable as proxied by the crude death rate per year (Crude Death Rate - CDr), which presented as follows:

Equation Model 1, for Income Inequality (GINI Coefficient):

$$Gini = 0{,}388 + 0{,}001GDPGrowth + 0{,}002Inflasi\ Rate - 9{,}178 \times 10^{5} Financial\ Repression$$

Equation 2 model, Economic Growth with the Covid19 Pandemic (GDP Growth):

$$GDPGrowth = 82{,}412 + 1{,}256Gini + 4{,}764GDPReal - 39{,}018EducationRate - 1{,}916\ Crude\ death\ Rate$$

In the GINI model for the income inequality equation, there are no variables that significantly affect the income inequality (GINI) with =5%. Be it economic growth (GDP Growth), inflation rate, or financial repression index. This result proves that the income inequality of the population is not caused by the level of economic growth, inflation rate, or government policies through liberalism in the financial sector by carrying out financial repression.

The advantage of simultaneous equations is that they can perform tests in two directions. This is proven in the next equation, where the results show the equation of economic growth as proxied by GDP Growth as the next endogenous variable. The results prove that income inequality, income per capita of the population at constant prices, and the level of formal education of the population have no significant

 ISSN 2776-9658 (online)

effect on the level of economic growth in Indonesia. However, the gross mortality rate of the population that is a proxy for the situation and condition of the Covid-19 pandemic with changes in the crude death rate that increases shows a significant influence on Indonesia's economic growth rate during the observation period with the Covid-19 pandemic period. This study has a calculation result on the Covid-19 pandemic variable that has a negative and significant effect of 1.916 on the rate of economic growth. That is, if there is an increase in the crude death rate by 1, it will reduce Indonesia's economic growth rate by 1.910 and so on.

Table 3. Simultaneous Model Estimation Results with 2SLS

Model	Variables	Parameter Estimation	t Count	P-Value	R Square
Model 1 (Gini)	Constant	0.388	12.719	0.000	26.6%
Income Inequality	GDP Growth	0.001	0.344	0.740	
	Inflation	0.002	0.981	0.355	
	Financial Repression	8.178E-5	0.214	0.836	
Model 2 (GDP Growth)	Constant	82.412	2.195	0.064	82.0%
Economic Growth	Gini	1.256	0.030	0.977	
	GDP Real	4.764	0.244	0.814	
	Education Rate	-39.018	-0.712	0.500	
	Crude Death Rate	-1.916	-3.940	0.006	

Source: Authors' (2021)

In model 1, namely income inequality (GINI coefficient), there is no single variable that significantly affects income inequality with =5%. Hypothesis testing on H1.1, H1.2, and H1.3, the results rejected Ha or the alternative hypothesis (initial guess) but accepted Ho or the null hypothesis. These three variables have no significant effect on income inequality (GINI) at a significant level of =5%. This means that income inequality during this observation period is not influenced by the level of economic growth, inflation rate, or financial repression index, which represents many government policies in the financial sector. The coefficient of determination of 26.6% indicates that the economic growth rate, inflation rate, and financial repression index are able to explain the variability in model 1, where the three variables have a joint influence of 26.6%. Testing the H31 hypothesis proves that Ha accepted, while H0 rejected. At the same time, 73.4% is the influence of other variables that are not observed variables in this model research. This means there are still many things that affect income inequality in Indonesia.

Simultaneous model 2, namely economic growth, shows that the income inequality (GINI), per capita income of the population at constant prices (GDP Real), and the education level of the population have no and no significant effect on the level of economic growth in Indonesia during the observation period (2010 to 2021). Therefore, the results of testing the H2.1 and H2.2 hypotheses reject Ha and accept H0 on the three hypotheses. However, testing the H2.3 hypothesis on the crude mortality rate variable (a

proxy for the Covid-19 Pandemic condition variable) showed a negative and significant effect on the rate of economic growth in Indonesia at =5%, so that the results of the hypothesis rejected H0 and accepted Ha. This means that the level of economic growth in Indonesia during the period 2010 to mid-2021, during which the Covid-19 pandemic occurred, was not affected by income inequality, the population's per capita income (GDP Real), the education level of the population, the inflation rate, and the financial repression index. However, the Covid-19 pandemic, as indicated by the crude death rate of the Indonesian population, which has increased rapidly for a decade, has a negative and significant effect at a significance level of =5%. The coefficient of determination of 82.0% indicates that income inequality, real GDP, education level of the population, and crude death rate are able to explain the variability in model 2, where the four variables have a joint effect of 18.0%, which is the influence of other variables that is not a variable observed in this model 2 research. This means there are still many things that affect the level of economic growth in Indonesia.

CONCLUSION

The result of simultaneous modeling 1 with 2SLS estimation is Income Inequality = 0.388 + 0.001GDP Growth + 0.002Inflation – 8.178 x 105 Financial Repression. On the Simultaneous Model 2 Economic Growth = 82.412 + 1.256Gini + 4.764 GDP Real – 39.018 Education Rate – 1.916 Crude death rate. At the level of income inequality as the estimation model 1, the determinant variables consisting of the level of economic growth, the inflation rate, and the financial repression index have no effect and are not significant at the significance level of =5% on Income inequality.

In the simultaneous model 2 on the level of economic growth with a significance level of =5%, the determining variables such as income inequality, per capita income of the population at constant prices (GDP Real), and the education level of the population have no and no significant effect on the level of economic growth in Indonesia. Indonesia for a decade of observation, namely 2010 to mid-2021, due to the emergence of the Covid-19 pandemic from late 2019 to 2021. Meanwhile, the crude death rate that describes the impact of the Covid-19 pandemic in this study has a negative and significant effect of 1,916 on the level of economic growth in Indonesia. Indonesia at a significance of =5%.

The factors of income inequality and financial repression do not have a significant influence on the level of economic growth in Indonesia. However, in the opposite relationship, if the level of economic growth is associated with the death rate of the population, which represents the condition of the COVID-19 pandemic, it shows a significant negative effect on the level of economic growth and income inequality as well as financial repression.

REFERENCES

Abdullah R. 2020. The last mile problem penurunan kemiskinan. Available at: https://www.watyutink.com/ opini/The-Last-Mile-Problem-Penurunan-Kemiskinan

Anwar. S., dan Nguyen, L. P. 2010. "Foreign Direct Investment and Economic Growth in Vietnam", Asia Pacific Business Review, Vol. 68, hal.5-27.

Arellano, M., dan Bond, S. 1991. "Some Test of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations", The Review of Economic Studies , Vol.58, hal.277- 297.

Bae, K., D. Han, and H. Sohn. 2012. Importance of Access to Finance in Reducing Income Inequality and Poverty Level. International Review of Public Administration 17 (1): 55–77.

Battilossi, S. (2004). The Little Reversal Capital Markets and Financial Repression in Western Europe in the Second Half of the 20th Century. Department of Economic History and Institutions Universidad Carlos III Madrid, 1-36.

 ISSN 2776-9658 (online)

Barth, J. R., Caprio, G., Jr., & Levine, R. (2006). Rethinking bank regulation: Till angles govern. New York: Cambridge University Press.

Bappenas (National Development Planning Agency). 2020. Strategi penanggulangan kemiskinan di tengah pandemi: sebuah tantangan untuk Indonesia. Bahan tayangan pada Geography Talk; 2020 Jun 3

Beck, T.; Demirguc-Kunt, A., Levine, R. 2007. Finance, inequality and the poor. Journal of Economic Growth 12(1): 27-49

Benabou, Roland. 1996b. Inequality and Growth, in Ben S. Bernanke and Julio J. Rotemberg, eds., NBER macroeconomics annual 1996. Cambridge, MA: MIT Press, 1996b, pp. 11–74.

BPS (Central Bureau of Statistics). 2020a. Profil Kemiskinan di Indonesia Maret 2020. Jakarta (ID): Badan Pusat Statistik.

BPS (Central Bureau of Statistics). 2020b. Analisis hasil survei dampak Covid-19 terhadap pelaku usaha. Jakarta (ID): Badan Pusat Statistik.

Caous, Emilie Le; Huarng, Fenghueih. 2020. Economic Complexity and the Mediating Effects of Income Inequality: Reaching Sustainable Development in Developing Countries. Journal of Sustainability

Chan, Sarah. 2021. Financial repression and financial risk: the case of China, Post-Communist Economies

Chongvilaivan, A. and J. Kim. 2013. Individual income inequality and its drivers in Indonesia: A theil decomposition reassessment. Social Indicators Research. 1–20.

Contreras, D., O. Larrañaga, E. Puentes, and T. Rau. 2009. Evidence for Inequality of Opportunities. A Cohort Analysis for Chile. Santiago.

Corak, M. 2013. Income Inequality, Equality of Opportunity, and Intergenerational Mobility. J. Econ. Perspect. 27, 79–102.

Dabla-Norris, E.; Kochhar, K.; Ricka, F.; Suphaphiphat, N.; Tsounta, E. 2015. Causes and Consequences of Income Inequality: A Global Perspective: International Monetary Fund: Washington, DC, USA

De Silva, I. and S. Sumarto. 2013. Poverty-growth inequality triangle: the case of Indonesia. TNP2K Working Paper. http://www.tnp2k.go.id/images/uploads/ downloads/WP4-PovertyTriangle(1).pdf (accessed 30 January 2017).

Georgantopoulos, Andreas G. and Anastasios D. Tsamis. (2011). The Macroeconomic Effects of Budget Deficits in Greece: A VAR-VECM Approach. International Research Journal of Finance and Economics ISSN 1450-2887 Issue 79.

Gujarati, D. 2000. Econometric Analysis, New Jersey: Prentice-Hall.

Gupta, R. (2004). Financial Liberalization and Inflationary Dynamics in the Context of Southern European Economies. Working Paper, University of Connecticut.

Huang, Y., & Ge, T. 2019. Assessing China's financial reform: Changing roles of the repressive financial policies. Cato Journal, 39(1).

Ito, H. (2008). Financial repression. In K. Reinert & R. Rajan (Eds.), The Princeton encyclopedia of the world economy (pp. 430–433). Princeton, NJ: Princeton University Press.

Izzati RA. 2020. Estimasi dampak pandemi Covid-19 pada tingkat kemiskinan di Indonesia. Available at: https://www.smeru.or.id/id/content/estimasi-dampak-pandemi-covid-19- pada-tingkat-kemiskinan-di-indonesia

King, R. G., & Levine, R. 1993. Finance, entrepreneurship, and growth: Theory and evidence. Journal of Monetary Economics, 32(3), 513–542.

Koutsoyiannis, A. 1991, Theory of Econometrics: An Introductory Exposition of Econometric Methods. Second Edition. Harper and Row Publisher, London.

McKinnon, R. (1973). Money and Finance in Economic Development. Washington: Rookings. Journal of Applied Economics, 2:29–59.

Murray, C.; Abraham, J.; Ali, M.; Alvarado, M.; Atkinson, C.; Baddour, L.; Bartels, D.; Benjamin, E.; Bhalla, K.; Birbeck, G.; et al. 2013. The State of US Health, 1990–2010. Burden of diseases, injuries, and risk factors. J. Am. Med. Assoc. 310, 591–608.

Mokdad, A.H.; Ballestros, K.; Echko, M.; Glenn, S.; Olsen, H.E.; Mullany, E.; Lee, A.; Khan, A.; Ahmadi, A.; Ferrari, A.; et al. 2018. The State of US Health, 1990–2016. Burden of diseases, injuries, and risk factors among US States. J. Am. Med. Assoc. 319, 1444–1472.

Morduch, J. and T. Sicular. 2002. Rethinking inequality decomposition, with evidence from rural China. The Economic Journal 112 (476): 93–106.

Nezhad, Mansour Zarra; Parsaeian, Sajjad; Anvari, Ebrahim. 2012. Measuring Financial Repression in Selected Oil Exporting Countries. Quarterly Journal of Quantitative Economics 8 (4), Winter

Rajan, R.G. Fault Lines: How Hidden Fractures Still Threaten the World Economy; Princeton University Press: Princeton, NJ, USA, 2010.

Roubini, N., & Sala-i-Martin, X. 1992. Financial repression and economic growth. Journal of Development Economics, 39(1), 5–30

Santos, V. F. D. and W. D. C. 2013. Effects of growth and reduction of income inequality on poverty in Northeastern Brazil, 2003–2008. Economia Aplicada 17 (4): 647–666.

Sapelli, C. 2011. A cohort analysis of the income distribution in Chile. Estudios de economía 38 (1): 223–242.

Shaw, E.S. (1973). Financial Deepening in Economic Development. Oxford University Press, New York.

Stiglitz, J. 2000. Liberalization, moral hazard in banking and prudential regulation: Are capital requirements enough? American Economic Review, 90(1)

Suryahadi A, Suryadarma D, Sumarto S. 2006. Economic growth and poverty reduction in Indonesia: the effects of location and sectoral components of growth. SMERU Working Paper, August 2006. Jakarta (ID): SMERU Research Institute.

Tarigan, Herlina; Sinaga, Juni; Rachmawati, Rika. 2020. Dampak Pandemi Covid-19 Terhadap Kemiskinan di Indonesia. Available at: https://pse.litbang.pertanian.go.id/ind/pdffiles/23-BBRC-2020-IV-1-1-HLT.pdf

Wan, G. and Z. Zhou. 2004. Income Inequality in Rural China: Regression-based Decomposition Using Household Data (No. 2004/51). WIDER Discussion Papers/World Institute for Development Economics (UNU-WIDER).

Wicaksono, Eko; Amir, Hidayat; Nugroho, Anda. 2017. The Sources of Income Inequality in Indonesia: A Regression-Based Inequality Decomposition. ADBI Working Paper, No. 667, Asian Development Bank Institute (ADBI), Tokyo

Xu, Guandong; Gui, Binwei. 2013. The Connection between Financial Repression and Economic Growth: The Case of China, Journal of Comparative Asian Development, 12:3, 385-410

Yusuf AA. 2020. Poverty and distributional impact of Covid-19 Crisis in Indonesia. Presented at WIDER Webinar Series: How is Covid-19 changing development? 2020 May 12. Bandung (ID): SDGs Center, Universitas Padjadjaran.

 ISSN 2776-9658 (online)