Does financial inclusion reduce income inequality in South Sumatra, Indonesia?

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ABSTRACT

Purpose — *To analyze the impact of financial inclusion toward income distribution inequality in South Sumatra, Indonesia.*

Research method — *The analysis method in this paper is panel regression model. This methodology is used to avoid bias specifications in the model. This paper applied three dimensions of financial which are financial penetration, access to financial services and use of financial services. The data was taken from the Financial Services Authority, Central Bank of Indonesia and the Central Statistics Agency. The data was time series from 2010-2017 and cross section from 9 rural and urban in South Sumatra, Indonesia.*

Result — *The result showed that each district in South Sumatera has divergent degree of financial inclusion index. The degree of financial inclusion index in city area has a relatively higher financial index than hinterland areas. Based on the result of estimations, the impact of financial inclusion index on income inequality is positive and significant. This evidence proved that financial inclusion does not reduce income inequality in South Sumatra, Indonesia.*

Recommendation — *Financial institutions are more motivated to lend to groups like farmers, the impoverished, and small and micro businesses. It is vital for the government to provide more fair financial services amongst regencies and cities.*

Keywords: *financial inclusion, inequality, rural-urban, financial access, financial development*

BACKGROUND

The condition of inequality in income received by the community is often referred to as income inequality. This reduction in economic conditions is one of the most intense things to be tackled in the world. One of them is the UN target in the Development Goals which was signed by 193 UN member countries including Indonesia. In 2015 the World Bank stated that Indonesia was the country with the highest rate of increase in economic inequality in Southeast Asia. In addition, a survey conducted by the Credit Suisses Institute in 2016 stated that every 49.3 percent of national wealth is influenced by 1 percent of the Indonesian population (Muslikhah & Utami, 2020).

Unemployment rates, poverty, and inequality continue to be key concerns in Indonesia. Income inequality and the factors that influence it have been examined in a number of studies. The study looks at the influence of trade openness, economic growth, inflation, and unemployment in determining income disparity. According to Marrewijk (2007), international trade openness reduces inequality in impoverished countries with high labor productivity while increasing inequality in affluent nations with higher capital stock. Furthermore, Maestri and Roventini (2012) examined the influence of inflation and unemployment on income inequality in a number of The Organization for Economic Cooperation and Development (OECD) member countries, and found that inflation increases income disparity in countries like Germany, Sweden, and the United States, while decreasing inequality in Canada. Stiglitz (2011) and Kumhof and Ranciere (2011) found similar results. However, there is currently a scarcity of research on financial inclusion and economic disparity.

Spatially, the Indonesian economy still faces economic inequality between regions. The province that has the largest contribution to Gross Domestic Product is Java Island at 58.37 percent (BPS, 2017). Then the next economic growth is followed by Sumatra Island by 21.74 percent, which from This figure, South Sumatra contributed 2.80 percent (BPS, 2015).

Financial inclusion has become a hot issue regarding the contribution of finance in increasing sustainable development. This is because financial inclusion is used as an instrument in alleviating poverty and efforts to overcome inequality and inequality. Inequality obtained by society is one of the social consequences that cannot be tolerated. Because this can result in social unrest which has a negative impact on social stability and economic growth.

Financial inclusion has recently been proposed as one of the answers to the problem of income inequality. Many programs have been carried out by the government to reduce economic inequality, namely by improving people's welfare through the National Financial Inclusion Strategy (SNKI) program. According to Neaime & Gaysset (2018), the higher level of public financial inclusion, the more likely they are to make more smart and correct financial judgements. The decision to employ the appropriate financial products and services will aid the financial sector's development and promote high economic growth. Park & Mercado Rogelio V (2015) linked financial inclusion and the level

of poverty and income inequality in developing Asian countries and found that one strategy that can increase access of the poor to financial services is financial inclusivity, besides that financial inclusivity is also considered to help reduce poverty and inequality income. Beck et al. (2007) and Ang (2010) state that reducing income inequality can be helped by financial development.

A solid financial system and a good benefit to all levels of society are indicators of development achievement. Financial institutions, through their intermediate function, play an essential role in promoting economic growth, income distribution, poverty reduction, and financial system stability in this situation (Umar, 2017). Nonetheless, the rapidly growing financial industry is not always accompanied by adequate financial access. Access to financial services is, in reality, a necessary condition for public participation in the economy. The size of the opportunity for the community to access and use financial services, as a reflection of the economy's level of financial inclusion.

An increase of 20% in a country's financial inclusion rate will result in the creation of 1.7 million new employment (Ummah & Nunung, 2015). This demonstrates that increasing financial stability has been shown to increase poverty levels while also lowering inequality. The number of persons who use deposit services and the number of people who use loan services at financial institutions are the best ways to gauge access to financial services. However, not all nations, particularly those with microfinance and informal financial institutions, have complete data. The number of bank accounts per 1000 adults is the most acceptable statistic for assessing access to deposit services (Neaime & Gaysset, 2018). As a result, initiatives to improve public financial inclusion should not be overlooked, and policymakers should be concerned about whether financial inclusion is equitably spread across districts/cities. As a result, more effective and efficient financial inclusion programs are required.

Several studies, such as those stated (Chambers, 2010; Wahiba & Weriemmi, 2014; Rubin & Segal, 2015) state that economic growth is positively related to income inequality. Amri (2017) also states that increasing economic growth can increase income inequality. This means that the higher the economic growth, the higher the income inequality. Given these events and problems, it is very important to formulate financial inclusion strategies and sustainable economic development strategies to reduce the spread of inequality. The potential of the province of South Sumatra makes this province a rich province with a high rate of economic growth, but income inequality and the number of poor people are also high, indicating that economic development has not been achieved properly.

Moneylenders take advantage of the lack of formal banking access by lending monies with extremely high interest rates. OJK has introduced financial inclusion programs in recent years, although their effectiveness in reducing income inequality is still being contested. The goal of this study is to look at how financial inclusion affects income distribution inequality in South Sumatra. This study is necessary in order to understand the role of financial inclusion in addressing the problem of income distribution inequality in South Sumatra. Our research makes

two important contributions. We begin by looking at financial inclusion in rural and urban areas, particularly in South Sumatera. According to past studies, research on the complex socioeconomic problems of income disparity should be conducted through regional studies rather than national studies. It refers to the reality that tens of millions of Indonesians, particularly in rural areas, are unable to obtain financial services due to an unequal distribution of formal financial service organizations. Furthermore, there are geographical and population limits that are not evenly distributed, as well as a lack of collateral and inadequate financial awareness. Furthermore, the majority of them are low-income individuals. Second, we look at the impact of the financial inclusion index on income inequality using panel data.

LITERATURE REVIEW

According to the findings of Salazar-cant, Jaramillo-garza, & Rosa (2015), boosting financial inclusion can help to minimize income disparity. Instead, according to Sarma (2012) just a small portion of the gains that society obtains from financial development cause wealth disparities to widen.

Better financial allows households to make choices and judgements based on economics efficiency rather than inheritance riches (Jauch & Watzka, 2015). This finding was corroborated by Salazar-cantú, Jaramillo-garza, & Rosa (2015) who found that while financial inclusion initially increased income disparity in Mexico City, as inclusions grows, inequality decreases. These conclusions were reached by analyzing regional data to the same country.

Research conducted by (Akimov, Wijeweera and Dollery, 2006; Kenourgios, Dimitris, 2017 ; Levine, 2003; Park & Shin, 2018) states that the cause of income inequality is limited access to financial resources. This means that the financial sector is one of the instruments that can reduce the level of income inequality by expanding access, especially for low-income groups. Increased financial inclusion will occur if more individuals can access the financial sector (Dabla-Norris et al., 2015).

This study examines the idea of financial development, which refers to the point at which a society's institutional structure that mediates savings and credit functions effectively to promote economic growth and is accessible to a diverse range of community groups. The notion of financial inclusion is used in this study to better understand financial development. The Central Bank of Indonesia (2014) defines inclusive finance as a type of financial service deepening focused towards those at the bottom of the pyramid who want to use formal financial products and services such safekeeping, transferring, saving, loans, and insurance.

In industrialized countries, Jauch & Watzka (2015) discovered a positive association between financial development and income disparity. The rise in income disparity is a result of the rapid expansion of financial inclusion. According to other studies, the higher the level of financial inclusion, the lower

the poverty rate in developing Asian countries. In emerging Asia, on the other hand, there is no significant link between strong financial inclusion and economics disparity (Park, 2018).

Ummah & Nunung (2015) conducted a similar study in Indonesia, looking at the two-way relationship between financial inclusion and income distribution. The findings reveal that there is no link between the two factors. The level of financial inclusion in a given area is influenced by the distribution of income in that area, but not the other way around.

The authors will use the panel technique to evaluate the relationship between financial inclusion and inequality in the regions in this study, which is likely to improve the results of prior research.

RESEARCH METHOD

The Financial Services Authority (OJK), the Central Bank of Indonesia, and the Central Statistics Agency all provided secondary data for this study. OganKomering Ulu Regency, Ogan Komering Ilir Regency, Muara Enim Regency, Lahat Regency, Musi Rawas Regency, Banyuasin Regency, OganIlir Regency, Empat Lawang Regency, Palembang City, Prabumulih City, Pagaralam City, and Lubuk Linggau City provided the data, which covered the years 2007 to 2017. Pali Regency and North Musi Rawas Regency, on the other hand, were excluded from this study due to a lack of data. Pali Regency is a new autonomy region as a result of the legal partition on January 11, 2013.

Model specifications

The panel model was employed to conduct this study. The following is an example of an estimating model:

$$INE_{it} = \alpha_{it} + \sum_{j=1}^{p} \beta_1\, INE_{it-1} + \sum_{j=1}^{p} \beta_2\, X_{it} + + \sum_{j=1}^{p} \beta_3\, Y_{it} + \varepsilon_{it}$$

Where i denotes the cross-regency or city levels unit; t stands for the t-year period (in years). The proxy for financial inclusion factors is referred to as X. Y is a vector of economic variables that are independent of one another.it is fixed effect that is not observed; it is an independent and identical error term distributed to all samples with constant variance. INE_{it} refers to the measure of poverty and the measure of income inequality (GINI coefficient); α_{it} is a fixed effect that is not observed; ε_{it} is an independent and identical error term distributed to all samples with constant variance.

There is no standard approach to defining or measuring financial inclusion, according to the prior literature review. The majority of the information comes

from references to financial services. The level of financial inclusion in this study had two forms: service access and access to the financial system. The Index of Financial Inclusion is a notion that encompasses both of these ideas. The first is the additive index, which counts the number of bank branches and correspondent ATMs per 1000 people in a given area. The second statistic is the additive index, which sums up the use of financial services per 1,000 people, such as the quantity of savings and credit available. The number of ATMs and commercial banks in each region is based on data from the appropriate Central Statistics Agency.

The number of persons who use savings services and the number of people who use loan services in financial institutions are the best measures of financial service access (Ummah & Nunung, 2015). However, not every country has complete statistics, particularly from microfinance and informal financial institutions. The most relevant indicator to use to gauge access to deposit services is the number of bank accounts per 1,000 adults.

When it comes to financial access, it's important to remember that bank branches, like ATMs and correspondent banks, are not all the same. When it comes to the financial system, one person can have many accounts, resulting in an overestimation of the number of people who are included. This study's theoretical framework does not currently permit access to personal or individual data. As a result, the approach is straightforward because it assumes that each account corresponds to a single person. According to the study roadmap, this constraint can be addressed in future investigations. The Y variable, on the other hand, comprises socioeconomic characteristics like education, unemployment, inflation, and per capita income.

$$d_i = W_i \frac{A_i - m_i}{M_i - m_i} \ldots\ldots\ldots\ldots(1)$$

i=1,2,3

Where: d_i stands for dimension (penetration, availability and use); A_i is Actual value of dimension I; m_i is minimum value of dimension I; M_i is maximum value of dimension i.

$$X_1 = \frac{\sqrt{d_p^2 + d_a^2 + d_u^2}}{\sqrt{w_p^2 + w_a^2 + w_u^2}} \ldots\ldots\ldots\ldots(2)$$

$$X_2 = 1 - \frac{\sqrt{(w_p - d_p)^2 + (w_a - d_a)^2 + (w_u - d_u)^2}}{\sqrt{w_p^2 + w_a^2 + w_u^2}} \ldots\ldots\ldots(3)$$

The index of financial inclusion (IFI) is calculated as follows after assigning the dimensions equal weights:

$$IFI = \frac{1}{2}[X_1 + X_2]\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(4)$$

$$IFI = \frac{1}{2}\left[\frac{\sqrt{p_k^2 + a_k^2 + u_k^2}}{\sqrt{3}} + \left(1 - \frac{\sqrt{(1-p_k)^2 + (1-a_k)^2 + (1-u_k)^2}}{\sqrt{3}}\right)\right]$$

Where p, α, u, indicate the penetration (or accessibility), avaibility, and utilization dimensions, respectively (Sarma, 2008). The IFI is built by combining information on these aspects into a single number between 0 and 1, with 0 denoting entire financial exclusions and 1 denoting ideal-perfect financial inclusions in an economy (Sarma and Pais, 2008).

RESULT AND DISCUSSION

The value of the Inclusion Financial Index for each region is divided into three categories, according to Sarma (2008):

IFI 0.5 to 1.0 : High
IFI 0.3 to 0.5 : Middle
IFI 0 to 0.3   : Low

In South Sumatra, Djambak et al (2020) conducted research on calculating the financial inclusion index. Figure 1 uses three-dimensional data to show the inclusion financial index values for several locations in southern Sumatra from 2010 to 2017 (penetration, availability and usage). Palembang has the highest IFI and is the only one that is categorized as high IFI over 0.5, followed by Lubuk Linggau, Prabumulih, Lahat, and Pagaralam, all of which are classified as intermediate IFI, i.e. between 0.3 and 0.5. OKI, Banyuasin, Empat Lawang, and Muara Enim were categorized as low IFI regions, with IFI levels below 0.3.

There are variances in financial inclusions index between rural and urban areas. In the form of district, cities have greater IFIs that regions. Except for the Lahat district, which are classed as Middle IFI, all regencies in southern Sumatra are classified as low IFI. Except for Palembang City, which is designated as high IFI, the city area is classified as moderate IFI.
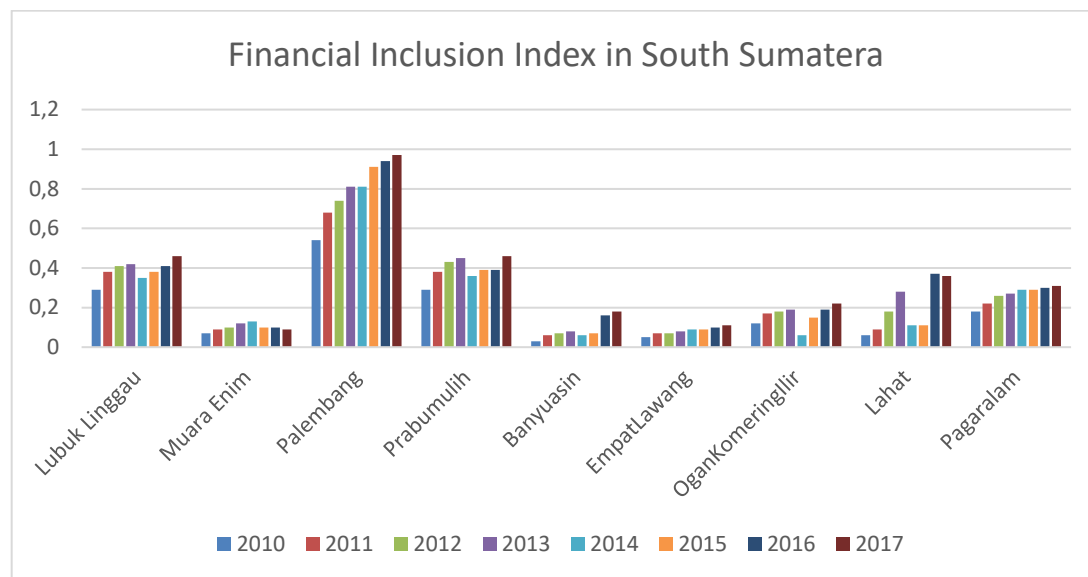
Figure 1. Financial inclusion index in South Sumatra, Indonesia

The disparities in IFI in each region of South Sumatra revealed that there is still a disparity in access to financial services between the regions of the country. In comparison to other regions, Palembang, Lubuk Linggau, and Prabumulih have more banking offices, deposit accounts, and credit distribution. Some areas, such as Muara Enim, Empat Lawang, Banyuasin, and OKI, have low IFIs, indicating that banks' accessibility to the general populace is still limited.

People who have not been able to access banking can be caused by several factors such as geographical barriers where each district or city in South Sumatra Province has different geographical conditions, this can be an obstacle in establishing a banking branch office which can cost a lot of money or more. In addition, difficult and strict requirements, time-consuming and complex processes, and a high level of formality can be barriers for the public in accessing banking (Bank Indonesia, 2014).

Table 1. Regression estimation results

Gini_ratio	Coefficient	Std. Error	t	Prob.
IFI	.0931856	.0166939	5.58	0.000
UN	1.47e-06	3.58e-06	0.41	0.683
AK	.0004411	.000528	0.84	0.406
Cons	.2882988	.0376929	7.65	0.000
R-Squared	0.3184			

source: author (2022)

The financial inclusion index has a significant effect on income inequality in South Sumatra, according to regression studies. These findings, however, do not support the original concept. Income inequality cannot be reduced by increasing the financial inclusion index. The positive coefficient of IFI of 0.093 indicates this.

This indicates that the more financial inclusion it is, the more income inequality become.

The increase in the financial inclusion index appears to have had little influence on the lowest cluster group. They do not have access to banking since they do not meet the requirements for giving loans, such as capital, character, capacity, and so on, implying that the improvement of IFI does not benefit the poor. Apart from the upper crust, banking, particularly money for business, is becoming increasingly accessible. As growth rises, so does inequality, as the Kuznet hypothesis predicts.

It is because when the growth process in poor countries was just getting started, the opportunities were clearly grabbed by areas with better development conditions. Underdeveloped regions, on the other hand, are unable to take advantage of this opportunity due to a lack of facilities and infrastructure, as well as poor human resource quality. This impediment is created not just by economic considerations, but also by social and cultural ones, resulting in growing disparities in regional development. Because of superior conditions, economic growth tends to be faster in regions. In contrast, there has been little growth in undeveloped areas.

CONCLUSION

In this study, the impact of the financial inclusion index on income inequality in South Sumatera is investigated. The financial inclusion index was calculated using a multidimensional approach, which included the variables of penetration, availability, and usage. Each region in South Sumatra has a varied level of financial inclusion. Between rural and urban environments, there are major variances. In the province of South Sumatra, the urban region has a higher IFI than the rural sections. The financial inclusion index has a positive and significant effect on income disparity in South Sumatra, according to estimates. Financial service providers who show a greater commitment to these populations are given priority access to these facilities. As a result, financial institutions are more motivated to lend to groups like farmers, the impoverished, and small and micro businesses. It is vital for the government to provide more fair financial services amongst regencies and cities.

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