Quantifying South Sumatera's Financial Inclusion: Regencies and Cities Levels

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Abstract— **In the last few years, efforts to increase public financial inclusion cannot be underestimated. It needs to be a concern for policy makers whether financial inclusion is evenly distributed in various regencies and cities. It also becomes a need for more effective and efficient financial inclusion programs. This study aims to calculate and analyze financial inclusion index of regencies and cities in South Sumatra. Methodology to calculate financial inclusion index follows Sarma's concept. The result shows that the level of financial inclusion in South Sumatra is different in each region. There are significant differences between the city and regency areas. The city areas in the South Sumatra Province has a relatively higher financial inclusion than the regency area.**

Keywords: index of financial inclusion, penetration, availability and usage

I. INTRODUCTION

The success of development is marked by the creation of financial system stability and benefits all levels of society. In this case, financial institutions play an important role through their intermediary functions to encourage economic growth, income distribution, poverty alleviation and financial system stability achievement [2]. However, the fast growing financial industry is not necessarily accompanied by adequate financial access. In fact, access to financial services is an important condition for public involvement in the economic system. The opportunity for the households to be able to access and use financial services is reflecting the level of financial inclusion in the economy.

To maintain and accelerate growth momentum, policy maker must ensure increased participation in weak economic segments in the process of economic growth. Financial inclusion is an important part of this inclusion process. Inclusive growth as a strategy for economic development is receiving attention because of increasing concerns that the benefits of economic growth have not been shared equitably [9].

The first step to determine the level of financial inclusion is to identify indicators that measure the level of accessibility of financial services in a country. Policy makers need reliable information about the extent of inclusiveness that is prevalent today to develop a policy framework and actions to overcome obstacles. According to [9] measuring the extent of financial inclusion, it will be possible to analyze trends and frame policies to address the financial exclusion situation. Generally a low financial inclusion index is caused by several barriers, it was supported by [3] which mentioned barriers faced by households such as identity requirements, bank account terms and conditions, bank fees, physical access to bank branches, psychological and cultural influences and ease of using banking services. In addition, [9]) has classified the barriers into two parts, namely the supply side (by the bank) and the demand side (individual).

Therefore, the efforts to increase public financial inclusion cannot be underestimated, but it needs to be a concern for policy makers whether financial inclusion is evenly distributed in various regencies and cities. It also becomes a necessity for a more effective and efficient financial inclusion program. Limited formal financial access is an opportunity for moneylenders by providing funds with very high interest rates. In recent years authority financial services has implemented financial inclusion programs, but their effectiveness is still being debated in reducing income inequality. The research is important to be carried out in order to know and analyze the regency/city financial inclusion index in South Sumatra. Several reaserch was only analyze national financial inclussion index, for comparing inter province, not for regencies and cities.

II. LITERATURE REVIEW

Research considers the concept of financial development which refers to the level at which the institutional structure that mediates savings and credit in a society acts efficiently to encourage economic growth and can be accessed by various groups of people. This study uses the concept of financial inclusion as a way to understand financial development. [4] defines the concept of inclusive finance as a form of financial service deepening aimed at the public in the bottom of the pyramid to utilize formal financial products and services such as means of keeping money safe, transferring, saving as well as loans and insurance.

BB [2] in his research showed the results of the imbalance of financial inclusion between regions in Indonesia. Some regions that have banking offices, deposit accounts, and high levels of banking use turn out to have lower financial inclusion indices than regions that have banking offices, deposit accounts, and lower levels of banking use. Some of these regions, such as Papua, Maluku, Sulawesi and Kalimantan, have a higher index of financial inclusion than some regions on Java.

[5] state that financial inclusion can overcome the problem of inequality and improve financial stability, this is because the poor can access formal financial institution savings so that they are able to increase the capacity of households to manage financial vulnerability caused by the crisis, diversifying the funding base from financial institutions, accelerate growth, and reduce poverty.

[6] found a positive relationship between financial development and income inequality in developed countries. The development of rapid financial inclusion led to higher income inequality. Other findings show that the higher the financial inclusion, the lower the poverty rate in developing Asian countries. On the other hand, there is no significant relationship between high financial inclusion and income inequality in developing Asia [7].

III. Methodology

The data used in this study are secondary data and primary data. The data is sourced from the Financial Services Authority (OJK), Bank Indonesia, the Central Statistics Agency, and various related sources / agencies. The analysis period in this study was 2007-2017 with cross sections from 9 regencies / cities in South Sumatra. In this study, the level of financial inclusion adopted Sarma (2008) calculation. Index of financial inclusion consists of multidimensional namely penetration, availability and usage. The best indicators to measure access to financial services are the number of people using savings services and the number of people using loan services at financial institutions.

First is the additive index which adds up the bank's branch offices and correspondent ATMs per 1000 inhabitants in an area. Second is the additive index which sums up the use of financial services such as the amount of savings and credit distributed per 1,000 population. Data on the number of Automatic Teller Machines (ATMs) and commercial banks in each region are taken from the respective Central Statistics Agency.

The best indicators to measure access to financial services are the number of people using savings services and the number of people using loan services in financial institutions [2]. However, not all countries have complete data, especially from microfinance institutions and informal financial institutions. To measure access to the use of deposit services, the most appropriate indicator to use is the number of deposit accounts per 1000 adults.

$$d_i = W_i \frac{A_i - m_i}{M_i - m_i} \qquad \text{……………………………………(1)}$$

i=1,2,3

Where: d_i= dimension (penetration, availability and usage); A_i Actual value of dimension i: m_i = minimum value of dimension i: M_i = maximum value of dimension i

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

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

After giving equal weights to the dimensions, the index of financial inclusion (IFI) is computed as follows:

$$IFI = \frac{1}{2}[X_1 + X_2] \qquad \text{………………………………….(4)}$$

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

Where p, α, u, denote respectively the dimension for penetration (or accessibility), availability and usage respectively [9].The IFI thus constructed incorporates information on these dimensions in one single number lying between 0 and 1, where 0 denotes complete financial exclusion and 1 indicates the ideal-complete financial inclusion in an economy [9].

IV. Results and Discussion

Table 1 presents Index of Financial Inclusion (IFI) values for various regions in South Sumatra in 2010-2017 using three-dimensional data (penetration, availability and usage). Based on the IFI score, each region is divided into three categories, namely:

1. IFI 0.5 to 1.0: High
2. IFI 0.3 to 0.5: Intermediate
3. IFI 0 to 0.3: Low

Of the nine regions where IFI calculations are carried out, Palembang has the highest IFI and the only one that is classified as high IFI is above 0.5 then followed by Lubuk Linggau, Prabumulih, Lahat and Pagaralam which are classified as intermediate IFI between 0.3 and 0.5. While other regions, OKI, Banyuasin, Empat Lawang, and Muara Enim are classified as low IFI with values below 0.3.

From the IFI calculation, it can be seen the differences that occur in the regency and city areas. Areas that form cities generally have higher IFIs than regencies. All regencies in South Sumatra are classified as low IFI except for Lahat Regency which are classified as medium IFI. Whereas the city area belongs to medium IFI except Palembang which is categorized as high IFI.

The differences of IFI in each region in South Sumatra shows that imbalance in the use of access to banking services between regions. Some regions, such as Palembang, Lubuklinggau, and Prabumulih, have more banking offices, deposit accounts and credit distribution than other regions. While regions such as Muara Enim, Empat Lawang, Banyuasin, and OKI which have low IFIs illustrate the reach of banks to the public as well as being very low.

TABLE I. RESULT OF FINANCIAL INCLUSION INDEX

Regency / City	2010	2011	2012	2013	2014	2015	2016	2017
Lubuk Linggau	0.29	0.38	0.41	0.42	0.35	0.38	0.41	0.46
Muara Enim	0.07	0.09	0.10	0.12	0.13	0.10	0.10	0.09
Palembang	0.54	0.68	0.74	0.81	0.81	0.91	0.94	0.97
Prabumulih	0.29	0.38	0.43	0.45	0.36	0.39	0.39	0.46
Banyuasin	0.03	0.06	0.07	0.08	0.06	0.07	0.16	0.18
Empat Lawang	0.05	0.07	0.07	0.08	0.09	0.09	0.10	0.11
Ogan Komering Ilir	0.12	0.17	0.18	0.19	0.06	0.15	0.19	0.22
Lahat	0.06	0.09	0.18	0.28	0.11	0.11	0.37	0.36
Pagaralam	0.18	0.22	0.26	0.27	0.29	0.29	0.30	0.31

In the last seven years, IFIs in each region in South Sumatra has increase. The most significant increase occurred in Palembang city from 0.54 in 2010 to 0.97 in 2017 and the Lahat Regency from 0.6 in 2010 to 0.36 in 2017. On the other hand, Some regions also have increased, but with a very slow increase in speed, such as Muara Enim Regency by 0.07 in 2010 to 0.09 in 2017 and the Empat Lawang Regency by 0.05 in 2010 to 0.11 in 2017. The difference in the speed of IFI growth between regions in South Sumatra is influenced by differences in growth between dimensions. The high growth of IFI in Palembang and Lahat supported by the high growth in the number of bank branches and third-party funds. Therefore the dimensions of penetration, availability and usage also experienced high growth. While Muara Enim regency which only experienced IFI growth from 0.07 to 0.09 for seven years turned out to have decreased third-party funds from 2010 by 4882 million to 4769 million in 2017 so the dimensions have decreased. The slow growth of IFI also occurred in Empat Lawang Regency, from 0.05 to 0.11 for seven years, this was due to the absence of growth in the number of bank branches in the regency during the past seven years.

V. Conclusions

This study offers a calculation of the financial inclusion index with a multidimensional approach, namely the dimensions of penetration, availability and usage. IFI calculation can be used to determine the development of financial inclusion between time and compare the level of financial inclusion between regions whether it is evenly distributed or not and determine the right policy.

From the results of this study it can be seen that the level of financial inclusion in South Sumatra is different in each region. There are significant differences between the city and regency areas. The urban area in the South Sumatra province has a relatively higher IFI than the regency area. Palembang City is still in the high IFI category, followed by Pagaralam city and Prabumulih city with medium IFI. Meanwhile, the regency areas in South Sumatra are classified as low IFI except for Lahat regency which is categorized as medium.

VI. Recommendation

Financial service providers that demonstrate higher outreach to these groups receive better access to these facilities. Therefore, financial institutions have more incentives to provide loans for groups such as farmers, the poor, and small and micro enterprises. providing more equitable financial services between regencies and cities are necessary need to be done by government.

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