Medium Small Micro Enterprise (MSME) Development and Economic Growth: Causality Analysis

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ABSTRACT

As a business sector with a fairly large contribution to national output, government support for Micro, Small, Medium Enterprises (MSMEs) is increasingly being increased, even though the ratio of MSME credit to total national credit is still very small. Capital difficulties are a classic problem faced by MSMEs, but the high growth of MSMEs is a gap that shows the resilience of MSMEs. Therefore, this study wants to analyze whether the existence of MSMEs encourages economic growth, or vice versa, economic growth must be boosted to increase MSMEs. This study investigates the causal relationship and long-term stability conditions between MSME credit distribution variables and Indonesia's economic growth in the 2011 - 2019 period, using Direct Error Correction Model causality on panel data. The estimation result shows that MSME credit distribution has a positive and significant relationship to economic growth only in a long term. On the other hand, the causal relationship between MSME credit and economic growth is not proven, which means that there is no reciprocal relationship between credit and economic growth, or said in here demand following hypothesis is not proven.

Introduction

Micro, Small, Medium Enterprises (MSMEs) are the driving wheels of the country's economy. The proportion of MSMEs in the Indonesian economy is quite high, reaching 61.07% of Indonesia's Gross Domestic Product (GDP). Development of Micro, Small, Medium Enterprises (MSMEs) and Large Enterprises in 2016-2017 recorded that total MSME business units is 62,922,617 (in 2017), while Lage Enterprise only around to 5,460 business units. So, the dominance of MSMEs was 99, 99% of the number of national business units. On the employment side, MSMEs also play a role as job providers for 97% of Indonesia's workforce. This fact shows that the opportunity to enlarge the role of MSMEs as an accelerator of national economic growth is still wide open.

The increase in the contribution of MSMEs to the economy still faces classic obstacles in the form of limited access to capital financing. This is reflected in the ratio of MSME credit to total national credit, which is only 19.6 percent. The low level of credit distribution to MSMEs occurs due to the difficulty of MSMEs in meeting the credit worthiness requirements which are the standard for banks in providing loans. On the other hand, low productivity is still an obstacle in developing MSMEs.

The distribution of bank loans, has a significant impact on national economic growth (Emmanuel et al., 2015; M & Pentecost, 2000). Likewise, the credit distribution to MSME sector. MSME lending plays an important role in providing the funds needed for capital and MSME development. The development of MSMEs is considered important because the existence of MSMEs is able to stimulate the economy by increasing employment opportunities (Azis & Rusland, 2009). The development of MSME credit indicates positive things, but if the development is too high, threat of inflation cannot be avoided. MSME credit in the form of investment in productive assets and working capital will encourage real sector productivity, capital accumulation, and aggregate output growth.

Nexus between finance and economic growth has always been a controversial issue in advanced and developing economies. There must be a well-functioning financial sector to promote the growth of the real sector, which leads to economic growth. In other words, economic growth depends on the deepening or development of the financial sector. As the financial sector continues to deepen, the supply of financial services is also increasing. The supply-led hypothesis explains how financial deepening promotes economic growth. This assumption is also known as the supply-led hypothesis (Thierry et al., 2016).

The central argument behind the supply-led hypothesis is that financial deepening is the decisive cause of economic growth. It believes that the optimal allocation of resources is the result of the development of the financial sector (Banerjee & Ghosh, 1998). The supply-led hypothesis shows that the causal relationship flows from finance to economic growth, and economic growth has no feedback response. A well-developed financial sector is a prerequisite for economic growth. A developed financial sector can minimize transaction and monitoring costs and information asymmetry. As a result, financial intermediation has improved. The existence of a developed financial sector promotes the creation of financial services and their access to financial services to anticipate the needs of participants in the economic entity sector. The supply-led hypothesis assumes that the economy responds to the growth of the physical sector promoted by financial development.

Robinson, (1952) was the first to put forward a view that contradicted the assumption of supply orientation. Robinson pointed out that financial deepening depends on economic growth

(Mohanty et al., 2016). This position is embodied in the financial assumptions of demand-following or growth-oriented. It shows that the causality is from economic growth to financial development. With the development of the economy, the increased demand for financial services has deepened the development of the financial sector (Gozgor & Gozgor, 2013). Singh (1999) believes that when the economy develops, macroeconomic activities will increase, thereby developing the financial sector.

Micro, Small, Medium Enterprises (MSMEs) is a business area that has proven strong resistance to various economic shocks. The main obstacle faced by small and medium enterprises is capital access. Considered to be high-risk, few financial institutions are willing to provide MSME with medium to large capital. MSME's difficulty in obtaining financing has resulted in MSME's productivity being lower than that of large companies. The low productivity of MSME has undoubtedly caused problems for the entire economy, especially since the MSME sector absorbed 97% of the total labor force. From the comparison of output and employment between MSME and large companies, this is very high. To overcome this problem, it is necessary to re-examine the relationship between MSME credit allocation and economic growth.

There have been many studies that analyze the causality between financial sector and economic growth, but in Indonesia previous studies related to this are not yet complete. Not many previous studies have focused on financial sector, especially in the MSME sector. One of the studies that discusses the same thing is research from Candraningrat et al., (2021) where they analyze the role of financial financing for the development of MSMEs. The results of this study indicate that MSME financing in the form of credit is able to develop MSMEs because they can obtain capital loans to develop their businesses. However, this research does not focus on providing MSME loans to increase economic growth. By knowing the causality relationship, it will be known whether the MSME credit distribution that has been carried out by banks has been able to influence economic growth or vice versa. This research was preliminary research, after we able to prove between demand following or supply leading hypothesis is proven find causality pattern between MSME credit distribution an economic growth, we move forward to determination factor of MSME credit.

Literature Review

The method section structure should: describe the materials used in the study, explain how the materials were prepared for the study, describe the research protocol, explain how measurements were made and what calculations were performed, and state which statistical tests were done to analyze the data.

The relationship between loans and economic growth has indeed done a lot. Some previous studies (Economiche et al., 2005; King & Levine, 1993; Levine, 2005; Rajan & Zingales, 1998) have

concluded that bank credit (as a whole) has an impact on the economic growth of both developed and developing countries, significant positive impact. Another study conducted by Demirgüç-Kunt & Maksimovic (2002) proved that with credit, credit recipients are likely to be able to develop their business. However, some previous studies have found that, empirically, bank loans have no significant impact on economic growth. If the basic aspects of the economy (such as physical capital (total capital formation) or infrastructure) are appropriately available to encourage productivity and competitiveness in the physical sector, the distribution of bank credit will affect economic growth (Augier and Soedarmono, 2011; Crouzille, etc.) Et al., 2012; Deidda and Fattouh, 2002). Several researchers have also proved the inverse relationship between loan growth and economic growth. Trend is not departmental development Finance affects economic growth, but economic growth affects the demand for model access, which will ultimately promote the development of the financial sector itself (Calderon and Liu, 2003; Ang and McKibbin, 2007). Sassi and Gasmi (2014) studied the impact of bank credit on economic growth by decomposing the composition of credit (Beck et al. (2012), and concluded that working capital credit has a positive impact on the economic growth of various countries, but does not include its component parts.

Some recent studies have shown that bank credit may have a negative impact on economic growth in the form of the inverted U theory. Arcand et al., (2015) and Samargandi et al., (2015) concluded that, to a certain extent, the increase in bank loans can promote economic growth. However, if overall loan allocation is too large, the increase in credit will reduce economic growth. This occurs in the productivity transfer effect from the real sector to the financial sector. The diversity of the results of this research means that research involving credit allocation and economic growth is still meaningful.

In addition, in the previous research discussed previously, focusing on the entire credit distribution, there is no empirical study examining the impact of MSME loans on economic growth in the context of single-country and cross-country studies. Also, in long-term and long-term relationships. This research aims to test the relationship between MSME credit allocation and economic growth, in order to discover the causal relationship and co-integration relationship between MSME credit allocation variables and economic growth.

The conflicting evidence on the accidental link between financial deepening and economic growth requires further research. For developing countries, compared with the demand-following hypothesis, the existence of the supply-led hypothesis is a despair. This is because financial intermediaries must always act as growth catalysts for developing economies. However, the development of the financial sector is only possible when economic growth is achieved (that is, the phenomenon of following demand). Therefore, this research attempts to verify the validity of the supply-dominant hypothesis by using causality methods.

Method

This study uses MSME loan data obtained from the Indonesian Banking Statistics Bureau and data on Indonesian economic growth rates conducted in a group of 34 Indonesian provinces from 2012 to 2019. This study did not use data in 2020 because in 2020 there was a Covid 19 Pandemic shocks that will cause outliers in phenomena. Therefore, the research can capture the phenomenon under study. The data of the group selected for this study is to measure the growth rate. Or the reduction of MSME credit for economic growth, except for the nature or characteristics of regional heterogeneity that cannot be ignored. The heterogeneity among the various regions in Indonesia is a manifestation of the region itself, which will definitely greatly affect the economic activities of the region. The research questions in this study will be answered using the causality method and identification of the significance of the model in the short and long term to prove the existence of the supply-leading hypothesis using the modified Error Correction Model (ECM) method. The Modified Error Correction Model (ECM) used in this study adopted from Panjawa & Samudro (2020), namely the Direct Error Correction Model for causality.

The causality analysis used for model formation, although its realization must be guided by theory, has flexibility in determining the direction of the causality of the functional relationship between two economic variables. Generally, by appropriately modifying the error correction model, the causality of the direct error correction model directly assumes that there is a long-term causal relationship between two or more economic variables, but imbalances will occur in the short term. Using the error correction mechanism, the imbalance ratio in one cycle can be corrected in the next cycle. The adjustment process is a tool for reconciling short-term and long-term behaviors. Based on this concept, long-term relationships can be estimated through short-term relationships. Therefore, the direct error correction causality model is a causality test using the regression analysis of the Direct Error Correction Model. The standard short-term model will produce a causality estimator for the direct error correction model, which is done based on two reciprocal variables, as shown below:

$$\Delta I_t = \gamma_0 + \gamma_1 \Delta Y_t + \gamma_2 Y_{t-1} + \gamma_3 ECT + \omega_t \qquad\qquad 1$$

$$\Delta Y_t = \gamma_0 + \gamma_1 \Delta I_t + \gamma_2 I_{t-1} + \gamma_3 ECT + \omega_t \qquad\qquad 2$$

Among them, I represent the factor variable, Y represents the predictor variable; γ_0 represents the short-term constant; The empirical method of this study is as follows:

$$\Delta EG_t = \gamma_0 + \gamma_1 \Delta CRESME_t + \gamma_2 CRESME_{t-1} + \gamma_3 ECT + \omega_t \qquad\qquad 3$$

$$\Delta CRESME_t = \gamma_0 + \gamma_1 EGI_t + \gamma_2 EG_{t-1} + \gamma_3 ECT + \omega_t \qquad\qquad 4$$

Where EG represent economic growth, and CRESME represent MSMEs credit. ECT calculated as $ECT = Y_{t-1} - I_{t-1}$ is for Economic Growth Equation and $ECT = I_{t-1} - Y_{t-1}$ for Credit Equation. the error correction term correction by considering current conditions (short-term) and

past errors. The analysis will be estimated with panel regression.

Result and Discussion

Credit is an important element for the growth, development and sustainability of MSMEs. The development of MSMEs can increase the economic growth of a country. In a study conducted by Singla & Grover (2015), based on the results of a comparative analysis between the two regions, it was found that a larger amount of credit was given to MSME sector in Punjab, but credit flow shows higher growth in Haryana during the period under research. This is because in Haryana the industrial sector has a higher growth than Punjab, so that the economic growth in the Haryana is more advanced. In this research the first stage of analysis was descriptive statistics. The result can be shown in Table 1 below.

Table 1. Descriptive Statistics and Correlation Matrix

Variable	Obs	Mean	Std. Dev.	Min	Max
Summary statistics					
Province	0				
Id	297	17.30303	9.908488	1	34
Year	297	2015	2.586347	2011	2019
cresme	297	22337.19	31462.62	32	151337
Eg	297	3.853131	2.635876	-17.13	20.2
cresmelag1	296	22404.41	31494.53	32	151337
eg_lag1	296	3.92402	2.339624	-6.19	20.2
dcresme	263	0.153346	0.54891	-0.94464	7.8935
Correlation Matrix					
cresme	1				
Eg	0.1025	1			

Source: Data Processed

Table 1 provides descriptive statistics and correlations of variables. Focused on two main variables, MSME credit and economic growth, in Table 1 shows that the standard deviation of the CRESME is greater than the mean value which indicates that the data used in the CRESME variable has a large distribution because the standard deviation is greater than the mean value, so the data deviation in CRESME can be said to be not good. The research questions in this study will be answered using the causality method and identification of the significance of the model in the short and long term to prove the existence of the supply-leading hypothesis using the modified Error Correction Model (ECM) method. The correlation matrix shows that there is a positive correlation between MSME credit and economic growth. A positive correlation is a relationship between two variables that move in tandem or in the same direction. However, correlation does not imply causation. The positive correlation between MSME credit and economic growth can be compatible with supply-led hypothesis, demand-following assumptions or the two-way causal relationship between MSME credit and economic growth. Details on MSME Credit and Economic Growth interaction shows in Fig 1.
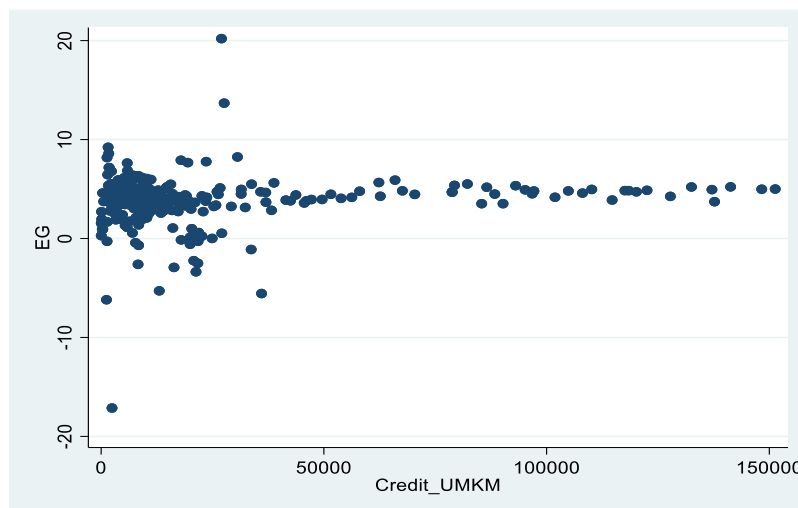
Figure 1. MSME Credit and Economic Growth on Scatterplot diagram

Data analysis will be carried out using the panel regression method and the best panel regression model will be selected using the Hausman Test. The estimation results for the two causalitas equations are presented in Table 2 and Table 3.

Table 2. Estimation for Economic Growth Equation

Model EG	OLS	FE	RE
DCRESME	0.0930	0.0549	0.0930
	(0.2572)	(0.2567)	(0.2458)
CRESMELAG1	0.5054*	0.1712**	0.5054*
	(0.0580)	(0.0727)	(0.0555)
ECT1	-0.5054*	-0.1712**	-0.5054*
	(0.0580)	(0.0727)	(0.0555)
C	1.6873*	3.4092*	1.6873*
	(0.284124)	(0.4919)	(0.27158)
F-statistic	26.4608	4.0960	26.4608
Prob(F-statistic)	0.0000	0.0000	0.0000
Akaike info criterion	4.501181	4.522352	
Schwarz criterion	4.55551	5.011317	
Hannan-Quinn criter.	4.523014	4.718855	

Correlated Random Effects - Hausman Test			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	50.672592	3	0.000

Standar error in parentheses, * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$
Source: Processed Researcher

Estimation of Economic Growth using either OLS or the Random Effect produces the same estimation. From the Hausman test, the regression model chosen for both Model 1 and Model 2 is the fixed effect model. Then, in both estimates, the ECT which obtained from the sum of the independent variables of the previous year minus the dependent variable of the previous year, is able to represent the effect of the model in both the short and long term, is proven to be negative and has a significant effect on the dependent variable, it means that the CRESME equation and

Growth Equation model can be used to estimate the relationship between credit and economic growth.

Table 3. Estimation Result for Credit Equation

Model CRESME	OLS	FE	RE
D_EG	41.2403	21.2773	41.3642
	58.4352	62.0259	56.0987
EG_LAG1	111.1590***	83.5238	113.3997**
	61.7470	85.1887	61.3212
ECT2	-1.0937*	-1.0214*	-1.0926*
	0.0045	0.0151	0.0046
C	-222.6599	1417.0950*	-207.6610
	281.4861	497.4799	284.0673
F-statistic	20057.8500	1907.9510	17346.5300
Prob(F-statistic)	0.0000	0.0000	0.0000
Akaike info criterion	18.1944	18.2022	
Schwarz criterion	18.2485	18.6898	
Hannan-Quinn criter.	18.2161	18.3982	
Correlated Random Effects - Hausman Test			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	25.03707	3	0.0000

Standar error in parentheses, $^*p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$
Source: Processed Researcher

The causality relationship between credit distribution and economic growth is not proven. The results of this study are in line with the research conducted by Kar, M. & Pentecost (2000) where they examined the relationship between sector development finance and economic growth in Turkey using The Granger Causality Test. The result of the research is that there is a causal relationship between two direction in the long term and short term between sector developments finance and economic growth. Economic growth only have a causal relationship in the long term to the credit ratio. In this research the causality relationship between credit distribution and economic growth is not proven because the variables in that two models are proven to be not significant in that two models. The variable that proved to have a significant positive effect was CRESMELAG1. This variable is a variable that represents the long-term relationship between credit distribution (CRESME) and economic growth. Thus it can be concluded that the demand following hypothesis does not occur in Indonesia, and the supply leading hypothesis does exist in order to form economic growth from financial sector especially from MSME credit. but this relationship will occur in the long term.

Conclusion

MSMEs is a form of small community business that is founded on someone's initiative. This does not mean that this sector only benefits the parties just certain. In economic development in Indonesia, MSMEs are always described as sectors that have an important role. MSMES is said to have contributed greatly to regional income and state income of Indonesia. The amount of contribution of MSMEs creating a multiplier effect in creating national GDP. The result from this

research confirmed that the results of the causality relationship test that's only a one-way relationship in the long run, which is the relationship of credit distribution to economic growth.

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