

Modeling the MSME Sector on Labor Absorption in Aceh

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ABSTRACT

The existence of MSMEs in Aceh reduces unemployment by employing the working-age population. In addition, turnover for MSMEs is essential because an increase in turnover will impact the expansion of business units in the sector and increase the need for labor. This study aimed to test and analyze the effect of the number of business units and turnover on employment in the MSME sector in Aceh. This research used an associative quantitative approach. The panel data was used in this study including 23 districts/cities from 2018-2020 period. Panel data regression uses three estimation methods: the Common Effect model, the Fixed Effect model, and the Random Effect model. The Chow, Hausman, and Lagrange Multiplier tests are used to select the best estimation model. The Random Effect Model is the best estimation model in this study. Based on the estimation results, the number of business units and turnover positively and significantly affect employment in the MSME sector in Aceh. The variable number of business units has the most influence on work in the MSME sector in Aceh. The research conducted in Aceh province uses panel data in 23 districts/cities for the period 2018-2020 so that the results of this study can illustrate the existence of MSMEs in absorbing labor in Aceh Province.

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1. INTRODUCTION

It is no longer a debate that unemployment has always been a problem in developing countries such as Indonesia that must be addressed immediately. This occurs because of the imbalance between employment and the amount of labor needed, lack of skills and education, technological advances, etc. The availability of job opportunities is expected to reduce and overcome unemployment and poverty in Indonesia.

The presence of the formal sector cannot suffice and absorb an ever-optimally growing labor force and an imbalance between a rapidly increasing labor force and available employment. Therefore, MSMEs, as one of the non-formal sectors, play an important role to solve this issue due to they are one of the sectors that involve the community in various sectors of economic activity. According to Arsyad (2015) MSMEs belong to the industrial sector which is a leading sector that can spur and lift the development of other sectors, thus having an impact on expanding employment which at the same time will increase people's purchasing power. MSMEs have an essential role in the Indonesian economy and are part of an independent economic system that has the potential to improve people's welfare.

According to the State Ministry of Cooperatives and Small and Medium Enterprises in Syairozi and Susanti (2018), Small Business is defined as a business unit with maximum net assets of IDR 50,000,000,000, excluding land and buildings of the business premises, and in a year has maximum sales of IDR 300,000,000 to IDR 2,500,000,000. Meanwhile, a Medium Enterprise is a business unit that has net assets exceeding IDR 500,000,000 to IDR 10,000,000,000, excluding land and buildings of the business premises.

MSMEs have success stories when they go through the devastating economic crisis of 1997-1998. The system has proved that MSMEs provide jobs and add value to the community. MSMEs are able to strengthen community economic businesses by absorbing more labor, hereby reducing unemployment. In Aceh Province, MSMEs contribute to employment, as shown in the chart below:

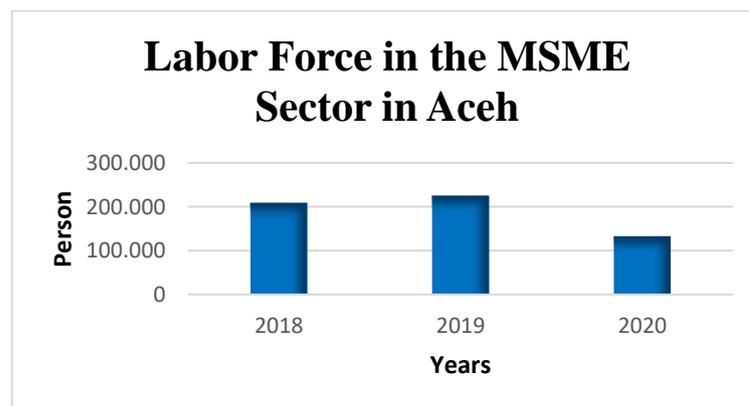


Figure 1. Labor Absorption in the MSME Sector in Aceh Province

Source: Aceh Cooperatives and SMEs Office, 2022

According to figure 1, the labor force in Aceh MSMEs amounted to 208,802 people in 2018, an increase of 225,149 people in 2019, but a decrease of 132,800 people in 2020 due to the Covid-19 virus pandemic that attacked the entire world.

The number of business units is one of the factors that determine the absorption of labor in MSMEs. A business unit is a location where manufacturing activities take place and products or services are traded for profit. People who invest will increase as business units expand, encouraging economic growth. A business unit's overall investment and production value will grow as the number of available business units increases, and the number of absorbed labors also increases.

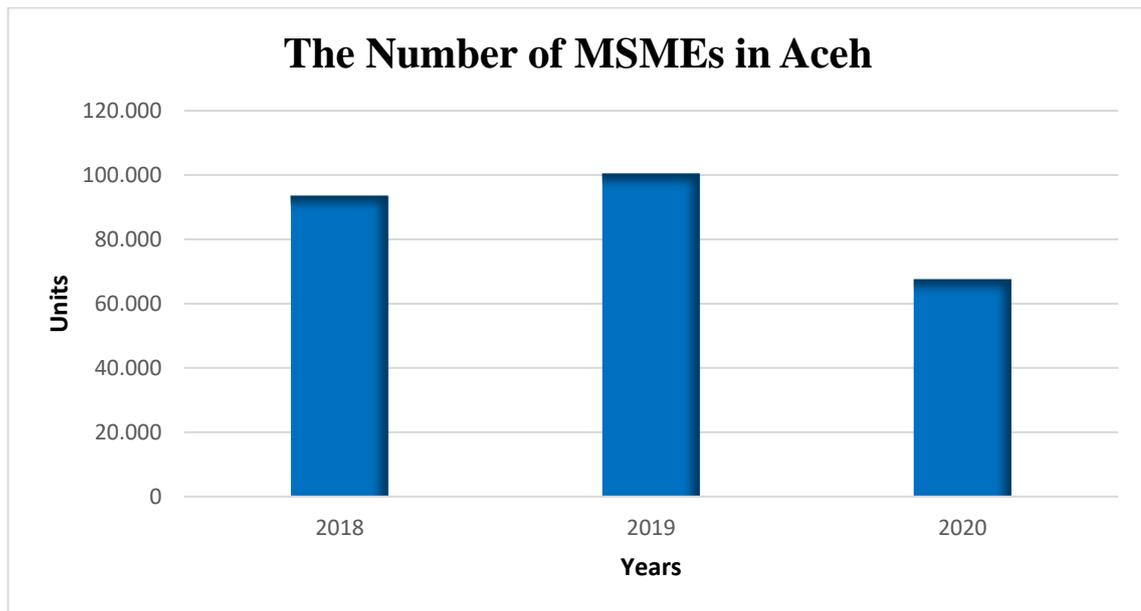


Figure 2. Number of MSME Units in Aceh Province

Source: Aceh Cooperatives and SMEs Office, 2022

Figure 2 describes that the number of MSMEs in Aceh province in 2018 amounted to 93,532 units, with an increase of 100,427 units in 2019. However, due to the Covid-19 global pandemic, the number of MSMEs in Aceh decreased by 67,575 units in 2020.

The increase in the number of business units and the need for labor absorption in the MSME sector will have an impact on the added value of this sector. The rise in the added value of goods in the MSME sector shows that the creation of new business opportunities has succeeded in increasing people's incomes on a regional and individual level. This is consistent with Buulolo et al., (2020) research, which states that an increasing number of business units in Indonesia can absorb MSME labor. Furthermore, Nasution's (2018) study concluded that the number of business units had a positive effect on the absorption of SME labor in the Labuhan Batu district. Increasing the number of business units increases output.

The amount of sales turnover is another factor that also influences labor absorption. Turnover is the total revenue generated by the sale of goods over a specific time period. Turnover is also known as gross income because it does not include capital expenses such as production costs,

employee wages, and other operational expenses (Wahyuni et al., 2020). The table below shows MSME turnover over the last three years:

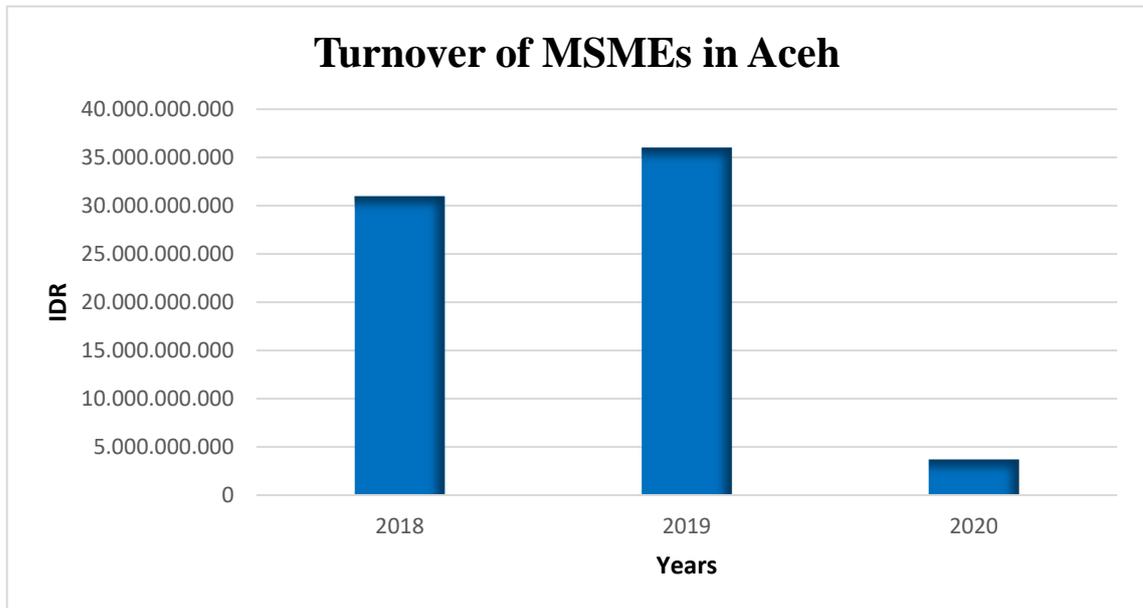


Figure 3. Total Turnover of MSMEs in Aceh Province

Source: Aceh Cooperatives and SMEs Office, 2022

According to Figure 3, the total turnover in Aceh province in 2018 was IDR 30,980,289,849 then increased to IDR 36,017,586,573 in 2019, but experienced a significant decline in 2020 to IDR 3,699,051,116 due to the global pandemic that hit the world.

Sales turnover is an essential measure of business performance because turnover helps show how effective a business is in generating sales and revenue. If the turnover value is higher, it should provide higher profits so that business unit actors can develop their business even more significantly so that it is expected to absorb more labor. In other words, the more significant the turnover, the more goods will be produced, so it requires many human resources. This is consistent with the study conducted by (Fajar, 2017) that found the turnover has a positive effect on employment in the MSME sector in Malang city.

However, it is important to note that previous studies on the influence of labor absorption in the MSME sector have found divergent results. According to several studies, labor absorption is positively impacted by the number of business units and turnover (Bulolo et al., 2020; Nasution, 2018). While others discover that labor absorption is unaffected by the number of company units and turnover (Khasanah et al., 2022; Tasyim et al., 2021).

Similar research in the scope of Aceh Province still needs to be improved, especially research that uses panel data. Most of the previous research used time series data in their research. Labor absorption in the MSMEs sector is generally influenced by many factors, both within and outside. This research is limited to the number of business units and turnover of MSMEs in the

Province of Aceh. Therefore, this research aims to analyze the influence of the number of business units and turnover on the absorption of the MSME workforce in Aceh Province by using panel data in 23 districts from 2018-2020.

2. RESEARCH METHODS

This research is included in explanatory research, where this research aims to explain the relationship between the independent variable and the dependent variable (Sugiyono, 2019). The dependent variables used in this study are labor absorption and independent variables, namely the number of business units and turnover (income). This study uses secondary data in the form of panel data where business unit data, turnover, and employment from 2018-2020 as time series data, while cross-section data includes data on business units, turnover, and employment from 23 regencies/cities in Aceh Province. These data were obtained from the Aceh Cooperatives and SMEs Office.

The analysis used to see the effect of the variable number of business units and turnover on the labor absorption variable is panel data regression. The econometric model used is the panel regression estimation model. The application of this analysis model is due to the data used in this study in the form of panel data. The econometric model in this study can be written as equation 1 (one), following:

$$PTK_{it} = \beta_0 + \beta_1 JUU_{it} + \beta_2 OMZ_{it} + \varepsilon_{it} \dots \dots \dots (1)$$

Where:

- β_0 : Constant
- β_1 , and β_2 : Regression coefficient
- PTK_{it} : Labor Absorption in area i in period t
- JUU_{it} : Number of Business Units in area i in period t
- OMZ_{it} : Turnover in area i in period t
- i : Districts/cities (1, 2, ..., 23)
- t : Year (2018, 2019, and 2020)
- e : Error term

To obtain the estimation coefficient of each variable that can explain labor absorption, all variables in this study are transformed into logarithms as the following 2 (two) variations:

$$LogPTK_{it} = \beta_0 + \beta_1 LogJUU_{it} + \beta_2 OMZ_{it} + \varepsilon_{it} \dots \dots \dots (2)$$

Where:

- β_0 : Constant
- β_1 , and β_2 : Regression coefficient
- $LogPTK_{it}$: Labor Absorption in area i on periode t
- $LogJUU_{it}$: Number of Business Units in area i in period t
- $LogOMZ_{it}$: Turnover in area i in period t
- i : Districts/cities (1, 2, ..., 23)

t : Year (2018, 2019, and 2020)

e : Error term

Three approaches are used to estimate panel regression: the standard effect model, fixed effect model, and random effect model (Widarjono, 2018). To determine the estimation model used in this panel regression, several model specification tests are used as follows: the Chow test, Hausman test, and Lagrange Multiplier test. The Chow test is a test to choose between a standard effect model and a fixed effect model. (Greene, 2021). This Hausman test was conducted to select the best model between the fixed and random effect models. This Lagrange Multiplier test was conducted to find the best model between the standard and random effect models.

There are two regression model parameter tests in this study, namely; First, Testing partially refers to the p-value of < 0.05 which indicates that the independent variable has a significant effect on the dependent variable, or vice versa if the p-value > 0.05 which indicates no partial influence between the independent variables on the dependent variables. Second, simultaneous testing where this test is carried out to see the influence of all independent variables on the dependent variable. This test is based on the p-value of F statistics < 0.05 , which indicates that all independent variables have a significant effect on the dependent variable or vice versa if the p-value > 0.5 indicates that all independent variables have no significant effect on the dependent variables.

3. RESULTS & DISCUSSION

Employment is a very crucial and historical issue in the Indonesian economy. Labor absorption is a certain quantity of labor used by a particular sector or business unit. The employment of the MSME sector refers to the neoclassical theory and can be described in the labor demand and supply curves as follows. In neoclassical economics, the supply and demand for labor are related to the level of wages and the required amount of labor.

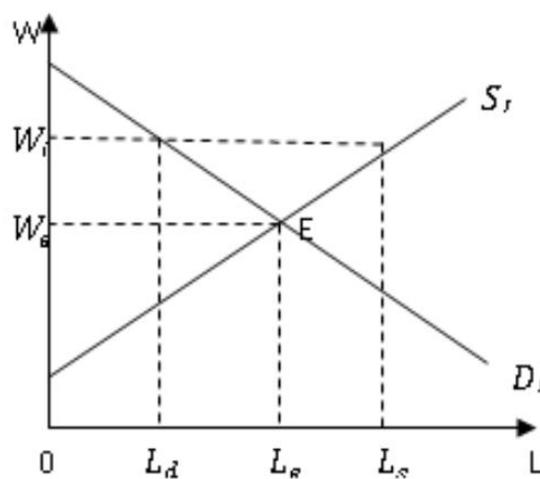


Figure 4. Labor Demand and Supply

Source: Mankiw et al, 2013

Neoclassical economics explains that the supply and demand for labor are related to the level of wages and the amount of labor required. The number of labor offers will increase if the wage rate increases. On the contrary, the demand for labor will decrease if the level of wages increases. Labor demand is derived from the demand. Demand is determined by other demands, one of which is the demand for production products. The more demand for manufactured goods, the more demand for labor (Darusman & Rostiana, 2015)

MSMEs are labor-intensive business units whose production activities involve much labor (Arifin & Wagiana, 2009). In addition, MSMEs are generally managed by people who have low education and still carry out production activities using traditional tools and methods, so they require much labor to meet the demand for products in the market. (Sudarmanto et al., 2022; Yunaz et al., 2022). MSMEs have a labor force quantity ranging from 5 to 99 people in a business unit. The availability of business units such as MSMEs will create vast employment opportunities and, at the same time, can increase people's purchasing power (Arsyad, 2015). This shows how important the MSME sector is to job creation so that the increase in the number of MSME units significantly affects the absorption of labor in the community.

The number of sales of the business product largely determines turnover in a business. The number of sales is the number of consumers willing to use the products or services offered by a business at the expense of a certain number of resources to obtain them (Aisah, 2021). In accordance with the statement put forward by Rahardjo (2016) there is a close relationship between the number of sales of goods or services to the increase in company profits because profits will increase if product sales are more significant. This statement is reinforced by Putra (2017) where if the sales volume in a business can be increased, it means that the profit of the business will also increase.

Analysis of the Effect of the MSME Sector on Employment

The development of MSMEs in Aceh Province continues to experience changes and fluctuations in the 2018-2020 period. In 2018 and 2019, it showed an increase, but in 2020 experienced a decline caused by the Covid-19 pandemic. Analyzing the MSME sector's influence on employment in Aceh Province for the 2018-2020 period was conducted using the Regression Data Panel analysis by selecting the best model from three estimation models: Common Effect Model, Fixed Effect Model, and Random Effect Model. The best models obtained after the Chow Test, Hausman Test, and Lagrange Multiplier Test were carried out. The data processing results using the random effect method panel regression showed that the two MSME sector variables positively affected employment in Aceh. Statistically, these indications are shown in the coefficient of estimation of each variable in Table 1. Based on Table 1, the statistical model

that interprets the MSME sector against employment can be written in the following equation 3 (three):

$$LogPTK_{it} = 0.955 + 0.867JUU_{it} + 0.137LogOMZ_{it}.....(3)$$

Table 1. Random Effect Model Estimation Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.955393	0.543745	-1.757059	0.0838
LOG_JUU	0.867292	0.069112	12.54910	0.0000
LOG_OMZ	0.137489	0.034642	3.968846	0.0002

Effects Specification		S.D.	Rho
Period random		0.000000	0.0000
Idiosyncratic random		0.272751	1.0000

Weighted Statistics			
R-squared	0.868665	Mean dependent var	8.813475
Adjusted R-squared	0.864496	S.D. dependent var	0.730587
S.E. of regression	0.268936	Sum squared resid	4.556558
F-statistic	208.3451	Durbin-Watson stat	0.250322
Prob(F-statistic)	0.000000		

Unweighted Statistics			
R-squared	0.868665	Mean dependent var	8.813475
Sum squared resid	4.556558	Durbin-Watson stat	0.250322

Chow Test			Hausman Test		
Effects Test	Statistic	Prob.	Test Summary	Chi-Sq. Statistic	Prob.
Period F	0.124893	0.8828	Period random	0.249785	0.8826
Period Chi-squared	0.269708	0.8738			

Lagrange Mutliplier Test			
Null (no rand. Effect)	Cross-Section	Period	Both
Alternative	One-Side	One-sided	
Breusch-Pagan	45.21822	1.439184	46.65741
	(0.0000)	(0.0000)	(0.0000)

Source: Data processed (2022)

The variable number of business units in the MSME sector has a positive and significant effect on employment, with a coefficient of determination of 0.867 and a p-value of 0.000 < (0.05). This shows that the increase in the number of business units impacts increasing employment in Aceh. Every increase of 1 unit in business units will increase labor absorption by 0.87. In other

words, the more MSMEs, the higher the labor absorption in Aceh. Such a situation is because MSMEs are labor-intensive businesses where a business requires much labor as a factor of production. Following the understanding put forward by Central Bureau of Statistics (2013) small businesses have a labor force of 5 to 19 people, while medium-sized businesses have 20 to 99 workers. This finding supports the results of the Nasution (2018) and Prabaningtyas study (2015) which concluded that the number of business units significantly influenced employment. An increase in the number of business units is equivalent to increasing the number of jobs, thus opening up job opportunities to the community. In line with the study conducted by Hamzah and Agistien (2019) and Wulansari (2021) increasing the number of new businesses requires a certain number of workers. In other words, the addition of business units will require labor as one of the factors of production so that it will increase the absorption of labor in the community.

The turnover variable in the MSME sector has a positive and significant effect on the absorption of the labor force, with a coefficient of determination of 0.137 and a P-value of $0.0002 < (0.05)$. This shows that the increase in turnover has a real impact on increasing employment in Aceh. Each increase in turnover of 1 unit will increase the absorption of labor by 0.14 units. The increase in MSME turnover tends to increase employment in the MSME sector, where MSMEs are businesses that use much labor in their production activities. The increase in turnover reflects the high demand and sales for the product. If the business wants to increase the amount of production, it must add new workers (Budiawan, 2013). Where MSMEs are labor-intensive businesses that still use simple methods and technology so that an increase in the number of workers will also increase the amount of production to meet market demand for these goods or services (Hariyoko, 2018). In line with the research results of Nurdianto and Sukarsono (2019) Obtaining operating income has a positive and significant effect on employment. The greater the sales, the more effort is needed to increase the labor force to adjust to the increase in sales due to the high demand for production goods. This finding follows the results of the Pakpahan and Lubis studies (2020) It is concluded that sales results increase employment. The increase in sales receipts reflects an increase in the amount of production. In contrast, an increase in the amount of production in the MSME sector requires more labor force, so the increase in sales turnover will urge business actors to increase the labor force, which has an impact on increasing the amount of labor absorption in the community.

Simultaneously, the two variables of the MSME sector (number of business units and turnover) have a significant effect on employment. The increasing number of businesses and turnover together can increase the number of labor absorption in the MSME sector in Aceh.

4. CONCLUSION & SUGGESTION

The MSME sector is a labor-intensive business requiring much labor force in its operation so that the MSME sector can solve population problems in Indonesia. MSME units in Aceh have a significant role in employment. This can be seen from the reduced employment when the

number of MSMEs decreases due to the Covid-19 pandemic. Based on the results of the panel data regression analysis, several conclusions can be drawn as follows:

- (1) The variable number of business units partially has a positive and significant effect on employment. This can be seen from the p-value, which is smaller than the actual level of 5% ($0.000 < 0.05$). In other words, increasing the number of MSME business units will increase employment in regencies/cities in Aceh Province. The number of business units is the most dominant factor in labor absorption. The magnitude of the variable coefficient of the number of business units of 0.8867 can indicate this.
- (2) The variable turnover partially has a positive and significant effect on employment. This can be seen from the p-value, which is smaller than the actual level of 5% ($0.002 < 0.05$). In other words, the increase in MSME turnover will increase employment in districts/cities in Aceh Province. The amount of variable turnover is 0.1375.
- (3) Simultaneously, the number of business units and turnover significantly affect the absorption of labor in the districts/cities of Aceh Province. This can be proven by the significant value of the statistical F p-value, which is smaller than the actual level of 5% ($0.000 < 0.05$).

Based on the conclusions above, several suggestions can be drawn, namely:

- (1) For local governments in each regency/city of Aceh Province to pay more attention to the development of the MSME sector in their regions. Especially in terms of the quality of human resources by conducting coaching and empowerment so that MSME actors can develop their product results to be even better and increase their production results with the ultimate goal of absorbing more labor.
- (2) Furthermore, researchers are expected to add variables related to more employment and a longer research time to describe a more complicated situation related to employment in the MSME sector.

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