Analysis of Factors Affecting Economic Growth in the SMEs Sector in Indonesia

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ABSTRACT

The role of SMEs has an essential meaning for an area, especially in the expansion of employment and the drivers of economic growth, including export activities. The purpose of this study was to analyze the effect of SME units, the value of SME investment, and the value of SME exports on Indonesia's economic growth. This study's analysis model refers to the basic model of multiple linear regression equations with the Error Correction Model method in estimating the short-term and long-term relationship between the SME, Investment, and Export variables with GDP in Indonesia. Error Correction Model (ECM) analysis results on the estimation results using the Error Correction Model method obtained ECT (Error Correction Term) with a negative sign and significant at $\alpha = 5\%$, then the model is valid to be used. Because the error correction model is declared valid if the ECT value obtained is significant and has a negative mark, in model 1 an R2 value of around 0.996 or 99.6% can be said that the types of independent variables entered in the model are very good, because only 0.4% the diversity of dependent variables that are influenced by independent variables outside the model and it can be said that in the short and long term the variables used in this study significantly influence economic growth.

Keywords: Small and Medium Enterprises (SMEs), Investment, Exports

1. INTRODUCTION

Economic development, which is carried out in stages, planned and sustainable, basically aimed at increasing the standard of living of the community. In principle, such development objectives can be achieved if the development strategy combines the achievement of high growth with the creation of equitable development in all fields. Equitable development can be realized in the form of equal distribution of employment and business opportunities as an effort to create income distribution. Development in the sector of Small and Medium Enterprises (SME) is one way to achieve national development goals because the population is vast. Empowerment efforts are one of the development paradigms that can be taken to realize the success of national development. One of the empowerment efforts that can be done is through empowering SME. However, the SME sector is a business sector that was able to survive the multidimensional crisis of 1998 and the global crisis in 2008.

As for the reasons that SMEs can survive and tend to increase in number during times of crisis, because: first, most SMEs produce consumer goods and services with low-income elasticity of demand. Second, most SMEs use their capital and do not receive capital from banks. The implication is that during the crisis, the banking sector slumped, and the increase in interest rates did not affect SMEs. Third, the prolonged economic crisis caused the formal sector to lay off many of its workers. The unemployed enter the informal sector by carrying out small-scale business activities; as a result, the number of SMEs is increasing. SMEs' role has an essential meaning for a region, especially in expanding employment and one of the drivers of economic growth, including export activities. The SME export activity is one way for SME products to be recognized and worldwide. In addition, SME players' role is considered very important in order to increase the income per capita of a region. SME players are required to be able to participate in developing their country's economy, especially in developing anything to meet consumer demand that is increasingly specific, innovative, has affordable prices but is still of high quality to be able to compete globally considering that they are entering the ASEAN economic community.

Until now, SME is also one of the largest national donation sectors, amounting to 60.34 percent. Therefore, the SME sector has capabilities that can be utilized and developed to become the wheel of the economy to achieve national and regional development effectively and efficiently. Even so, SMEs still get less budget from the government than other sectors, such as the tourism sector, which receives a 2.5 trillion budget while SMEs get 944 billion in 2018. The contribution of SMEs in an economy can also be seen from their contribution to the formation of Gross Domestic Product (GDP). SMEs also have a sizable role in exports and investment. The opportunity for SMEs to develop a product to penetrate the global market has enormous and excellent potential, accompanied by more creative and innovative product development. It can be seen in table 1.1 the number of SME units in 2013 (57,895,721 units) to 2016 (134,632,315 units), which annually have increased so that they have a positive impact on employment in the SME sector, export activities, investment, and GDP. The following is a table of data on Indonesian SMEs for 2013-2016:

Table 1. Data Of Indonesian SMEs 2013-2016

Year	2013	2014	2015	2016
GDP (in billion IDR)	5,440,007.90	10,569,705.30	11,531,716.90	12,406,809.80
Number of SMEs (Unit)	57.895.721	58.444.657	59.262.772	59.890.487
Investment (in billion IDR)	1.655.233,5	1.688.338,2	1.722.105	1.761.816,7
Export (in billion US$)	182.112,70	185.833,49	192.573,60	199.313,57

From the data above, it can be seen that SMEs are a sector capable of contributing to GDP, thereby increasing the economy of the country. With the results of this data, the government and the private sector should be able to provide support so that SMEs continue to carry out their productivity so that the country's economy continues to experience improvement. Below is a graph showing changes in data on the number of SME units, the number of SME workforce, SME investment value, SME export value and SME GDP in 2013-2016, as follows:
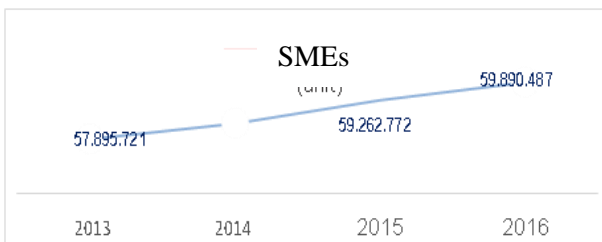
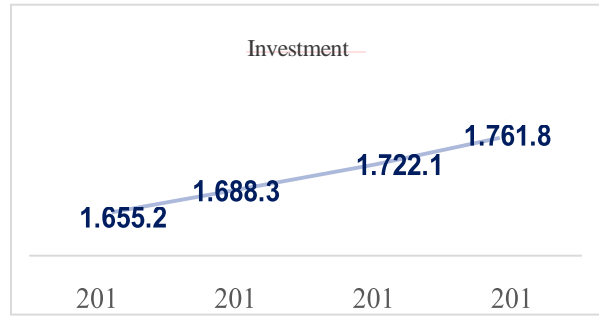

Figure 1 bold.Number of Indonesian SMEs in 2013-2016

Figure 2 Investment on Indonesian SMEs 2013-2016.

2. LITERATURE REVIEW

2.1. Economic Growth

Economic growth can be interpreted as a process of increasing an economy's production capacity, which impacts national income. There are several approaches regarding the theory of economic growth to find out what things can affect economic growth. According to [1], several factors influence economic growth, namely:

a) Economic factors, including natural resources, capital accumulation, organization, technological advances, labor, division of labor and production scale;

b) Non-economic factors, including social factors, human cultural factors, and political and administrative factors.

There is a Solow growth model designed to show how the effect of increased supply of production factors such as population growth, labor force growth, capital accumulation and technological progress on the output of a country's goods and services.

To determine economic growth can be seen from the Gross Domestic Product (GDP). GDP is the total production of goods and services produced by all parties in an area in a certain period. Everyone who has income in economic activities that includes all expenditures for both goods and services is measured in Gross Domestic Product.

2.2 Small Medium Enterprise (SME)

According to the Central Bureau of Statistics, small businesses are businesses that have a workforce of 5 to 19 people, while medium-sized businesses are businesses that have a workforce of 20 to 99 people.

Based on Law No. 20 of 2008, the criteria for SMEs are:

a. Micro Business Criteria

b. Small Business Criteria

c. Medium Business Criteria.

Based on the Decree of the Minister of Finance No. 316 / KMK.016 / 1994 dated 27 June 1994, a small business is defined as an individual or business entity that carries out activities/businesses that have a turnover per year of no more than IDR 600,000,000 or maximum asset of IDR 600,000,000 (excluding occupied land and buildings) consisting of (1) business fields (Fa, CV, T, and cooperatives) and (2) individuals (craftsmen/home industry, farmers, breeders, fishers, forest encroachers, miners, merchants of goods and services).

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3. METHOD

This study uses quantitative data with a time series structure in the form of secondary data where the data comes from other parties and then collected within a specified period from a sample.

Source od data for this research:

a. National Statistics Agency (BPS)

b. National Department of Industry, Trade and Cooperatives (Disperindagkop)

c. Ministry of Cooperatives and Small and Medium Enterprises

d. Department of Cooperatives (Depkop)

e. Literature study related to this research

f. Other related sources to support this research.

3.1 Analysis Method

The analysis model used in this study refers to the basic model of multiple linear regression equations with the Error Correction Model method in estimating the short and long term relationship between the variables of SME, Investment and Exports and GDP in Indonesia.

The error correction model (ECM) was introduced by Sargan, developed by Hendry, and popularized by Engle-Granger [2]. The Error Correction Model (ECM) is used to correct the regression equation between variables that are not individually stationary so that they return to their long-term equilibrium value [2]. In analyzing time series data, it is common to find data to not stationary but co-integrated between variables. The existence of cointegration indicates a long-term relationship or balance between variables. In the short term, there may be an imbalance (disequilibrium). This imbalance is what we often encounter in economic behavior. This means that what economic actors want is not necessarily the same as what has happened. There are differences in what economic actors want and what happens, adjustments are required. Models that include adjustments to make

corrections for imbalances back to the equilibrium position are known as error correction (ECM) models. The ECM model has several uses, but the most important use for econometric work is overcoming the problem of time-series data that is not stationary and the problem of spurious regression. [3].

The critical thing in analyzing time series data is to prioritize checking the data stationarity before carrying out any further processing. Before performing regression using the ECM method, it is necessary to check whether the variables used are stationary or not. Data that is not stationary when it is regressed will easily cause spurious regression. Acute regression occurs when the independent and dependent variables do not have any relationship, so they do not influence each other [3]. Data is said to be stationary if it meets the following requirements: [2].

a. Constant means and variants over time;

b. The covariance between two-time series data depends on the lag between the two periods.

Two variables that are not stationary before being differentiated but stationary at the first differentiation level are likely that there will be cointegration, which means there is a long-term relationship between the two. There are three ways to test for cointegration, namely: 1) Engle-Granger (EG) cointegration test, 2) Durbin Watson's Cointegrating Regression (CRDW) test, 3) Johansen Cointegration test. [4].

After the Engle-Granger ECM model appeared, many ECM models have been developed by econometricians. This model is based on the fact that the economy is in a state of imbalance [2]. This ECM model assumes that economic agents will always find that what is planned is not always the same as the reality, this deviation is likely to occur because of the shock variable [4]. Multiple linear regression equation:

$$Y_t = b_0 + b_{1t} \qquad (1)$$

If Y is at the equilibrium point towards X, then the balance between the two variables X and Y in the equation is fulfilled. Based on the statement that the economy is often not in a state of equilibrium so that the variable Y is not always at the equilibrium point towards X. The magnitude of the imbalance:

$$EC_t = Y_t - b_0 - b_1 X_t \qquad (2)$$

This difference in ECt value is known as a disequilibrium error. Therefore, if ECt is zero, of course, Y and X are in equilibrium. Because Y and X are rarely in equilibrium, we only observe the imbalance relationship (short-term relationship) by including the elements of inaction Y and X.

This derived ECM model is known as the two-step model from Engle-Granger. According to Engle-Granger

(E-G), if the two variables Y and X are not stationary but co-integrated, the relationship between the two can be explained by the ECM model. Equation (3.10) can be rewritten into the following equation:

$$\Delta Y_t = w_0 + w_1 \Delta X_t + w_2 EC_t + e_t \quad (3)$$

In this case, the coefficient w1 is the short-term coefficient, while β1, as in equation (3.4) is the long-term coefficient. The imbalance correction coefficient w2 in absolute value describes how quickly it takes to get the equilibrium value.

The model in this study is structured as follows:

$$GDP_t = w_0 + w_1 \Delta SME_t + w_2 \text{ Invest} + w_3 Export +$$
$$w_4 EC_{t-1} + E_t \quad (4)$$

According to this model, the ECM model is valid if the sign of the error correction coefficient is negative and statistically significant. The value of this error correction coefficient is located $0 < w3 < 1$, [5].

4. RESULTS

4.1 Estimation Model Results

4.1.1 Unit Root Test

Before estimating the ECM model, what needs to be seen is whether the variables used are stationary. If the data is not stationary, a spurious regression will be obtained. The test to see the data is stationary is the unit root test. If the probability value is higher than the significant value $\alpha = 5\%$, it means that the data has a unit root, or the data is not stationary. If the probability value is smaller than the significant value $\alpha = 5\%$, it means that the data does not have a unit root or stationary data. At the initial testing stage on models 1 and 2, it is known that the results of cointegration are known to see the residuals are not stationary at the level. So the authors transformed the data into a logarithmic form. The results of the unit root test can be seen in the following table:

Table 2. Unit Root Test Value With Augmented Dickey Fuller Method On Level

Variable	t-Statistik	Prob*	Conclusion
GDP	-1.712956	0.3900	Not significant at α = 5%
SME	0.456164	0.9701	Not significant at α = 5%
Invest	-1.865891	0.3288	Not significant at α = 5%
Export	-1.461265	0.5000	Not significant at α = 5%

Based on the results of the calculation of the two models using the Augmented Dickey-Fuller test method at the level, it is found that model 1 all data variables have a probability value higher than the significant value at $\alpha = 5\%$, so that there are no stationary variables at the basic level or still have unit root problems.

4.1.2 Integration Degree Test

If the data is not stationary at the level of the test level, the next test is the degree of integration test; this is a test carried out to measure at the level of differentiation to what extent the data for all variables are stationary. The method used is the Augmented Dickey-Fuller method, namely by comparing the calculated value of ADF with the absolute critical value of ADF $\alpha = 5\%$ or by comparing the probability value with significant $\alpha = 5\%$ (0.05).

If there is one variable that is stationary at the level and two variables are not stationary at the level, then the data must be tested with the 2nd level of differentiation until all data are stationary at the same level. The ADF test results are as follows:

Table 3. Test Value Of Degree Model Integration At Difference Level

Variable	Integration degree test			
	Level		2nd Difference	
	ADF	Prob	ADF	Prob
GDP	-1.712956	0.3900	-3.824830	0.0362
SME	0.456164	0.9701	-3.804509	0.0370
Invest	-1.865891	0.3288	-3.694935	0.0490
Export	-1.461265	0.5000	-3.807570	0.0369

In the table above, it is known that the results of the integration degree test above have been stationary at the 2st Difference level. Therefore, the next step is to identify whether the data is co-integrated. This requires a cointegration test.

4.1.3 Cointegration test

The cointegration test is used to provide an early indication that the model used has a long-term relationship (cointegration relation). Cointegration occurs when the independent and dependent variables are both a trend, so they are not stationary. However, if both are regressed, it will cause the linear combination to become stationary [5].

The cointegration test results were obtained by forming the residuals obtained by regressing the independent variables on the dependent variable using OLS. The model used in this regression is as follows:

Table 4. Cointegration Test Results

Model	Variable	t-Statistik	Prob
1	ECT	-3.844901	0.0252

The test results above show that the analysis is stationary at the level, which has a Prob value. below 0.05 (<0.05). The analysis can be concluded that the data is cointegrated or in another sense there is a long-term balance.

4.1.4 Error Correction Model

The Error Correction Model approach began to emerge since econometric experts discussed specifically time series econometrics. Sargan first introduced the ECM model and then further developed by Hendry and finally popularized by Eangle-Granger. The ECM model has several uses, but the most important use of econometric work is overcoming the problem of non-stationary time series data and the problem of sharp regression [2]. States the importance of this ECM model to address imbalances in the short term [4]. The Error Correction Model used is as follows:

Table 5. Results of Regression Estimation With Error Correction Model Method

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(SME)	0.820579	0.564018	0.568384	0.0095
D(INVEST)	0.683782	0.904625	2.966734	0.0592
D(EXPORT)	0.952450	0.113933	8.359725	0.0036
ECT(-1)	-1.932560	0.244916	-7.890718	0.0042
C	249523.8	682354.2	0.365681	0.7389

R-squared	0.996091	Mean dependent var	645290.0
Adjusted R-squared	0.990879	S.D. dependent var	3471789.
S.E. of regression	331564.2	Akaike info criterion	28.53020
Sum squared resid	3.30E+11	Schwarz criterion	28.57985
Log likelihood	-109.1208	Hannan-Quinn criter.	28.19533
F-statistic	191.1210	Durbin-Watson stat	2.480024
Prob(F-statistic)	0.000610		

Based on the table above, the estimation results using the Error Correction Model method are as follows:

$$D(GDPt) = + 0.820579 D(SME) + 0.683782 D(Invest) + 0.952450 D(Export) - 1.932560 ECT(-1) \quad (5)$$

Based on the estimation results using the Error Correction Model method, the ECT (Error Correction Term) value is obtained with a negative and significant sign at $\alpha = 5\%$, so it is valid to be used. Because the error correction model is declared valid if the ECT value obtained is significant and has a negative sign [2].

The ECM model estimation results above show that in the short and long term, the variables used in this study have a significant effect on economic growth in Indonesia. With an R2 value of around 0.996 or 99.6%, it can be said that the types of independent variables included in the model are good enough because the independent variables outside the model influence only 0.4% of the diversity of the dependent variable.

The estimation results above illustrate that in the short term changes in the prices of SMEs have a positive effect on Economic Growth which results in a coefficient of 0.820 which means that if there is an increase in SMEs 1%, it can increase Economic Growth by 82%, while in the long run a coefficient of 0.647 is obtained which it means that if there is an increase of 1% of SMEs, it can increase Economic Growth by 64.7%. Then in the short term investment changes have a positive effect on Economic Growth which results in a coefficient of 0.683 which means that if there is an increase in investment of 1% it can increase Economic Growth by 68.3%, while in the long run a coefficient of 2.452 is obtained which means that if it occurs a 1% increase in investment can increase Economic Growth by 245.2%. And in the short term changes in exports have a positive effect on Economic Growth which results in a coefficient of 0.952, which means that if there is an increase in exports of 1%, it can increase Economic Growth by 95.2%, while in the long run a coefficient of 0.872 is obtained which means that if it occurs 1% increase in exports can increase Economic Growth by 87.2%.

5. CONCLUSION

From the results of the Error Correction Model (ECM) analysis on the estimation results using the Error Correction Model method, the ECT (Error Correction Term) value is obtained with a negative and significant sign at $\alpha = 5\%$, so the model is valid (valid) to be used. Because the error correction model is declared valid if the ECT value obtained is significant and has a negative sign, in model 1 the R2 value is around 0.996 or 99.6%, it can be said that the type of independent variable included in the model is excellent, because only 0.4% the diversity of the dependent variable which is influenced by the independent variables outside the model and it can be

said that in the short and long term the variables used in this study have a significant effect on economic growth..

The statistical test shows that there is a significant influence between SMEs on economic growth, and there is a significant effect of investment on economic growth, and there is a significant effect of exports on economic growth; this test is obtained from the t-test. Then from the results of the test simultaneously, it is found that there is a significant influence together between the independent variables (SMEs, investment, and exports) on the dependent variable (economic growth).

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