

# Financial Development Analysis of Economic Growth in ASEAN

Ayulia Yolanda<sup>1</sup>, Sri Ulfa Sentosa<sup>2</sup>

<sup>1,2</sup>Universitas Negeri Padang, Indonesia

Email: [ayulia.yolanda14@gmail.com](mailto:ayulia.yolanda14@gmail.com)

## Abstract

This study aims to analyze the effect of domestic credit to private sector, bank overhead cost to total assets, stock prices volatility and loan net bank to GDP on economic growth in ASEAN, research countries include Indonesia, Malaysia, Thailand, the Philippines and Vietnam during the period 2001-2020 by applying the panel equation analysis method. An important finding in this study is that domestic credit to the private sector has a negative and significant impact on economic growth in ASEAN, while bank overhead costs to total assets affect economic growth positively and significantly in ASEAN. Furthermore, stock price volatility affects economic growth negatively and is significantly influenced in ASEAN and net bank loans to GDP affects economic growth positively and significantly in ASEAN. This study recommends that policy makers need to seek appropriate economic strategies to increase economic growth from the aspect of financial development.

**Keywords:** Economic Growth, *Domestic Credit to Privat Sector, Bank Overhead Cost to Total Assets, Stock Prices Volatility, Loan Net Bank to GDP.*

## A. INTRODUCTION

In the process of economic development, the performance of the financial sector becomes very important in triggering economic growth. The financial sector is a driver of real sector growth through the provision of capital and technological innovation as well as the mobilization of savings (Inggrid, 2006).

The World Bank stressed the importance of financial measures that can boost economic growth, reduce poverty and reduce macroeconomic volatility. Therefore, the World Bank suggests the importance of policies that encourage the development of the financial sector in various countries in the world. Various multi-dimensional studies have been conducted on the relationships, directions, and boundaries of the relationship between financial development and economic growth in developing and developed countries.

A thriving and well-functioning financial system can advance economic growth by enabling economic actors to diversify and expand their portfolios and meet their liquidity needs. Total financial development is measured in the form of index built from various financial indicators, with a scale of 0-1 in percent, where the scale of the financial development index shows how big the level of financial development is, the closer to 1% of a country's development, the better the financial development of a country. Table 1. Displaying the movement of the ASEAN-5 Country Financial Development Index for 2007-2017.

**Table 1. Financial Development Index of ASEAN Countries in 2007-2017**

Year	Country									
	Singapura	Brunei	Malaysia	Thailand	Indonesia	Vietnam	Laos	Cambodia	Philippines	Myanmar
2007	0,74	0,31	0,67	0,52	0,33	0,39	0,16	0,10	0,35	0,12
2008	0,80	0,32	0,60	0,58	0,37	0,32	0,14	0,10	0,33	0,12
2009	0,72	0,34	0,63	0,58	0,32	0,37	0,16	0,10	0,33	0,12
2010	0,71	0,33	0,64	0,63	0,29	0,34	0,17	0,11	0,34	0,11
2011	0,71	0,33	0,66	0,63	0,32	0,28	0,16	0,12	0,35	0,11
2012	0,70	0,34	0,66	0,64	0,33	0,24	0,17	0,12	0,37	0,13
2013	0,71	0,34	0,67	0,70	0,35	0,27	0,17	0,13	0,37	0,14
2014	0,70	0,34	0,67	0,70	0,36	0,31	0,13	0,14	0,38	0,14
2015	0,71	0,35	0,66	0,70	0,36	0,30	0,14	0,15	0,38	0,12
2016	0,72	0,34	0,65	0,73	0,37	0,32	0,14	0,15	0,38	0,14
2017	0,75	0,33	0,68	0,70	0,37	0,29	0,14	0,16	0,39	0,15

Source: IMF (2022)

The development of selected indicators from the research to be carried out on research countries in ASEAN from 2007 to 2017, that the Domestic Credit to Private Sector as a variable of the Financial Depth Indicator has increased in each country to be studied, which means that every year there is an increase in the percentage of domestic credit to the private sector in terms of GDP which shows that more and more people can access facilities. private sector loans so that in theory it will increase economic growth, for Bank Overhead Cost to Total Asets as a variable of the financial efficiency indicator, Loand Net Bank to GDP as a variable of financial access, Stock Price as a variable of the indicator Financial stability in the research country there are fluctuations every year in each country, so it will be a challenge to see the effect of each of these changes on economic growth in ASEAN, while from the data above it can be seen that the economic growth of each country experienced a decline in 2009, this is in line with the existing theory, which states that financial development will basically increase economic growth, but this must be noted that the stability of the economy is not good, especially after the crisis, Financial development will actually reduce economic growth.

Different approaches in the relationship of financial development and economic growth such as financial development can lead to high systemic development (Gai et al., 2008; Gennaioli, 2012). From the approach stated above, many studies examine the relationship of financial development and economic growth with Many variables used in the previous literature as indicators of financial development. One of them is to develop several measures of the four characteristics of financial institutions and markets and financial development variables are categorized as access (the extent to which individuals can and do use financial institutions and markets), depth (size of financial institutions and markets), efficiency (efficiency of financial institutions and markets in providing financial services) and stability (stability of financial institutions and markets) (Cihak et al., 2012).

## B. LITERATURE REVIEW

GDP is the market value of all goods and services produced in a country over a period of time. Growth is usually calculated in real value with the aim of

eliminating inflation in prices and services produced so that real GDP reflects changes in the quantity of production. To determine regional economic growth, Gross Regional Domestic Product (GRDP) data is used where GRDP can be defined as the value of the final goods and services produced by the economic system in a region or region within a certain period of time. So that GRDP is a measure to see the economic activity of an area. In theory, GRDP is inseparable from Gross Domestic Product (GDP). both from the concept, definition, methodology, scope and source of the data. This is done to maintain uniformity of concepts, definitions and methods used throughout Indonesia (Mankiw, 2007).

Private sector credit and the interconnectedness of economic growth have become major issues in economic discourse around the world and empirical literature cannot be inferred on this issue. However, the balance of evidence seems to support the positive relationship between private sector credit and economic growth (Olowefeso et al., 2015). Several empirical studies have shown that efficient lending has a positive and significant influence on employment output and opportunity, while low levels of financial development and an inefficient private sector credit system disrupt economic growth. A strong and inclusive financial system; and the availability of investable funds play an important role in funding economic projects and activities that will promote economic growth and development. This is because access to credit increases the productive capacity of companies and increases their potential to grow. Smaller banks are associated with higher net interest margin rates. Both overhead costs and net interest margins resulted in similar findings. Indicators of bank overhead costs against total assets and net interest margin are used to measure the quality of banking development from the dimension of intermediation efficiency (Demirguc-Kunt, 2008).

Stock prices also play an active role in the economy through various channels. Higher equity prices provide additional stimulus for households and companies that own, either directly or indirectly, for example through pension funds, stocks through positive wealth securities. Furthermore, the stock market is seen as a common measure of economic circumstances in which stock prices affect the real economy through confidence channels. The rise in stock prices provides a stimulus to the confidence of households and companies and reduces the uncertainty they have about their future economic situation. Investments also benefit from higher share prices through lower equity capital costs. Companies with exchange notation can finance investments cheaper by issuing new shares (Economic and Monetary Developments, 2012).

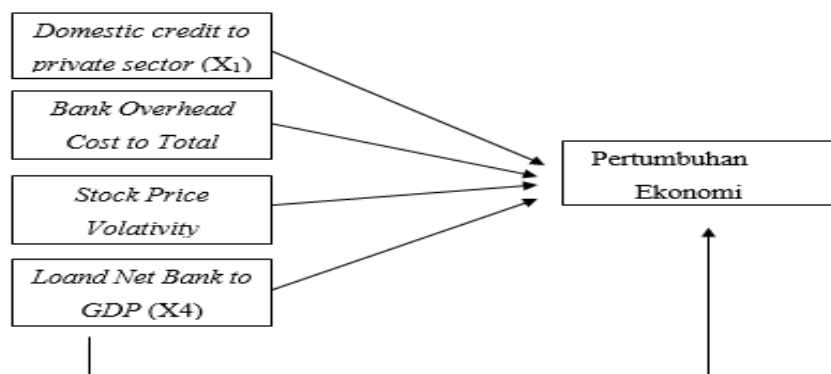
The role of bank finance and credit on the influence of economic growth has been widely known to economists but this issue has long been ignored. The 1970s were a period when the importance of credit and finance was rediscovered and emphasized by economists. The essential function of the financial system has realized the transfer of funds from units that are overfunded to units that need funding. In this context, the financial system performs its functions through the legal regulation that shapes the behavior of such units and through financial mediators.

The improvement and development of financial mediators, the formation of new financial mediators and the stable restructuring of the financial system with new legal regulations are necessary to consolidate the real economy (Zortuk & Çelik, 2014).

### C. METHOD

This study used panel data, where the annual time series was 2001 to 2020 and the cross section was five ASEAN countries, including Indonesia, Malaysia, Thailand, the Philippines and Vietnam. Furthermore, this study used two categories for the types of variables used, namely endogenous and exogenous. The variable group belonging to the endogenous category is economic growth. In addition, the variable groups included in the exogenous category are Domestic Credit to Private Sector, Bank Overhead Cost to Total Assets, stock price volatility and Loan Net Bank to GDP.

Based on the category of variable types used in this study, it can be determined the relationship between variables in the conceptual framework of the study, which is summarized in Figure 1.



**Figure 1: Relationship of Endogenous Variables and Exogenous Variables**

Based on Figure 1, the indicators for each of the variables used in this study are summarized:

**Table 2. Variable indicator**

Variable	Symbol	Indicator	Source
Economic Growth	Y	Data on the increase in people's economic activity that causes an increase in the production of goods and services or an increase in national income so that it can go to a more state during a certain period. With data from 2001 to 2020(%)	International Monetary Fund
Domestic credit to private sector	X <sub>1</sub>	Domestic credit to private sector data by banks refers to financial resources provided to the	International Monetary Fund

		private sector by other depository companies (depositee companies except the central bank) that form claims for repayment. For some countries, this claim includes credit to public companies. With data from 2001 to 2020. (%)	
Bank Overhead Cost to Total Assets	X <sub>2</sub>	Bank Overhead Cost to Total Assets are additional costs or miscellaneous costs, which are not directly related to the business processes and production carried out. These overhead costs may not be so large, or not incurred regularly because they come from unexpected expenses. Even so, overhead costs should not be ruled out and should still be included in the budget like other costs so that the business can continue to run well. Where vulnerable the time is from 2001 to 2020. The unit used is Percent	International Monetary Fund
Share Price	X <sub>3</sub>	Stock Price is the price of one share of a number of shares sold from a company, derivative financial assets or others. In layman's terms, the share price is the highest amount a person is willing to pay for the stock, or the lowest amount one can buy. Where vulnerable the time is from 2008 to 2017).	International Monetary Fund
Loand Net Bank	X <sub>4</sub>	Loand Net Bank to GDP is the ratio used to measure the level of non-performing loans faced by banks, the higher this ratio, indicating that the credit quality is increasingly unhealthy. Where vulnerable the time is from 2008	International Monetary Fund

		to 2017. The units used are Percent and its units (%)	
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This study applies the panel equation model, which consists of one dependent variable and more than one independent variable. In general, the structural equations of the panel equation model in this study are summarized in equation (1).

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + e_{it} \dots \dots \dots (1)$$

Where:

Y: Economic Growth (%)

X<sub>1</sub>: Domestic credit to private sector (%)

X<sub>2</sub>: Bank Overhead Cost to Total Assets (%)

X<sub>3</sub>: Stock Price Volatility (%)

X<sub>4</sub>: Loan Net Bank to GDP (%)

β<sub>0</sub>: Constant

β<sub>1,2,3,4</sub>: Coefficient Regression Variable X

e<sub>it</sub>: Variable interference or residual

Panel data analysis techniques in this study can be carried out using the Common Effect, Fixed Effect and Random Effect methods (Mahulete, 2016).

**D. RESULTS AND DISCUSSION**

Economic Growth Function Analysis (Y), At the stage of awa lini, the economic growth function (Y) is regressed with exogenous variables Domestic credit to private sector (%) (X<sub>1</sub>), Bank Overhead Cost to Total Assets (%) (X<sub>2</sub>), Stock Price Volatility (%) (X<sub>3</sub>) and Loan Net Bank to GDP (X<sub>4</sub>) summarized in equation (1).

$$Y_{it} = 7.1039 - 0.0415X_{1it} + 1.6079X_{2it} - 0.1202X_{3it} + 0.1741X_{4it} + 2.2738 \dots \dots \dots (2)$$

**Table 3. Fixed Effect Model Panel Regression Result**

Variable	t-Statistic	t-table 5 %	Prob.	conclusion
Domestic Credit to Privat Sector -0.0415	-2.715617	1.66088	0.0079	Significant
Bank Overhead to total asset 1.6079	2.645704	1.66088	0.0096	Significant
Stock Price Volatility -0-1202	-2.510966	1.66088	0.0138	Significant
Net Loan to GDP 0.1742	2.719759	1.66088	0.0213	Significant

The information in equation (2) is to show that a constant value of 7.1039 was obtained. This means that if economic growth (Y) Domestic credit to private sector (X<sub>1</sub>), Bank Overhead Cost to Total Assets (X<sub>2</sub>), Stock Price Volatility (X<sub>3</sub>) and Loan Net Bank to GDP (X<sub>4</sub>) remains and the value of constants or changes in other factors not mentioned in this study increases by 1 percent, then economic growth (Y) increases by 7.1039 percent.

The results of the parameter estimation in the model shown by table 3 above show that Domestic credit to private sector (%) (X<sub>1</sub>) has a significant and negative impact on economic growth (Y) in Asean-5 Countries at a significance level of 5%. This means that any increase in the amount of Domestic credit to private sector by one percent leads to a decrease in Economic Growth of 0.0415 units during the condition of ceteris paribus. This means that the higher the Domestic credit to private sector, the lower the economic growth.

The results of the parameter estimation in the model shown by Table 3 above show that the variable Bank overhead costs to total assets (X2) has a positive and significant effect on Economic Growth (Y) in ASEAN-5 countries with a regression coefficient of 1.6079. This means that if the Bank's overhead costs to total assets increase by 1 percent, it will increase economic growth in ASEAN-5 countries by 1,6079 units during ceteris paribus conditions. This means that the higher the Bank's overhead costs to total assets, the more it will increase Economic Growth.

The results of the parameter estimation in the model shown by the table above show that the variable Stock Price Volatility (X3) has a negative and significant effect on Economic Growth (Y) in ASEAN-5 countries with a regression coefficient of 0.1202. This means that if the Stock Price Volatility increases by 1 unit, it will reduce economic growth in ASEAN-5 countries by 0.1202 during ceteris paribus conditions. This means that the higher the Stock Price Volatility, the lower the economic growth.

The results of parameter estimation in the model shown by Loans net banks to GDP (X4) have a positive and significant effect on Economic Growth (Y) in ASEAN-5 countries with a regression coefficient of 0.1742. This means that if Loans net banks to GDP increase by 1 unit, it will increase Economic Growth in ASEAN-5 countries by 0.1742. Units when the condition of ceteris paribus. This means that the more Loans Net Bank to GDP increases, the condition will increase economic growth.

Based on the test results obtained R-Squared in the amount of 0.281118. This means that 28% of economic growth is influenced by the variables Domestic credit to private sector, Bank overhead costs to total assets, Stock Price Volatility, Loan net bank to GDP. While the remaining 72% is explained by other variables outside the model or not included in the study.

Processing Results in table 3. Above the results were obtained that the variable Domestic credit to private sector was obtained the value of t-Statistics of -2.715617 which means  $t \text{ count} \geq t \text{ table}$  ( $2.715617 \geq 1.66088$ ) with  $\alpha = 0.05$  then  $H_0$  is rejected and  $H_a$  is accepted so that the hypothesis as proposed in this study is accepted. This means that there is a significant influence between Domestic credit to private sector on Economic Growth in ASEAN-5 countries.

In the second hypothesis using the variable Bank overhead costs to total assets obtained a t-statistical value of 2.645704 which means  $t \text{ count} \geq t \text{ table}$  ( $2.645704 \geq 1.66088$ ) with  $\alpha = 0.05$  then  $H_0$  is rejected and  $H_a$  is accepted so that the hypothesis as proposed in this study is accepted. This means that there is a significant influence between Bank overhead costs to total assets on Economic Growth in ASEAN-5 countries.

In the third hypothesis using the variable Stock Price volatility obtained the value t-Statistic of -2.510966 which means  $t \text{ count} \geq t \text{ table}$  ( $2.510966 \geq 1.66088$ ) with  $\alpha = 0.05$  then  $H_0$  is rejected and  $H_a$  is accepted so that the hypothesis as proposed in this study is accepted. This means that there is a significant influence between Stock Price volatility on Economic Growth in ASEAN-5 countries.

In the Fourth hypothesis using the variable Loans Net banks (net) to GDP obtained the value of t-Statistics of 2.719759 which means  $t \text{ count} \geq t \text{ table}$  ( $2.719759 \geq 1.66088$ ) with  $\alpha = 0.05$  then  $H_0$  is rejected and  $H_a$  is accepted so that the hypothesis as proposed in this study is accepted. This means that there is a significant influence between Loans Net Bank to GDP on Economic Growth in ASEAN-5 countries.

The results of the estimation can be found the F-Statistical value of 4.448187. To see the F-table is searched at  $\alpha = 0.05$  degrees of freedom (df 1) K-1, where n is the number of variables or  $5 - 1 = 4$  and (df 2) n - k, where n is the sum of the data and k is the number of variables or  $100 - 5 = 95$ . With a significant test of 0.05 obtained an F-table value of 2.31. The probability value of F-Statistics is 0.000141. This value is smaller than the error rate of  $\alpha = 0.05$  which means that the free variables namely Domestic credit to private sector, Bank overhead costs to total assets, Stock Price Volatility, Loan net bank to GDP have a significant effect on the bound variable, namely economic growth in ASEAN-5 countries.

## **E. CONCLUSIONS**

Domestic Credit to Private sector affects Economic Growth Negatively and Significantly in ASEAN. Bank overhead costs to total assets affect Economic Growth positively and significantly in ASEAN. Stock Price volatility affects Economic Growth Negatively and significantly in ASEAN. Bank to GDP net loans affect Economic Growth Positively and Significantly in ASEAN.

## **REFERENCES**

1. Čihák, M., Demirgüç-Kunt, A., Feyen, E., & Levine, R. (2012). Benchmarking financial development around the world. *World Bank policy research working paper*, 6175(10.1596), 1813-9450.
2. Demirguc-Kunt, A. (2008). Finance, financial sector policies, and long-run growth.
3. Economic and Monetary Developments. (2012). *ECB Monthly Bulletin*. Economic and Monetary Developments.
4. Gai, P., Kapadia, S., Millard, S., & Perez, A. (2008). Financial innovation, macroeconomic stability and systemic crises. *The Economic Journal*, 118(527), 401-426.
5. Gennaioli, N., Shleifer, A., & Vishny, R. (2012). Neglected risks, financial innovation, and financial fragility. *Journal of Financial Economics*, 104(3), 452-468.
6. Inggrid, I. (2006). Sektor Keuangan dan Pertumbuhan Ekonomi di Indonesia: Pendekatan Kausalitas dalam Multivariate Vector Error Correction Model (VECM). *Jurnal Manajemen dan Kewirausahaan*, 8(1), 40-50.
7. Mankiw, N. G. (2007). *Makroekonomi*. Jakarta: Erlangga.
8. Olowofeso, E. O., Adeleke, A. O., & Udoji, A. O. (2015). Impact of private sector credit on economic growth in Nigeria. *CBN Journal of Applied Statistics*, 6(2), 81-101.

9. Zortuk, M., & Çelik, Y. (2014). The relationship between bank loans and economic growth in Turkey: 1995-2010. *Alphanumeric journal*, 2(2), 51-60.