Article Journal

by SusetyoDidik

Submission date: 18-Apr-2023 10:25PM (UTC+0700)
Submission ID: 2068396931
File name: 2018_08_NoveliaSusanti_et_al_JTAE_ectap_ed_4_2018_publikasi.pdf (262.65K)
Word count: 6900
Character count: 37114

Theoretical and Applied Economics
Volume XXV (2018), No. 4(617), Winter, pp. 205-220

Does financial sector affect economic development in ASEAN during 2010-2016?

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Abstract *The objective of this paper is to examine the impact of financial development using domestic credits to private sector, government spending and net exports on GDP in ASEAN during 2010-2016. Total observation of seventy data are being used to form the panel regression method using fixed effect model. The secondary data obtained from World Bank and Asian Development Bank. The results of this paper are domestic credits to private sector and government spending are positively and significantly affect GDP while net exports is negatively and significantly affect GDP.*

Keywords: financial sectors, ASEAN, domestic credits to private sector, government spending, net exports, economic growth.

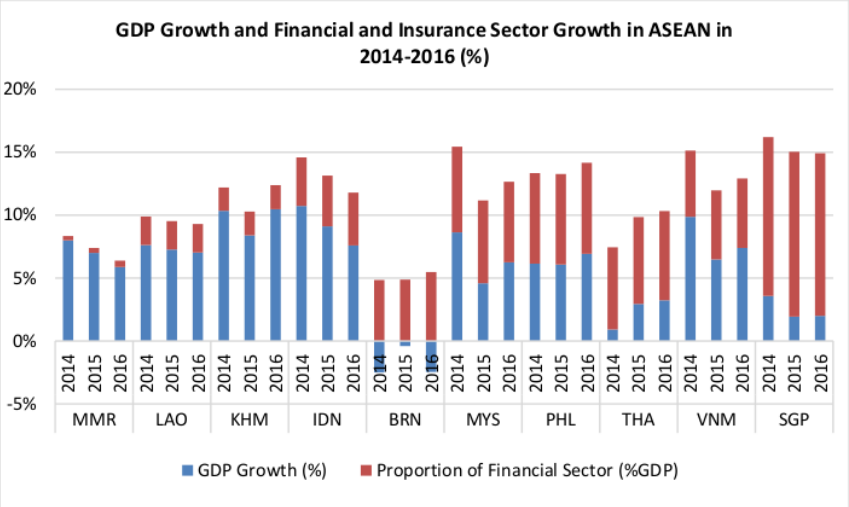
JEL Classification: F36, G15, O11, O19, O53.

1. Introduction

According to economic theory, a good and efficient financial system can support capital channeling productively so it will benefit the economy. A good and efficient financial system is very important for economic growth in ASEAN because investment efficiency will provide an overview of the amount invested as a driver of growth in this region. Along with the development of the era, the main role of the financial sector experienced a shift that initially as a distributor of savings funds, is now an efficient investment voter. The development of the financial sector has a comparative advantage for economic development. The growth of the financial sector facilitates fund searching process for investment purposes in other economic sectors such as trade, export, real estate and others. This results in a positive influence from the distribution of savings to the more private sector where external loans solve problems of liquidity constraints.

However, ASEAN countries tend to have a relatively low financial sector. In Cambodia, Laos, Vietnam and Myanmar, the agriculture, fisheries and forestry sectors are their mainstay, on the other hand, Brunei Darussalam relies on the mining sector. Unlike Indonesia, Malaysia, Philippines, Thailand where the manufacturing sector dominates the economy. While Singapore, which does not have agricultural or mining land, uses large and small trade sectors as their mainstay sector. This position can be seen from the proportion of each sector to GDP in each country. Although the overall financial sector is not a mainstay sector in ten ASEAN countries, the financial sector remains an important part of capital to drive economic activity in each country. This can be seen from the increase in the proportion of the financial and insurance sectors to GDP.

Figure 1. *GDP Growth and Financial and Insurance Sector Growth in ASEAN in 2014-2016 (%)*



Source: Asia Development Bank, 2018 (edited).

Based on Figure 1. It can be seen that the development of the financial and insurance sectors in ten ASEAN countries follow the economic development in each country. This is seen from the proportion of the financial sector to GDP which tends to remain and slightly increases in several countries such as Indonesia, Thailand and Vietnam. The highest proportion of the financial and insurance sector is in Singapore, which reaches more than 12 percent. On the other hand, the country of Brunei experienced a slowdown in economic growth but had an increase in the financial sector and insurance.

One of indicators of financial sector that can affect economic growth is domestic credits to private sector. Domestic credits to private sector are expected to help capital investments carried out by the private sector. Table 1 shows the increase in domestic credits to private sector from year to year.

Table 1. *Domestic Credits to Private Sector to GDP Ratio in ASEAN during 2010-2016 (% GDP)*

No.	Negara	2010	2011	2012	2013	2014	2015	2016
1	Brunei Darussalam (% GDP)	37	28	28	31	33	41	44
2	Cambodia (% GDP)	28	28	39	45	54	63	70
3	Laos (% GDP)	21	..	..	..	..	..	..
4	Malaysia (% GDP)	107	108	114	120	121	125	124
5	Myanmar (% GDP)	5	7	9	13	16	18	22
6	Philippines (% GDP)	30	32	33	36	39	42	45
7	Singapura (% GDP)	96	106	115	126	131	127	133
8	Indonesia (% GDP)	27	30	33	36	36	39	39
9	Thailand (% GDP)	116	131	136	142	146	150	147
10	Vietnam (% GDP)	115	102	95	97	100	112	124

Source: Asian Development Bank, 2018 (edited).

There is a pattern of increasing the domestic credits to private sector to GDP ratio in the last seven years in nine out of ten ASEAN countries. This shows that the higher the influence of domestic credits to private sector on investment in each country. In several countries such as Malaysia, Singapore, Thailand and Vietnam, domestic credits to private sector are well above the country's GDP.

On the other hand, investment is not only carried out by the private sector. Development is also carried out by the government, both the central government and local governments, contributes to economic growth. This government investment includes the provision of public facilities and infrastructure, health, social welfare, military and others. The amount of investment made by the government can be seen from government spending. The amount of government spending to GDP of each country in ASEAN is ranging between 15-38 percent during period 2010-2016. The trend in this ratio varies between countries. The highest proportion of government spending to GDP is in Brunei Darussalam. The high proportion of government spending to GDP in Brunei Darussalam is due to the decline in GDP in the country.

Another important factor for economic growth is balance of trade. Furthermore, free trade zone agreement between countries in ASIA makes export and import transactions becoming more and more important for the economy. Each of ASEAN countries has different leading sectors that leads to different export and import products. However, seven of the ten countries in ASEAN experienced a trade balance deficit in the period 2010-2016.

In short, there was an increase in domestic credits to the private sector in ASEAN which has pushed up investment growth which ultimately increased GDP. This can be seen in Myanmar, Indonesia and Singapore. The increase in domestic credits to private sector is followed by positive GDP growth. Government spending also drives the economy in ASEAN. Some countries benefit from free trade and strengthen their economy by increasing net exports. Thus, this study aims to determine the effect of domestic credits to private sector, government expenditure and net exports on GDP in ASEAN for the period 2010-2016.

2. Review of literature

GDP is one of the most important indicator for economic growth in a country within a certain period of time. GDP can be interpreted as the total value of the production of goods and services produced by production units in an area at a certain time, generally dominated in the currency unit of the region or in other currencies such as USD. GDP takes into account macroeconomic components such as consumption, investment and net exports (Dwi, 2016).

Domestic credits to private sector provides funds in form of loans which are used as capital for businesses. The capital loan is very required to fulfill the need for fresh funds for the smooth running of the business. If a businessman cannot obtain this capital loan, it will be in difficult for him to develop his business or to start a new business. Domestic credits to private sector can be in the form of debt, equity outside securities, trade credit and other receivables. Therefore, domestic credits to private sector have an important role to play in enhancing the development of the private sector.

Based on the Cobb-Douglas production function theory, where production (Y) is affected by capital (K) and labor (L) as follows;

$$Y = K^{\alpha} L^{(1-\alpha)} \quad (1)$$

Based on the above Cobb-Douglas production function, it can be seen that the production in the economy are influenced by capital (K). Domestic credits to private sector facilitate the fulfillment of the need for investment funding for the private sector. In other words, the presence of domestic credits to private sector can increase capital which is one of the determining factors in the production function. If the production function increases, the number of goods and services traded in the economy will also increase. This will increase economic growth.

Research conducted by Adu, Marbuah, and Mensah (2013), in Ghana, the development of the banking financial sector made it easier to obtain information about the possibility of investment, supervision and implementation of corporate management governance, grouping and risk management. Collection and distribution of savings, exchange of goods and services, can influence the decision to save and invest. The higher the interest in saving and investing, the higher the funds available for domestic credit to private sector. This will ultimately affect economic growth in the area.

Government spending are all consumption, investment and transfer activities carried out by the government in a particular area and within a certain period of time. Government spending are generally funded by taxes collected by the state and loans that can be in the form of government bonds or loans originating from abroad. The main objective of government spending is to provide benefits in the future, where the spending is intended to invest in developing infrastructure or forming capital.

According to Wagner's Law, in an economy, per capita income increases government spending. This is because the government must regulate relationships that arise in society, law, education, recreation, culture and so on. The law shows the role of the government spending increasing over time (Mely, 2016). The law can be formulated as:

$$\frac{GPC_t}{YPC_t} \geq \frac{GPC_{t-1}}{YPC_{t-1}} \geq \frac{GPC_{t-2}}{YPC_{t-2}} \geq \cdots \geq \frac{GPC_{t-n}}{YPC_{t-n}} \quad (2)$$

where:
GPC = Government Spending per capita;
YPC = Product or Income per capita;
t = Certain period of time.

Net exports are the difference between the total income from all goods and services sold from inside the country (exports) and the total expenditure of goods and services purchased from abroad into the country (imports) at certain times. Net export will be positive if the income from exports is greater than the expenditure for imports. High export revenues indicate that goods and services produced domestically have quality standards that are needed and can be accepted by other countries.

Price differences between regions create opportunities for trade between regions. Trade opportunities between regions are expected to help in equitable economic growth where there is population mobility to areas that have a higher economy. Investors from regions that have high wages will be interested in investing in lagging regions with lower wages. With the investment in the lagging regions, it causes an increase in the economy in the region which will slowly cause wage increases (Higgins and Savoie, 1994).

According to Keynesian theory, national income (Y) is influenced by consumption (C), investment (I), government spending (G), exports (X) and imports (M), can be expressed as;

$$Y = C + I + G + (X-M) \quad (3)$$

Based on Keynesian theory, national income is positively related to government spending. This indicates an increase in government spending will cause an increase in national income. This increase in government spending is believed to be able to create new jobs so as to reduce unemployment and increase national income. However, large government spending requires large funding. This will again burden the public with taxes that must be paid. For this reason, government spending must be able to offset the effects of shifting resources from the private sector to the public sector.

As with government spending, the trade balance surplus also has a positive influence on economic growth. This indicates that high levels of exports and low imports can encourage an increase in national income. Net Export is expected to increase domestic products that will increase GDP growth.

From previous research, many researchers concluded that there was a positive relationship between domestic credits to private sector lending to economic growth. The research conducted by Fabya (2011) concluded that the financial sector variables include; savings, domestic credits to private sector have a positive influence on economic growth.

Other research carried out by ABD, which was published in ABD Economics Working Paper Series No. 223 by Estrada, Donghyun and Ramayandi (2010) with the title "Financial Competent and Economic Growth in Developing Asia". This study showed that financial sector variables such as domestic credits to the private sector had a positive influence on GDP growth per capita. The same thing was stated by Puatwoe and Piabuo (2017) with research conducted in Cameroon.

Research in India (Lenka, 2015) and in Pakistan (Gokmenoglu et al., 2015) using domestic credits to private sector variables, broad money, exports, imports, proved that the development of the financial sector in the long run is one of the determinants of economic growth. Murinde (2015) using the case of Africa also stated that the development of the financial sector in the form of financial institutions and markets reduces the uneven distribution of information, which is important in economic growth. In a study conducted by Alkhuzaim (2014) in Qatar reinforces the statement that there are long-term relationships from financial sector indicators including broad money supply/GDP, domestic credits to private sector/GDP and banking/GDP credit to GDP ratio.

Research in East Asia (Law et al., 2014) using variables of domestic credits to private sector, capital market capitalization, concluded that the growth of the financial sector is a source of economic growth plus there is a long-term relationship between globalization, financial sector growth and economic growth. However, research conducted in Ghana by Adu, Marbuah and Mensah (2013) and Sakyi, Kofi Boachie and Immurana (2016), has a slightly different conclusion. In this study states that the influence of financial sector growth on economic growth is influenced by the proxies used to represent the financial sector such as domestic credits to private sector.

Government spending is pursued for the development of the country. Research conducted in Bali and Bitung concerning the effect of government spending on economic growth by Sebang, Rotinsulu and Kawung (2017); Wahyuni, Sukarsa, and Yuliarmi (2014) concluded that government spending has a positive and significant influence on economic growth in the region concerned.

Research on the effect of exports on economic growth in Vietnam (Nguyen, 2016) stating that exports have a positive influence and play an important role in the Vietnam's economy by accelerating and modernizing the industrial sector in the country. The study by Kilavuz and Topcu (2012) is in line with the results of research conducted by Nguyen that exports

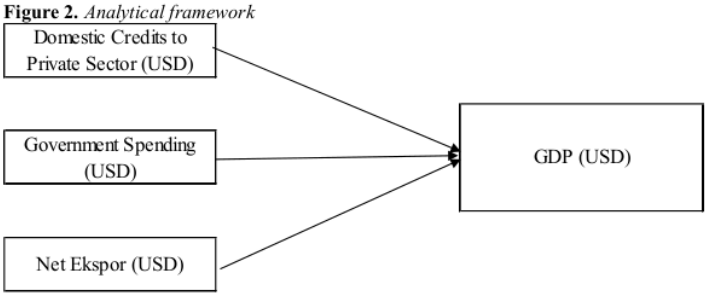
had a positive and significant influence on economic growth. Research conducted by Hashim and Mans(2014) in Malaysia and Akalpler and Shamadeen (2017) in the United States concluded that there is a long-term relationship between net exports and economic growth in the country concerned.

GDP growth can be influenced by many factors, some of which are domestic credits to private sector, government spending and net exports. The independent variables of this paper are domestic credits to private sector, government spending and net exports. The dependent variable is GDP as a proxy for economic growth.

3. Methodology

Based on the literature review, this paper aims to examine the relationship of financial development using three independent variables, namely domestic credits to private sector, government spending and net exports against GDP.

Figure 2. *Analytical framework*



This paper is quantitative research, namely research that analyzes data quantitatively. Then, continued with descriptive statistical analysis which is used to provide an overview of the influence of domestic credits to private sector, government spending and net exports on GDP.

This paper uses Secondary data to evaluate the impact of domestic credits to private sector, government spending and net export to Gross Domestic Product in ASEAN countries in 2010-2016. Secondary data used are sourced from World Bank, Asian Development Bank and local published statistics.

Panel regression method is chosen in measuring the model in predicting the relation between independent variables and dependent variable. Panel regression method is combining time series data with cross-section data where the cross-section data is measured in different time period.

To determine the direction and significance of the independent variables on the dependent variable, the panel data regression model is used as follows:

$$GDP_{i,t} = \alpha + \beta_i X_{i,t} + \varepsilon_i \quad (4)$$

$$GDP_{i,t} = \alpha + \beta_{DC} DCPS_{i,t} + \beta_{Govt} Gov_{i,t} + \beta_{NE} NE_{i,t} + \varepsilon \quad (5)$$

Where:

GDP = Gross Domestic Product;
DCPS = Domestic Credit to Private Sector;
Gov = Government Spending;
NE = Total Export – Total Impor;
α = Constant;
β = Coefficient regression;
ε = Standard error.

There are three models in panel data regression, namely Common Effect Model, Fixed Effect Model and Random Effect Model. Common Effect Model or known as Pooled Least Square is combining cross-section data with time series data using the Ordinary Least Square (OLS) method or the least squares system method. Fixed effect model is often referred to as Least Square Dummy Variable (LSDV), is a model with slope of each subject does not change over time, but the intercept is different for each subject (cross section). This model distinguishes one subject from another using a dummy variable. Random Effect Model estimates panel data that residual variables are thought to have a relationship between time and between subjects. Data panel analysis method with Random Effect Model must have a number of cross sections that are greater than the number of research variables. The advantage of using Random Effect models is to eliminate heteroscedasticity (Gujarati & Porter, 2009).

Panel data selection model can be chosen using Chow Test, Haustmant Test and Lagrange Multiplier Test. Chow Test is used to distinguish between Common Effect Model and Fixed Effect Model. Haustmant Test is used to distinguish between Fixed Effect model and Random Effect Model. And Lagrange Multiplier Test is used to distinguish between Common Effect Model and Random Effect Model. Based on the model chosen, the classic assumption test will be conducted.

Classic assumption test include multicollinearity test and heterocedasticity test. Multicollinearity test is used to determine the existence of a linear relationship between the independent variables of the regression model formed. Heterocedasticity test is used to determine whether variants for all intruder errors are the same. Heterocedasticity occurs when the residual value of the model does not have a constant variance. That is, each observation has different reliability due to changes in the background conditions not summarized in the model. However, heterocedasticity test will not be necessary if random effect model is being chosen.

4. Empirical result

Gross Domestic Product provides an overview of the total value of the production of goods and services produced by production units in an area at a certain time. The development of Gross Domestic Product is often used as an indicator of economic growth in certain regions.

The increase in Gross Domestic Product from one period to the next gives an indication of an increase in development and production units in the region.

Based on data obtained from the World Bank (2018), it shows that there is an increase in the Gross Domestic Product data in ASEAN countries for the period 2010-2016, except for Brunei. The reduction of Gross Domestic Product in Brunei is due to a decline in oil and gas prices, where more than 40 percent of Brunei's revenue comes from drilling and extracting oil and natural gas.

On the other hand, an increase in Gross Domestic Product in ASEAN countries shows a good growth in the economy in these countries. Indonesia has the highest Gross Domestic Product compared to other ASEAN countries. This is because Indonesia has the largest area and population in ASEAN. The increase in Gross Domestic Product in this country in 2010-2016 reached 6.53 percent on average. The increase in Gross Domestic Product in Indonesia is largely derived from growing manufacturing activities accompanied by natural wealth came from agriculture, forestry and fisheries as well as increasing trade and infrastructure development. The second highest Gross Domestic Product in ASEAN is Thailand. The increase in Gross Domestic Product in this country for the period 2010-2016 reached 3.58 percent on average. Thailand with the third largest population in ASEAN has GDP that majorly comes from manufacturing activities, trade and agriculture, forestry and fisheries. In the third position, Malaysia with the largest source of Gross Domestic Product comes from manufacturing, trade, agriculture, fisheries and forestry activities and oil and gas extraction and drilling. Next is Singapore with second least population density after Brunei. Singapore has the most advanced infrastructure in ASEAN countries. Moreover, Singapore is one of the World Financial Centre. Different from the rest of ASEAN countries mentioned above, the GDP in this country comes from advanced manufacturing, trade, housing and banking and insurance. The next position is the Philippines with an increase in GDP of 7.31 percent on average in 2010-2016 and the ASEAN's second largest population, the GDP majorly comes from manufacturing, trade, agriculture, fisheries and forestry.

Domestic credits to the private sector represent the value in the form of USD from total loans, purchase of securities, trade credit and other receivables that can be cashed in from a financial institution provided to the private sector within a certain time. This domestic credits to private sector are expected to assist in the development of the private sector in promoting economic growth in the country (Thierry et al., 2016).

Based on data from the World Bank (2018), the highest domestic credits to private sector is in Thailand, followed by Malaysia, Indonesia, Singapore, Vietnam, Myanmar, Cambodia, Brunei and Laos. There is a different in the ranking of Domestic Credits to Private Sector and Gross Domestic Product in ASEAN, such as Indonesia which has the highest GDP but ranks third in Domestic Credits to Private Sector. This can be caused by the existence of three pillars in the economy in Indonesia, namely, State-Owned Enterprises, Private-Owned Enterprises and Cooperatives. With the division of these three

pillars, there is a limitation on the development of the private sector which has an impact on lower Indonesian's Domestic Credits to Private compare to Thailand's and Malaysia's.

Government spending is the monetary value of all consumption activities, investments and transfers made by the government in a country and within a certain period of time used for development in that country. Government spending is used for infrastructure development which is ultimately expected to improve the welfare of the people in the country.

Based on data from the Asia Development Bank (2018), the largest government spending in ASEAN is Indonesia which reached 205.08 billion USD in 2016. This large government spending is needed to improve the welfare of the largest population in ASEAN. The largest government spending is in line with the country of which the highest Gross Domestic Product in ASEAN is. The second largest government spending is Thailand and followed by Myanmar, Vietnam, Singapore, Philippines, Malaysia, Brunei, Cambodia and Laos.

Net exports are the difference from the total income from all goods and services sold from inside to abroad (export) and the total expenditure of goods and services purchased from abroad into the country (import) at a certain time. Net exports are international trade activities that occur between two countries. This activity is strongly influenced by policies, import duties and exchange rates. The existence of the ASEAN Free Trade Area known as AFTA facilitates trade relations between ASEAN countries. This reduces barriers in trade among ASEAN countries which is expected to improve the economy in ASEAN. The AFTA agreement also encourages ASEAN countries to be able to compete in effectiveness and efficiency in each production unit and hence domestic products are able to compete against prices and quality from other countries.

Based on data from the Asia Development Bank (2018), the country with the largest net export exports is Singapore which reached more than 84 billion USD in 2016. Other ASEAN countries are still far behind compared to this country. Extremely, in several ASEAN countries such as Cambodia, Laos, Malaysia, the Philippines and Vietnam still experience a net export deficit. The net export deficit indicates that the value of purchases from abroad is higher than the value of sales to abroad. This indicates the inability of domestic production units to meet existing needs.

In determining the panel data regression model, Chow Test, Haustmant Test and Lagrange Multiplier Test are needed. Based on the results of the Chow Test, the F value for Cross section of the observation data is 127.15 with a probability of less than 5 percent. Hence, the conclusion of the Chow Test results stated that in this paper, the fixed effect model was better than the common effect model. Based on the results of the Haustmant test, the statistical value of the cross section is random 50.19 with a probability of less than 5 percent. The conclusion drawn from the Haustmant Test is that in this writing the fixed effect model is better than the random effect model.

Based on the results of the Chow Test and the Haustmant Test, both have the same results, namely the fixed effect model is better in describing this equation compared to the other two models, namely the common effect model and random effect model. Therefore, this

paper will not be continued with Lagrange Multiplier Test to determine the common effect model and random effect model. Based on the results of the Chow Test and Haustmant Test, this study will be continued by using the fixed effect model. The fixed effect model uses a dummy variable technique which is an estimate of individual variables not included in the model. These individual variables have correlations with independent variables that explain differences in dependent variables between the countries being studied.

The equation that results from panel data regression using a fixed effect model through cross-section weighting, as follows:

$$GDP_{i,t} = 102{,}97 + 0{,}37\ DCPS_{i,t} + 1{,}36\ Gov_{i,t} - 0{,}38\ NE_{i,t} \quad (6)$$

$(t - Value)$ (15,61) (10,20) (7,25) (-2,70)

Based on the results of panel data regression, it shows that there is a significant simultaneous effect of the independent variables on the dependent variable. Domestic credits to private sector and government spending have a significant positive effect on GDP in ASEAN during the period observed. In contrary, Export net has a significant negative effect on GDP in ASEAN during the period observed.

From panel data regression with the fixed effect model through cross-section weighting, obtained the value of individual intercepts as follows:

Table 2. *Individual intercept values*

Countries	C	Coefficient	Intercept Value
Brunei	102,97	-96,12	6,86
Indonesia	102,97	446,53	549,51
Cambodia	102,97	-95,96	7,01
Laos	102,97	-99,44	3,53
Malaysia	102,97	-70,56	32,42
Myanmar	102,97	-26,14	76,84
Philippines	102,97	40,75	143,73
Singapore	102,97	15,17	118,15
Thailand	102,97	-22,08	80,89
Vietnam	102,97	-92,16	10,82

Source: Panel Data Regression, edited.

Table 2 shows that the country with the largest intercept value is Indonesia with 549.51 billion USD, followed by the Philippines with 143.73 billion USD, then the Singapore, Thailand, Myanmar, Malaysia, Vietnam, Cambodia, Brunei Darussalam and Laos. The results of this intercept values mean that if all the independent variables, namely Domestic credits to private Sector, Government Spending and Net Export variables are assumed not to affect the dependent variable, the highest value of the dependent variable (GDP) is the country with the highest intercept value, namely Indonesia. This is in line with World Bank data where the country with the highest GDP in ASEAN during the period of 2010-2016 is Indonesia. Likewise with countries that have the lowest intercept value, namely Laos with an interpreted value of 3.53 which in the World Bank data shows this country with the lowest Gross Domestic Product of 11.10 billion USD in 2016.

The high difference between the intercept values of each country in ASEAN shows there are influences from other independent variables with special characters in a country that may not be owned by other countries and are not included in this research model. These independent variables with special characters can include changes in policies that occur in government of a country, exchange rates, changes in country's leadership, commodity prices, area and population and the use of technology that affect the country's GDP.

To meet the criteria of classic assumption test, multicollinearity test and heteroscedasticity test are conducted. From multicollinearity test, the correlation coefficient between each independent variable shows no correlation coefficient that exceed 0.8, it can be concluded that there is no multicollinearity between independent variables. The absence of multicollinearity indicates that the regression coefficient can be determined and the standard error is defined. From heteroscedasticity test, the probability of each independent variable is greater than the level of significance received, i.e. 5 percent, therefore can be concluded that there is no heteroscedasticity in the three independent variables. Based on the results of the Multicollinearity Test and Heteroscedasticity Test on the independent variables used in panel data regression, it can be concluded that the models formed from the independent variables are free from the problems of multicollinearity and heteroscedasticity. Therefore, the model that will be formed from these independent variables meets the requirements of the classical assumption test.

Domestic credits to Private Sector have a significant positive relationship to GDP. Based on Equation (6) it can be seen that the one billion USD increase in domestic credits to private sector will increase GDP by 0.37 billion USD. This is in line with the Cobb-Douglas production function theory, where domestic credits to private sector contribute to capital which will ultimately affect production.

Furthermore, data from World Bank shows the trend of the GDP in each country is in line with the trend of the development of Domestic credits to Private Sector. Both trends in GDP and Domestic credits to Private Sector have a tendency to increase in ASEAN in the period 2010-2016. The similarity of this trend shows a positive relationship between Gross Domestic Product and Domestic Credits to Private Sector. From the Domestic credits to Private Sector data, it can be seen that in several countries such as Thailand, Malaysia, Singapore and Myanmar, the Domestic credits to Private Sector exceed the GDP of these corresponding countries. This indicates that there is high level of private investment in these countries.

The average increase in economic growth in ASEAN during 2010-2016 reached 5.07 percent with the highest growth occurring in Myanmar with an average growth of almost 8 percent. Meanwhile, the average growth of Domestic Credits to Private Sector in ASEAN is 14.86 percent with the highest growth occurring in the same country, namely Myanmar with an average growth of Domestic Credits to Private Sector of 38.5 percent. This indicates that the growth of Domestic Credits to Private Sector in this country is driving the acceleration of the GDP.

Government spending has a significant positive effect on GDP. Based on Equation (6), each increase of 1 billion USD of government spending will give an increase in Gross Domestic Product of 1.36 billion USD. This is in line with Wagner's law and Keynesian theory where an increase in government spending will have a positive impact on economic growth.

The positive influence of government spending on GDP can also be seen from the World Bank data on GDP and the Asia Development Bank data on Government spending. In both data, the pattern of GDP and Government spending are the same as there was increasing trend that occurred in ASEAN countries during 2010-2016. The similarities in growth patterns in these two data indicate a positive influence of Government Spending on Gross Domestic Product.

The highest government spending in ASEAN is Indonesia in which reached 205.08 billion USD in 2016. This is in line with the country of the highest GDP in ASEAN i.e. Indonesia which reached 1,037.6 billion USD in 2016. Countries with value lowest government spending and the lowest gross domestic product in ASEAN is also the same country, namely Laos with government spending of USD 3.06 billion and gross domestic product of USD 11.10 billion in 2016.

Net exports have a significant negative effect on GDP. Equation (6) gives an indication that for every one billion USD net export increase, reduce GDP by 0.39 billion USD. This is due to seven out of the ten countries in ASEAN experienced negative net export data during 2010-2016 which indicates the level of imports that exceeds the level of exports. This is in line with the Keynesian theory in which exports greater than imports have a positive influence and vice versa.

GDP's data and Net exports' data in ASEAN during 2010-2016 show unequal pattern between GDP and Net Exports. The pattern of Net Exports is very fluctuating. Only Singapore, Malaysia and Brunei have positive net exports during 2010-2016. On the other hand, the Philippines, Laos and Cambodia always experience negative net exports during the period 2010-2016. The countries of Indonesia, Myanmar, Thailand and Vietnam have positive exports in certain years, but negative in other years. Myanmar, Cambodia, Laos and the Philippines experienced a declining net exports deficit. The difference in the pattern of net exports with the pattern of GDP gives an indication that there is a negative impact of net exports on GDP. Diverse net export fluctuations between one country and another provide an indication of other independent variables affecting GDP.

The above independent variables do not fully represent the dependent variable. Other independent variables that can affect the growth of Gross Domestic Product include population, area, worldwide oil prices, exchange rates and technological developments. In Indonesia, which has a large population and wide area, this country has the highest GDP in ASEAN. In Brunei, the growth of GDP is strongly influenced by prices and demand for oil and gas in the world. In Singapore, which has the smallest area in ASEAN, but the development of GDP in this country is greatly helped by the presence of high-tech

manufacturing and strategic location that can make the country a berth for international ships. The exchange rate also has an important influence on the trade balance. Currency deflation in a country makes imports larger and exports smaller. This is because the prices of goods sold outside the country are more expensive while goods that will be sold outside the country become cheaper due to deflation in exchange rates with foreign currencies such as USD.

5. Conclusion

This paper concludes that there are simultaneous effects of the independent variables, namely Domestic Credits to Private Sector, Government Spending and net exports on Gross Domestic Product. This simultaneous effect can be seen from the results of the F-Test which shows that $F_{counts} > F_{table}$.

Furthermore, this paper also concludes that there is a significant positive effect of Domestic Credits to Private Sector and Government Spending on Gross Domestic Product and significant negative effects of Net Exports on Gross Domestic Product. This can be seen from the tendency of the same growing pattern in Gross Domestic Product, Private Sector Domestic credits and Government Spending in ASEAN countries for the period 2010-2016. Net Export variables have a negative influence on Gross Domestic Product in the ASEAN countries for the period 2010-2016, this is due to seven out of ten countries in ASEAN having negative net export data in the period 2010-2016. Net deficit of exports in ASEAN is due to dependence on foreign products. Negative export net has a negative effect on Gross Domestic Product.

Based on panel regression model, the biggest coefficient of the model formed is the coefficient of the Government Spending variable. This indicates that this Government Spending variable greatly affects the Gross Domestic Product in ASEAN for the period 2010-2016. The difference in the value of intercepts that occur in each country shows that there is an individual influence between countries in ASEAN which is not shown in the model formed in the study.

This paper is still relatively simple for that it is necessary to have further research on the effect of Domestic credits to Private Sector, Government Expenditures and Net Exports on Gross Domestic Product in ASEAN for example by adding other variables such as population, area, oil prices, commodity prices, exchange rates and technological development. Further research can also be carried out by expanding the research area, for example conducting ASIA research.

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