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Domestic Credit and Stock Market Impact on Economic Growth: New Evidence in ASEAN-5 Countries

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Abstract **-** Capital accumulation and technological innovation had been the two channels through which the financial sector plays a vital role in the growth of economy. However, there are some different results between banking and stock market. The research tested the Solow-Swan growth model augmented with financial markets to show that domestic credit markets and equity from stock markets are two long run determinants of Gross Domestic Products (GDP) per capita in five ASEAN countries: Indonesia, Malaysia, Singapore, Thailand, and Philippines. The research used data from 2000 to 2019 tested with panel regression. The result shows that all determinant variables have a positive impact on economic growth. The domestic credit also has a higher impact on the growth of economy than the stock market. In addition, domestic credit and stock market has statistically significant positif impact to economic growth accros 5 ASEAN countries. The research also finds that although population in five ASEAN countries give positive effect to economic growth, it is statistically not confincing. It is suggested that people in ASEAN have already used technology, so population augmented encourages economic growth.

Keywords: domestic credit, stock market, economic growth, financial development, ASEAN

I. INTRODUCTION

Interest in economic growth has always been at the centre of literature in development economics, and it is one of the most fascinating topics in developing countries (Malarvizhi et al., 2019). Financial markets are a main factor establishing strong economic growth since they contribution economic efficiency by diverting financial funds from unproductive to productive uses (Durusu-Ciftci, Ispir, & Yetkiner, 2017). Furthermore, the banking system plays an important role in economy (Durusu-Ciftci et al., 2017). According to Levine (1997), there are five main roles of the financial markets, such as assisting in savings mobilization and resources allocation, corporate control exertion, and risk management facilitating, and trading ease of goods, services, and contracts. Levine (1997) adds that the growth of economy is possible by capital accumulation and technological innovation as these greatly affect the monetary system that influences economic development. Some studies conduct in several countries have shown the importance of financial development in supporting the growth of economy (Bencivenga & Smith, 1991; Levine, 1997; Greenwood & Smith, 1997). Asteriou et al. (2019) revealed that in the European Union economy during the period 1990-2016 financial development was proven to encourage economic growth in the pre-crisis period, but after the crisis, it hindered economic activity.

In financial development, domestic credit is an important role. If the domestic credit from banks were used to purchase productive resources, it helps in economic growth and adds to income since bank functions as financial intermediaries (Camba & Camba, 2020). Other than domestic credit, stock markets may affect economic activity through the creation of liquidity. Many profitable investments require a long-term commitment of capital, but investors are often reluctant to relinquish control of their savings for long periods. Liquid equity markets make investment less risky—and more attractive—because they allow savers to acquire an asset—equity—and to sell it quickly and

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cheaply if they need access to their savings or want to alter their portfolios. At the same time, companies enjoy permanent access to capital raised through equity issues. By facilitating longer-term, more profitable investments, liquid markets improve the allocation of capital and enhance prospects for long-term economic growth (Levine, 1996).

Durusu-Ciftci et al. (2017), Guru & Yadav (2019), Sharma and Kautish (2020), and Camba and Camba (2020) show that domestic credits and stock market are determinants of economic growth in the long run period. Durusu-Ciftci et al. (2017) developed a Solow-Swan's growth model to investigate the role of financial development on the economic growth. The data are collected from a panel of 40 countries from 1989 to 2011. The results show that domestic credit and stock market made a long-term positive contribution on a steady state level of Gross Domestic Product (GDP) per capita, and the contribution of the domestic credit markets is significantly higher than that of other factors. Guru and Yadav (2019) examine the relationship between financial development and economic growth for five major emerging economies: Brazil, Russia, India, China, and South (BRISC) during 1993-2014 using domestic credit to deposit ratio and domestic credit to private sector for banking indicator, and value of shares traded and turnover ratio for stock market indicator. In addition, some macroeconomic control variables such as inflation, exports, and the enrollment in secondary education are used. A positive association between financial development and growth indicates that the policymakers should take necessary measures toward simultaneous development of both banking sector as well as stock market for inducing growth.

Sharma and Kautish (2020) investigate the impact of financial sector development on GDP growth in the four middle-income countries of South Asia over the period of 1990–2016. Using pooled mean group (PMG) estimation, the research tries to examine whether in these developing countries, GDP growth has been influenced by size of market capitalization and size of market turnover in the long run which are used as proxy for stock market development. Similarly, domestic credit to private sector is used as proxy for banking sector development while assessing its long-run impact on GDP growth. Furthermore, by incorporating a dummy variable for the global financial crisis (2007–2008), the research investigates whether these economies are vulnerable to external shocks or not. The research results find that the impact of banking sector on GDP growth has relatively remained low in the region. Nevertheless, the development in both sectors has positively influenced economic growth in the long run. The outcomes of research suggest that both stock market and banking sector are vital determinants of long-run economic growth in the South Asian countries.

Camba and Camba (2020) examine the dynamic relationship of domestic credit and stock market liquidity on the economic growth of the Philippines from 1995 to 2018 applying the autoregressive distributed lag (ARDL) bounds testing approach to cointegration, together with Granger causality test based on vector error correction model (VECM). The ARDL model indicated a long-run relationship of domestic credit and stock market liquidity on GDP growth. When the GDP per capita is the dependent variable there is weak cointegration. Moreover, the Johansen cointegration test confirmed the existence of long-run relationship of domestic credit and stock market liquidity both on GDP growth and GDP per capita. The VECM concludes a long-run causality running from domestic credit and stock market liquidity to GDP growth.

The previously mentioned research have indicated that the development of economy is greatly affected by a financial system. However, banking and stock market contribute to the economy quite differently. Sharma and Kautish (2020) show that impact of banking sectors on economic growth are relatively lower than other factors, while Durusu-Ciftci et al. (2017) find the opposite.

Another research examines the effect of the financial development on economic growth in a variety of ways and with different proxies. Ibrahim et al. (2018), Wu, Huang, and Chang (2020), Tariq, Khan, and Rahman (2020), Chen et al. (2020), Kumar and Paramanik (2020) investigate the impact of financial development to economic development. Ibrahim et al. (2018) examine the impact of finance on economic growth is conditioned on the initial levels of countries' income per capita, human capital, and financial development for 29 sub-Saharan Africa countries over the period 1980–2014 using a sample splitting and threshold estimation technique. The findings show that, while financial development is positively and significantly associated with economic growth, below a certain estimated threshold, finance is largely insensitive to growth while significantly influencing economic activity for countries above the thresholds. The main conclusion drawn is that higher level of finance is a necessary condition in long run growth and so are the overall level of income and human capital. Tariq et al. (2020) find similar result when examined the non-linear relationship between financial development and economic growth in Pakistan using the threshold regression model for the period 1980-2017. The research employs quantile regression with 0,25; 0,50; and 0,75 quantiles of conditional distribution. The quantile regression is based on minimizing of sum of squared residuals. The result indicates that economic growth responds positively to financial development when the level of financial development surpasses the threshold value of 0,151. However, when financial development lies below 0,151, its impact on economic growth is negative. Thus, when financial development of Pakistan surpasses the threshold level, it contributes more towards economic growth since greater level of financial development contributes more to boosts economic growth.

Chen et al. (2020) and Kumar and Paramanik

(2020) examine in what condition the financial development will constantly intensify economic growth. Chen et al. (2020) analyze the asymmetric effects of financial development on economic growth using a model augmented with inflation and government expenditure asymmetries to inform model specification in Kenya from 1972-2017. Results clearly demonstrate to an environment steered by stable and sustainable inflation that regulated goverment expenditure and comprehensive financial system deepening would positively cause economic growth. Therefore, appropriate policies that favor low inflation and reduced government spending, expansion of feasibly reformed financial institutions, capital accumulation, and increased resource mobilization should be instituted if real growth is to positively happen. Kumar and Paramanik (2020) examine the nexus between financial development and economic growth in India during Q1: 1996 to Q3: 2018. This study employs time-series data of real GDP and ratio of broad money to GDP as a proxy for economic and financial development, respectively. The data are obtained from RBI database on the Indian economy. All variables are seasonally adjusted using X12-arima technique and expressed in natural logarithm form. Non-linear Autoregressive Distributed Lag (NARDL) bound test has been used to check for cointegrating relationship of these two variables. Empirical findings suggest that, unlike in the short run, in the long run financial development impacts economic growth positively.

Meanwhile, Wu et al. (2020) investigate the relationship between financial development and economic growth in two directions across major Asian economies during the period 1960-2016 by using a recently developed bootstrap autoregressive distributed lag (ARDL) test with structural breaks. The result suggests the government in Japan and India keep their steps to regard financial development as an instrument to foster economic growth. On the other hand, economic growth is considered as an engine to promote financial development for sustainability. In China, the government may set proper regulations in financial market. Additionally, the government may monitor the domestic credit performance to state-owned enterprises and investigate the process of financial resource from input to output, in order to improve financial efficiency and thereby, robustly contribute to economic growth.

Other research use financial market indicator such as stock market, domestic credit, and banking system to investigate the effect of financial development on economic growth. Aali-Bujari, Venegas-Martínez, and Pérez-Lechuga (2017), Fufa and Kim (2018), Chu (2019), and Barradas (2020) exercise the stock market and banking system as financial development indicator. Fufa et al. (2018) examine the link between stock markets, banks system, and economic growth in European and non-European high-income countries as well as upper and lower middle-income countries averaged over five and three years for the period of 1989-2012 by using the dynamic panel generalized method of moment (GMM) estimator. The results state that the link between finansial development and economic growth depends on the stages of economic growth of the countries.

Chu (2019) applies a panel dataset of 94 countries from 1968 to 2015 and system generalized method of moments estimation. The findings show that both banking sector and stock market development have positive effects on economic sophistication. While Aali-Bujari et al. (2017) and Barradas (2020) find different results. Aali-Bujari et al. (2017) use a panel data model in Latin America from 1994 to 2012 and Barradas (2020) estimates a linear and non-linear growth model for data set in Portugal from 1977 to 2016. Their findings show that the stock market capitalization has a positive impact on the economic growth, while banking gave a negative effect on the economy. Furthermore, Barradas (2020) showed that there are a concave quadratic relationship between the banking system and economic growth, and a convex quadratic relationship between the stock markets and economic growth. The policy makers should put effort to decrease the importance of banking system and to increase the importance of stock market to support more robust economic growth in the coming years.

Since their excellent performance after financial crisis, ASEAN countries have got a numerous attention from researchers studying on economic growth subject (Malarvizhi et al., 2019; Haini, 2020; Nasir, Duc Huynh, & Xuan Tram, 2019; Ho, Pham, & Nguyen, 2021). Similar with most of other Asian countries, ASEAN have succeeded to turn their economic down turn due to financial crisis in 1997 to a significant economic block (Nasir et al., 2019). According to the McKinsey Global Institute (MGI) report, ASEAN economies are among the world's outperforming emerging economies with a positive prospect of long-term growth (Nasir et al., 2019). One of the big achievements in ASEAN countries economies are financial sectors (Ho et al., 2021).

The research attempt to investigate the impacts of domestic credit and stock market on the economic growth of five ASEAN countries (Indonesia, Malaysia, Singapore, Thailand, and Philippines) last 20 years by adopting augmented Solow-Swan growth model (Durusu-Ciftci et al., 2017). Earlier research examining the financial development and economic growth in ASEAN countries have been conducted by Malarvizhi et al. (2019), Nasir et al. (2019), Haini (2020), and Ho et al. (2021). Malarvizhi et al. (2019) and Ho et al. (2021) only focus on financial development in the form of domestic credit, either through banks or non-bank systems and domestic investment. Haini (2020) calculates economic growth based on labor productivity and financial development focusing on institutional aspects. Several previous research examine the impact of financial development on economic growth generally using financial indicators as a ratio of GDP as determinants variable of economic growth which also contains GDP measure

(Durusu-Ciftci et al., 2017; Malarvizhi et al., 2019; Ho et al., 2021). Those exogenous and endogenous variables become risk to endogeneity problem. This research attempt to test the financial development as a level of domestic credit to private sectors and stock market value (also known as market capitalization) as a determinant of economic growth using panel regression. Thus, the research is not only expected to justify the theory but also complete the empirical analysis in different approach. Hopefully, domestic credit will grow rapidly to encourage the growth of real sector.

II. METHODS

The research used the improved growth model of Solow-Swan to investigate the effects of both stock market and domestic credit, on the economic growth in the long-term. The output per efficient capita at the steady-state condition is shown in the equation:

$$\tilde{y}_{ss} = \tilde{k}_{ss}^{\alpha} = \left(\frac{(scm)^{\theta}(ssm)^{1-\theta}}{(n+\delta+(1+n)x)} \right)^{\frac{\alpha}{1-\alpha}} \quad (1)$$

When the equation is converted to the natural log, it yields the equation:

$$\ln(\tilde{y}_{ss}) = \ln\left[\left(\frac{(scm)^{\theta}(ssm)^{1-\theta}}{(n+\delta+(1+n)x)} \right)^{\frac{\alpha}{1-\alpha}} \right]$$

$$\ln(\tilde{y}_{ss}) = \frac{\alpha}{1-\alpha}\left(\ln(scm)^{\theta} + \ln(ssm)^{1-\theta} - \ln(n+\delta+(1+n)x)\right)$$

$$\ln(\tilde{y}_{ss}) = \frac{\alpha\theta}{1-\alpha}\ln(scm) + \frac{\alpha(1-\theta)}{1-\alpha}\ln(ssm) - \frac{\alpha}{1-\alpha}\ln(n+\delta+(1+n)x) \quad (2)$$

In the equation (2), $\tilde{y}_{ss}$ is the output per efficient capita at the steady-state condition. Equation (2) is used determine the contribution of both the domestic credit market and stock market to the development of the economy in the long-term. Assuming that A_0 is the initial technological progress, equation (2) can be changed to:

$$ln(\tilde{y}_{ss}) = ln(A_0) + \frac{\alpha\theta}{1-\alpha} ln(scm) + \frac{\alpha(1-\theta)}{1-\alpha} ln(ssm) - \frac{\alpha}{1-\alpha} ln(n + \delta + (1+n)x) \quad (3)$$

In addition, to measure the contribution of both markets to the GDP in the long term, the empirical equation is used.

$$ln(y_t) = \beta_1 + \beta_2 ln(scm_t) + \beta_3 ln(ssm_t) + \beta_4 ln(n_t(1+x) + \delta + x) + \varepsilon_t \quad (4)$$

The three coefficients in the equation, β_2, β_3, and β_4 show the contributions of the development of the domestic credit market, the development of the stock market, and the growth of the employment rate respectively. These are affected by two aspects, which are technology and depreciation. β_2 and β_3 are expected to show a positive result, while β_4 is expected to show a negative result. Lastly, $\mathcal{E}_{i,t}$ is the error, while the subscript ($t = 1,2,---,T$) denotes the time period.

The research uses panel data as the empirical model to predict the impact of financial development on economic growth in selected ASEAN countries and collect data from the World Bank. The panel data consists of those from the 2000-2019 period of from five ASEAN member countries, namely Indonesia, Thailand, Singapore, Philippines, Malaysia, and Singapore. The best model is selected from the three model in panel data which are Pooled Ordinary Least Square (Pooled OLS), Fixed Effect Model (FEM), and Random Effect Model (REM).

Pooled OLS regression determine that intercept and slope do not change in every i and t (Hill, Griffiths, & Lim, 2011).

$$Y_{it} = \beta_1 + \beta_2 scm_{it} + \beta_3 ssm_{it} + \beta_4 popaug_{it} + \varepsilon_{it} \quad (5)$$

On the other hand, FEM or Fixed Effect Model determine that intercept change *i* and t with constant slope (Hill et al., 2011).

$$Y_{it} = \beta_{1t} + \beta_2 scm_{it} + \beta_3 ssm_{it} + \beta_4 popaug_{it} + \gamma_1 Indonesia_{1t} + \gamma_2 Malaysia_{2t} + \gamma_3 Philipines_{3t} + \gamma_4 Singapore_{4t} + \gamma_5 Thailand_{5t} + \delta_1 2000_{i1} + ... + \delta_{20}\ 2019_{i20} + \varepsilon_{it} \quad (6)$$

To select the best model, the research applies a simple Chow test with Restricted Residual Sums of Squares (RRSS), which is a simple test of Ordinary Least Square on the Pooled OLS model, and the unrestricted residual sums of squares (URSS), which is a simple test of the FEM (Least Square Dummy Variable/ LSDV regression), with the equation (Baltagi, 2005):

$$F_{stat} = \frac{(RRSS\text{-}URSS)\backslash(N\text{-}1)}{URSS/(NT\text{-}N\text{-}K)} \ H0 \sim F_{(N-1,N(T-1)-K)} \quad (7)$$

In equation (6), N is individual, T is time, while K is an independent variable. If the value is Fstat > Ftable or the probability is F < 0,05, H_0 (Pooled) is rejected, while H_1 (Fixed) is accepted. Furthermore, random effect determine that error change *i* and t with constant slope (Hill et al., 2011).

$$Y_{it} = \beta_{1i} + \beta_2 scm_{it} + \beta_3 ssm_{it} + \beta_4 popaug_{it} \varepsilon_{it} \quad (8)$$

$$\beta_{1i} = \beta_1 + \varepsilon_{it} \quad (9)$$

Table 1 Proxy and Source of Variables

Variable	Proxy	Source
Economic Growth	Gross Domestic Product (GDP) refers to the sum of gross value added by all producers in the economy besides any product taxes and minus any subsidies excluded in the value of the products. The calculation is conducted without making deduction for depreciation of fabricated assets or for degradation or depletion of natural resources. The current US dollars is used in the data.	World Bank
Domestic credit	Domestic credit to private sector: Domestic credit to private sector refers to financial resources provided to the private sector by financial corporations, such as loans, purchases of non-equity securities, and trade domestic credits and other accounts receivables, establishing a claim for repayment. These claims include domestic credit to public enterprises for some countries.	World Bank
Stock Market	Market capitalization (also well-known as market value) refers to the share price multiplied by the number of shares outstanding (including their several classes) for listed domestic companies. US dollars is used in the data.	World Bank
Population Augmented	Population aged 15-64 (% of the total population) is the total population of those aged 15 to 64 years old as the percentage of population in total. The data are augmented by technology and depreciation on the natural log of income per capita {the growth rate of technology = 0,025, and the rate of depreciation = 0,025. Their sum is 0,05 (Mankiw, Romer, & Weil et al., 1992).	World Bank

Source: (The World Bank, 2019)

$$Y_{it} = \beta_1 + \beta_2 scm_{it} + \beta_3 ssm_{it} + \beta_4 popaug_{it} + \varepsilon_i + u_{it} \quad (10)$$

$$Y_{it} = \beta_1 + \beta_2 scm_{it} + \beta_3 ssm_{it} + \beta_4 popaug_{it} + w_{it} \quad (11)$$

$$w_{it} = \varepsilon_i + u_{it} \quad (12)$$

The Breusch and Pagan Lagrangian Multiplier test is also applied to decide on the best model between Pooled OLS and Random Effect Model or REM (Hill et al., 2011).

$$Y_{it} = \beta_1 + \beta_2 scm_{it} + \beta_3 ssm_{it} + \beta_4 popaug_{it} + \varepsilon_i \quad (13)$$

$$\hat{\varepsilon_{it}} = y_{it} - b_1 - b_2 scm_{it} - b_3 ssm_{3it} - b_4 popaug_{4it} \quad (14)$$

$$LM = \sqrt{\frac{NT}{2(T-1)}} \left\{ \frac{\sum_{i=1}^{N} \left(\sum_{t=1}^{T} \hat{\varepsilon}_{it} \right)^2}{\sum_{i=1}^{N} \sum_{t=1}^{T} \hat{\varepsilon}_{it}^2} - 1 \right\} \quad (15)$$

If the LM value is LM > $Z_{(1-\alpha)}$, H_0 (Pooled) is rejected at a significance level α, and the alternative hypothesis, H_1 (Random), is accepted. Furthermore, the research employs the Hausman test to determine the best model between fixed and random models (Hill et al., 2011).

$$Var(b_{FE,k} - b_{RE,k}) = Var(b_{FE,k}) + Var(b_{RE,k}) - 2cov(b_{FE,k}, b_{RE,k}) = Var(b_{FE,k}) - Var(b_{RE,k}) \quad (16)$$

$$t = \frac{b_{FE,k} - b_{RE,k}}{\left[Var(\widehat{b_{FE,k}}) - Var(\widehat{b_{RE,k}}) \right]^{1/2}} = \frac{b_{FE,k} - b_{RE,k}}{\left[se(b_{FE,k})^2 - se(b_{RE,k})^2 \right]^{1/2}} \quad (17)$$

If the result of the t-test is t-test > 1,96 (using the standard 5% of the large sample critical value), H_0 (Random) is rejected, and H_1 (Fixed) is accepted. In addition, the research applies variables as shown in Table 1.

III. RESULTS AND DISCUSSIONS

The three models are compared in panel data (OLS, fixed effect, and random effect) by Chow, Hausman, and Breusch-Pagan tests to examine the impact of financial development on economic growth. The best model is the Random Model, as shown in Table 2.

Table 2 Choice the Best Model

Test	Choice Model		
	Prob	Significance	Best Model
Chow	0,0000	0,05	FEM
Breusch-Pagan	0,0000	0,05	REM
Hausman	0,5981	0,05	REM

Source: Stata Processed Result (2020)

Prob : Probability
FEM : Fix Effect Model
REM : Random Effect Model

Table 3 Output Random Model

Lny	Coef.	St.Err.	t-value	p-value	Sig
Lnscm	0,557	0,035	16,09	0,000	***
Lnssm	0,124	0,027	4,66	0,000	***
Popaug	0,050	0,008	6,42	0,000	***
Constant	1,961	0,550	3,57	0,000	***

*** p<0,01, ** p<0,05, * p<0,1 *(paralel; menunggu konfirmasi author)*.

Source: Stata Processed Result (2020)

Based on the output of the Random Effect Model, all of the variables have a positive impact on economic growth. Domestic credit contributes 0,557% to economic growth, while the contribution of the stock market is only 0,124%. Both have the expected sign, namely that domestic credit and stock market have an important role in economy. In contrast, augmented population contributed 0,050% to economic growth, but it does not have an expected sign. This is because many people in ASEAN have already used technology; as a result, increasing population has led to economic growth. The result is supported by Durusu-Ciftci et al. (2017), who state that domestic credit has a higher impact on economic growth than stock market.

Consequently, domestic credit in the five ASEAN countries is stimulated by maintaining a low interest rate. The higher the domestic credit, the more improved the economic growth is. From July 2016, Bank Negara Malaysia (BNM) maintained the interest rate at 3,0% in regard to catching up with growth momentum, particularly those sourced from domestic demands. However, at the beginning of 2017 BNM raised its interest rates as much as 25 bps to 3,25% because of the global and domestic economic strengthening, mainly from consumption and investment. The Bank of Thailand (BOT) maintained a policy interest rate of 1,5% to ensure the path of economic recovery. The Philippines' monetary authority also kept a 3% policy interest rate. The Monetary Authority of Singapore (MAS) reaffirmed the neutral monetary policy stance with the appreciation rate of Singapore dollar nominal effective exchange rate (S$NEER) at 0% to promote economic growth while maintaining financial stability (Divisi Penelitian dan Asesmen Internasional, 2018). Indonesia also applied the low interest rate as other ASEAN countries did. Bank Indonesia (BI) made the decision to keep the BI 7-day (Reverse) Repo Rate at 4,25% to maintain the stability of macroeconomic and financial systems and to support domestic economic recovery while considering the dynamics of the global and domestic economies (Bank Indonesia, 2017). Global financial markets show a tremendous variety of developments. Better global economic performance has pushed global stock prices to a relatively high level. The economic performance of the developed countries is relatively better than that of developing countries (Divisi Penelitian dan Asesmen Internasional, 2018).

In 2018, Bank Negara Malaysia (BNM) remained applying the level of the interest rate. Nevertheless, the Philippines' monetary authority and Bank of Thailand upstretched a benchmark of the interest rate about 25 bps to address the risks of financial sector instability. The Philippines had 4,75%, and Thailand had 1,75%. It also happened in Singapore, in which Monetary Authority of Singapore (MAS) announces a slight increase in the slope of the S$NEER policy band (Divisi Penelitian dan Asesmen Internasional, 2018). BI at that time still made the decision to apply BI 7-day (Reverse) Repo Rate at 6%. BI believed in the consistency of the policy interest rate with the endeavor to decrease the deficit of the current account to secured and sustained limits, and the domestic financial asset attractiveness, which includes taking into account the trend of movement in global interest in the next few months (Bank Indonesia, 2018). The high uncertainty in the stock market is reflected in the Volatility Index Spike. The increase of the Volatility Index Spike on the TW4-18 was due to the issue of global slowdown and the uncertainty of US-China trade negotiations. The dynamic has triggered investors to move their assets from the stock market to other *safe haven* assets, such as bonds (Divisi Penelitian dan Asesmen Internasional, 2018).

In 2019, to respond to the generally weak economic performance, the monetary authority continued the stance for accommodating monetary policy. The Philippines defended its interest rates of 4%. Thailand and Malaysia lowered the interest rate by 25 bps to 1,25% and 2,75% respectively. Meanwhile, the Monetary Authority of Singapore (MAS) lowered the appreciation slightly over rate from the S$NEER Policy to address the slowdown of Singapore's economic growth (Divisi Penelitian dan Asesmen Internasional, 2019). BI still made the decision to maintain the BI 7-day (Reverse) Repo Rate by 5%. BI has made some effort to keep momentum domestic economic growth in the middle of the global economic slowdown (Bank Indonesia, 2018). In addition, the global stock market strengthened on the TW4-19, as the action of investor is good for the emerging markets and developed countries. The action risk on investor stock market was triggered by the positive development of US-China trade negotiations that lowered global uncertainty (Divisi Penelitian dan Asesmen Internasional, 2019).

The research is in line with the current condition, where the banking sector in developing countries has grown faster than developed countries. This is in contrast with stock market, where stock market in developed countries has grown faster than in developing countries.

IV. CONCLUSIONS

Financial market has five roles in economy which are support mobilization of savings, resource allocation, corporate control exertion, facilitate risk management, and ease of goods, service, and

contracts trading. Financial market encourages economic growth via two means, namely influencing the steady-state development of capital accumulation and technology innovation. The research tests the augmented Solow-Swan growth model to confirm the most significant impact on the growth of economy between banking domestic credit and stock market in ASEAN selected countries from 2000 to 2019. The research finds that domestic credit in the five ASEAN countries is stimulated by maintaining a low interest rate. Therefore, the higher the domestic credit, the more improved the economic growth is. In contrast, global financial markets indicate a high variety of developments. Better global economic performance has surpassed expectations and encouraged global stock prices to a relatively high level. The economic performance of the developed countries is relatively better than that of the developing countries. The research finds that the uncertainty is high in the stock market which shown by the Volatility Index Spike. The rise of the Volatility Index Spike on the TW4-18 was due to the issue of global slowdown and the uncertainty of US-China trade negotiations. It triggered investors to move their assets from the stock market to other assets, such as bonds. Moreover, since the action of investor was considered good for the emerging markets and developed countries, the global stock market strengthened on the TW4-19. The positive development of US-China trade negotiations lowering global uncertainty trigger the action risk on stock market investors.

The research results indicate that the contribution of domestic credit is substantially higher than stock market. Thus, the findings support the view that domestic credit market-based financial systems are more likely to promote long-term economic growth. In this regard, the research recommend that emphasis should be on implementing government policies which lead to the deepening of the domestic credit market. With the respect to lower stock market effects on economic growth, governments should takesome essential measures to enhance investor confidence such as macroeconomic stability. Moreover, there is need for institutional and legal improvements that strengthen domestic creditor and investor rights and contract enforcement.

The research is lack of other control variabel as determinant of economic growth such as capital accumulation and technology. Domestic credit does not count the non-banking private sectors. The research suggests the next research might elaborate more determinants of economic growth.

REFERENCES

Aali-Bujari, A., Venegas-Martínez, F., & Pérez-Lechuga, G. (2017). Impact of the stock market capitalization and banking spread in growth and development in Latin America: A panel data estimation with System GMM. *Contaduria y Administracion, 62*(5), 1427-1441. https://doi.org/10.1016/j.cya.2017.09.005

Bank Indonesia. (2017, October 20). Tinjauan kebijakan moneter Oktober 2017. *Investing.com*. https://id.investing.com/central-banks/bank-indonesia/speeches/tinjauan-kebijakan-moneter-oktober-2017-200197557

Bank Indonesia. (2018, April 20). Tinjauan kebijakan moneter bulan April 2018. *Invesing.com*. https://id.investing.com/central-banks/bank-indonesia/speeches/tinjauan-kebijakan-moneter-bulan-april-2018-200201112

Barradas, R. (2020). Does the financial system support economic growth in times of financialisation? Evidence for Portugal. *International Review of Applied Economics, 34*(6), 785-806. https://doi.org/10.1080/02692171.2020.1782854

Bencivenga, V. R. & Smith, B. D. (1991). Financial intermediation and endogenous growth. *The Review of Economic Studies, 58*(2), 195. https://doi.org/10.2307/2297964

Camba, A. C. & Camba, A. L. (2020). The dynamic relationship of domestic credit and stock market liquidity on the economic growth of the Philippines. *Journal of Asian Finance, Economics and Business, 7*(1), 37-46. https://doi.org/10.13106/jafeb.2020.vol7.no1.37

Chen, H., Hongo, D. O., Ssali, M. W., Nyaranga, M. S., & Nderitu, C. W. (2020). The asymmetric influence of financial development on economic growth in Kenya: Evidence from NARDL. *SAGE Open.* https://doi.org/10.1177/2158244019894071

Chu, L. K. (2019). The effects of financial development on economic sophistication: Evidence from panel data. *Applied Economics Letters, 27*(15), 1260-1263. https://doi.org/10.1080/13504851.2019.1676866

Divisi Penelitian dan Asesmen Internasional, Departemen Internsional. (2018). *Perkembangan Ekonomi Keuangan Dan Kerja Sama Internasional (PEKKI) Edisi IV 2018*. Bank Indonesia.

Divisi Penelitian dan Asesmen Internasional, Departemen Internsional. (2019). *Perkembangan Ekonomi Keuangan Dan Kerja Sama Internasional (PEKKI) Edisi IV 2019*. Bank Indonesia.

Durusu-Ciftci, D., Ispir, M. S., & Yetkiner, H. (2017). Financial development and economic growth: Some theory and more evidence. *Journal of Policy Modeling, 39*(2), 290-306. https://doi.org/10.1016/j.jpolmod.2016.08.001

Fufa, T. & Kim, J. (2018). Stock markets, banks, and economic growth: Evidence from more homogeneous panels. *Research in International Business and Finance, 44*, 504-517. https://doi.org/10.1016/j.ribaf.2017.07.120

Greenwood, J. & Smith, B. D. (1997). Financial markets in development, and the development of financial markets. *Journal of Economic Dynamics and Control, 21*(1), 145-181. https://doi.org/10.1016/0165-1889(95)00928-0

Guru, B. K. & Yadav, I. S. (2019). Financial development and economic growth: panel evidence from BRICS. *Journal of Economics, Finance and Administrative*

Science, 24(47), 113-126. https://doi.org/10.1108/JEFAS-12-2017-0125

Haini, H. (2020). Examining the relationship between finance, institutions and economic growth: evidence from the ASEAN economies. *Economic Change and Restructuring, 53*(4), 519-542. https://doi.org/10.1007/s10644-019-09257-5

Hill, R. C., Griffiths, W. E., & Lim, G. C. (2011). *Principles of Econometrics* (4th Ed.). Hoboken: John Wiley & Sons, Inc.

Ho, C. H. P., Pham, N. N. T., & Nguyen, K. T. (2021). Economic growth, financial development, and trade openness of leading countries in ASEAN. *Journal of Asian Finance, Economics and Business, 8*(3), 191-199. https://doi.org/10.13106/jafeb.2021.vol8.no3.0191

Ibrahim, M. & Alagidede, P. (2018). Nonlinearities in financial development–economic growth nexus: Evidence from sub-Saharan Africa. *Research in International Business and Finance, 46*, 95-104. https://doi.org/10.1016/j.ribaf.2017.11.001

Kumar, K. & Paramanik, R. N. (2020). Nexus between Indian economic growth and financial development: A non-linear ARDL approach. *The Journal of Asian Finance, Economics and Business, 7*(6), 109-116. https://doi.org/10.13106/jafeb.2020.vol7.no6.109

Levine, R. (1996). Stock markets: A spur to economic growth. *Finance and Development, 33*(1), 7-10. https://doi.org/10.5089/9781451953190.022

Levine, R. (1997). Financial development and economic growth: Views and agenda. *American Economic Association, 35*(2), 688-726. https://doi.org/http://www.jstor.org/stable/2729790

Malarvizhi, C. A. N., Zeynali, Y., Al Mamun, A., & Bin Ahmad, G. (2019). Financial development and economic growth in ASEAN-5 countries. *Global Business Review, 20*(1), 57-71. https://doi.org/10.1177/0972150918802684

Mankiw, N. G., Romer, D., & Weil, D. N. (1992). A contribution to the empirics of economic growth. *Quarterly Journal of Economics, 107*(2), 407-437. https://doi.org/10.2307/2118477

Nasir, M. A., Duc Huynh, T. L., & Xuan Tram, H. T. (2019). Role of financial development, economic growth & foreign direct investment in driving climate change: A case of emerging ASEAN. *Journal of Environmental Management, 242*, 131-141. https://doi.org/10.1016/j.jenvman.2019.03.112

Sharma, R. & Kautish, P. (2020). Linkages between financial development and economic growth in the middle-income countries of South Asia: A panel data investigation. *Vision, 24*(2), 140-150. https://doi.org/10.1177/0972262920923908

Tariq, R., Khan, M. A., & Rahman, A. (2020). How does financial development impact economic growth in Pakistan?: New evidence from threshold model. *The Journal of Asian Finance, Economics and Business, 7*(8), 161-173. https://doi.org/10.13106/jafeb.2020.vol7.no8.161

The World Bank. (2019). *DataBank: World Development Indicators*. https://databank.worldbank.org/source/world-development-indicators

Wu, C., Huang, S., & Chang, T. (2020). The nexus of financial development and economic growth across major Asian economies: Evidence from bootstrap ARDL testing and machine learning approach. *Journal of Computational and Applied Mathematics, 372*. https://doi.org/10.1016/j.cam.2019.112660