FINANCIAL DEVELOPMENT AS A SOURCH OF GROWTH: CONFLICTING EVIDENCE FROM INDONESIA AND EMERGING ASEAN NATIONS

By

GOVINDA, PANDE PUTU SATYAKUMALASARI

THESIS

Submitted to

KDI School of Public Policy and Management

in partial fulfillment of the requirements

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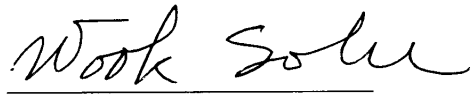By

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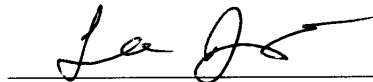
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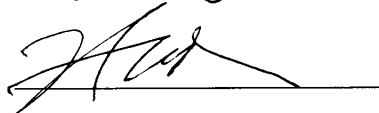## MASTER OF DEVELOPMENT POLICY

Committee in charge:

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ABSTRACT

**FINANCIAL DEVELOPMENT AS A SOURCH OF GROWTH:
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How financial development affects economic growth has been a long debatable issue among economist. This research gives complementary contribution on this debate by studying the empirical link of both variables in the case of Indonesia and four emerging nations in South East Asia for the past three decades. By comparing a country case study of Indonesia and regional case study of Emerging ASEAN Countries, this research finds conflicting evidences among them. This research uses two main indicators from bank and stock market to measure financial development. Using two-stage least squares method, the result on Indonesia's case study suggests that bank's indicator is "positive" and "significant" to affect the rate of growth. The stock market development's indicator is "negative" but "not significant" in association with the rate of growth. These findings contrast sharply from regional case study of Emerging ASEAN Countries. Using fixed-effects panel data analysis, the estimate shows that bank's indicator has negative effect on the rate of growth. On the other hand, stock market's indicator has positive effect. This contradictory evidence may be attributable to the non-linearity of finance-growth nexus where the effect of stock market becomes more significant as the country grows. In a regional economy where the countries have similar level of

economic development such as Emerging ASEAN Countries, stock market is more significant to affect the rate of growth compare to in Indonesia alone. If it is the case, the findings here add positive view of stock market activities' effect to economy in regional case study. Therefore the results give policy implication to strengthen the role of banks in Indonesia and enhance the contribution of stock market to support Emerging ASEAN Countries rate of growth.

Dedicated to my grandfathers (R.I.P) and all of Pande family

ACKNOWLEDGEMENTS

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1. INTRODUCTION

1.1 Motivation of this research

How "financial development" affects "the rate of economic growth" has become a debatable issue among economist. Some thoughts emphasize on "a proactive role" of financial service in increasing the rate of growth.[1] Some thinks on the other way around that the increasing economic growth boost demand for financial service and thus trigger financial development.

Theoretically, finance may contribute to the rate of growth through allocation of capital for investment. Financial intermediaries have a main function to allocate capital efficiently. They move capital from unproductive use into more productive use by mobilizing household savings and providing investment credit for firms. Financial sector development will strengthen this function and make it more efficient.

Financial system in Indonesia is dominated by banking sector which own above 78% of total assets among all financial institutions in Indonesia. Other financial institutions that play prominent role in the Indonesia's the financial sector are insurance companies, finance companies and mutual fund with the proportion of asset are 9.8%, 5.5%, 2.8% respectively.[2]

Recently, the banking sector in Indonesia faces a problem of poor intermediation. Poor intermediation means banks inefficiently channel funds from the parties who are surplus of funds and the parties who are shortage of funds in order to do more productive activities. It is shown by the high level of net interest margin (NIM)[3] in Indonesia which reach 6% on

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[1] Fung, M.K. 2009. Financial development and economic growth: Convergence or divergence? Journal of International Money and Finance, 28: 56-67.

[2] Data source is from 2011 Economic Report on Indonesia: "Indonesia's Economic Resilience: Amid Global Economic Uncertainty" published by Bank Indonesia http://www.bi.go.id/

[3] Net interest margin (NIM) is the difference between the credit interest rate and the saving interest rate

average, the highest in Southeast Asia where 3-4% is common. Also, this problem is considered as one of the binding constraint for the economic growth in Indonesia (ADB 2010)

Due to the weak functioning, there is a challenge to develop the the financial sector in Indonesia. The challenge is not let banks dominate the financial sector but also develop the stock market as another necessary financing source in the economy. Thus, besides strengthening the banking sector functions, developing stock market might be one of the solutions to overcome the banking sector inefficiency problem. Yet, firstly we should acknowledge how financial development, induced by banks and stock market's development, affect the rate of growth. Can financial sector become the source of growth in Indonesia?

Besides looking at the specific case of Indonesia, this paper also look at the phenomenon in the Southeast Asian nations as the nearby neighboring countries are also interesting to be thought. It is because of the issue to aim ASEAN economic integration on 2015. Among 10 countries in ASEAN, I only focus on Malaysia, Thailand, and Philipines because they have similar level of economic development with Indonesia. On this research I acknowledge them as emerging ASEAN countries.

So far, the Southeast Asian's economy shows a considerable resilience after economic crisis on 1997 and global financial crisis on 2008. The economic growth of Emerging ASEAN countries even recover faster than many OECD countries. Moreover, their financial market are continuously growing, preparing for the economic integration plan on 2015.

This phenomena brings out the idea for this research to see whether financial development can be the source of growth in Indonesia and in Emerging countries in Southeast Asia.

1.2 Past Literature

If we take a look at several findings and evidences in other countries given by previous scholars we might find a somewhat different conclusion with this study. Güryay et al (2007, 58) implies financial sector as a "relatively unimportant factor in growth" Real sector is the main factor and more important to boost economic growth rather than financial sector (Robinson 1952, 69). This argument is supported by study in China that contribution from real sector such as "labor input" is "the most important source of economic growth" (Shan, Jordan and Jianhong 2006). It happens because China has high amount of labor force. Moreover, financial development is only "contributing factor" and "not the most important factor to economic growth" (Shan, Jordan and Jianhong 2006, 248).

However, the argument that support this study implies that finance seems to lead the rate of growth. The study conducted by King and Levine (1993, 719) indicates that "higher levels of financial development are positively associated with faster rates of economic growth." Banks itself play important role and positively influence economic growth (Beck et al. 2002, 19). Moreover, Levine (2004, 34-35) finds that stock markets, in a role complementary to banks, also positively affect economic development because of their "prominent role" in stimulating liquidity.

This study itself argues that finance may become the important source of growth. Moreover financial development indicator such as banks and stock market are important variables which affect the rate of growth.

1.3 Difference of this research: Why Indonesia?

Indonesia is the developing country which adopt the bank based system. Banking sector dominates the financial sector in Indonesia by owning a large share of 78.2% of

financial institutions' total assets.[4] Picture 1.1 shows the composition of financial intitutions' assets in Indonesia.

Picture 1.1 Composition of Financial Institutions' Assets

The number of commercial banks (see picture 1.2) is relatively small compared to other financial institutions but the total assets to be managed is very huge.

Institutions	Numbers
Commercial Bank	121
Rural Bank	1,682
Insurance	142
Pension Funds	282
Finance Company	192
Venture Capital	71
Securities	113
Mutual Funds**	642
Credit Guarantee Company	4
Pawn Broker	1

*) Data for commercial banks and rural banks as per June 2011, data for other institutions as per December 2010.
**) Investment Collectives, not institutions

Picture 1.2 Number of Financial Institutions in Indonesia

Those data shows that household and enterprises in Indonesia highly rely on banking sector as a source of financing for investment. Therefore activities in banking sector need high and prudence attention.

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[4] Data source is from 2011 Economic Report on Indonesia: "Indonesia's Economic Resilience: Amid Global Economic Uncertainty" published by Bank Indonesia http://www.bi.go.id/

This research tries to acknowledge the importance of financial sector to trigger the rate of growth not only from banks perspective but also from stock market's perspective. I find that the comprehensive analysis of this tought in Indonesia is relatively scarce.

Moreover, I also compare the results found on Indonesia's case with the results from four nations in Southeast Asia'case, on which countries have relatively similar level of economic development with Indonesia.

1.4 Hypothesis and Data

This research will test the following hypotheses:

- Development in banking sector is positive and significant in affecting the rate of growth in Indonesia.

- Development in stock market is positive and significant in affecting the rate of growth in Indonesia.

- Development in banking sector is positive and significant in affecting the rate of growth in four Emerging ASEAN Countries.

- Development in stock market is positive and significant in affecting the rate of growth in four Emerging ASEAN Countries.

To support the hypothesis testing, the data used are retrieved from "World Development Indicator", provided by World Bank[5] and "a New Database on Financial Development and Structure" provided by Beck & Cheraghlou (2012). I used annual data for the period of 1981-2010 for each countries. So, there are 30 number of observations for Indonesia country case study and 120 number of observations for Emerging ASEAN Countries (Indonesia, Malaysia, Thailand, and Philipines).

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[5] World Development Indicator (data.worldbank.org)

1.5 Main findings and implication

The main findings of this research is proving that finance is the source of growth in Indonesia and Emerging ASEAN Countries. Activities in financial sector are significant in affecting the rate of growth in both Indonesia and Emerging ASEAN Countries'case. However, in Indonesia, banks give positive effect, while in Emering ASEAN countries' case, stock market give the positive effect.

There is an unique finding on this research about Indonesia. The result indicates that stock market development is insignificant to affect the rate of growth in Indonesia, while it is significant in Emerging ASEAN Countries. It happens because financial system in Indonesia is highly dominated by banks.

The findings on this research give policy implication that is needed by policy makers to reform the financial sector policies or to formulate new policies. By knowing the effect of banks and market sector development, we can support the policy to improve and strenghten the financial sector to support economic growth in a country.

1.6 Organization of this study

This paper is structured as follows: Chapter II gives literature review about finance and growth in theoretical and empirical studies. Chapter III explains the data and research methodolody including econometic models which are used to test the hypotheses. Chapter IV involves the empirical result and discussion regarding the theses. Section V give a conclusion of the research findings including policy recommendations and the suggestion for further studies.

2. LITERATURE REVIEW

2.1 Theories about Financial Development

According to Patrick (1966, 178), on the relationship of finance and growth, there are two hypotheses pattern: Firstly is "supply leading hypothesis" which states that "the development of financial institutions can increase the supply of financial services so as to enhance economic growth". In this case, financial sector is the determination of economic growth. Secondly is "demand following hypothesis" which states that economic growth triggers an increase in demand for services by the financial sector and thus financial sector developed (Patrick 1966, 182). This research argues for the first hypothesis that development in financial sector can be a source of growth's rate. The explanation is given on the following paragraphs.

The financial sector consists of financial instruments, financial markets, and financial institutions. This sector was developed to overcome the problem of transaction costs and the cost to access information. A good condition of financial system will decrease transaction costs and the cost to access information. Thus, this condition will affect on how people make investment and saving's decision which in turn have implications to the rate of growth.

Theoritically, the channel on how finance affect the rate of growth is illustrated on bellow picture:
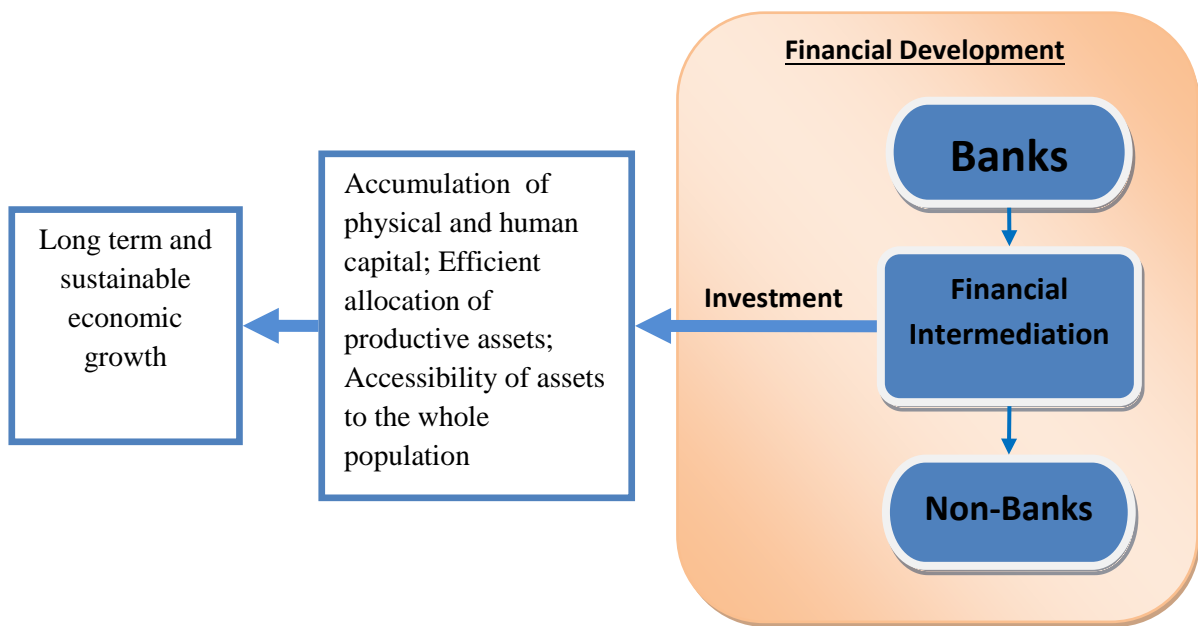
Picture 2.1 Financial development and sustainable economic growth

The achievement of "long term and sustainable" economic growth is depend on the ability of a nation to accumulate its physical capital and human capital, to efficiently allocate productive assets, and to assure the the accessibility of assets to the whole population. Financial intermediation which consists of banking sector and non-banking sector (involves stock market, financial company, insurance company, pension funds, etc) support this process through accumulation of investment. Financial intermediation support investment by three main roles. First, it mobilizes surplus of funds to the parties who are in shortage of funds. Second, it helps to allocate capital for more productive activities. Third, it helps to spread the "risk and liquidity" to prevent moral hazard which affect the efficiency of economic activity. Well functioning financial intermediary will help the process to works well and thus support the rate of growth.

Below are several views resulting from several researches about the correlation between finance and the rate of growth.

(1)   The supply-leading view

This view emphasizes "a proactive role" of finance to trigger the rate of growth. The quantity and quality of financial services in a country will determine total factor productivity's rate and factor accumulation thus will affect on different rate of economic growth. Specifically, there are two different channels of finance-led growth theory, which are "total factor productivity" channel and "factor accumulation" channel[6]. "Total factor productivity" channel emphasizes on the importance of innovation in financial technologies that help to spread information, reduce moral hazard, and monitor investment project (Fung 2009; 56). "Factor accumulation channel" focuses on two main roles. First, on how financial intermediaries mobilize resources for more productive activites. Second, on how they help firms dealing with difficulties in investment project.

 (2)   The irrelevance of finance

In a contrast from the previous, this view states that "economists tend to over-emphasize on the role of finance in the process of growth" (Ang 2007; 2). Real economic decision is basically independent of the financial sector. Economy is in perfect competition where asymetric information can be ameliorated and there is no transaction cost in any economic activity. Banking sector is competitive. Capital market are accessible. Sufficient liquidity are available in the market so any desired investment projects can be financed. Equilibrium interest rate is achived by the interaction of borrowers and lenders. One individual's decision can not affect the price activity. Neoclassical economists mostly hold this view.

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[6] Fung, M.K. 2009. Financial development and economic growth: Convergence or divergence? *Journal of International Money and Finance*, 28: 56-67

(3)   The Keynesian financial repressionist view

This view suggests insignificant role of financial development due to financial repression that held by government policy. Financial repression may come from such a policy like controling interest rate or increasing "reserve requirement". These policies may demotivate people to hold money or other financial asset. As the result, credit availability in the market will decrease. Therefore, financial repression actually restrict intermediary activities in financial sector.

(4)   The financial instability hypothesis

This view also criticizes the role of finance. Instability in financial systems can induce financial crises that give bad impact to economy. This view emphasizes that an economy is naturally unstable and requires constant government intervention to achieve stabilization. Rapid economic growth leads to more risky behavior and more speculative activities. Over leverage activities in financial sector may lead conditions for crisis which can increase the risk of default loan repayment of firms and bankruptcy. Therefore government intervention is needed to mitigate the fluctuations in economy.

(5)   Oppositions to financial liberalization

This view emphasize on the importance of government role in balancing the situation on financial sector through its policies. "Financial liberalization" may induce financial crises. Government try to reduce bad impact of crisis by intervening financial market for example by imposing credit constraint. The goal from this activity is to improve the economic performance.

(6)   The demand following view

This view is sharply contrast to the supply-lending view. This view emphasizes that financial development is the result of economic growth. When the economy grow, the demand for financial service from household and firms will also grow. This phenomenon will trigger the development in financial sector. The overall financial system will be developed and lead to an expansion.

(7)   New development view

There are two popular findings on this view:

-   *"The co-evolution of real and financial sector activity"*[7]

    There are several significant activities in financial sector which affect economic growth. First, finance helps to classify risk. Second, finance helps to provide information which is beneficial for investment decision. Third, finance help to monitor costs. On the other way around, growth in real sector may influence the financial system's structure. For example, reduce the cost of "financial superstructure" because growth in real sector can increase the competitiveness among financial institutions.

-   *"Nonlinearity in finance and development"*

    A country's development stages affects on how financial sector influence the rate of growth. In the early stage of development, financial intermediary activities is relatively absent. As capital is accumulated and income per capita increases, financial markets become more sophisticated, financial intermediaries emerge in terms of size and number, and financial instruments become more complex. In the early stages of development, stock markets are relatively insignificant while banks

[7] Salvatore, Capasso. 2004. Financial Markets, Development and Economic Growth: Tales of Informational Asymmetries, Journal of Economic Surveys, 7/2004

become predominant means in channeling savings to investment. However, as the economy continues to develop, stock markets begin to appear, the number of firms listed expand, and total market capitalization grow.

2.2 Empirical Studies

How development in financial sector influences the rate of growth gains significant attention in empirical study literature because of its implications for economic development policy. Some researches conducted by Bencivenga and Smith (1991), King and Levine (1993) and Levince (1997) suggest the impact of financial development to the rate of growth is positive. Some similar researches has also been widely applied in various countries.

Based on country level empirical studies, "higher levels of financial development are positively associated with faster rates of economic growth, physical capital accumulation, and economic efficiency improvements" (King and Levine 1993). King and Levine (1993) also found that "the predetermined component of financial development is strongly correlated with future rates of economic growth, physical capital accumulation, and economic efficiency improvements". The good condition of banks and stock market will support the rate of growth in the long run. (Levine and Zervos 1998).

In the scope of financial development, some economists focused on the role of banks. Banks can help to distribute funds for more productive investment (Bagehot 1873; Schumpeter 1912)[8]. Some economists also emphasize the role of stock market. The findings from Levine and Zervos (1998) suggests that stock market provide liquidity to market. This fact supports the long term access to capital and thus reduce the risk on investment. The power of banks and stock markets on affecting the rate of growth might be different. Arestis, Demetriates, and Luintel (2001) found that effect of banks are more powerful.

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[8] qtd. in Levine and Zervos 1998

Rioja and Valev (2004a) conducted a research related with *"Nonlinearity in finance and development"* theory. They found that "finance has a strong positive influence on productivity growth" in more developed economies. In less develop economies, finance firstly help to accumulate capital and then affect the growth of output.

Acemoglu, Aghion, and Zilibotti (2002) noted that a developing country is commonly approach "capital accumulation growth" or "investment-based growth" strategy while developed country pursues "innovation-based growth" strategy. Thus that will differ the financial market behavior in allocating fund for investment project which of course will choose the innovation activities that lead to larger productivity gains.

Table 2.1 summarize several previous researches on how development in finance affect the rate of growth. I choose these papers because they emphasize on banks and stock market activities as the proxies on measuring financial development, which is similar to this study.

Table 2.1 Some previous researches

Study	Coverage	Methodology	Result
Beck and Levine (2002)	40 countries (1976-1998)	GMM techniques for dynamic panels	Stock market and banks positively influence economic growth.
Caporale et al. (2009)	10 New EU Members ("Bulgaria, Czech.Rep, Estonia, Hungary, Latvia, Lithuania, Romania, Slovenia, Slovakia, Poland") (1994-2007)	dynamic panel model and Granger causality test	A lack of financial depth limit the fuction of stock and credit markets to enhance economic growth. They found that financial development affect the rate of growth but not vice versa.

Study	Coverage	Methodology	Result
Seetanah (2008)	27 developing countries (1991-2007)	panel VAR	Both banks and stock market are important. But banks has higher influence on the rate of growth.
Seetanah et al. (2012)	10 least developed countries for the period 1995 to 2009	dynamic panel model with GMM estimators	For least developed countries, banks becomes one of the main factors contributing towards growth. On overall, stock market is insignificant to growth. It happens due to stock market is relatively young in these economies
Estrada, Gemma, Donghyun Park, and Arief Ramayandi (2010)	125 countries in Developing Asia	panel data regression	"Bank credit and stock market capitalization have positive and significant effect on growth", especially in developing countries. The role of finance on growth become more advance in improving investment's efficiency, and thus contributing to higher economywide productivity.
Zermeno, Preciado, and Elizondo (2011)	Latin America (Mexico, Venezuela, Chile) and Southeast Asian countries (Malaysia, Thailand, Indonesia, Philipines) over thepriod 1980-2009	nonparametric panel regression	Stock market development has exerted a positive effect in Southeast asian countries while it has adverse effetcs in Latin America

3. DATA AND METHODOLOGY

3.1 Data

This research uses data obtained from "World Development Indicator", World Bank's website (data.worldbank.org) and "a New Database on Financial Development and Structure" (Beck & Cheraghlou, 2012). I construct the annual data for the period of 1981-2010. For Indonesia's specific study case there are 30 number of observation, while for ASEAN's emerging countries'case (Indonesia, Malaysia, Thailand, and Philinies) I construct the panel data set for the same year period thus provide 120 unit total number of observations.

It is not possible to include all nations in ASEAN into this research due to data limitation on Myanmar, Vietnam, Brunei Darussalam, Kamboja, Laos, and Singapore. Moreover, those countries are chosen because they have relatively similar economic growh and recently they are known as Emerging ASEAN Countries.

Regarding the time period, I use the annual data of economic growth indicators and financial development indicators. Several researches have been conducted using various type of frequency data. King and Levine (1993) use ten year averaged data in cross section to capture relatively long-term relationship of financial's indicators to rate of growth. Beck and Levine (2001) prefer "five-year interval data" to control business cycle. Cheng and Degryse (2006) use annual data to see how development in financial sector influence the growth in the local economy. Arestis, Demetriades and Luintel (2000) use "quarterly data" and perform "time series" methodology. However, there is no concensus of appropriate data frequency to measure the long term or short term effect on how development in financial sector influence the rate of growth. Therefore, I construct the estimations for all countries based on their yearly data.

3.2 Models

For observing the case of Indonesia, I adopt below model which consider the financial development indicator as the determinant of economic growth. Also, I consider development in banking sector and stock market, which measured by their activities, as the proxy of development in financial sector in general.

$$Growth_t = \beta_0 + \beta_1 FD_t + \beta_2 Controls_t + \epsilon_t \ ....(3.1)$$

Where Growth$_t$ is the variable of economic growth. Control variables are other explanatory variables that determine the economic growth. α is an "unobserved specific effect" which is "time invariant" while ϵ_t is a stochastic error term. FD$_t$ is the main explanatory variables in this paper.

Furthermore, for observing the case of emerging countries in ASEAN, I construct the similar model as per equation 3.1 but for panel data analysis:

$$Growthcap_{it} = \beta_0 + \beta_1 FD_{it} + \beta_2 Controls_{it} + \beta_3 Z_i + \epsilon_{it} \ .... (3.2)$$

Where *Growthcap$_{it}$* is country i's Real GDP per capita (measure the economic welfare) both at time *t*. I use the real GDP *per capita* in this case because it measures the relative development of a country compare to other country. *FD$_{it}$* is the main explanatory variable in this paper. It consists of banks' indicator and stock market's indicator. *Controls$_{it}$* are other explanatory variables that determine the economic growth. δZ_i is an unobserved specific effect of each countries which is time invariant while ϵ_{it} is a stochastic error term. $\beta_{0,1,2,3}$ are coefficient of all variables.

On the first set, I focus to see how "financial development" affect economic growth in Indonesia only. Since the financial indicators are sensitive to the endogenous/ simulaneity problem, ordinary least square (OLS) is inconsistent estimator which yield to bias estimates. To overcome that problem I perform the "two stage least square" (2SLS) method. I eliminate

the simultaneity problem using instrumental variable which is *1 year time lag* of banks and stock market indicators itself.

Banks' development indicator and stock market's development indicator enter the growth regression jointly. This is because I consider both indicators are important for economic growth. However the result is not significantly different when they enter regression individually.

On the second set, several sensitivity tests are conducted to check the "robustness" of the estimations. I replace the financial development indicators used in this research with other similar indicators for example "ratio of liquid liabilities as percentage to GDP" to replace the banking sector development indicator; "ratio of total stock value traded as percentage to GDP" or "ratio of stock market capitalization as percentage to GDP" to replace the stock market development indicator.

On the third set, I conduct "fixed effects panel data" estimation to see the phenomenon of financial development and the rate of growth in four ASEAN's emerging countries which are Indonesia, Malaysia, Thailand, and Philipines.

Panel data methodology has several advantages. It requires higher number of observations so thus there will be higher degree of freedom (Hsiao 2002). Since data availability of the observed countries in this paper are annualy, so the number of observation is not many. Therefore panel data helps to overcome this problem. In addition, panel data approach also help to control the country-specific fixed effects. It also allows to use the instrumental variable in the form of transformed lagged value of concerned variable to overcome potential endogenousity problem which is impossible to be applied for cross section methodology. Since the financial variables usually have time lag in affecting the economic growth, panel data estimation gives the room to the potential indirect (time lag) effect.

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I use fixed effect regression to control variables that "vary across entities" (i) but constant over time (t). The fixed effects model permit cross-section heterogeneity by allowing the intercept to vary across individuals. Recall the growth per capita equation (3.2) below:

$$Growthcap_{it} = \beta_0 + \beta_1 FD_{it} + \beta_2 Controls_{it} + \beta_3 Z_i + \epsilon_{it} \ldots\ldots\ldots\ldots (3.2)$$

Because $\beta_3 Z_i$ varies among countries but is constant over time, the growth per capita equation model can be interpreted as having n intercept for each country. Specifically, let $\alpha_i = \beta_0 + \beta_3 Z_i$. Then Equation (3.2) becomes

$$Growthcap_{it} = \beta_1 FD_{it} + \beta_2 Controls_{it} + \alpha_i + \epsilon_{it} \ldots\ldots\ldots\ldots\ldots\ldots (3.3)$$

Equation (3.3) is the fixed effect regression model which is used in this research for panel data estimation. $\alpha_i = \alpha_1, \alpha_2, \alpha_{3,} \alpha_4$ are country fixed effect. They are treated as unknown intercepts to be estimated, one for each countries.

3.3 Variables

To measure economic growth indicator on the specific study of Indonesia, I use "the percentage growth rate of real GDP" (US$), indicated by *(GROWTH).* This measure the growth of output (goods and services) produced by an economy over time.

On the panel data model, I use "the percentage growth rate of real GDP *per capita"* *(GROWTHcap)* to measure the relativeness of the level of economic development among the observed countries.

I construct the financial development variables as measured by development in banks' activities and stock market's activities. I adopt the indicator of "financial development" from Beck and Levine (2001) which are "ratio of credit to private sector by deposit money bank as percentage to GDP" *(Bank Credit)* and "stock market turnover ratio" *(Turnover Ratio).*

"Ratio of private credit by deposit money banks as percentage to GDP" *(Bank Credit)* is used to measure the banking sector development in terms of its activity. It isolate the credit which is distributed to the private sector only. Moreover, it focuses on the credit issued by banking sector other than central bank. It reflects the financial intermediary's function which is channeling saving to investors.

"Stock market turnover ratio" *(Turnover Ratio)* is used to measures the stock market development. It is "ratio of the value of total shares traded to average real market capitalization". It calculates trading relatives to the size of the market. It captures the stock market's activity and liquidity. There is another measurement of stock market's development using "total shares traded on the stock market exchange" or "stock market capitalization". However both measurement may contain influence in price of the stocks which may bias of the indicator. Therefore, stock market turnover ratio is choosen because it eliminates the influence of stock price fluctuation.

The control variables used in this paper are adopted from King and Levine (1993). They are inflation rate in percentage *(INFLATION),* "the ratio of government expenditure as percentage to GDP" *(GOVT),* and "the ratio of total trade as percentage to GDP" *(TRADE).* Noted that the GDP which is used as the denominator for all variables in this paper come from the real GDP to avoid the effect of inflation.

3.4 A brief look at the data

3.4.1 Indonesia

The summary statistics of Indonesia's data is reported in table 3.1 which comprise all variables under estimation.

Table 3.1 Summary statistic of Indonesia's data for the period of year 1981-2010

Variable	Number of Observation	Mean	Std. Dev.	Min	Max
GROWTH	30	5.3551	4.0678	-13.1267	9.0847
Bank Credit	30	28.2716	13.6063	8.9997	53.5287
Turnover Ratio	30	37.2239	23.0602	1.3139	83.2705
INFLATION	30	10.4450	9.6366	3.7200	58.3870
TRADE	30	72.7506	9.2792	59.2655	93.3527
GOVT	30	8.3628	1.3082	6.4356	11.1508

For the period of 1981-2010, the average economic growth of Indonesia measured by the real GDP growth is 5.35%. The highest economic growth was achieved on 1989 due to economic stabilization under the New Order and the economic reform in the late 1980's which bring capital inflow to Indonesia especially to the manufacturing sector. Indonesian economy grew quite high by an average of 7.16% from 1989 to 1997. However, financial crisis on 1997-1998 harshly affect Indonesia's economy which bring the real GDP growth into the the lowest which is -13.12%.

Picture 3.1 The Economic Growth of Indonesia during 1981-2010.
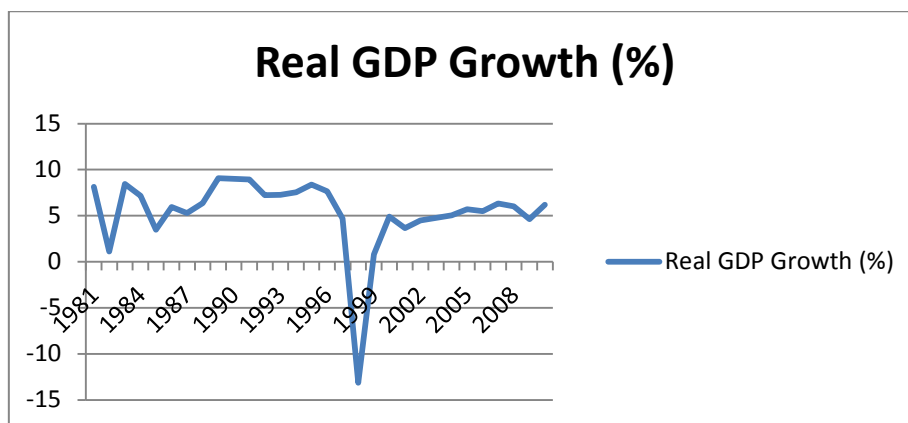
Source: World Development Indicator, World Bank

Picture 3.2 is the graph of Real GDP Indonesia in US$ from 1981-2010. The increase in the real GDP shows the development in the economy. It is different with the economic growth. Economic growth itself is *"the increase of output (goods and services) produced by*

an economy over time". However, the economic development is the quantitative and qualitative changes in the economy in terms of income and standard of living. In general, Indonesia's economy continues to develop over the year the but slightly volitile during the financial crisis 1997-1998.

Picture 3.2 Real GDP of Indonesia, 1981-2010
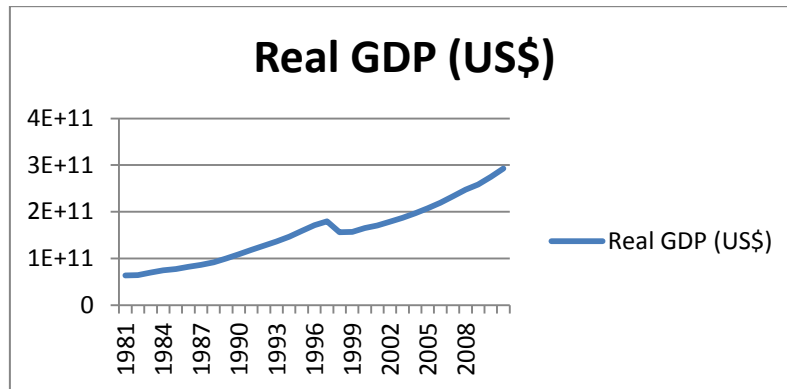
Source: World Development Indicator, World Bank

As shown on the picture 3.3, "the ratio of private credit by deposit money banks to GDP" (BANK) is continue to increase until reach 53.528% on 1997 before sharply decline into 17% on 2000 due to financial crisis that harshly affect Indonesia's economy. Furthermore, the stock market turnover ratio shows a fluctuated but increasing trend. It implies that the stock market's activity in Indonesia is positively growing.

Picture 3.3 Financial Development Indicators of Indonesia, 1981-2010
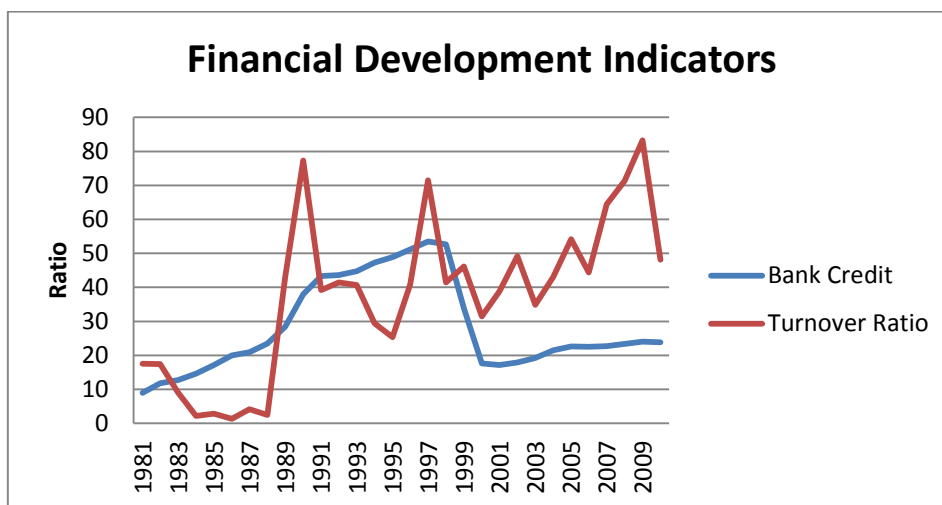
Source: World Development Indicator, World Bank

Table 3.2 reports the Pearson correlation which shows the linear association among variables. In general, we can see that all financial development indicators are negative but not significantly correlated with the economic growth indicator. Among financial development indicators, The highest correlation to GROWTH comes from *Bank Credit* variable which is 12.62% while *Turnover Ratio* is only 3.22%. Other control variables are significantly correlated to GROWTH at 1%-10% level.

Table 3.2 Correlation among variables in Indonesia, 1981-2010

	GROWTH	Bank Credit	Turnover Ratio	INFLATION	TRADE	GOVT
GROWTH	1.0000					
Bank Credit	-0.1262	1.0000				
	[0.5063]					
Turnover Ratio	-0.0322	0.3469	1.0000			
	[0.8657]	[0.0604]				
INFLATION	-0.8439	0.3029	0.0093	1.0000		
	[0.0000]	[0.1038]	[0.961]			
TRADE	-0.3814	0.003	0.2876	0.3793	1.0000	
	[0.0376]	[0.9875]	[0.1233]	[0.0387]		
GOVT	0.3276	-0.5018	-0.4772	-0.3051	-0.1792	1.0000
	[0.0772]	[0.0047]	[0.0077]	[0.1011]	[0.3433]	
[P-value in square brackets]						

Moreover, there is no multicolinearity problem among explanatory variables on table 3.2 because there is no variable with has "highly correlated" relationship. Multicolinearity problem will make the estimation of explanatory variable on dependent variable (growth) become less precise.

For example, the correlation between bank credit and turnover ratio is relatively low at 34.69% and significant at 0.1 level. Also, the correlation between bank credit and inflation and trade are also below 30% but not significant.

Overall, the correlations among all explanatory variables are relatively low under 50%. Only the correlation between bank credit and government expenditure (GOVT) shows slightly above 50% but still this shows low correlation. Perfect correlation is shown by number 1 but it rarely happens among explanatory variables.

From the Indonesia's data analysis, we can see in the similar trend that when financial sector grows, economy grows. Economic growth is positive along with the development of financial sector regardless the special case during the financial crisis 1997-1998. In this case, financial development may contribute to economic growth. However, this hypotheses should be proven by performing econometric test which result is in the next chapter.

3.4.2 Emerging ASEAN Countries

The summary statistics of Emerging ASEAN countries' data is reported in table 3.3 which comprise all variables under estimation.

Table 3.3 Summary statistic of Emerging ASEAN Countries' data: 1981-2010

"Variable"		"Mean"	"Std. Dev."	"Min"	"Max"	"Observations"	
Growth per capita	overall	3.086563	4.145855	-14.28697	11.23814	N =	120
	between		1.54185	.836532	4.314887	n =	4
	within		3.923029	-14.93664	10.00981	T =	30
Inflation	overall	7.263257	9.012275	-8.637826	75.27129	N =	120
	between		4.468235	3.219159	12.30621	n =	4
	within		8.131508	-5.139854	70.22833	T =	30
Govt	overall	10.76697	2.311188	5.693508	17.73402	N =	120
	between		1.962723	8.631545	13.19785	n =	4
	within		1.558236	7.338124	15.30315	T =	30
Trade	overall	106.1511	48.96538	45.8927	232.4432	N =	120
	between		44.38512	72.75064	170.7913	n =	4
	within		30.12745	29.91704	167.803	T =	30

"Variable"		"Mean"	"Std. Dev."	"Min"	"Max"	"Observations"	
Turnover Ratio	overall	41.87969	30.40126	1.3139	153.1562	N =	120
	between		21.79161	24.09591	73.53126	n =	4
	within		23.77158	-22.00597	121.5047	T =	30
Bank Credit	overall	61.60893	40.65375	8.99979	165.802	N =	120
	between		39.20005	27.3698	100.0317	n =	4
	within		22.14858	10.27378	136.6484	T =	30

The economies of Southeast Asian nations have successfully restructured and deleveraged since the 1997 Asian financial crisis. Emerging ASEAN countries such as Indonesia, Malaysia, Thailand, and Philipines show significant contributions to the Southeast Asia region's economy. Along with its economic integration plan, ASEAN countries are also preceeded to catch China and India, to give more contribution on the economic growth in Asia.

Picture 3.4 Emerging ASEAN Countries' growth rate
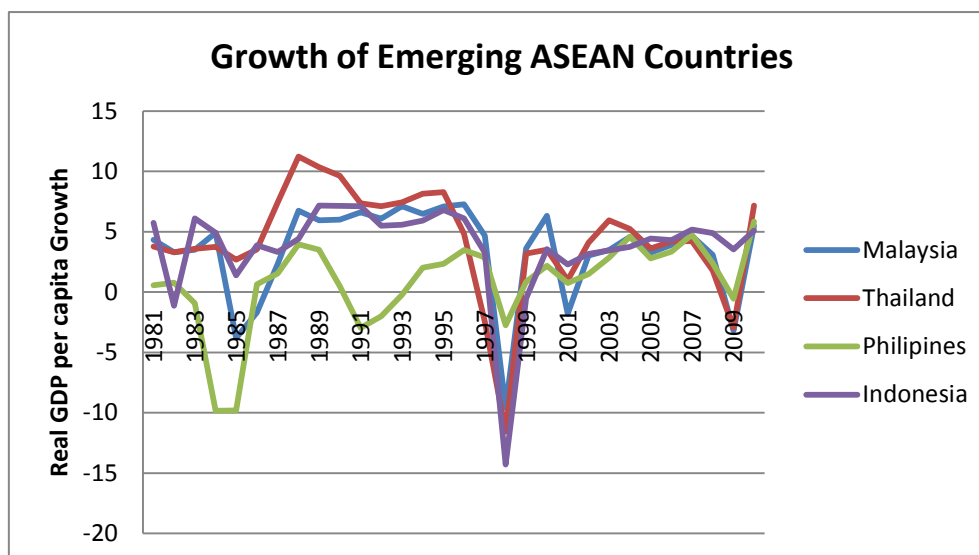
Source: "World Development Indicator", World Bank

"The growth rate per capita" of Emerging ASEAN Countries have similar trend. They are suffered from sharply declining during the 1997 financial crisis. After that the growth rate show positve trend. A slightly shock also shown on 2009 as the effect of global financial

crisis on 2008. However, they can recover from the crisis and continue to grow with average of 5%.

Table 3.4 reports the Pearson correlation which shows the linear association among variables. The banking sector development shows positive but not significant correlation to per capita growth rate. On the other hand, stock market development indicator shows strongly significant relationship to "per capita growth rate". It also shows that *Turnover Ratio* is more correlated at 26.59 % with *GROWTHcap* compare to *Bank Credit*. However, this correlation needs to be empirically tested which results are provided on the next chapter.

Table 3.4 Correlation among variables in Emerging ASEAN Countries: 1981-2010

	GROWTHcap	Bank Credit	Turnover Ratio	INFLATION	TRADE	GOVT
GROWTHcap	1.0000					
Bank Credit	0.0128 [0.8894]	1.0000				
Turnover Ratio	0.2659 [0.0033]	0.3818 [0.000]	1.0000			
INFLATION	-0.4520 [0.000]	-0.3204 [0.0004]	-0.1245 [0.1756]	1.0000		
TRADE	0.0833 [0.3659]	0.4134 [0.000]	-0.0976 [0.2888]	-0.5047 [0.000]	1.0000	
GOVT	0.0864 [0.3479]	0.7234 [0.000]	0.119 [0.1954]	-0.2642 [0.0035]	0.4211 [0.000]	1.0000
[P-value in square brackets]						

4. EMPIRICAL RESULT AND DISCUSSION

4. 1 Two-stage least squares for Indonesia

Table 4.1 reports the two stage least square results where real GDP growth rate is the dependent variable. "Robust standard errors" are used to compute the "*t*-statistics".

Banking sector development

I consider the potential influence of 1 year time lag of financial indicators that affect the contribution of financial development on the rate of growth. Therefore, I take 1 year time lag of credit as the instrumental variable of *Bank Credit*.

In order to make the 2SLS estimation to be reliable, we should check whether "*LagBank Credit*" is a significant explanatory variable for "credit" or not. It is proven from the result of first stage regression of *Bank Credit*. There is a rule of thumb in this methodology that, the reliable t-statistic must be greater than about 3.3 or the F-value for testing the instrument is greater than 10.

From table 4.1, we can see the first stage regression of *Bank Credit* shows the F statistic as 56.72 which is greater than 10. Therefore it shows that "*LagBank Credit*" is a good instrument variable for "*Bank Credit*" and thus it can replace *Bank Credit* variable.

Table 4.1 Two-stage least square (2SLS) estimations of Indonesia's financial development indicators

Regressors	Two-stage least squares of Banking Sector Development Indicator		Two-stage least squares of Stock Market Development Indicator	
	"First stage regression"	"Second stage regression"	"First stage regression"	"Second stage regression"
	Dependent Variable: **Bank Credit** (1a)	Dependent Variable: **GROWTH** (1b)	Dependent Variable: **Turnover Ratio** (2a)	Dependent Variable: **GROWTH** (2b)
Constant	-29.2968 [0.1440]	7.8148 [1.370]	26.1440 [0.4070]	3.7636 [0.5030]
Bank Credit		0.0561** [0.050]	0.2423 [0.3560]	0.0653** [0.0420]
Turnover Ratio	0.0623 [0.2450]	0.0032 [0.8780]		-0.0013 [0.9700]
INFLATION	-0.0026 [0.9840]	-0.3551*** [0.0000]	-0.6709*** [0.0060]	-0.3577*** [0.0000]
TRADE	0.0461 [0.7930]	-0.0431 [0.3530]	0.2414 [0.5930]	-0.0122 [0.8280]
GOVT	2.8319** [0.0430]	0.3018 [0.5230]	-3.3003 [0.3130]	0.5286 [0.2820]
LagBankCredit	1.0226*** [0.0000]			
LagTurnoverRatio			0.5871** [0.0170]	
R^2	0.8874	0.7856	0.5778	0.7543
Number of Observations	29	29	30	30
F-statistic	56.72	31.96	8.32	20.72

[P-value in square brackets]. * significant at 0.10 level, ** significant at the 0.05 level, *** significant at the 0.01 level. GROWTH is "real GDP growth rate" (%). Bank Credit: "the ratio of private credit by deposit money banks as percentage to GDP". Turnover Ratio: stock market turn over ratio. INFLATION:inflation rate. GOVT: "the ratio of government expenditure as percentage to GDP".TRADE:"the ratio of total trade as percentage to GDP". LagBankCredit: 1 year time lag of Bank Credit variable. LagTurnoverRatio: 1 year time lag of Turnover Ratio variable.

As shown from the second stage of regression's result of GROWTH, *"Bank Credit"* indicator give strong and positive impact on the rate of growth at 0.05 level. The coefficient of 0.0561048 suggest that, at 95 percent confidence level, 1 percent increase in "the ratio of private credit by deposit money banks as percentage to GDP" leads to 0.0561 percent increase in the real GDP growth, assume other indicators are constant. The quite high value of the coefficient of variations (R^2) implies that the model is good fit and 78.56% of variations in the dependent variable are explainable by the variations in the explanatory variables.

Stock market development

A somewhat different conclusion found on the 2SLS test for stock marekt turnover ratio *(Turnover Ratio)* as the variable of stock market development. The one year time lag of stock market turnover ratio *(LagTurnover Ratio)* can not be a good instrumental variable of stock market turnover ratio *(Turnover Ratio)*. The F statistic shows 8.32 which is below 10 as per the rule of thumb in this methodology as mention before. Therefore, the 2SLS estimation will not be realiable in this case.

To overcome this problem, I do OLS regression on GROWTH as shown on table 4.4. The findings suggest that stock market indicator is negative in affecting the rate of growth but it is not statistically significant. Actually, the OLS results is not much different with the 2SLS's result.

So, overall results on the two-stage least squares in Indonesia's case imply two main findings: First, banks' indicator shows positive and significant effect on growth. Second, stock market's indicator shows negative and not significant effect on growth.

This relationship is commonly happened in a country which adopt bank-based financial system like Indonesia where the impact of banks are more powerful and significant

than stock market. However, this is a somewhat different conclusion from the previous findings of cross-country level studies by King and Levine (1993), Levine and Zervos (1998), Deidda and Fattouh (2008). They found that development in banking sector and stock market can promote the rate of growth.

4.2 Sensitivity Analysis

I conducted several sentitivity analyses to check the "robustness "of these result. First, I did regression using another indicator of stock market development instead of "turnover ratio" which is "the ratio of stock total value traded as percentage to real GDP". It is regressed jointly with indicator from banking sector's development *(Bank Credit)* in the two-stage least square method. As shown on table 4.2, I found that using another indicator of stock market development into regression does not affect the relationship between banks' indicator and economic growth. The regression shows that banking sector development's indicator is still significant at 0.50 level on affecting economic growth.

Table 4.2 Sensitivity Test 1

Regressors	"First stage regression" "Dependent Variable": Stocks traded (1)	"Second stage regression" "Dependent Variable": GROWTH (2)
Constant	0.1074	3.8469
Bank Credit	0.0653 [0.252]	0.0710** [0.017]
Stocks traded		-0.1732* [0.081]
INFLATION	-0.2504*** [0.005]	-0.4101*** [0.000]
TRADE	0.1823 [0.219]	0.0764 [0.353]
GOVT	-1.1610 [0.170]	-0.453 [0.922]
Lag-Stocks traded	0.6935*** [0.000]	
R^2	0.8478	0.7604
Number of Observations	30	30
F-statistic	55.69	21.33
[P-value in square brackets]. * significant at 0.10 level, ** significant at the 0.05 level, *** significant at the 0.01 level.		

Second, I did regression using another indicator of banking sector development instead of "ratio of private credit by deposit money banks as percentage to real GDP" *(Bank Credit)*. I took "ratio of liquid liabilities to real GDP" as the measurement of financial depth. It is regressed jointly with the stock market development's indicator *(Turnover Ratio)* in the two-stage least square method. I found different conclusion that it affects the link between turnover ratio *(Turnover Ratio)* and economic growth.

Table 4.3 Sensitivity Test 2

Regressors	"First stage regression" "Dependent Variable": Liquid Liabilities (1)	"Second stage regression" "Dependent Variable": GROWTH (2)
Constant	47.7774*** [0.008]	81.1500** [0.011]
Liquid Liabilities		-0.6552** [0.018]
Turnover Ratio	0.0595*** [0.001]	0.0710*** [0.010]
INFLATION	0.1197*** [0.000]	-0.2661*** [0.000]
TRADE	-0.1611*** [0.000]	-0.1681*** [0.003]
GOVT	-2.7878** [0.043]	-4.7265** [0.038]
Lag-liquid liabilities	0.5669*** [0.000]	
R^2	0.9815	0.7493
Number of Observations	30	30
F-statistic	405.88	56.30
[P-value in square brackets]. * significant at 0.10 level, ** significant at the 0.05 level, *** significant at the 0.01 level.		

As shown on table 4.3, turnover ratio is "positive" and "strongly significant" at 0.01 level in affecting the economic growth. However, the alternate banking sector indicator's itself is "negative" and "significant" at 0.05 level in affecting the economic growth.

Third, I run the ordinary least square (OLS) for this estimation. As shown on table 4.4, the result is not much different with the 2SLS estimations, that stock market turnover ratio

(Turnover Ratio) is negatively correlated but not statistically significant with real GDP growth. The banking sector development indicator also shows strong and positive correlation with real GDP growth.

Table 4.4 Sensitivity Test 3

OLS Regression on GROWTH in Indonesia	
Regressors	**Coefficients**
Constant	3.7908
	[0.5000]
Bank Credit	0.0657**
	[0.0230]
Turnover Ratio	-0.0022
	[0.9160]
INFLATION	-0.3584***
	[0.0000]
TRADE	-0.0114
	[0.8040]
GOVT	0.5224
	[0.2710]
R2	0.7543
"Number of Observations"	30
[P-value in square brackets]. * significant at 0.10 level, ** significant at the 0.05 level, *** significant at the 0.01 level.	

Fourth, I did regressions by droping one control variable and using two combination of the control variables instead of three. For example, I regress the estimation with two control variables which are INFLATION and GOVT, or INFLATION and TRADE, or TRADE and GOVT. I still use 2SLS methodology with one year lag of Bank Credit as the instrumental variable of Bank Credit. As shown on table 4.5, it suggests that only when TRADE variable is dropped from the equation, it provides similar result that banks' indicator

is "positive and significant" in affecting the economic growth while stock market's indicator is "negative and not significant" in affecting the economic growth.

Table 4.5 Sensitivity Test 4

Second stage regression on GROWTH			
Regressors	**(1)**	**(2)**	**(3)**
Constant	11.3508	4.7081	11.2927***
	[0.330]	[0.280]	[0.002]
Bank Credit	-0.0335	0.0646**	0.0399
	[0.680]	[0.020]	[0.299]
Turnover Ratio	0.0531	-0.0034	-0.0007
	[0.214]	[0.863]	[0.973]
INFLATION		-0.3731***	-0.3592***
		[0.000]	[0.000]
TRADE	-0.1999		-0.0474
	[0.181]		[0.319]
GOVT	0.8839	0.3235	
	[0.171]	[0.506]	
R2	0.2736	0.7812	0.7752
Number of Observations	29	29	29
[P-value in square brackets]. * significant at 0.10 level, ** significant at the 0.05 level, *** significant at the 0.01 level.			

4.3 Panel regressions for emerging ASEAN countries

Table 4.6 reports the fixed-effects estimation result on which the dependent variable is "the real GDP growth". "Robust standard errors" are used to compute the "t-statistics". The coefficients of variations (R^2) indicates that 13.61% of the variations in the dependent variable are explainable by the variations in the explanatory variables

Table 4.6 Fixed effects panel regression on real GDP growth/capita

Regressors	Fixed effects panel regression of Growth per capita
Constant	12.6152***
	[0.000]
Bank Credit	-0.0914]***
	[0.000]
Turnover Ratio	0.0240*
	[0.060]
INFLATION	-0.2476***
	[0.000]
TRADE	0.0298**
	[0.022]
GOVT	-0.5824**
	[0.040]
R2	0.1361
Number of Observations	120
[P-value in square brackets]. * significant at 0.10 level, ** significant at the 0.05 level, *** significant at the 0.01 level.	

As shown on financial development indicators show significant correlation on economic growth of those observed countries. However, different results with previous Indonesia's specific country are shown in this column. Banking sector development indicator *(Bank Credit)* is *negatively* correlated with "real GDP growth per capita", and the coefficient is strongly statistically "significant" at 0.01 level. The coeficient of *(Bank Credit)* implies that 1 percent increase of "the ratio of private credit by deposit money banks as percentage to GDP" leads to 0.09144 percent point decrease on "the growth rate of real GDP per capita". However, stock market development indicator *(Turnover Ratio)* is "*positively*" correlated

with "real GDP growth per capita". The coeficient of *Turnover Ratio* implies that 1 percent increase of stock market turnover ratio leads to 0.02407 percent increase on "real GDP growth per capita".

This phenomena might be happen in these emerging ASEAN countries due to as the country grows the effect of stock market becomes more powerful than the banking sector. It follows the new development theory of finance which is *Nonlinearity in finance and development* (Rioja and Valev 2004a; Deidda and Fattouh 2002). The empirical studies regarding this theory suggest that the contribution of financial intermediation is rudimentary at the initial stage of development. However, when there is an accumulation of capital and income per capita increases, financial markets become more growing and accomodative. Financial intermediaries grow in terms of number, size, and activity. At this time stock markets are "relatively not significant" and banking sector tends to dominate the financial system. Yet, as the economy is growing, stock market begin to appear and active shown by increasing number of firms listed, "total market capitalization", "stock value traded", and "turnover ratio".

In addition to the positive effect of stock market, we should aware that the turnover ratio is the measurement for stock market liquidity which indicates "*domestic stock transactions on a country's national stock exchanges*". As the economies become more financially integrated, "the physical location will matter less and this measurement will matter more" (Levine 2004). Based on Levine (2004) "the physical location of the stock market is not necessarily matter for the provision of liquidity unless there are impediments to cross-location transactions". Therefore, as the economies in the emerging ASEAN countries become more integrated and liberalized, it promotes the role of stock market to positively contribute on regional growth. The positive result of stock markets on growth is also

consistent with the findings on the cross-country studies conducted by Levine (1991), Holmstrom and Tirole (1993); Bencivenga et al. (1995) which suggest that liquidity on stock market triggers the long-term growth.

The negative effect on banking sector development on the rate of growth may be because of the problems created by powerful banks in those countries. In terms of new investments, more powerful and concentrated banks might increase the ability to extract more of "expected future profits" from the firm (Hellwig 1991). This activity may demotivates firms to take innovative and more profitable investments (Rajan 1992). Thus, it may slower the growth. Furthermore, stock market is more adaptable to the innovation in the product and process compare to banks (Allen and Gale 1999). Also, concentrated banks is more condusive to finance mature and less risky firms compare to newer, riskier industries (Dewatripont and Maskin 1995). Banks give more support to the mature, less risky firms than to newer, riskier firms. Therefore, the rate of return of investment on mature, less risky firms is relatively smaller compare to if banks give more investment to the newly, riskier firms. Thus, this decisions affect on the relatively smaller productivity growth.

I also run ordinary least square estimates for each countries to capture the phenomena that specifically happen on those observed countries. Besides Indonesia, Thailand and Philipines are also classified as the bank-based financial system while Malaysia has relatively market-based financial system. Among all of those countries, Malaysia is categorized by World Bank as "uppper-middle income" country while the rest are "lower-middle income" countries. Moreover, on the level of financial development among all countries in ASEAN, Malaysia is placed in the second rank after Singapore, followed by Thailand, Philipines and Indonesia.[9]

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[9] World Economic Forum. 2011. The Financial Development Report 2011.
http://www3.weforum.org/docs/WEF_FinancialDevelopmentReport_2011.pdf

As shown on table 4.7, in Malaysia (column 1), the stock market development indicator shows positively and strongly significant effect on economic growth in comparison to the banks' indicator. It is consistent to the view that for "market based financial system", the role of stock market is more powerful than banks. However the results show conflicting evidences for bank-based financial systems countries. In Indonesia's case as discussed earlier (table 4.4), the effect of banks is positive and significant on growth. However, in Thailand's case (column 2), both financial development indicators show negative relationship on economic growth where the effect of banks is more significant. For Philipines (column 3), both finance indicators are not significant to affect the rate of growth.

We should be careful that the indicator of economic growth used in this paper is real GDP growth per capita. The negative relationship does not mean that the economy is negative. It means the financial development indicator might lead to declining on the *rate* of growth however it does not mean that the percentage of economic growth is negative.

So, the overall results on this research suggest that it is common for a country which has "bank-based financial system" like Indonesia, to have a more powerful and "significant impact" of banks on the rate of growth than stock market. However, when it turns into regional growth, there is conflicting evidences that the role of banks become smaller and even negative. On the other hand, the role of stock market become "positive" and "significant".

Table 4.7 Ordinary Least Square regressions of Growth per capita

Regressors	Ordinary Least Square regressions of Growth per capita		
	MALAYSIA (1)	THAILAND (2)	PHILIPINES (3)
Constant	22.7682* [0.091]	51.2310*** [0.000]	-0.6169 [0.881]
Bank Credit	-0.1560** [0.027]	-0.1453*** [0.000]	-0.0451 [0.575]
Turnover Ratio	0.0809** [0.014]	-0.0329* [0.098]	0.0247 [0.307]
INFLATION	0.0603 [0.816]	-0.6340*** [0.007]	-0.2163*** [0.000]
TRADE	0.0221 [0.422]	0.0666*** [0.002]	0.0647** [0.033]
GOVT	-0.7820 [0.186]	-3.1261*** [0.000]	-0.1154 [0.787]
R2	0.4984	0.7698	0.6544
Number of Observations	30	30	30
[P-value in square brackets]. * significant at 0.10 level, ** significant at the 0.05 level, *** significant at the 0.01 level. Dependent variable: GROWTHcap which is "real GDP per capita growth rate" (%). Bank Credit: "the ratio of private credit by deposit money banks as percentage to GDP". Turnover Ratio: stock market turnver ratio. INFLATION:inflation rate. GOVT: "the ratio of government expenditure as percentage to GDP".TRADE:"the ratio of total trade as percentage to GDP". The first column (1) indicates the fixed effect panel regression result. The 2nd-5th column indicate the ordinary least square regressions' results.			

I can not generalized the findings in here due to the small number of observations. The sample countries taken are limited to only 4 countries instead of overall 10 countries in ASEAN due to data limitation. More countries involved should give more predictability result. However, the result is still relevant because the sample countries used in this research have relatively the same level of economic development with Indonesia which can capture the phenomena of growth in the Emerging ASEAN Countries.

In summary, the results show two set of conflicting evidences. First, banking sector development in Indonesia gives "positive" and "significant" effect on the rate of growth in Indonesia while in group of Emerging ASEAN Countries, it gives "negative" effect. Second, the role of stock market in Indonesia is "not significant" to affect the rate of economic growth in Indonesia while in the region stock market exerts "positve" and "significant" effect on the rate of growth even the effect is small.

The conflicting evidences give important learning that both "banking sector development" and "stock market development" can be the sources of growth. In Indonesia's financial sector, banks is more powerful than stock market to enhance the rate of growth in Indonesia; whereas in the Emerging ASEAN Countries the stock market development is more powerful to affect the rate of growth as financial market become more mature and liberalized.

The results give policy implication that the policy maker in Indonesia should still emphasize the development of banks to enhance its contribution to the rate of economic growth. Moreover, empowering the role of stock market to trigger the rate of growth in ASEAN region.

5. CONCLUSION

This research studied the empirical link of development in financial sector and the rate of growth in Indonesia and four emerging nations in Southeast Asia for the past three decades. Based on data and methodolody used in this paper, I found two important set of findings.

Firstly, after performing two-stage least square (2SLS) estimation for Indonesia's case study, the results state that bank's indicator gives strong and positive effect on the rate of growth. Also there is an effect of one year time lag of bank's indicator on the rate of growth. However, stock market development is statistically not significant on affecting economic growth. Some sentitivity checks have been conducted to examine the robustness of these result and thus find out that the results are robust for several sentitivity analysis. Generally, this relationship is common for a country which has domination of banks on its financial system like Indonesia. Therefore, the impact of banks is more powerful and significant to growth than stock market.

Secondly, after performing fixed-effects panel estimation for Emerging ASEAN Countries, I found a conflicting evidence with the Indonesia's specific case study. Banking sector development indicator has negative correlation with the rate of growth. In contrast, stock market indicator has positive correlation with the rate of growth. It captures the phenomena of emerging countries in ASEAN. As the country grows, development in stock market becomes more powerful than development in banks. This conflicting evidences with Indonesia's case may happen because of the problems created by powerful banks in those countries.

So, based on the empirical results in this research, financial development which consist of banks and stock market development actually matter for the economic growth,

which effect are vary among Emerging ASEAN Countries. Both of them can be the source of economic growth.

Within this framework, financial sector's policies can be guided to strengthen the fuction of banks and improve the role of stock market. So that, there is a room for the stock market to develop thus support the banking sector so that they can complementary contribute on the rate of growth.

However, I realize that this research has some limitations. First the result can be improved by including more sample countries in ASEAN however it is hard to do due to data limitation on other ASEAN countries like Myanmar, Cambodia, Vietnam, Laos, and Brunei Darussalam. However this problem can be ignored because the main focus on this research is about emerging ASEAN countries. Second, there might be missing explanatory variables that support the influence of finance on growth which are not used in this paper.

Further research can be conducted to see the influence of financial sector on the rate of economic's growth on all countries in ASEAN. So that the larger number of observation can be obtained where it is impossible to do on this research due to data limitation. Moreover, to include other explanatory variables that might influence the interaction of finance and growth for example the law and regulation in a country that is again not possible to do on this research due to county level data are hard to obtained. The finding on those researches can strengthen and complement the findings on this paper.

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