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# Financial Deepening And Economic Growth In Indonesia

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***A B S T R A C T***

*The purpose of this study is to analyze the impact of financial deepening on economic growth in Indonesia. The time period studied for this research is from 1975 until2016. This study uses a quantitative research approach in the form of statistics and econometrics regression data. The data used is based on the annual time series data from 1975 until 2016. In this research, two models of testing are used, namely ARDL (Autoregressive Distributed Lag) and ECM (Error Correction Model). The results of this study indicate that financial deepening has a significant negative impact on economic growth in Indonesia. The Broad Money, Government Expenditure and Trade Openness variables influenced the variables of economic growth simultaneously in the period 1975-2016, but only the GDP and Trade openness variables had a significant influence on the dependent variable of GDP during the researched period. Therefore, Bank Indonesia (BI) needs to conduct further research on Broad Money trading (M2) so that the function of economic depth can encourage the growth of GDP Indonesia. In addition, there is a need for policies that will stimulate and facilitate foreign and domestic companies to sell their shares on BEI (Indonesian stock exchange) so that they can be traded by people whose impact will increase Indonesia's economic growth.*



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## INTRODUCTION

The role of the financial system is that of a financial intermediary in the economic system that serves to facilitate transactions between individuals or institutions that have excess funds and parties who need funds. If this function does not run well, economic growth will be affected. In Indonesia, the role of financial intermediaries is mostly limited to saving and borrowing funds. There is only a small percentage of people who understand about the capital market and stock exchange trading of Indonesia (BEI).

Financial markets have a role as financial intermediaries, namely, providing capital to various investment products to investors so as to create economic stability. This results in an increase in the stability of the accumulation of personal wealth and in the economy. Unused funds will hamper economic growth in Indonesia if it is not maximally utilized. In addition, the lack of information on banking products such as bonds and stocks will cause low participation of the public who have excess funds to participate in the financial market. This causes Bank Indonesia to be less than optimal in using excess funds in the community so that if there is an economic shock it will be difficult or slow to restore it.

By the end of the twentieth century, the governments of industrialized countries had almost eliminated most, if not all, policies that hindered the cross-border movement of financial capital. He believes that economic liberalization provides benefits to a country. This is because free capital mobility is believed to provide an opportunity to realize the highest return from savings, loans at the most competitive rates, and diversification of country-specific risks. This liberalization will then result in development finance which is the main component of economic growth (Klein and Olivei, 2005).

In the context of financial liberalization that many developing countries have taken steps to increase financial freedom through the creation of their financial systems more as a tool for economic growth (Klein and Olivei, 2005). In the financial sector, financial intermediaries, such as banks, insurance companies, and capital markets mobilize funds from surplus units to those who do not have funds (Arizala, Cavallo and Galindo, 2009).

Financial markets play an important role in terms of sustaining economic growth, they support by channeling capital into various investment products giving investors an opportunity to stabilize the accumulation of personal wealth and add to the overall stability of the economy by diversifying sources of funding. This is where the role of economic deepening (Financial Deepening) comes in to provide a wide range of investment products for investors in order to create economic stability.

Financial deepening is a concept that can be understood in three ways. First, the banking sector and banking agents can use the various financial markets for savings and investment decisions, including on long maturities. Secondly, financial and market intermediaries can deploy larger volumes of capital and greater turnover, without requiring large movements to match asset prices that occurs in the liquid market (Chami, et al., 2009). The third way is the ability of the financial sector to make broad asset choices in risk sharing, which is essential in order to provide an opportunity to protect the Indonesian Rupiah against foreign currencies by diversifying financial products. Deep financial markets enable investments in high-quality assets and risk-sharing instruments. A deep financial market also allows borrowers to equally absorb various financing and risk management instruments (Goswami and Sharma, 2011).

In many empirical studies, cross-country research shows a positive relationship between financial deepening and economic growth. This indicates that the

initial level of financial development is a good predictor of the next level of economic growth (Levine and King, 1993). Other studies alternatively present evidence of the negative effects of financial deepening on growth (De Gregorio and Guidotti, 1995). However, cross-country research fails to address specific macroeconomic environmental states leading to biased policy implications. Therefore, it is very important to investigate the effects of financial deepening on economic growth based on state cases.

This study is based on previous research conducted by Hazem and Husam (2014), but this study has differences with the previous research. The key difference lies in the sample and period of years used. In this study the samples and periods used are from the year 1975 to 2016, while the research conducted by Hazem and Husam (2014) used a sample of Saudi Arabia from the period 1970-2010. Since there was still the lack of previous studies regarding financial deepening in Indonesia, the purpose of this study is to pinpoint the influence of financial deepening on economic growth in Indonesia in the period 1975-2016.

## LITERATURE REVIEW

Khasmir (2002) argues that the financial system serves to channel funds from lenders / savers to borrowers / spenders to finance productive activities. Funds can be disbursed from the owner of the surplus funds to the borrower (deficit unit) in three ways: (1) Direct financing in the form of direct lending is done by the owner of surplus funds to the borrower (deficit unit) without involving any financial intermediary institution. For example, the delivery of evidence of debt, such as bonds, shares, or promos to the unit that lends. (2) semi-direct financing through the process of channeling of funds lent from a surplus unit to a deficit unit using an individual or institutional intermediary. Financing can be done with two methods, i.e., through an investment bank or broker. (3) Indirect Funding is the process of transferring loan funds from units experiencing a surplus to units experiencing deficits through financial intermediary institutions such as banks, insurance companies, pension funds, securities financing and mutual funds. Use of intermediary institutions is important in the economy because it can overcome the weaknesses that exist in direct financing.

McKinnon (1973) and Shaw (1973) argue that in developing countries, especially when interest rates are liberalized, it will lead to an increase in real interest rates that will lead to an increase in savings, spur investment and ultimately boost economic growth. The initial framework of McKinnon (1973) and Shaw (1973) focuses on financial suppression and the need to ease financial pressures by allowing markets to determine rates, elimination of credit controls among others. The results of the persecution, according to McKinnon (1973) and Shaw (1973) will lower savings, increase consumption, lower investment and lead to depressed economic growth. The McKinnon-Shaw framework centers on market distortions caused by financial pressures (Savanhu et al., 2011).

In the view of Rajan and Zingales (2003), financial development creates conditions that allow for growth through the sector of excellence growth or demand (following the growth in demand for financial products). A large empirical research supports the view that the development of the financial system contributes to economic growth (Rajan and Zingales, 2003). The empirical evidence consistently emphasizes the relationship between finance and growth, although the issue of causality is more difficult to determine. At the cross-country level, evidence suggests that various measures of financial development (including financial intermediary assets, liquid financial liabilities, domestic credit to the private sector, stock market capitalization

and bonds) are strongly and positively associated with economic growth (King and Levine, 1993; Levine and Zervos, 1998).

Economic growth is the development of activities in an economy that cause goods and services produced in the community to increase so that the prosperity of society also increases (Sukirno, 2010). The ability of a country to produce goods and services will increase due to the increase of production factors both in quantity and quality. In this fashion, economic growth can serve as a benchmark achievement of the development of an economy from one period to another. Economic growth is always expressed as a percentage; this is because the percentage is a calculation of the change in national income in a certain time period when compared with the previous period.

## RESEARCH METHOD

This study uses a quantitative approach that combines hypothesis testing with measured data so the influence of each variable will be known against other variables and will produce a conclusion. This study uses secondary data in the form of time series data starting from 1975 until 2016.

This study uses two models of testing, namely ARDL (Autoregressive Distributed Lag) and ECM (Error Correction Model). Autoregressive Distributed Lag (ARDL) is a technical co-integration approach or a Bound test of co-integration which has been the solution in determining long-term relationships with non-stationary data. The Autoregressive Distributed Lag test is used to understand long-term relationships with non-stationary data, including newly developed ARDL Pesaran and Shin (1995, 1998), Pesaran et al. (1996), Pesaran (1997) and Pesaran et al. (2001). The ARDL test was chosen because the results were stronger for smaller samples unlike conventional approaches such as Engledan Granger (1987), Johansen (1988) and Gregory and Hansen (1996) which are more suitable for large size samples. Then, the Error Correction Model (ECM) is a model approach that combines ARDL with ECM to determine the short-term dynamic relationship to the variables being studied (Pesaran and Shin (1999) and Pesaran et al. (2001)). ECM has a long-term equilibrium and uses it as an explanatory variable in the dynamic properties of the previous variable (Tsay, 2002).

Based on the hypothesis that has been drawn the technique chosen to perform the regression is ARDL (Autoregressive Distributed Lag) to determine the long-term and ECM (Error Correction Model) to find the short term.

1. ARDL Model

$$\ln GDP_t = \alpha_1 + \sum_{i=1}^{k} \emptyset_{1i} \ln GDP_{t-i} + \sum_{i=0}^{k} \Psi_{1i} \ln M2_{t-i} + \sum_{i=0}^{k} \mathrm{Y}_{1\mathrm{i}} \ln \mathrm{GOV}_{\mathrm{t-i}} + \sum_{i=0}^{k} \emptyset_{1i} \chi_{1i} \ln TO_{t-i} + \mathcal{E}_{lt}$$

2. ECM Model

$$\ln GDP_t = \alpha_2 + \sum_{i=1}^{k} \emptyset_{2i} \Delta \ln GDP_{t-i} + \sum_{i=0}^{k} \Psi_{2i} \Delta \ln M2_{t-i} + \sum_{i=0}^{k} \mathrm{Y}_{2\mathrm{i}} \Delta \ln \mathrm{GOV}_{\mathrm{t-i}} + \sum_{i=0}^{k} \chi_{2i} \Delta \ln TO_{t-i} + \mathcal{E}_{2t}$$

Where $\alpha_1$ is long-term constants, $\alpha_2$ is Short-term constants, lnGDP is Log GDP, lnM2 is M2, lnGOV is Log Government expenditures, lnTO is Log Trade Openness, $e_{lt}$ is Error term

The statistical analysis in this research is based on t-statistic test, f-statistic test, and coefficient determinant test (R2). The t-statistic test is a model test to determine the effect of independent variables (X) on the dependent variable (Y). Testing of t test criteria is if t test value> t critical then H0 is rejected which means the independent variable (X) influences the dependent variable (Y). The F-Statistic Test is a model test to determine whether or not an independent variable influences the dependent variable simultaneously.

Testing the hypothesis of F-Statistic can use p-value, that is the compared value from p-value from F with F table (Critical value). If the value of probability (p-value) is smaller than the level of significance α (1%, 5%, 10%) then it can be said that the independent variable has a significant influence on the dependent variable. Testing R2 has a function to determine whether variations of the independent variables can explain the variations of the variables in an estimation model well. R2 value ranges from 0 to 1. If the value of a coefficient of determination (R2) is equal to or close to 1, it means that the independent variable can explain the dependent variable well. Conversely, if the value of R2 is equal to or close to the number 0 if gives the sense that the independent variable can't explain the dependent variable well.

## RESULTS AND DISCUSSIONS

### Results

Trade openness is the highest level of growth and the opening of a country's trade will increase the economic growth which will eventually increase GDP growth. In addition, the growth of M2 broad money will increase. Growth from year to year is driven by trade openness due to the increasingly open trade of Indonesia. GDP growth is quite volatile because apart from being affected by trade openness, GDP growth is also affected by government expenditures or government spending. In 1983, when trade openness increased, it also caused GDP growth to increase due to the increasing number of trade activities with other countries and the entry of investors into Indonesia which contributed to the GDP growth in 1983. Although it decreased in 1993, in the following years experienced an increase again because in 1993 Indonesia experienced an economic boom that resulted in increased incomes of society, thus increasing the money supply. In addition, the increasing variety of banking products also contributed to the increase in the money supply (M2).

In this study, the author aims to determine the effect of Broad Money, Government expenditure, and Trade Openness on GDP growth with the analysis tool known as Autoregressive Distributed Lag (ARDL). Based on estimation techniques, panel data regression models can be estimated using two estimation methods, namely Autoregressive Distributed Lag (ARDL) and Error Correction Model (ECM),

Based on the data in the table above the regression results using ARDL (Autoregressive Distributed Lag) AIC (Akaike Information Criterion) we can conclude that broad money has a probability of more than 0.05 is 1.00 then the broad money as a whole does not affect the economic growth in the long term. Other variables are Government expenditures which have a probability of exceeding the level of trust (α = 0.05). Government expenditure variables tend

**Tabel 1**
**ARDL Regression Results (Autoregressive Distributed Lag) 2.0,1,1 AIC**

| Regressor | Coefficient | Prob |
|---|---|---|
| GDP (Y) | 0,54055 | [0,0003]*** |
| Broad Money $M_2$ ($X_1$) | -0,3398 | [1,00] |
| Government expenditures ($X_2$) | -1,4143 | [0,108] |
| Trade Openness ($X_3$) | -0,31627 | [0,011]** |
| C | 0,076210 | [0,636] |
| Diagnostic | R2 = 0,61578 | |
| Statistics | DW-Stat = 1,7474 | |
| F-statistics | [0,000]*** | |

Note: *, ** and *** the following significant levels: 10%, 5% and 1%

not to affect economic growth and tend not to cause fluctuation in the rate of growth or decline. In table 1.1 above, Government expenditures have a probability level of 0.108 which in the long run does not affect the economic growth. Independent variables that significantly affect the dependent variables are GDP and trade openness, because GDP has a probability of 0.0003 which can be interpreted as 1% which can affect the dependent variable. Trade openness has a probability of 0.011 which can also be interpreted to affect the dependent variable by 5% in the long run. the level of trust (α) 0,05 so from the result of the regression variable for Broad Money, Government expenditure and Trade Openness can influence the variable of GDP together.

## Discussion

This study aims to determine the effect of Broad Money, Government expenditure, and Trade Openness on GDP in the period from 1975-2016. Broad Money in real terms can be used as an indicator of the amount of time deposit trading activities,

**Tabel 2**
**Regression results of Error Correction Model (ECM) using ARDL (2.0,1,1)**

| Regressor | Coefficient | Prob |
|---|---|---|
| ∆GDP (Y) | 0,26621 | [0,41] |
| ∆Broad Money M2 (X1) | -0,3398 | [1,00] |
| ∆Government expenditures (X2) | -1,4143 | [0,107] |
| ∆Trade Openness (X3) | -0,31627 | [0,000]*** |
| Constant | 0,076210 | [0,636] |
| ECMt-1 | -0,72566 | [0,000]*** |
| Diagnostic | R2 = 0,73489 | |
| Statistics | DW-Stat = 1,7474 | |
| F-statistics | [0,000] | |

Note: *, ** and *** the following significant levels: 10%, 5% and 1%

The result of ECM (Error Correction Model) model shows only the Trade Openness variable has a significantly positive effect and shows to have significant impact on economic growth. While the Broad Money variable and Government expenditure in the short term cannot affect the dependent variable of economic growth. The Broad Money (M2) variable has a probability of 0.41 which exceeds the trust level (α = 0.05) so it can be interpreted that the variable does not affect economic growth in the short term, while the government expenditures variable in the short term also does not affect economic growth because it has a probability level of 0.107 that exceeds the confidence level (α = 0.05).

Based on the result of the ARDL regression, the obtained value of probability statistic F equals to 0.000 which means that the probability value is smaller than money market deposits, stocks, and other forms of money that can be found easily and at a low cost. Government expenditures are the total purchases made by the government on goods and services that cannot be provided by the private sector, including public consumption, public investment and transfer payments comprising pension benefits and social benefits. Trade Openness is the level of trade openness of a country with other countries, with the opening of trade a country will be able to upgrade technology controlled by other countries which in turn increases the overall level of technology and will decrease the cost of production of the country's exported goods, which ultimately improves the country's economy.

Trade openness has a big influence on the growth of GDP and the greater the amount of the open trade activity, the

greater will be the increase in GDP, because the probability of Trade openness is 0.011 i.e. low level of trust α = 0.05. Therefore, the economy is more open, but still needs to maintain supervision of imported products in order to protect the domestic products.

Broad money (M2) is a benchmark for GDP because there are still some traders, the stock market, and other forms of money that can be found easily and at a low cost. Broad Money Variable (M2) in the Long run has a significant influence on GDP. This exceeds trust level α = 0.05. This can be attributed to the public knowledge of banking products other than savings and loans. So BI needs to provide education about the trading of time deposits, money market deposits and stocks, so that more people who do trading can make use of time deposits or stocks.

Another variable is Government expenditures (GOV), and this study shows that the variable of Government expenditures is not significant at all to GDP. This Government expenditures variable does not appear to be related to other variables such as broad money (M2) and trade openness. The patterns of government expenditures tend to be flat or do not have a fluctuating rise and decline and tend to be stable. This is indicated by the 0.108 probability value of Government expenditures (GOV) which exceeds the trust level of α = 0.05.

The relationship between financial deepening and long-term economic growth is surprisingly negative. Nevertheless, in the short term, there is no significant impact of financial deepening to economic growth. In addition, long-term Growth and Trade Openness GDP variables show significant influence, but in the short term only Trade Openness variables show significant influence this is because in the short-term financial deepening has no impact on economic growth.

The relationship between financial deepening has a negative effect on economic growth. Any increase in financial deepening of 1.00 will not lead to economic growth. This shows that the financial depth measured using M2 will not lead to economic growth in Indonesia. However, in previous studies other countries showed different results, such as the financial depth measured using M2 would lead to economic growth.

## CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the research and discussion in the previous chapters, the conclusions obtained in this study are that the variables Broad Money, Government Expenditure and Trade Openness have all had an effect on the variables of economic growth in the period 1975-2016. However, only the GDP variables and Trade openness had a significant influence on the dependent variable of GDP in the period 1975-2016. Broad Money, Government Expenditure, and Trade Openness variables partially affected the GDP variables in the period 1975-2016. Variable Trade Openness had a significant effect on the variable of GDP both in the short term and long term in the period 1975-2016.

Therefore, Bank Indonesia (BI) needs to conduct further research on Broad Money trading (M2) so that the function of economic depth can encourage the growth of Indonesia's GDP. Concurrently, stock trading transactions of both foreign and domestic companies need to be improved and the owners of the companies should be encouraged to go public so their shares can be traded in the stock market. Furthermore, policies that would stimulate and facilitate foreign and domestic companies to sell their shares on BEI (Indonesian stock exchange) should be made so that the shares can be traded by the people whose impact will increase the economic growth of Indonesia.

## LIMITATION OF STUDY

The limitations of this study are the lack of previous research on financial deepening in Indonesia. Research on financial deepening in Indonesia is not easy to do and takes a long time. This may result in the lack of financial deepening implementation in Indonesia so that the benefits of financial deepening will be less perceived and will cause Indonesia to face difficulty in finding sufficient foreign capital to achieve economic growth in the future and result in slowing growth of the financial markets. Indonesia will find it difficult to withstand economic shocks if they happen and will be slow in its recovery. In addition, there was an absence of variables significant to the research on financial deepening so it was difficult to choose what variables will be significant to financial deepening research.

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