

# *The Influence of Rupiah Exchange Rate, Interest Rate Levels, and The Composite Stock Price Index to Financial Deepening in Indonesia*

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**Abstract**—This research aims to analyze and determine the effect of the Rupiah exchange rate, interest rate, Composite Stock Price Index on financial deepening in Indonesia. This research used time series data consisting of rupiah exchange rate, interest rates, Composite stock Price Index and financial deepening in quarterly during the period of 2010–2018. This research used descriptive quantitative method. Technique of analysis in this research is descriptive qualitative. The results of this research indicate that the rupiah exchange rate, interest rate and Composite Stock Price Index have effect to financial deepening in Indonesia.

**Keywords**— *Composite Stock Price Index; Exchange Rate Financial Deepening; Interest Rate*

## I. INTRODUCTION

A country's economic growth will be largely determined by developments in its financial sector. This is because development in the financial sector involves the planning and implementation of policies to intensify the level of monetarization of the economy through increased access to financial institutions, transparency and efficiency, as well as encouraging rational rates of return. Overall intermediation and investment activities in growing various economic activities that create jobs, add value to the economy, as well as increase community income and the value of assets of financial institutions participating in the financial industry. A well-developed financial sector will encourage increased economic activity. Conversely, the financial sector that cannot develop properly will cause the economy to experience liquidity constraints in an effort to achieve high economic growth [1].

The development of a country's financial sector is often faced with financial deepening conditions and shallow finance. Financial deepening developments as measured by the money supply (M2) in the broadest sense with Gross Domestic Product (GDP). The higher the ratio of financial deepening means that the use of money in a country's economy is getting

deeper. Conversely, the lower financial deepening ratio means that the use of money in a country's economy is shallower (Fry, 1995 in reference [1]).

Reference [2] proves that the development of the financial sector will affect the economy, especially in encouraging the process of economic growth. This is because the financial sector can reduce risk, mobilize savings, reduce transaction costs and information, and encourage specialization.

The factors that influence financial deepening according to reference [3] consist of three factors, namely the effect of the exchange rate on financial deepening, the effect of national income on financial deepening and the influence of the interest rate on financial deepening. The exchange rate is an important macroeconomic variable in an open economy, because it is determined by the balance between demand and supply that occurs in the foreign exchange market. The stable growth of currency values shows that the country has relatively good or stable economic conditions. Conversely, bad exchange rate conditions will also be dangerous for the economy, and can even cause a crisis. The financial sector crisis in Indonesia, for example, which began in August 1997 where the crisis was marked by the occurrence of a value crisis. This phenomenon can be used as an example of how a crisis in the financial sector can trigger an economic crisis. Depreciating the value of a currency continuously will be very dangerous for a country's economy [3].

The interest rate as an operational target is used from central banks and instruments that centrally have power as an opportunity cost of holding money. In Indonesia, banks have an important role in driving the economic sector by providing credit so that the real sector develops. Determining reasonable interest rates requires careful steps, because interest rates that are too high or too low can affect the development of the domestic economy. Interest rates that are too low on the other hand can encourage investment, but on the other hand do not

encourage the mobilization of funds through banks, causing a gap between savings and investment [1].

Another factor that is an indicator in the development of the Indonesian economy is the capital market. The capital market is one of the means to gather long-term economic resources available that is available for the benefit of the people and society. To see the development of capital market activities in general, it can be seen from the Composite Stock Price Index (CSPI). The value of the Composite Stock Price Index (CSPI) can be a leading economic indicator of a country [4].

## II. LITERATURE REVIEW

### A. Financial Deepening

Financial deepening is a term used to indicate an increase in the role, activities and financial services of the economy [1]. The existence of the financial sector can be seen from several indicators in its development. In this case there are several views on indicators to determine the development of the financial sector in a country. Among the opinions expressed by reference [5] which states there are five indicators to determine the development of a country's financial sector, namely: 1) Quantity Measures, which are quantitative indicators of monetary and credit characteristics, such as the ratio of money in the narrow sense to GDP, the ratio of money in the broad sense to GDP and the ratio of private-sector credit to GDP. This quantitative indicator is used to measure the development and depth of the financial sector; 2) Structural Measures, which are indicators to analyze the structure of the financial system and determine the importance of different elements in the financial system. The ratios used as indicators are: the ratio of money in the broad sense to GDP, the ratio of securities market expenditure to money in a broad sense; 3) Financial Prices, this indicator is seen from the interest rates on loans and loans in the real sector; 4) Product Scale, this indicator is seen from various types of financial instruments in the financial market, such as; financial and business products (commercial paper, corporate bonds, listed equity), investment products, risk management products and foreign exchange rates; 5) Transaction Cost, this indicator is seen from the spread of interest rates.

The higher the financial deepening the greater the use of money in the economy and the greater and the more widespread the activities of financial institutions and money markets. In connection with the development of the financial sector in Indonesia, the indicator is to find out how much the level of development of the financial sector, it is very important to conduct further research on the variables used, namely through financial deepening (FD) itself to see the development of the financial sector in development, then its development can be measured using the ratio between domestic financial assets to GDP (Such as:  $M2 / GDP$  ratio).

### B. Exchange Rate

According to reference [6] exchange rate is price of the currency (domestic) against foreign currencies. In terms of exchange rates, the fall in the price of a domestic currency against a foreign currency is called depreciation. Meanwhile,

an increase in the price of a currency against other currencies is called appreciation. Fluctuations in the rupiah exchange rate are largely influenced by two main factors, namely economic and non-economic factors both externally and internally.

These factors include economic fundamentals, market sentiment and risk as well as economic policies in the field of exchange rates. Noneconomic factors that affect exchange rate fluctuations are related to social, security and political factors that affect market sentiment and risk. While from the aspect of economic policy carried out by the government can be in the form of foreign exchange interventions, monitoring of foreign exchange transaction activities conducted by banks and other unconventional policies such as moral suasion to market participants.

### C. Interest Rate

According to the classics the interest rate is the interaction between savings and investment. Interest rates determine the amount of savings and investment that will be made in the economy. Any changes in interest rates will also cause changes in household savings and demand for funds for corporate investment. Community savings are a function of interest rates. The higher the interest rate the higher the community's desire to save. This means that at higher interest rates people will be encouraged to sacrifice or reduce spending on consumption in order to increase their savings [7].

According to Keynes, the amount of savings made by households is not dependent on the high or low interest rates. It mainly depends on the size of the level of household income. The greater the amount of income a household receives, the greater the amount of savings it will obtain. If the amount of household income does not increase or decrease, a sizable change in the interest rate will not have a significant effect on the amount of savings the household will make rather than the interest rate [8].

In investment, Keynes also believes that interest rates play a decisive role in the consideration of entrepreneurs investing. But, besides these factors there are several other important factors such as the current economic situation, forecast of future developments and the extent of technological developments that apply. If the current level of economic activity is to promote and in the future it is predicted that the economy will grow rapidly, even though interest rates are high, entrepreneurs will make a lot of investment. Conversely, even though interest rates are low, investment will not be done much if capital goods contained in the economy are used at a rate far lower than their maximum capacity [8].

In investment, the higher the interest rate, the lower the public's desire to invest. Conversely, the lower the interest rate, the higher the public's desire to invest. In savings, the higher the interest rate, the higher the community's desire to save. Conversely, the lower the interest rate, the lower the community's desire to save [7].

### D. The Composite Stock Price Index

According to reference [9] the capital market is a market for trading securities that generally have a lifespan of more

than one year, such as stocks, bonds and mutual funds. The place where securities are bought and called is the stock exchange. Stock exchanges are divided into two, namely the Jakarta Stock Exchange (JSX) and the Surabaya Stock Exchange (BES) which since 2007 joined and changed its name to the Indonesian Stock Exchange (IDX).

One of the main indicators that reflects the performance of the capital market in Indonesia when it is experiencing an increase (bullish) or is experiencing a decline (bearish) is the composite stock price index. Because the composite stock price index (CSPI) records the movement of stock prices of all securities listed on the Indonesia Stock Exchange. So that the movement of the composite stock price index is an important concern for all investors on the Indonesia Stock Exchange, because the movement of the composite stock price index will affect the attitude of investors whether to buy, hold or sell their shares [10].

**III. METHOD**

This type of research is a quantitative descriptive study to determine whether there is an influence of the rupiah exchange rate, interest rates, and the Composite Stock Price Index (CSPI) on financial deepening in Indonesia. The type of data used in this study is quantitative with secondary data sources. Data sourced from the official website of Bank Indonesia and the Indonesian Central Statistics Agency and other official sites. The data used are time series data, from data on money supply (M2), Gross Domestic Product (GDP), Rupiah exchange rate, interest rates, and the Composite Stock Price Index (CSPI) during the 2010-2018 period in the quarterly.

**IV. RESULTS AND DISCUSSION**

Descriptive analysis is carried out to provide an overview or description of the variables studied based on the values of the results of this study. The data used in this study are all secondary data taken from the official website related to the study during the study period 2010-2018.

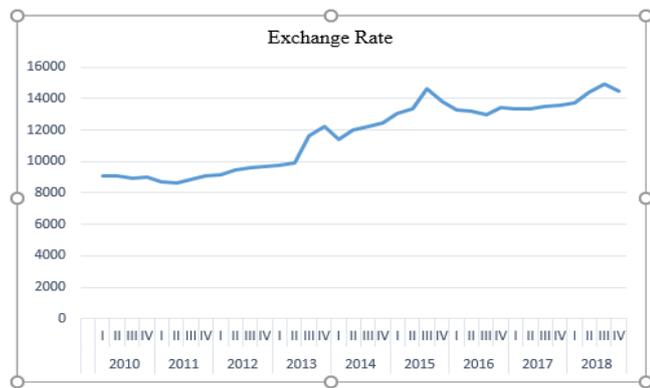


Fig. 1. Rupiah Exchange Rate Against US Dollar States of 2010-2018  
Source : Data Analysis, 2019

Fig 1 explains the development of the rupiah exchange rate against the US dollar. Rupiah currency is included as a soft currency because it has a relatively unstable value and often depreciates against other currencies. The fluctuation in the

Rupiah exchange rate that occurred during the last nine years was caused by various factors, both internal and external factors. Internal factors that influence fluctuations in the Rupiah's exchange rate are economic conditions, inflation, money supply, trade balance and policies taken by the government. In addition, high import values compared to export values depreciated the rupiah. This happens because if the value of imports continues to rise, more foreign exchange will be needed to carry out the transaction. If there is more demand for foreign exchange compared to Rupiah, depreciation will occur against the Rupiah.

The interest rate policy adopted by the Indonesian Bank also influenced the Rupiah exchange rate. If interest rates rise, the public will tend to save money so that funds in the community will flow to banks which can then reduce the inflation rate. Because if there is too much money in the community, there will be inflation. In other words, the inflation rate will be controlled from the interest rate policy adopted by Bank Indonesia.

One external factor that affects the rupiah exchange rate is the interest rate policy adopted by the United States (the Fed). The Fed's decline will make investors prefer the United States to invest, so that it will reduce the value of Indonesian investment. A decline in the value of this investment will result in the weakening of the rupiah.

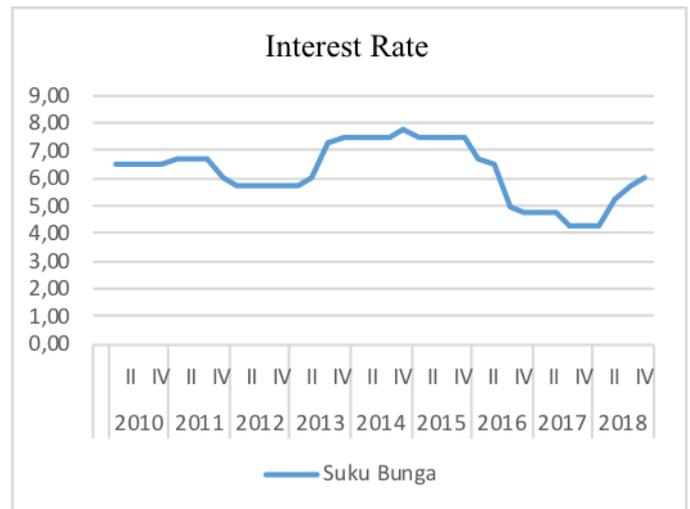


Fig. 2. Indonesian Interest Rates in 2010 - 2018  
Source : Data Analysis, 2019

Fig 2. Illustrate the development of the policy of setting interest rates that occurred during the last nine years, it can be seen that before the implementation of BI 7-Day RRR by Bank Indonesia interest rates tend to be high. This happened because during 2010-2016 the average inflation rate was high so that Bank Indonesia adopted several economic policies, one of which was by setting high interest rates to maintain economic stability. At the end of the fourth quarter of 2016 to the end of 2018 interest rates were still fluctuating from 4% to 6%. This interest rate policy is influenced by the inflation rat that tends to be controlled, the growth of Gross Domestic Product (GDP) is good. The determination of the interest rate is also influenced by the interest rate of the United States (the Fed) which also

has an effect on the rupiah exchange rate. Bank Indonesia has adopted the BI 7-Day RRR policy to replace the BI Rate as a form of strengthening the monetary operations framework. This monetary operations framework was taken to strengthen the effectiveness of policies in achieving the inflation targets set. The 7-Day RRR BI instrument is used as a new policy rate because it can quickly affect the money market, banking and the real sector.

The determination of Bank Indonesia interest rates is influenced by various factors. First, the government issued a monetary policy to maintain stable economic conditions. Interest rates are used by the government as controlling inflation and controlling the money supply in the community. The inflation rate and the money supply affect the level of investment which will also have an impact on the country's economy. Second, the influence of interest rate policy taken by the United States (the Fed). The Fed's plan to reduce the Bank Indonesia must also set its monetary policy in order to keep inflation and keep investors from withdrawing funds from Indonesia.

**A. The Composite Stock Price Index**

The Composite Stock Price Index (CSPI) is the value used to measure the combined performance of all shares (companies/issuers) listed on the Indonesia Stock Exchange (IDX). The following is a chart of the JCI during 2010-2018.

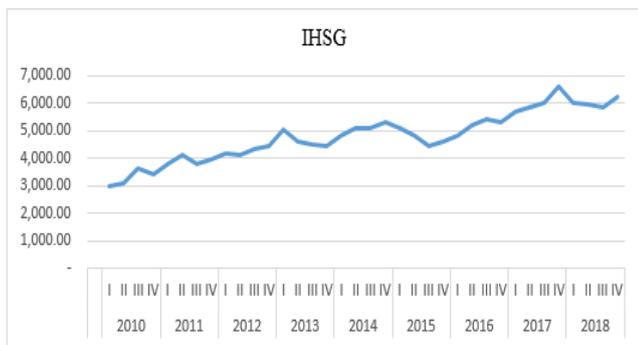


Fig. 3. Composite Stock Price Index (CSPI) in 2010-2018  
Source : Data Analysis, 2019

The movement of the Composite Stock Price Index over the past nine years has been influenced by several factors such as the Rupiah exchange rate, the money supply and the interest rate. The strengthening of the rupiah exchange rate is a positive signal for investors that the Indonesian economy is developing well. In addition, rising inflation makes investors likely to withdraw their investment because investors consider economic conditions that are expected to worsen. If the money supply is higher the lower the value of the currency and inflation will occur. This condition can be used as a reference in considering investing in the capital market.

The Government through Bank Indonesia also issued various monetary policies to maintain economic stability. Interest rates set by Bank Indonesia also affect the CSPI because they relate to consumption and investment and affect inflation. If interest rates rise, investors prefer to save money in the bank rather than invest it in the capital market. This is due

to the large value of interest if invested in savings. Conversely, if interest rates fall, investors tend to prefer to invest their funds in the capital market.

**B. Financial Deepening**

Indonesia's financial deepening is measured by the ratio between the broad money supplies (M2) and the Gross Domestic Product. The following is a graph of the development of financial deepening in Indonesia for the period 2010 - 2018.

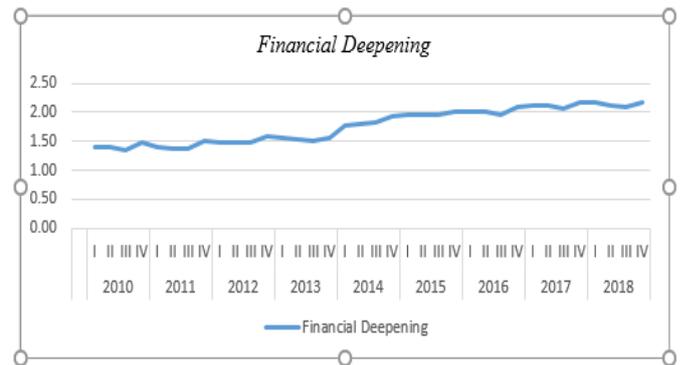


Fig. 4. Development of Financial Deepening in Indonesia Period 2010-2018  
Source : Data Analysis, 2019

The tendency of rising financial deepening in Indonesia is based on developments in the amount of money in circulation (M2) and the development of Gross Domestic Product (GDP). An indicator of financial deepening measurement is the ratio between the amount of wealth expressed with money (financial assets) with the amount of national income that uses GDP. The development of the money supply and the ability of the state to produce goods and services is one of the important things in the economy.

If the money supply is too large, there will be inflation and will worsen the economy. So that the government continues to maintain the stability of the inflation rate by taking into account the money supply and the interest rate policy set by Bank Indonesia and the Open Market Operations in order to maintain economic stability.

Gross domestic product is one of the important indicators to know the development of a country's economy, because gross domestic product reflects the value of goods and services produced in that country in a certain period. In addition, another factor that supports economic development is the rupiah exchange rate. A stable rupiah exchange rate shows good economic conditions.

**V. CONCLUSIONS AND SUGGESTIONS**

**A. Conclusions**

Based on the results of research conducted, it can be concluded that the development of financial deepening in Indonesia in the period 2010-2018 tended to increase with fluctuating values. Fluctuations in financial deepening are caused by developments in the amount of money in broad

terms (M2) and the development of Gross Domestic Product (GDP). If the money supply is too large, inflation will occur and will worsen the economy. Therefore, the government uses interest rates as one of the controllers of the money supply so that inflation is maintained.

The development of the rupiah exchange rate against the United States Dollar in Indonesia in the period 2010-2018 showed a fluctuating value and tended to depreciate. Factors causing fluctuations in the rupiah exchange rate are economic conditions, inflation, the money supply, policies taken by the government, the Bank Indonesia benchmark interest rate and the United States (the Fed) interest rate.

The development of interest rates during the period 2010-2018 showed fluctuating values. The factors that caused Bank Indonesia to set interest rate policies were the inflation rate, the money supply, and the interest rate policy taken by the United States (the Fed).

The development of the Composite Stock Price Index (CSPI) for the period 2010-2018 shows a value that fluctuates with a value that tends to increase. Several factors that cause fluctuations in the Jakarta Composite Index include the exchange rate of the rupiah, the money supply, and interest rates.

#### *B. Suggestion*

- 1) For policy holders it is expected that they will be able to monitor and evaluate economic policies that have been taken in order to strengthen the economy.
- 2) For Bank Indonesia to be able to keep the exchange rate stable and keep inflation under control so that the BI 7-DRRR interest rate can be set at a low level.
- 3) For further researchers, it is necessary to add other variables such as Third Party Funds and add other countries as a comparison of Indonesia's financial deepening with other countries.

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