

ANALYSIS OF MACROECONOMIC FACTORS AFFECTING SHARE PRICE OF PT. BANK MANDIRI Tbk

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Abstract

This research is aims to investigate the affect of selected macroeconomic factors toward share price volatility either partially and simultaneously by shrinking the scope of research in commercial bank, specifically in PT. Bank Mandiri Tbk., Indonesia. Multiple regression analysis is applied in this research to construct a quantitative model that will show the research objective. The result indicates that only inflation rate which has no significant affect. Instead, three macroeconomic factors comprise of BI rate, USD exchange rate, and unemployment rate are significantly affecting share price of Bank Mandiri. The regression model show that these four factors affecting share price simultaneously with the value of adjusted R square 0.547. It indicates that 54.7% share price of Bank Mandiri could be explained by these factors while the remaining of 45.3% might be explained by other factors outside the research.

Keywords: BI rate, USD exchange rate, Inflation Rate, Unemployment Rate, Share Price

Introduction

The global financial crisis started from the mortgage loan in America (1998). The crisis not only impacted the whole global economic and trading activities, but also causes unstable economic condition in Indonesia over the last few decades. In October 2008, one of the effect of this crisis was the decreasing of share price listed in *Bursa Efek Indonesia (BEI)*. Changes in share price fluctuated periodically fast in the market. This condition gave impact to investor who invest their money in capital market to the value of its share price. According to Kurihara (2006), many factors such as external and internal factors influence the fluctuation of share price in capital market. Those factors are considered as the tools to measure economic stability of one country that affecting the movement of daily stock price.

James (2013), stated the external factors are those which are beyond control of the business that might affect the volatility of share price while internal factors are those affecting the business profitability. Some indicators commonly used to indicate macroeconomic condition are referred as external factors, affecting share price of corporation including interest rate, exchange rate, inflation rate, gross domestic product, money supply, current account, market forces, unemployment rate and others. While, some indicators referred as internal factors of one firm can be measured by ratio analysis, return on

investment, return on asset, net profit margin, dividend, and others. Changes in those factors, which are influence the fluctuation of stock return can measure the corporate value (Rudianto, 2012).

As stated by Sirucek (1984), 50% share price of one business is affected by macroeconomic factors that are considered as the most significant indicators to determine income of shares which affect the future cash flow and discount rate of one business. This thing show that macroeconomic factors have a dominant impact on share price. In accordance with the issues above, the crisis gives impact to some macroeconomic factors such as BI rate, exchange rate, inflation rate, and unemployment rate. It indicated by the increasement of BI rate for 9.50% and inflation rate 11.77% in 2008.

Literature Review

As stated by Elton E. (2009), capital market defined as one of economic indicator used to measure the economic condition of one country. The terms of macroeconomic and microeconomic is appear into two different fields but usually interdependent and complement one another since there are many overlapping issues between these two sectors. Macroeconomic defined as a branch of the broad and general economic study used to measure whole economic trend in the global, domestic, and regional sector as an aggregate economic aspect such as gross domestic product (GDP), exchange rate, inflation rate, unemployment rate, money supply, price level, and others. In contrast, microeconomic defined as a branch of economic study made by an organization in allocating resources and determine prices and quantities in the market reflected on financial ratio of one corporation such as return on asset (ROA), net profit margin (NIM), stock splits, and others (Intuit.Inc, 2013).

The main differences of these two economic fields determined by its role. Macroeconomic implement top – down approach to measures economic condition which is focused on the movement and trend of its economic as a whole. Instead, microeconomic implement bottom – up approach where the focus is placed on factors affecting the decision made by an organization to measure its financial performance. These two economic fields often correlated each other. For instance, the increase of inflation rate will increase the company expenses which might affecting the product price charged to the public.

Research Method

Quantitative research is also known as a scientific method because the data being used in this model are systematic, measurable, and objective. This research will classify the features, count them, and construct more complex statistical model to explain what is observed. Multiple regression is a types of regression method used to predict the significant affect of independent variable to a single dependent variable. It is also widely used to find the correlation of more than one independent variables to a single dependent variable. The formula of multiple regression is shown below:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \epsilon$$

Partially hypothesis: there is significant influence of BI rate, USD exchange rate, inflation rate, unemployment rate towards share price. Simultaneously hypothesis: there is significant

influence all independent variable towards share price of BankMandiri. Sampling design provides information on the target and final sample size, strata definition, and methodology of the sample selection. The sample size is good if using more than 30 and less than 500 sample. Sampling design will explain the research method being used to obtain the sample before processing it into statistical analysis. This research implements *non – random* sampling by using *purposive (convenience) sampling* design where the time series ware chosen based on the need of the research.

Result and Discussion

Multiple regression has been applied in this research to determine the significant value of one or more independent variables to a single dependent variable by comparing the value of Beta (β) and significant level of each variable to the standard of significant level $\alpha = 0.05$. This research uses unstandardized coefficients test result due to match the scale size of macroeconomic factors including BI rate, USD exchange rate, inflation rate, and unemployment rate which are have a different scale of measurement. The purpose of using this model is to eliminate the differences in the measurement scale of these factors and identify the significant level of each factor toward share price of Bank Mandiri. For instance, the scale of BI rate, inflation rate, and unemployment rate are described in form of percentage. While, the scale of share price and USD exchange rate are described in form of nominal. Thus, the differences of these scales are eliminated by implementing the test result of unstandardized coefficients which is fit the theory stated by Danang Sunyoto (2011), in the book titled “*Analisis Regressi dan Uji Hipotesis*”. The result of this test model such as regression coefficient, t – counted value, and significant level of each variable are listed as follow:

Table 1. Multiple Regression Analysis Result

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3752,497	2332,744		1,609	,115
	BI_Rate	-110114,756	31346,115	-,356	-3,513	,001
	USD_Exchange_Rate	,844	,198	,43	4,259	,000
	Inflation_Rate	422,070	247,124	,165	1,708	,095
	Unemployment_Rate	39668,099	7145,760	,536	5,551	,000

a. Dependent Variable: Share_Price

In accordance with the test result on table 4.9 above, the equation below are formed based on the significant factors affecting share price of Bank Mandiri as a result of multiple regression analysis:

$$\text{Share price} = 3752.497 - 110114.756 \text{ BI Rate} + 0.844 \text{ USD exchange rate} + 39668.099 \text{ Unemployment rate}$$

Table 2. Coefficient of Determination (R^2)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,764 ^a	,584	,547	1021,452

Based on table above, it shows that the value of adjusted R square is 0.547. It show that 54.7% share price of Bank Mandiri could be explained by four macroeconomic factors including BI rate, USD exchange rate, inflation rate, and unemployment rate. While, the remaining of 45.3% might be explained by other factors outside the research. In addition, the equation of regression model is more precise to predict dependent variable. It indicated by the value of *Standard Error of Estimation* 1021.452 which is lower than the value of standard deviation 1516.848. In accordance with the result of several statistic test above, a brief explanation of the interpretation result analysis are listed as follow:

Table 3. Interpretation Result of F – Test and t – Test

Model	Statistic Test Result		Hypothesis Result
	F – Test (sig.)	t – Test (sig.)	
BI rate	0.000 ^b	0.001	Ha is accepted, Ho is rejected
USD exchange rate		0.000	Ha is accepted, Ho is rejected
Inflation rate		0.095	Ha is rejected, Ho is accepted
Unemployment rate		0.000	Ha is accepted, Ho is rejected

According to table above, the test result fit the problem statement and research objective where only inflation rate has no significant affect. Instead, three macroeconomic factors including BI rate, USD exchange rate, and unemployment rate are significantly affecting share price of Bank Mandiri. The result of F – test show that these four factors are affecting share price simultaneously with the value of significant level 0.000^b respectively. Therefore, the null hypothesis (Ho) is rejected and the alternative hypothesis (Ha) is accepted. This thing prove that the test result is fit the journal theory stated by Dhira Dwijayanti (2012), titled “*The effect of macroeconomic variables on stock price volatility*” where BI rate and exchange rate have a significant affect on stock price volatility. It strengthened by other journal stated by Taamouti (2011), titled “*The reaction of stock market on unemployment rate*” that found unemployment rate has a strong impact on the movement of stock price.

The result of t – test indicates that BI rate significantly affecting share price of Bank Mandiri. It can be seen from the value of significant level 0.001 which is lower than the value of standard significant level 0.05. BI rate is used to decides interest rate in Indonesia. Considered as one of economic indicators that has a big impact to the economic condition in Indonesia, BI rate created to reach low and stable inflation. Thereby, the movement of BI rate will affect the movement of interest rate since it is considered as the main determinant of investment value on macroeconomic scale. The government will raise BI rate if the future inflation exceed the established inflation target. Instead, BI rate will be decreased if the future inflation undervalued the inflation target.

Related to the issues above, high return on investment becomes the main concern for investor or stock trader before they invest fund in capital market. Mostly, investor in Indonesia are a stock speculator who like to do a short – term trading. They prefer to do investment in a high movement of interest rate. This condition becomes one of the major factor that cause investor prefer to invest their money in banking sector. Therefore, it makes BI rate significantly influence the movement of share price in capital market. Those issues

are fit the theory stated by Wang H. (2009), in the journal titled *“The effect of BI rate and USD exchange rate on market price : evidence from banking sector in Indonesia”* that found a positive affect of BI rate on share price volatility in capital market.

The result of t – test indicates that USD exchange rate significantly affect share price of Bank Mandiri with the value of significant level 0.000 which is lower than the value of standard significant level 0.05. Most exchange rate are determined by the foreign exchange market known as forex. This thing makes exchange rate changes all the time depends on the trading activities and market trend in capital market. U.S dollar dominates the currency of foreign market trading. It indicated by 89% transaction in foreign market is using U.S dollar as their settlement. As a result, U.S dollar regarded as one of currency with strong position in capital market. Referring to the case above, the volatility of foreign exchange rate has a tight relationship with the volatility of share price.

The depreciation of currency can reduce the attractiveness of capital market on investment value. Higher foreign exchange rate will cause investment value and share price getting lower. In contrast, investment value and the movement of share price will increase if the value of foreign exchange rate decrease. For instance, high value of USD exchange rate will cause the lower relative value of IDR currency (Wang, 2013). This condition makes USD exchange rate significantly influence the movement of share price. The issues above fit the theory stated by Thorbecke (2004), in the journal titled *“The effect of exchange rate and interest rate on share price”* that found a tight relationship between exchange rate volatility and share price volatility in capital market.

The result of t – test show that only inflation rate which has no significant affect on share price of Bank Mandiri with the value of significant level 0.095. According to the monthly report of inflation rate taken from Bank Indonesia, inflation in Indonesia is below 10% which is still can be accepted by the investor. The performance of one corporation will drop if the inflation rate is exceed 10%. High inflation rate will increase the company expense where if the production cost is higher than the selling cost, it will cause the real income and company profit decline. Lower company profit will makes investor reluctant to invest in that company. As a result, this condition makes the value of share price decline.

Instead, low inflation rate will increase business profit and share price value in capital market. To overcome high inflation rate, the government will raise BI rate. High BI rate will be followed by the raise of interest rate in the market. This condition makes most investor are prefer to invest their funds in the banking sector when BI rate raised. This condition cause inflation rate has no significant affect on the movement of share price value in capital market. The issues above fit the theory in thesis stated by Monika Vera (2010), titled *“The impact of inflation rate on stock price : case study of commercial bank in Indonesia”* that found there is no significant impact of inflation rate on stock price volatility.

In accordance with the result of t – test above, unemployment rate has a significant affect on share price of Bank Mandiri with the value of significant level 0.000. Unemployment rate is used by Federal Fund Reserve (Fed) to measure the economic health rate of one country. The increase of unemployment rate will be followed by the decrease in interest rate by Federal Fund Reserve which is turn leads the increase of stock market price that affecting the movement of daily share price in capital market. The issues above also fit the journal theory stated by Taamouti (2011), titled *“The reaction of stock market on unemployment rate”*. He found a strong correlation between unemployment rate and stock price volatility in capital market.

The result indicates that high unemployment rate will cause less investor are able to invest. This thing made the value of share price decrease and company brand image becomes negative in IPO. That is the reason why it needs intervation from the third party called Federal Fund Reserve which is has the role to maintain interest rate in the market. Thereby,

high unemployment rate will be followed by the decreasing of interest rate by Federal Fund Reserve which leads investor able to invest and made company brand image becomes positive in IPO by expanding the company branches and open new job. Through that way, hiring activities will increase. As a result, this condition cause unemployment rate decline and increase the value of share price in stock exchange.

This research is shrinking the scope of research on macroeconomic factors by adopts four external factors that consist of BI rate, USD exchange rate, inflation rate, and unemployment rate to be analyzed. The result of regression model show that these four factors are affecting share price of Bank Mandiri simultaneously. It can be seen from the value of t – counted 15.764 with the significant level 0.000^b respectively. Means, the value of F – test is lower than the value of standard significant level $\alpha = 0.05$. It strengthened by the result of coefficient determination which has adjusted R square 0.547. This thing prove that approximately 54.7% share price of Bank Mandiri could be explained by these factors.

According to Kurihara (2006), many factors such as external and internal factors influence the fluctuation of share price in capital market. It strengthened by James G. (2013), which is stated that several factors referred as external factors such as interest rate, exchange rate, inflation rate, gross domestic product, money supply, current account, market forces, unemployment rate are affecting the fluctuation of market price and daily stock price. Therefore, it fit the theory stated by Sirucek (1984), that found 50% share price of one corporation is affected by macroeconomic factors. This condition indicates that macroeconomic factors are have a dominant impact on share price volatility in capital market.

Conclusions

BI rate has a significant affect on share price of Bank Mandiri. It can be seen from the value of significant level 0.001 which is lower than the value of standard significant level 0.05. Changes in BI rate will affect the changes in interest rate since it is considered as the main determinant of investment value on macroeconomic scale. Due to the role of BI rate, this condition makes BI rate influence the market price. It is implied to the movement of daily share price in capital market which is gives impact to investor and the value of its investment.

USD exchange rate has a significant affect on share price of Bank Mandiri. It indicated by the value of significant level 0.000 which is lower than the value of standard significant level 0.05. High foreign exchange rate is followed by the decreased on investment value and market price. Therefore, the depreciation of one currency against other currency can reduce the attractiveness of capital market that will leads the decreasing of investment value in capital market.

Inflation rate has no significant affect on share price of Bank Mandiri. with the value of significant level 0.095 which is lower than the value of standard significant level 0.05. The increase in inflation rate is relatively negative to the investment value in capital market. High inflation will cause the decreasing in the business profitability and share price. Inflation rate in Indonesia is below 10% which is still can be accepted by the investor. To overcome high inflation rate, the government increase BI rate. As a result, many investor prefer to invest their money in the banking sector. This condition cause inflation rate has no significant influence on the movement of share price.

Unemployment rate has a significant affect on share price of Bank Mandiri with the significant level 0.000 which is lower than the value of standard significant level 0.05. Federal Funds Reserve (Fed) uses unemployment rate as one of macroeconomic indicator to measure the economic health rate of one country. High unemployment rate will cause interest rate getting lower. As a result, it will leads the increasement on market price. This condition

also influence the movement of daily share price in capital market. Therefore, it cause unemployment rate has a significant affect on the movement of share price.

The regression model indicates that four macroeconomic factors include BI rate, USD exchange rate, inflation rate, and unemployment rate are affecting share price of Bank Mandiri simultaneously with the value of adjusted R square 0.547. It indicates that 54.7% share price of Bank Mandiri could be explained by these factors while the remaining of 45.3% might be explained by other factor outside the research. Therefore, the result show that macroeconomic factors are considered as one of important factors for investment in Indonesia.

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