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**ANALYZING FACTORS AFFECTING STOCK PRICE MOVEMENT  
OF BANKING SECTOR IN INDONESIA STOCK EXCHANGE****ANALISIS FAKTOR-FAKTOR YANG MEMPENGARUHI PERGERAKAN HARGA SAHAM SEKTOR  
PERBANKAN DI BURSA EFEK INDONESIA**

Presented by

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**Abstract:** The stock market is all about dynamics and that is why investors and fund managers have always been confronted with the problem of accurately predicting the stock prices so as to earn decent returns. Investment in shares offers the benefit of liquidity as well as the opportunity to beat the market and earn high returns. However, the task of predicting share prices is far from simple. Share price movement is not independent in nature and both intrinsic, as well as extrinsic factors, have been established to exercise influence over stock price movements. The purpose of this research is to analyze factors influencing stock price of the banking sector in the Indonesian Stock Exchange index. The objects of this research are banking stocks that are listed in Indonesia Stock Exchange. This research is an explorative study and uses a quantitative method which utilizes technical analysis and t-test as the tool of analysis. The research results show that the upward movement of banking stocks happened in the year 2008 and the factor influencing this movement is the increase in interest rate announcement by Bank Indonesia. Recommendation derived from this research is for investors and fund managers to give more attention towards announcement and interest rate of a sector in the country in their investment portfolio.

**Keywords:** stock price, interest rate, political effects, economic effects

**Abstrak:** Pembahasan mengenai pasar saham adalah tentang dinamika pasar itu sendiri dan itulah sebabnya investor dan pengelola keuangan perusahaan selalu dihadapkan dengan masalah memprediksi harga saham secara akurat untuk bisa mendapatkan hasil yang layak. Investasi saham menawarkan manfaat dari likuiditas serta kesempatan untuk mengalahkan pasar dan mendapatkan keuntungan setinggi mungkin. Namun, tugas memprediksi harga saham jauh dari sederhana. Pada dasarnya pergerakan harga saham tidak bersifat independen, dan faktor intrinsik maupun ekstrinsik pasar telah ditetapkan untuk mempengaruhi pergerakan harga saham itu sendiri. Tujuan penelitian ini adalah untuk menganalisis faktor-faktor yang mempengaruhi harga saham sektor perbankan dalam indeks Bursa Efek Indonesia. Objek penelitian ini adalah saham perbankan yang terdaftar di Bursa Efek Indonesia. Penelitian ini merupakan penelitian eksploratif dan menggunakan metode kuantitatif yang menggunakan teknik analisis sekunder dengan t-test sebagai alat analisis. Hasil penelitian menunjukkan bahwa pergerakan naik saham perbankan Indonesia terjadi pada tahun 2008 dan faktor yang mempengaruhi pergerakan ini adalah peningkatan pengumuman suku bunga oleh Bank Indonesia. Saran dari hasil penelitian ini adalah agar investor dan pengelola keuangan dapat lebih memperhatikan faktor suku bunga indeks dan pengumuman harga suatu sektor dalam portofolio investasi.

**Kata kunci:** harga saham, suku bunga, pengaruh politik, pengaruh ekonomi

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## INTRODUCTION

### Research Background

Economic theory on investment decisions explains the investment decision of the individual in terms of macroeconomic aggregate. According to the utility theory, individuals maximize their utility based on classical wealth criteria, making a choice between consumption and investment through time. However, some empirical studies conducted in the 1970s focused on the individuals rather than aggregate investor profiles. During the same period, the discipline of behavioural finance concentrates on investigating investment choices under conditions of uncertainty. Research in Behavioural Finance revealed six primary theoretical streams, namely Prospect Theory, Regret Aversion, Self-Control, Emotions, Social Interaction and Overconfidence. Each of these research streams captured and analysed behavioural attributes of individual investors.

The stream of behavioural finance assumes that information structure and the characteristics of market participants systematically influence individuals' investment decisions as well as market outcomes. According to it, investor market behaviour derives from psychological principles of decision making to explain why people buy or sell stocks. In this context, the present study aims to identify the leading factors that determine the perception of stock prices and thereby influences investment behaviour of stock brokers.

The stock market is all about dynamics and that is why investors and fund managers have been time and again confronted with the problem of accurately predicting the stock prices so as to earn decent returns. Investment in shares offers the benefit of liquidity as well as the opportunity to beat the market and gain high profits. But the task of predicting share prices is far from simple. Share price movement is not independent and both intrinsic, as well as extrinsic factors, have been established to exercise influence over stock price movements Malhotra and Tandon (2013).

Kontan (2016) describes and explains that the finance sector is at its top points and will be even stronger in 2017. In the article, it was stated that greater profitability and well-controlled liquidity will be the key factors of the health of Indonesian banking sector. It was explained that the banking sector liquidity will be in a good state because the tax amnesty program conducted by Indonesian Government would provide more fresh cash for the Indonesian banking sector. Kontan (2017) earlier in 2017 confirms the positive signal from Indonesian Banking Sector.

Husnan (2009) explains that the profitability of a company could picturize the undergoing condition of the company. If a company is able produce outstanding profit for a given year it is a sign of a good condition for a company. This state of wellness will be a good news for the market, which will impact investor's decision to purchase the stock. Beside profitability factor, financial condition of a company impacts the decision of investors. The financial condition, such as liquidity and capital structure, will show the image of that company thus will influences the investor's decision to put his capital investment.

This study is an attempt to analyse share prices movement, the significant fluctuation from 2001-2016 and significant increase during 2008. This research examines the variables with those of stock prices for 43 companies in Indonesian Banking Sector of Indonesian Stock Exchange during the period 2001-2016.

### Research Objectives

1. To analyze stock price movement of banking sector in Indonesian Stock Exchange index (IDX) during the period of 2001-2016.
2. To identify which of the variable(s) has the most significant influence towards stock price of banking sector in Indonesian Stock Exchange index (IDX) during the period of 2001-2016.

## THEORETICAL REVIEW

### Stock Price

The price of a single share of a number of saleable stocks of a company, derivative or other financial asset. Stock prices can be affected by a number of things including volatility in the market, current economic and political condition.

### Efficient Market Hypothesis.

The efficient market hypothesis (EMH) is an investment theory that states it is impossible to "beat the market" because stock market efficiency causes existing share prices to always incorporate and reflect all relevant information. According to the EMH, stocks always trade at their fair value on stock exchanges, making it

impossible for investors to either purchase undervalued stocks or sell stocks for inflated prices. As such, it should be impossible to outperform the overall market through expert stock selection or market timing, and the only way an investor can possibly obtain higher returns is by purchasing riskier investments.

### **Economic Effect**

Interest rates as established by the Federal Reserve Board and individual banks can have an effect on the stock market, according to an informational pamphlet titled "What Drives Stock Prices" published by the New York Stock Exchange. Higher interest rates mean that money becomes more expensive to borrow. Higher interest rates also mean that a company's money cannot borrow as much as it used to, and this has an adverse effect on company earnings. All of this adds up to a drop in the stock market.

### **Interest Rate**

The price a borrower pays to borrow money. On a national scale, interest rates are also a vital tool used by governments to control money supply and the availability of credit, and thus to exert some control over the economy.

### **Political Effects**

Political uncertainty has an important link to stock market volatility, because if there is political uncertainty, it may not be possible to implement stable policies. Unstable policies can contract the national economy, individual industries and confidence of participants in the stock market.

### **Previous Research**

The study of Khositkulporn (2013) shows deeper analysis of factors affecting stock market in Thailand. The results from the factors affecting Thailand stock market volatility show that the S&P 500 had a major influence on Thailand's stock market, followed by the BSI and oil price. The result indicates that the movements of major stock markets and political uncertainty has a direct effect on stock market volatility. The effect of movements of oil price, however, has an indirect effect on firm performance.

The next is study by Sainy (2016) investigates factors affecting stock movement in Indian stock prices. The study revealed seven external factors primarily influencing the investment decision of the brokers. Post liberalization the Indian stock market has been plagued by high volatility. The result suggests that economic environment such as GDP, government policies, foreign trade, investments disclosure, seasonal effect, asymmetry of information and liberalization policies of the government, are the major factors affecting stock prices. A growing economy and a booming stock market have become extremely attractive for small investors. The findings of the study can be a useful guide to understand factors contributing to stock market volatility. As brokers have their hand on the pulse of the market, the perception of stock brokers regarding contributors to price changes are most pertinent. The Indian government needs to look at various policies and measures it needs to adapt to enhance market efficiency.

The study of Zaiane, Salma and Atef B. A (2017) analyses the Tunisian Stock Market and the influence of external event such as news. This study examines the effect of political, economic, social and terrorism events on stock market volatility over the period of the Tunisian revolution from December 1<sup>st</sup> 2010, to May 29<sup>th</sup> 2015. As a matter of fact, the political, social and terrorism events help increase the volatility of the index. However, the other economic events diminish this volatility. Furthermore, we notice that only political and social events influence the market volatility of the financial companies. However, the exchange rate of Eur/Tnd was affected only by economic and social events.

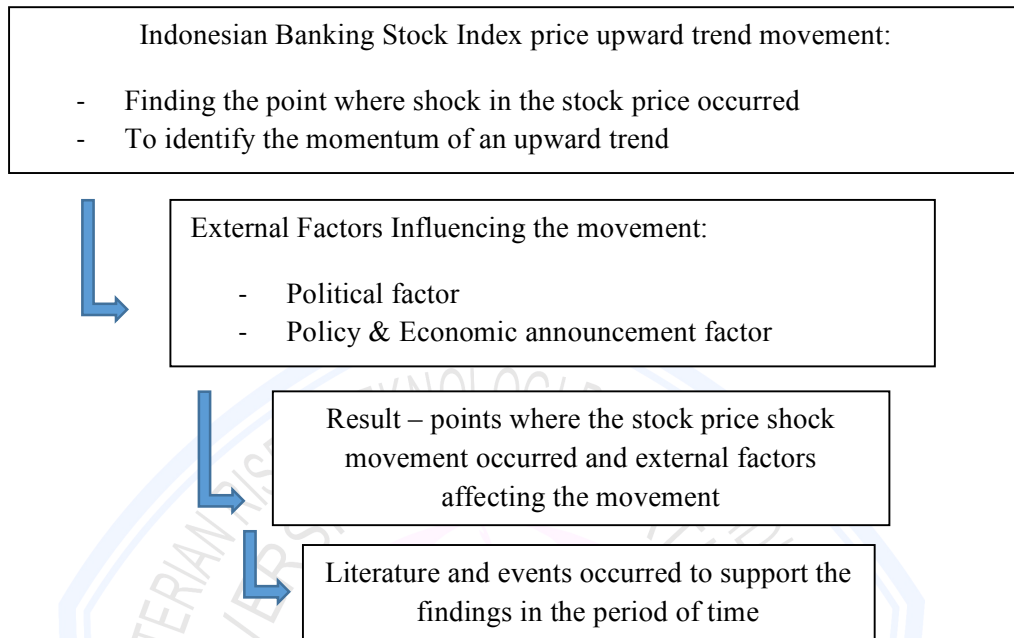
According to Suleman (2012) The purpose of his study is to analyze the consequences of political news on stock market returns and thus its volatility. He separates the political news into two categories (good and bad news). He concludes that the results of a few sectors (oil and gas, financial, health care) were not statistically significant in response to good and bad political news, which indicates any type of news does not affect the returns or volatility. The result shows that the sectors which respond more towards good news have a lower beta, suggesting variance moves quickly through the time.

The paper of Sathyanarayana and Gargasha (2017) investigates the impact of major political events and its influence towards the stock market with special reference to BSE Sensex, Nifty fifty and BSE100 index. History has shown that stock market plays a major role in any economy. Stock market has been impacted by various macro and microeconomic factors. Therefore, the main objective of this empirical paper is to investigate the pricing behavior of the chosen benchmark indices (Sensex, Nifty, and BSE100) with respect to a major

political event in India (demonetization of currency) and its implication on regulators, researchers and market participants. They found a significant impact of currency demonetization on the chosen indices on the event day. Nobody knows the actual impact of demonetization on the economy in the long run.

### Conceptual Framework

The framework below describes the background and root on why this research should be conducted.



**Figure 1. Conceptual Framework**

Source: *Theoretical Review, 2018*

## RESEARCH METHOD

### Type of Research

Since the purpose of this research is to explore the factors affecting in Banking Sectors of Indonesia, this research is categorized as explorative research (Usman, 2009: 129). Quantitative research refers to research studies that have as their main objective the accurate portrayal of the characteristics of persons, situations or groups using numbers (Polit & Hungler 2004:716). This approach is used to explore variables rather than to test a predicted relationship between variables.

### Population and Sample

The population in this research are the banking subsector in Indonesian Stock Exchange, and the sample are the private bank companies listed in Indonesian Stock Exchange, which accounts for 43 banks in Banking Sectors of Indonesia Stock Exchange, for the past 15 years, 2001-2016.

### Type of Data

Secondary data is used as the main source of data in this research. Secondary data refers to data that was collected by someone other than the user. Common sources of secondary data for social science include censuses, information collected by government departments, organizational records and data that was originally collected for other research purposes. In this research, the secondary data are obtained from the company's website and Indonesia Stock Exchange offices. Secondary data will be obtained in the form of financial reports of the last fifteen years (2001-2016).

### Operational Definition of Variables

Operational definition of variables used in this research and their indicators are:

1. Stock Price: A stock price is the price of a single share of a number of saleable stocks of a company, measured in Rupiahs per stock, based on Indonesian Stock Exchange data.
2. External Events: Events that occurred at approximately the same time with the momentum of price movement



that could cause the momentum. These could be political, economic, or policy events.

### Research Method

This research uses an explorative-quantitative method that uses stock statistical analysis and t-test analysis. T-test analysis is used to give evidence on the difference in mean, proving that there is a significant change in momentum.

### Technical Analysis

A method of evaluating future security prices and market directions based on statistical analysis of variables such as trading volume, price changes, etc., to identify patterns. Technical Analysis also applied to the price action of the market to develop trading decisions, irrespective of fundamental factors.

### T-test

T-test is used to test the causal relationship between variables partially. The calculation result of t-test is shown in coefficients table, specifically in sig. (significance) column. If the significance value is less than 0.05, it concludes that significant influence exists between two variables. If the significance value is more than 0.05 then there is no significance in the relationship between the two variables.

### Research Procedure

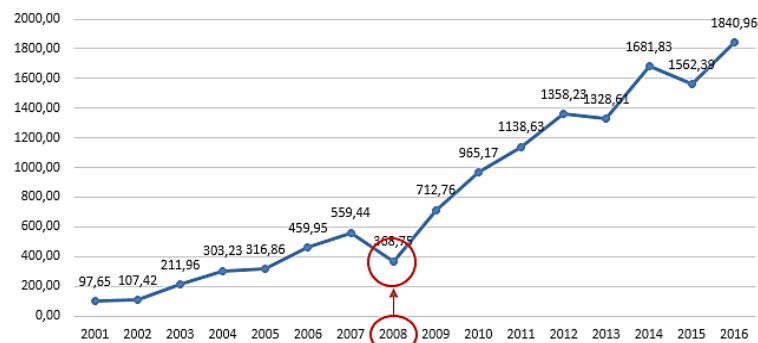
This research uses an explorative-quantitative method that utilizes ratios of financial company. The steps are described as follows:

1. Access the financial data for each company in the banking sector of Indonesia through securities/investment banking platform of Indonesian Stock Exchange and delegated platform (investment bank).
2. Obtain the banking financial statement data from the platform (ratios) of 43 companies.
3. Tabulate the data using Microsoft Excel and transfer it to SPSS.
4. Find the points and period (years) where the price momentum of the index changes.
5. Provide more detail timeline, in quarters, months, to find out where exactly the momentum occurred, using graphics and technical analysis.
6. Use SPSS to process the T-test, to identify the difference in means between two periods of time price.
7. Analyse the findings and determine the most affecting factors of stock price variable in financial sector index, using supporting literature which explain the occurred events.

## RESULT AND DISCUSSION

### Statistical Results

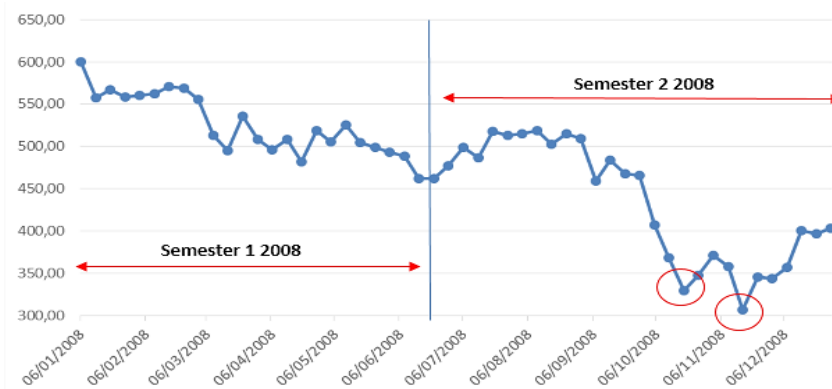
The figures below will display that within the 15-years historical price of this index, there was a shock increased that occurred in 2008 that preceded with increases in index price up to more than 100% increase until 2013. Then the year 2008 is zoomed into more detailed perspective, which is the 2008 semesters' price and 2008 quarterly price. In the last session, the t-test is conducted to confirm any significant difference between the price and price expected, that will indicate if any shock in this index has occurred.



**Figure 2. 15-year Indonesian Banking Index Price**

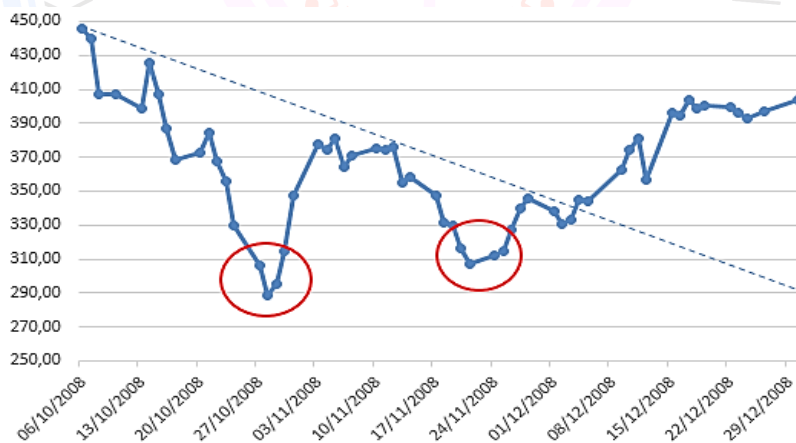
(Source: Investing.com and Appendix)

Figure 2 shows that the index price started to increase slightly in 2001 until 2007 and dropped approximately 30% in 2007 until the mid of 2008, caused by global economic slowdown and global crisis. In 2008, it appears that the turning point was occurring. Based on the figure above, the increase that occurs in sometimes in 2008 start the climbing process of this index price. From 2008 afterward, the shock in that year caused the price to move from 368.75 to 1840.96 in 2016. The findings concluded that 2008 is where the turning points occurred, and in further step it will be analysed more detailed using weekly price and daily price in semesters and quarters.



**Figure 3. 2008 Semesters price, Indonesian Banking Index**  
(Source: Investing.com and Appendix)

Figure 3 generally displays the index moving in a downward the trend. This downward trend occurred from the beginning of 2008 until the mid of 2008, before two points of resistance occurred and the trend began to change afterward. If this figure is divided by quarters (Q1-Q4), the two turning points (resistance points) is shown to have happened in Q4 (Fourth quarter) of 2008, which means that the events of price shocks occurred in the month of October to December of 2008. In the next graphic will be displayed the Q4 of 2008 to identify where the shock happened in more detailed fashion.



**Figure 4. 2008 Q4 price, Indonesian Banking Index**  
(Source: Investing.com and Appendix)

Figure 4 generally shows that there are two resistance points, points where the price bounces back which initiated the shock. It is displayed that at the beginning of Q4 2008 (October 2008) the downward trend from early 2007 had continued before it touched the first resistance points and the second resistance point.

It is also shown that after making these two points, the shocks cause price pattern to break the downward line (see graphics) and then the price shock continues when entering Q1 2009 further until 2016 where the banking sector produce great return because of its increased price. The two points that initiate the shock occurs in ranged date in Q4 2008. The first point occurred approximately on October 27<sup>th</sup> until November 3<sup>rd</sup>, while the second resistance points occurred on November 17<sup>th</sup> until December 2<sup>nd</sup>. This serves as the base to find events that initiate these two major turning points in the year 2008, which is discussed in the discussion part.

**Table 1. T-Test Result**

	Test Value = 813.36		Sig. (2-tailed)	Mean Difference	Interval of the	
	t	df			Lower	Upper
Indeks Banking	-33,102	51	,000	-337,11615	-357,5617	-316,5706

(Source: SPSS-processed data)

The one-sample T-test is used to confirm whether there is a shock happening or not. This t-test will compare if there is any significant difference between the price-expected (Pe) throughout the years and the historical price selected in a certain period, where the shocks probably occurred.

Based on the results table, if p-value (Sig.) is greater than 0.05, accept H0 and reject H1 and if p-value (Sig.) is lower than 0.05, reject H0 and accept H1. The statistical results show that the p-value is lower than 0.05 (0.000 < 0.05). It means that H1 is accepted and a major turning point happened. The shock that caused the price to move extremely upward seems to happen in 2008, according to the graphics.

### Discussion: Factor Causing the Index Price Movement

The base theory for this discussion is the Random walk theory and the efficient market hypothesis (EMH). Briefly explained, the Efficient Market Theory is the application of rational expectations to the pricing of securities in financial markets. Current security prices will fully reflect all available information because, in an efficient market, all unexploited profit opportunities are eliminated. The random walk theory is the belief that price behaviour cannot be predicted because it does not act on any predictive fundamental or technical indicators. Under the random walk theory, there is an equal chance that a stock's price will either rise or fall from current levels. The EMH is the underpinning of the theory that share prices could follow a random walk (Dupernex, 2007). This explains that the index price reflects all information which already published to the public. By the time the information was released, the price has already reflected it.

The next question which is what information caused the shock in the Q4 2008 of Indonesian banking index price, discussed here. There are several events that could possibly ignite the shock in index price, such as political, economic, and company-related events.

The political events are highly unlikely to be the cause. Any major events related to Indonesian politics or government did not happen in Q4 2008. For example, the Indonesian presidential election was not held in 2008 and there was not any succession or reshuffling of cabinets in that assigned periods. The government and the ministries also did not release any statements related to economic or political issues in the same period.

The increase of SBI rate is also not congruent with the common theory, that when the SBI (Bond) rate is increasing, the stock price tends to decrease (Negatively correlated). In the same period of Q4 2008, this negative correlation did not exist. Thus, the SBI rate as a variable cannot be regarded as affecting factor of the shock. The Bank Indonesia interest rate (BI rate) was also showing the same trend. During 2008, the interest rate was increasing from January to December 2008. This finding is also not congruent with the index performance during the same period in 2008, where if the interest rate goes up, the index price should go down. The banking index was not affected by the increase of interest rate in Q4 2008 as it went up at the end of 2008.

The profitability improvement (earnings) of banks in Indonesia is regarded as the root of the upward trend of the banking index price, which caused the shock in Q4 2008. The investors became optimistic towards the Indonesian banking industry because they have shown greater return compared to the last year quarters (Q4 2007). This was also a recovery indication in the Indonesian economy. Findings in Indonesian banking statistics by Bank Indonesia showed that most of the banks in Indonesia (Private Bank, State-Owned Bank) were producing good earnings during Q3 of 2008. This announcement has occurred in September 2008.

Nugroho (2011) had statistically proven that banking company profitability affects its stock price. Profitability was measured by earnings and profitability ratios. Furthermore, he concludes in his result that the movement of banking stocks price in 2007-2009 was affected significantly by factors such as earnings and profitability of the banks. His study also states that the EPS (Earning per Share) of the banking company contributes 43,14% to the banking stock price movement in 2007-2008. This is congruent with current research, which argues that the shock occurred in 2008 is rooted in the announcement of banks' increase of earning.

Indriana (2009) who studied the influence of profitability and other bank ratios towards the movement of the banking index in 2004-2008, thus confirms the statement of Nugroho (2011). During 2004-2008 profitability of those banks served as factors determining any change in banking sector's stock price. Indriana (2009) further

explanation suggests that the increase in the earnings of the banks, it means the better for the company to distribute earnings to its shareholder. The increase in earnings indicates a good business performance thus generating more yield to its investor. These two points lead to investors' interest to buy stocks in banking index, thus drive the price up.

## CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

Based on results of the previous chapter, the conclusion is as follows:

1. The shock movement of Indonesian banking sector occurred in the year of 2008. This momentum creates an upward trend of Indonesian banking sector for years on.
2. The factor influencing the upward momentum of Indonesian banking index in 2001-2016 is the composite profitability announcement of those 43 banks. Meanwhile, other factors such as interest rate, SBI rate, political economic factor do not affect the movement of banking index during 2001-2016.

### Recommendations

There are several recommendations that can be listed based on the finding of this research:

1. The financial managers or investors could see that the occurrence of increase in interest rate by the federal bank could impact the stock price of banks in Indonesia to move and create significant momentum. These findings should be seen as important points.
2. Scholars and researchers should examine more in-depth about the other external events such as political events and its impacts on banking stock momentum, to give finance world more reference regarding external events and banking stock movement.

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