



**THE IMPACT OF MACROECONOMIC FACTORS ON STOCK
PRICES: AN EXPERIENTIAL OBSERVATION AT BANKING,
FINANCE AND INSURANCE SECTOR LISTED IN HO CHI
MINH STOCK EXCHANGE (HOSE) IN VIET NAM PERIOD
2010-2013**

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APPROVAL SHEET

The Panel of Examiners declares that the Skripsi entitled "**THE IMPACT OF MACROECONOMIC FACTORS ON STOCK PRICES: AN EMPIRICAL AT BANKING, FINANCE AND INSURANCE SECTOR LISTED IN HO CHI MINH STOCK EXCHANGE (HOSE) IN VIET NAM PERIOD 2010-2013**" that was submitted by Nguyen Thi Thanh Lam majoring in Management from the Faculty of Businesses was assessed and approved to have passed the Oral Examinations on 2nd, February 2015.

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Cikarang,Indonesia, January, 2015

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DECLARATION OF ORIGINALITY

I declare that this Skripsi, entitled "**THE IMPACT OF MACROECONOMIC FACTORS ON STOCK PRICES: AN EMPIRICAL AT BANKING, FINANCE AND INSURANCE SECTOR LISTED IN HO CHI MINH STOCK EXCHANGE (HOSE) IN VIET NAM PERIOD 2010-2013**" is, to the best of my knowledge and beliefs, an original piece of work that has not been submitted, either in a whole or in a part, to another university to obtain a degree.

Cikarang, Indonesia, January, 2014

Nguyen ThiThanh Lam

ABSTRACT

This research was conducted to assess The impact of Macroeconomic factors on Stock Price an empirical at Banking, Finance and Insurance sector listed in Ho Chi Minh Stock exchange (HOSE) period 2010-2013. The stock market is important for economic growth because it ensures the flow of resources to most productive investment opportunities. There are some macroeconomic factors that find it important in estimating the relationship between stock market return in Vietnam. Besides, this paper intend to investigate the relationship of several macroeconomic factors such as Interest Rate, Consumer Price Index, Exchange Rate and Money Supply M2 Growth rate with Stock Price in Vietnam. The data is collected from several official website such as General Statistic Office of Vietnam, the State Bank of Vietnam, The World Bank and Asian Development Bank in the period 2010-2013 monthly. This research use Quantitative analysis method and secondary data. Data analysis technique used is multiple linear regression with least squares equation and test hypotheses using T-statistic for testing the partial regression coefficients and F-statistics to test the effect together with a significance level of 5%. It also tested the classical assumption that included tests of normality, multicollinearity test, test of heteroscedasticity and autocorrelation test. This shows the available data has seen qualified using multiple linear regression equation model. These results indicate that Interest Rate, Consumer Price Index, Exchange Rate, and Money Supply M2 Growth Rate have significantly positive effect towards the stock price in Banking, Finance and Insurance Sector listed in Hoc Chi Minh Stock Exchange (HOSE) period 2010-2013. Predictive ability of four variables to stock price in this research of 75.1% while the remaining 24.9% be affected by other factors not included in the research model.

Keywords: *Interest Rate (IR), Consumer Price Index (CPI), Exchange Rate (ER), Money supply M2 growth Rate (M2 rate), Stock Price (SP)*

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CHAPTER I

INTRODUCTION

1.1 Background of study

The Efficient Market Hypothesis is one of the most controversial and well-studied proposition in economic and financial theories. Throughout the history of the literature, the different levels of efficiency of various markets have long been of great interest to researchers. While tests of semi-strong form and strong form market efficiency are rare, especially in less developed market, weak-form tests are voluminous. Evidence obtained from developed markets such as U.K and U.S suggests that stock markets in these countries are efficient at least in the weak form. Nevertheless, there is a wide consensus that stock markets in emerging and developing countries are neither semi-strong form nor strong form efficient, and in many of the cases do not exhibit even weak form efficiency.

Efficient market hypothesis has been at the center of debates in financial literature for several years. The term efficiency is used to describe a market in which all relevant information is immediately impounded into the price of financial assets. If the capital market is sufficiently efficient, investors cannot expect to achieve superior profits from their investment strategies. As a result, capital asset pricing models could be useful for various investment decisions. In the economic perspective, the efficient market is even more important because it implies that the stock market is well functioning in scarce resource allocation. However, this is not always the case, especially in the emerging stock markets.

Stock markets play a pivotal role in growing industries and commerce of a country that eventually affect the economy. Its importance has been well acknowledged in

industries and investors perspectives. The stock market avail long-term capital to the listed firms by pooling funds from different investors and allow them to expand in business and also offers investors alternative investment avenues to put their surplus funds in. The investors carefully watch the performance of stock markets by observing the composite market index, before investing funds. The market index provides a historical stock market performance, the yardstick to compare the performance of individual portfolios and also provides investors for forecasting future trends in the market.

However, unlike mature stock markets of advanced countries, the stock markets of emerging economies began to develop rapidly only in the last two and half decades. While there have been numerous attempts to develop and stabilize the stock markets, the emerging economies are characterized as the most volatile stock markets (Engel and Rangel, 2005). Moreover, the stock markets of emerging economies are likely to be sensitive to factors such as changes in the level of economic activities, changes in the political and international economic environment and also related to the changes in other macroeconomic factors. Investors evaluate the potential economic fundamentals and other firm specific factors/characteristics to formulate expectations about the stock markets.

The impact of economic fundamentals on stock prices or stock returns has been a long debated issue amongst the academicians and professionals. According to the Efficient Market Hypothesis (Championed by Fama, 1970), in an efficient market, all the relevant information about the changes in macroeconomic factors are fully reflected in the current stock prices and hence, investors would not be earned abnormal profits in such markets. If the conclusion of Efficient Market Hypothesis is to be believed; then the changes of any macroeconomic variables should not affect the stock returns much. However, conclusion drawn from the Efficient Market Hypothesis has been critically examined by subsequent studies by Fama and Schwert (1977), Nelson (1977) and many scholars which affirm that macroeconomic variables

do influence the stock returns by affecting stock prices. The Arbitrage Pricing Theory (APT) also provides theoretical framework of the linkage between stock prices and macroeconomic fundamentals (see. Ross, 1976; Chen et al., 1986).

In this connection, several empirical studies have shown that changes in stock prices are linked with macroeconomic fundamental. Study by Chen et al. (1986) is one of the earliest to empirically examine the link between stock prices and macroeconomic variables in the line of APT and provides the basis to believe for the existence of a long-run relationship between them. More recently, an increasing amount of empirical studies have been focusing attention to relate the stock prices and macroeconomic factors for both developed and emerging economies (see. Mukherjee and Naka, 1995; Wongbampoand Sharma, 2002; Maysami et al., 2004; Ratanapakorn and Sharma, 2007; Rahman et al., 2009; Asaolu and Ogunmuyiwa, 2011). These studies conclude that stock prices do respond to the changes in macroeconomic fundamentals but the sign and causal relationship might not hold equal for all the studies.

Islam and Khaled (2005) calls developing countries as ‘capital starved economies’, so efficient allocation of scarce resources and encouragement of private foreign investment are both of vital importance. They also stated that the success of an increasing privatization of these economies will depend crucially on the presence of an active and efficient stock market. Indeed, rational investors expectedly drive their investments into the most profitable projects, given acceptable risks. The efficient market can address the ‘mixed feelings’ problem, which investors are always skeptical about the intrinsic value of any stock under consideration. This may lead their decisions based on others. In other words, this phenomenon is commonly considered as herding behavior. For foreign investors, inefficient markets are usually equivalent to high risky markets when making their investments abroad. Hence, they tend to apply higher hurdle rates, which in turn underestimate investment opportunities in developing countries. Eventually, it’s hard for any developing

country with inefficient/weak stock market to attract foreign portfolio investment flows.

The efficient market hypothesis is theoretically viewed in three common forms, depending on the kind of available information embodied. These are commonly classified into weak-form, semi strong-form, and strong-form efficiency. The weak form is the lowest form of efficiency that defines a market as being efficient if current prices fully reflect all information contained in past prices only. The semi-strong form efficiency suggests that the current price fully incorporates all publicly available information. Semi-strong efficiency requires the existence of market analysts who are not only financial economists able to comprehend implications of vast financial information, but also macroeconomists, experts adept in understanding processes in product and input markets (Ross et al., 2006). The strong form efficiency states that the current price fully incorporates all existing information, both public and private (also called inside information). The main difference between the semi-strong and strong efficiency hypotheses is that, in the latter, nobody should be able to systematically generate profits even if trading on information not publicly known at the time. The rationale for strong-form market efficiency is that the stock market anticipates, in an unbiased manner, future developments and therefore the stock prices may have incorporated all relevant information and evaluated in a much more objective and informative way than the insiders. According to Ross et al. (2006), a very strong assumption of this form is that inside information cost is always zero. However, this assumption hardly exists in reality, so the strong form efficiency is not very likely to hold.

Vietnam is considered a developing country whose stock market possesses many characteristics found in most developing and emerging stock market around the world. The stock exchange in Vietnam has only been operating for 15 years since July 2000. Up to the present time, there have only been 45 companies listed on the exchange. Most of these are privatized companies which were originally state-owned

enterprises. The newness and underdevelopment of the market are characterized by thin trading with a large number of inactive stocks, informational asymmetries, incomplete regulatory framework and insufficient corporate governance system.

The Vietnamese stock market is really struggling with various typical weaknesses of an emerging market (Truong, 2006). As a result, trading behavior in the Vietnamese stock market may be much different from that in developed/newly emerging stock markets. Investors, especially those who have just experienced the economic downturn, may base their actions on the decisions of others who are well informed about market developments by following the market consensus (Nguyen, 2009).

The mixed evidence from the study of Truong (2006) in the 2002-2004 periods may imply that the Vietnamese stock market is, to which extent, characterized by the weak-form efficiency. However, this lowest form of efficiency cannot assure the Vietnamese stock market is well functioning in scarce resource allocation and attractive enough to encourage foreign investors (Nguyen, 2006). Both investors and policy makers mostly concern if the current market prices reflect all publicly available information, such as information on inflation, economic growth, money supply, exchange rates, interest rates, annual earnings, stock splits, etc.

1.2 Problem identification

Generally, in the developed countries, the impact of macroeconomic factors on the stock market is shown very clearly. However, empirical research in emerging stock markets, especially in Vietnam, the results found both similarities interspersed with much different than the developed markets. Two key differences are: not all the macroeconomic variables in theory have an impact on the stock market will have an impact on the emerging or developing stock market; and even the impact of several of macroeconomic factors to be contrast stock market compared with the classical theory.

Stock market had become essential by playing important role in Viet Nam in fostering capital formation and sustaining economic growth. It acts as a facilitator between savers and users. It not only consists of transferring and gathering of funds and wealth, but also sharing of risks. Furthermore, stock markets are important for economic growth because it ensures the flow of resources to the most productive investment opportunities. Dealer and broker will be responsible to help their customers in investment. There is no benchmark for the movement of stock prices. However, there are some macroeconomic factors that find it important in estimating the relationship between stock market return in Vietnam. Besides, this paper intends to investigate the relationship of all these corresponding macroeconomic variables with stock price in both short run and long run dynamic in Vietnam. The whole Vietnam economic activities would be affected due to the fluctuation of the stock prices.

Nowadays, people tend to invest in the instrument which generate higher rate of return than inflation rate. Capital market investment is growing rapidly in Vietnam as one of promising investment. The Aggregate performance of capital market can be easily seen by its index. Many factor influencing the price movement of the stock. Factor influencing stock price might be appeared from internal which could be controlled by the company. Otherwise, it might come from external, like economic stability. Economic stability in a country could be measured by macroeconomics variables. Interest Rate, Consumer Price Index, Exchange Rate and Money Supply M2 Growth Rate are some macroeconomics variable that shows economic condition in Vietnam.

1.3 Statement of the problems

1. Is there a partial significant influence of Interest rate towards Stock price at Banking, Finance and Insurance Sector listed in HOSE?

2. Is there a partial significant influence of Consumer Price Index toward Stock price at Banking, Finance and Insurance Sector listed in HOSE?
3. Is there a partial significant influence of Exchange Rate toward Stock price at Banking, Finance and Insurance Sector listed in HOSE?
4. Is there a partial significant influence of Money Supply M2 Growth Rate toward Stock price at Banking, Finance and Insurance Sector listed in HOSE?
5. Is there a significant influence of Interest rate, Consumer Price Index, Exchange Rate and Money Supply M2 simultaneously towards Stock price at Banking, Finance and Insurance sector listed in HOSE?

1.4 Research Objectives

1. To analyze the significant influence of Interest Rate toward Stock price at Banking, Finance and Insurance Sector listed in HOSE
2. To analyze the significant influence of Consumer Price Index toward Stock price at Banking, Finance and Insurance Sector listed in HOSE
3. To analyze the significant influence of Exchange Rate toward Stock price at Banking, Finance and Insurance Sector listed in HOSE
4. To analyze the significant influence of Money Supply M2 Growth Rate toward Stock price at Banking, Finance and Insurance Sector listed in HOSE
5. To analyze the significant influence of Interest Rate, Consumer Price Index, Exchange Rate and Money Supply M2 Rate as a composite variable of Macroeconomic factors toward Stock Price at Banking, Finance and Insurance Sector listed in HOSE

1.5 Research Benefits

1.5.1. For Future Researcher

The research is expected be functioning to anyone who invests to Vietnam stock market or students or researchers who want to make research for study and understanding about Vietnam stock market. In addition, the research

provides to the writer a lot of knowledge and the overview of Vietnam stock market. Besides that, this research gives many insights for researchers in understanding of stock price and macroeconomic factors which influence the stock price. And also the writer has gained deep understanding how to conduct a proper research in economic field. Finally, this study provides useful data to the future researcher for their research.

1.5.2. For Investor

From perspective of investors, it can be useful information for them to decide on whether buying or selling the stock. For a portfolio manager and also fund manager, it provides them important information to hedge the stock immediately.

1.5.3. For Vietnam Government

This study can be a useful tool for them to implement an appropriate policy. It can help the policy maker to make a correct decision in helping the stock market. Besides, it also helps to predetermine and stabilize and avoid volatility in stock return.

1.6 Scope and Limitation of the study

This research provides the knowledge stock market in Vietnam and how the Macroeconomic factors impact to Stock Price in Vietnam. Beside, this research gives the overview about Vietnam Stock market and base on the macroeconomic factors to predict the stock price in Vietnam.

The researcher has to collected data and made survey absolutely throughout internet. Therefore, the limitations of this research are listed as the following:

1. The fluctuation of macroeconomic factors such as Interest Rate, Consumer Price Index, Exchange Rate and Money Supply M2 Rate

affecting whole economic activities all over the world including Vietnam. This research uses these factors as independent variable and Stock price at Banking, Finance and Insurance industries listed in Ho Chi Minh Stock exchange period 2010-2013 as dependent variable to be analyzed

2. This research implement quantitative analysis by using secondary data collected from some books, journals, articles, previous research, and website that have been published to the public
3. This research use monthly data in a year 2010-2013.
4. Limited to find the definite data, literature and source of material.

1.7 Definition of Term

Stock market is the market in which shares of publicly held companies are issued and traded either through exchanges or over-the-counter markets.

Stock price is the cost of purchasing a security on an exchange.

Consumer Price Index (CPI) is a measure that examines the weighted average of prices of a basket of consumer goods and services, such as transportation, food and medical care.

Interest Rate (IR) is the amount charged, expressed as a percentage of principal, by a lender to a borrower for the use of assets.

An exchange rate (also known as a foreign-exchange rate, forex rate, FX rate or Agio) between two currencies is the rate at which one currency will be exchanged for another. It is also regarded as the value of one country's currency in terms of another currency.

Money supply is the entire stock of currency and other liquid instruments in a country's economy as of a particular time.

Money Supply M2 Growth Rate is a measure of a change in Net Future Asset or in Net Domestic Asset or both.

CHAPTER II

REVIEW OF LITERATURE

2.1 Theoretical Review

2.1.1. Macroeconomic

Macroeconomic is the field of economics that studies the behavior of the aggregate economy. Macroeconomic elaborates economic phenomena in wide perspective such as changes in unemployment, national income, rate of growth, gross domestic product, inflation and price level. Jodi Beggs (2014) started that “Macroeconomics can be best understood in contrast to microeconomics which considers the decisions made at an individual or firm level. Macroeconomics considers the larger picture, or how all of these decisions sum together. An understanding of microeconomics is crucial to understand macroeconomics. To understand why a change in interest rate leads to changes in real GDP, we need to understand how lower interest rates influence decisions, such as the decision of how much to save, at the firm or household level. Once we understand how an individual, on average, will change their behaviour we will then understand the large scale relationships in an economy.

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, exchange rate, Inflation rate, unemployment rate, money supply, price level, and others.

Macroeconomics also defined as the study of whole economic systems aggregating over the functioning of individual economic units. It is primarily concerned with variables which follow systematic and predictable paths of behavior and can be analyzed independently of the decisions of the many agents who determine their level. More specifically, it is a study of national economies and the determination of

national income. Macroeconomics considers the performance of economy as a whole. Many macroeconomic issues appear in the press and on the evening news a daily basis.

Additionally, information plays an important role to change the business scenario and it also change the expectation of the people regarding market. Therefore foreign investors require more return if risk is more to relative country. Such information is perceived from different macroeconomics factors. Considering the importance of macroeconomics factors to stock price, many researchers have analyzed its impact which directly leads to the investor's decision in term of investment.

1. Interest Rate

Interest rate is normally determined by the supply and demand, but it is also determined by the monetary policy of a country according to its economic situation. Higher interest rate in saving will be attracted for investors to keep in the bank rather than invest in the risky stock market. Conversely, investors will be involved in the stock market rather than bank account if the risk free return is having in downturn. (Nousheen Zafar , Syeda Faiza Urooj, Tahir Khan Durrani , 2008-2009)

The interest rate is usually reported as the nominal interest rate, which means it is not adjusted for inflation. We determine the real interest rate by taking the nominal rate of interest and subtracting the inflation rate: **Real interest rate = Nominal interest rate – Inflation rate**. The distinction between real and nominal interest rates is important because the real interest rate, which reflects the real cost of borrowing, is likely to be a better indicator of the incentives to borrow and lend. (L.Ston, 2008, p. 280)

Interest rates are the signals that affect the channeling of funds to demanders or borrowers from suppliers or savers, directly or through financial intermediaries. Since interest rates and time are closely related, the expression that "time is money"

is helpful in understanding the financial demand supply linkage and, in turn, the determination of interest rates. (Richard, 1987)

2. Consumer Price Index (CPI)

A price index is a measure of the aggregate price level relative to a selected base year. CPI is a principle measure of price fluctuations at retail level and it shows the cost of purchasing a goods and service consumed by private household (Subhani, Muhammad Imtiaz & Osman, Amber & Gul, 2010). In other words, CPI is a proxy of inflation because the annual percentage changes in a CPI act as inflation. Besides, government also could implement to determine how to adjust the consumer payment to help them in meeting their needs.

The Consumer Price Index (CPI) is a measure of the average change over time in the prices of consumer items—goods and services that people buy for day to- day living.

The CPI provides an estimate of the price change between any two periods. The percent change between the CPIs for two periods indicates the degree to which prices changed between them. The CPI follows the prices of a sample of items in various categories of consumer spending—such as food, clothing, shelter, and medical services—that people buy for day-to-day living. The monthly movement in the CPI derives from weighted averages of the price changes of the items in its sample. A sample item's price change is the ratio of its price at the current time to its price in a previous time. A sample item's weight in this average is the share of total consumer spending that it represents. (Gjerde, Ø. and Sættem, F, 1999)

A price index is a measure of the proportionate, or percentage, changes in a set of prices over time. A consumer price index (CPI) measures changes in the prices of goods and services that households consume. Such changes affect the real purchasing power of consumers' incomes and their welfare. As the prices of different goods and services does not all change at the same rate, a price index can only reflect their average movement? A price index is typically assigned a value of unity, or 100, in

some reference period and the values of the index for other periods of time are intended to indicate the average proportionate, or percentage, change in prices from this price reference period. Price indices can also be used to measure differences in price levels between different cities, regions or countries at the same point in time. (Gan,C.,Lee,M.,Au Yong,H.H.,&Zhang,J, 2006)

3. Exchange Rate

The exchange rate of the currency during which a portfolio holds the majority of its investments determines that portfolio's real come. A declining exchange rate clearly decreases the buying power of financial gain and capital gains derived from any returns. Moreover, the charge per unit influences different financial gain factors like interest rates, inflation and even capital gains from domestic securities. Whereas exchange rates square measure determined by varied advanced factors that always leave even the foremost older economists flummoxed, investors ought to still have some understanding of however currency values and exchange rates play a vital role within the rate of come on their investment. (Ghadiri M., Noorani, Koosha, Amani, 2013)

Exchange rate is rate at which one currency or more may be converted into another. Amadeo (2013) started that exchange rate determines how much of one currency can be exchanged for another. For example, the dollar's exchange rate tells how much a dollar is worth in a foreign currency, and vice versa. In this study, exchange rate subjected to average value of USD/VND rate which could be retrieved from Finance of Ministry website.

4. Money Supply M2 Growth Rate

i. Money Supply

Money supply is one of the components of monetary policy for the Federal. There will be either anticipated or unanticipated of money supply by the people (Maskay,B.,& Chapman,M., 2007). Besides, money supply can be divided into multiple categories such as M1, M2 and M3. This is according to the type and the size of account in which the instrument is kept (Schwartz, 2008). M1 is currency held by public plus demand deposit. M2 is equal to M1 plus savings and time deposits with licensed banks and held by the public. While for the M3 is equal to M2 plus deposits with restricted licensed banks and deposit taking companies and held by the public (Jess, 2009).

Money supply is the total stock of assets that are generally acceptable as media of exchange within an economy at a particular time. A number of items may qualify as media of exchange. The decision as to what items are to be included in the money supply remains an issue in economic debates. There are varying degrees of liquidity or ‘moneyness’, depending on how easily an asset can be converted into other assets. With the most liquid assets being notes and coins established as medium of exchange by legal fiat, “moneyness” of other assets depends on how easily they may be converted to notes and coins. Furthermore, as the degree of liquidity falls, the distinction between monetary assets and other financial assets becomes increasingly blurred. Therefore, in this context, the International Monetary Fund (IMF) has sought to outline standards for the measurement of the amount of money in an economy. (Mishkin, 2004, p. 375)

According to the IMF’s manual, money supply is measured as the combined deposit liabilities of the banking system and the currency liabilities of the central bank, both held by households, firms, nonprofit institutions and all public sector entities outside

of the central government. In this official or standard representation of money supply, there are three monetary aggregates delineated; M0, M1 and M2. (Mishkin, 2004, p. 375)

M0 includes only currency in the hands of the public, banks' statutory reserve deposits held at the central bank and banks' cash reserves. This aggregate represents the monetary liabilities of the central bank and is usually referred to as the monetary base or reserve money.

The second aggregate M1, comprises currency held outside the banking system and the current account deposit liabilities of commercial banks held for transaction purposes. It may also include some foreign currency deposits that are used for domestic transactions. This definition implies that only assets that are directly used in making payments should be considered as money. It should be noted that although most current account deposits do not attract interest, they provide a convenient and safe alternative to cash as a means of payment. (Mishkin, 2004, p. 376)

ii. Money Supply M2 Growth Rate

The M2 aggregation of money supply seeks to broaden the range of liquid assets to include some interest earning items, such as savings deposits and fixed or time deposits. This broad monetary aggregate, M2, comprises M1 plus short-term (usually a year and under) savings and time deposits, certificates of deposit, foreign currency transferable deposits and repurchase agreements. Although some of these assets are not readily accepted as payment for goods and services, the transaction cost associated with their conversion is relatively small. For example, with the introduction of automated banking machines, holders of savings accounts no longer have to go directly to the bank to make withdrawals thus the burden of converting savings balances to cash is minimized. As such, savings accounts are now used in a similar manner as current accounts in many societies, thereby enhancing depositors' capacity and convenience in undertaking expenditure. With respect to time deposits,

since these deposits can be withdrawn on short notice, they also provide some degree of liquidity to depositors. It should also be noted that there is an interest penalty associated with the pre-mature closure of these accounts. However, as long as the benefit of breaking these arrangements outweighs the cost, they do represent an alternative to cash and current accounts. (Mishkin, 2004, p. 376)

A change in M2 stems from a change in NFA, or in NDA, or both:

$$\Delta M2 = \Delta NFA + \Delta NDA \dots\dots\dots$$

This identity states that the money supply increases when a BOP (Balance of Payments) surplus exists. A surplus in the BOP shows up as an increase in NFA. NDA increases if the banks extend credit to the private sector or to the government. The growth of net foreign assets (NFA) and net domestic assets (NDA) work as the driving forces behind the growth of money supply (M2) over the time.

2.1.2. Capital Market

Markets exist to facilitate the purchase and sale of goods and services. The financial market exists to facilitate sale and purchase of financial instruments and comprises of two major markets, namely the money market and the capital market. The distinction between capital market and money market is that the former includes banks and other institutions advancing loans for short and medium periods, and the latter comprises institutions which grant long-term loans in different forms and for different purposes.

Capital markets facilitate the buying and selling of securities, such as shares and bonds or debentures. In the capital markets hundreds of investors make several deals a day. The screen-based trading makes these deals known to all in the capital markets. (I.M., 2008)

Capital market is defined as the market where medium and long terms finance can be raised (Akingbohunge, 1996). Capital market offers a variety of financial instruments that enable economic agents to pool, price and exchange risk. Through

assets with attractive yields, liquidity and risk characteristics, it encourages saving in financial form. This is very essential for government and other institutions in need of long term funds (Nwankwo, 1991). According to Al-Faki (2006), the capital market is a network of specialized financial institutions, series of mechanism, processes and infrastructure that, in various ways facilitate the bringing together of suppliers and users of medium to long term capital for investment in economic developmental project”

It has two mutually supporting and indivisible segments: the primary market and the secondary market. In the primary market companies issue new securities to raise funds, Hence it is also referred to the new issues markets. The secondary market deals with the second-hand securities; viz, securities that have already been issued by companies that are listed in a stock exchange. Since the securities are listed and traded in the stock exchange, the secondary market is also called the stock market. (Jain, 2012)

Capital market is, thus, important for raising funds for capital formation and investments and forms a very vital link for economic development of any country. The capital market provides a means for issuers to raise capital from investors (who have surplus money available from saving for investment). Thus, the savings normally flow from household sector to business or Government sector, which normally invest more than they save. A vibrant and efficient capital market is the most important parameter for evaluating health of any economy. (Jain, 2012)

1. Stock Price

In an efficient capital market, security prices fully reflect available information in a rapid and unbiased manner and thus provide unbiased estimates for the underlying values (Basu, 1977). In another words, no investors should be able to utilize readily available information in order to forecast stock price movements quickly enough so

as to make a profit through trading shares (Maysami, Lee Chuin Howe, Mohamad Atkin Hamzah, 2004) .

There are three forms of tests that have been carried out by Fama (1969) which includes weak form, semi-strong form and strong form. From him, weak form test represent the information set which include only available for historical prices. Besides, semi-strong form concern on whether the prices efficiently adjust to other information that is obviously public available such as stock splits while strong form reflects on whether information relevant for price formation are reviewed (Fama, 1969).With all these available information, it can helps investors to determine sufficient conditions for capital market efficiency. By fulfilling the three basic requirements, the market can be known as efficient. The basic requirements include no transaction costs in trading securities, all available information is costless available to all market participants and all agree on the implications of current information for the current price and distributions of future prices of each security. (Fama, 1969)

Ibrahim (1999) states that the significant lagged effects of macroeconomic variables on stock prices indicate informational inefficiency of the stock market. If this is the case, individual investors can earn abnormal profits by exploiting past macroeconomic information. As a result, this exploitable opportunity would seriously distort the market's ability to efficiently allocate scarce resources. The reverse effects of stock prices on macroeconomic variables imply that stock market movements anticipate future economic conditions. Accordingly, they may be employed as a leading indicator in helping formulating current economic stabilization policies. This study will investigate these dynamic interactions for the case of the Vietnamese stock market.

Ibrahim (1999) investigates the dynamic interactions between seven macroeconomic variables (the industrial production index, consumer prices, M1, M2, credit

aggregates, foreign reserves and exchange rates) and the stock prices of an emerging market, using Granger causality tests and error correction mechanism tests. This analysis is conducted using monthly data series for the period from January 1977 to June 1996. To smooth possible volatility, all data series are expressed in logarithmic forms. (Ibrahim, 1999)

Fama (1981, 1990), Barro (1990) and Schwert (1990) confirm that stock returns are highly correlated with future real economic activity. The authors' results hold for all data frequencies covering very long periods and are robust to alternative definitions of the data series. The evidence from these studies is that stock returns are a good proxy as a leading indicator for future economic activity.

Stock prices are in fact the foremost leading indicator and Fama (1981) conducts tests which show that the stock return is never led by any of the real variables. The author further finds that industrial production is the only real variable that shows a strong contemporaneous relation with the stock return.

The relations among stock returns, real activity, inflation and money supply changes were investigated by James et al. (1985), and their empirical results strongly support Geske and Roll's (1983) reversed causality model, which brings similar results with Solnik (1984) for other industrialized countries. Kaneko and Lee (1995) have re-examined the US and the Japanese markets and they employed the Chen et al. (1986) factors to evaluate the effects of systematic economic news on stock market returns. Using eight variable Vector Auto Regressive (VAR) systems, they found that both the term and risk premiums, as well as the growth rate of industrial production, are significantly priced in the US. Asprem (1989) examines the relationship between macroeconomic variables and stock prices in European countries and finds a positive relation between Industrial production, money supply and stock prices and a negative effect between inflation, interest rate and stock prices. Bulmash and Trivoli (1991) found that interest rates influenced stock prices negatively, since higher interest rates attract another investment alternative. Abdullah and Hayworth (1993) find that stock

returns are positively related with money growth and inflation rate while interest rates react negatively on stock returns.

2.2. The relationship between Interest Rate, Consumer Price Index, Exchange Rate, Money Supply M2 Growth Rate and Stock Price

2.2.1 The relationship between Interest Rate and Stock Price

Regarding the relationship between stock prices and interest rate, Elton & Gruber (1997) determine the relationship between the stock return and several macroeconomic variables like industrial production, money supply, crude oil price, short-term interest rate on Japanese. The result shows that there exist a positive relationship between stock prices and short-term interest rates. In addition, Maysami & Lee & Hamzah (2004) also show that there will have a positive effect on future expected return for the firm. When the interest rate rises, demand on deposit will increase rather than going for investment because the cost of borrowing is costly. Therefore, the return on the deposit may increase. Besides, Maysami & Lee & Hamzah (2004) also show that they have short term and long term interest rates respectively have significant mixed result with the Singapore's stock market. (Maysami, Lee Chuin Howe, Mohamad Atkin Hamzah, 2004).

Titman and Warga(1989) conducted a study which indicated a positive relationship between US stock returns and US interest rate changes during the November 1979 to October 1982 period. The reason that due to the federal economic policy of that time, the interest rate changes were more sensitive to changes in the industrial output. Therefore, an increase in output would lead to an increase in the interest rate and since stock returns tend to lead output, an increase in stock prices would also lead to an increase in the interest rates.

As substantial, higher borrowing costs will have to be paid by the investors in the future if there is a raise in interest rate. This is a bad news for an investor. In fact, the

demand on purchased stock would be stands in a downward trend and might lead to reduce in requiring rate of return the inflation.

In theory, the relationship between stock prices and the interest rate is controlled by investors in portfolios of bonds and stocks (Apergis Nicolas, Eleftherious Sophia, 2002). With higher interest rates, investors prefer bond as this implies that stock prices will decrease. On the contrary, a decrease in interest rates leads to an increase in stock prices. This negative relationship has been found by Gjerde, Oystein & Saettem, Frode (1999); Sharma, Subhash C. & Wongbangpo, Praphan (2002); Paul, S. and Mallik, G.(2003); Nasseh,A. and Strauss, J, (2000); McMillan, (2005), Pua, C.H. and Jayaraman, T.K, (2007) and Reilly, F.K., Wright, D.J. and Johnson, R.R (2007).

The relationship between interest rate and stock price can be explained as the following ways. When the companies finance their capital equipment and inventories through borrowings, a reduction of interest rate means the cost of borrowing is decreased. This may serve as an incentive for expansion via the increased investment capacity of the companies which in turn increase their stock prices. Alternatively, as Maysami et al. (2004) explain, when a substantial amount of stocks are purchased with borrowed money, an increase in interest rate would make stock transaction more costly. Investors will expect a higher rate of return before investing which results the demand to fall and hence leads to price depreciation.

The relationship between stock returns and interest rates in Sri Lanka studied by Premawardhana (1997) found a negative relationship while in contrast Hasan et al. (2000) found a positive relationship. Bilson et al. (2001) tested whether local macroeconomic variables (money supply, goods prices and real activity) have explanatory power over stock returns in 20 exchange emerging markets for the period 1985-1997. The results indicate that the exchange rate variable is clearly the most influential macroeconomic variable, and money supply has greater importance. Panayotis et al. (1996) examined the impact of inflation uncertainty on stock prices

in developed as well as in emerging capital markets for 20 countries and find a negative association between inflation uncertainty and stock prices. All the studies cited above represent various strong relationships between macroeconomic variables and stock returns in numerous countries. In this study the researcher is interested in documenting the effects of macroeconomic variables on stock prices in the Ho Chi Minh Stock Exchange.

On the other hand, a positive relationship was found in Lobo (2002), Apergis, N. and Eleftheriou, S (2002), Erdem et al .(2005) and Bohl et al. (2007). Lobo (2002) explained that the main factor affecting stock market volatility is the change in FED's disclosure policy. When FED raises more (less) interest rates than expected, it is considered bad (good) news to stock market. Both have a positive effect, but the bad news has a stronger impact on market volatility. A similar phenomenon has been found in studies of developing markets, for instance, the Istanbul Stock Market (Erdem, C., Arslan, C.K. and Erdem, M.S, 2005). Bohl et al. (2007) suggested that the positive relationship relies on the heteroskedasticity in interest rates and stock returns. The covariance between interest rates and stock return is positive when shock creates great volatility in stock market. In addition, Apergis Nicolas & Eleftherious Sophia (2002) found a positive correlation between interest rates and stock prices in Athens Stock Exchange. However, this correlation is statistically insignificant because stock prices depend on inflation rather than the nominal interest rate movement, despite the close relationship between inflation and nominal interest rates.

Another group of studies investigated the co-movement between stock prices and interest rates in stock markets in a group of countries. For example, Wongbangpo and Sharma (2002) examined the effects of long-term interest rates (LTR) on stock prices in five Asian countries. A negative long-term linkage between stock prices and interest rates was observed in the Philippines, Singapore, and Thailand. However, a positive relation was detected in Indonesia and Malaysia. The causes for these

differences should be attributed to the inflation rate and money supply in each country. The high rate of inflation in Indonesia and the Philippines influences the long-term negative relation between stock prices and the money supply, while the money growth in Malaysia, Singapore and Thailand reduces the positive effect on their stock markets.

2.2.2. The relationship between Consumer Price Index and Stock Price

Another important variable that is used in prior research to examine the relationship between macroeconomic indicators and stock prices is the consumer prices index (CPI). Prior studies argued that CPI is such a specific factor representing several macroeconomic variables such as the discount rate, inflation, and the goods market (Nasseh,A. and Strauss, J, 2000; and Wongbangpo, P. and Sharma, S.C, 2002; Gunasekarage, A., Pisedtasalasai, A. and Power, D.M, 2004. Gunasekarage, A., Pisedtasalasai, A. and Power, D.M, (2004) found that CPI as proxy for inflation has significant influence on Sri Lanka's Stock Market. Wongbangpo, P. and Sharma, S.C (2002) investigated how goods market affects the stock markets in five Asian countries, namely Indonesia, Malaysia, Philippines, Singapore, and Thailand. To check the effect of the goods market, the authors used gross national production and CPI. A negative effect has been found between CPI and stock prices. This can be explained as the results of the higher risk of future profitability. The increase in prices level will increase the cost of production, which in turn would reduce future profitability. However, there are still some other opinions that higher prices level can also have a positive effect on stock prices due to the use of equities itself as equipment for hedging inflation. In Nasseh,A. and Strauss, J (2000) paper, CPI is used as representative for discount rate because stock prices are always listed at nominal prices. Their research suggested that CPI is priced neutrality or its explanation as stock prices will react by one percentage for each percentile change in CPI.

The relationship between inflation and common stock returns has been studied long time ago. Theoretically, stocks are assumed to be inflation neutral for unexpected inflation which means always have a negative relationship with stock prices. For example, Schwert (1981) found that stock market and unexpected inflation in the Consumer Price Index(CPI) were showing negatively relationship although only small reaction. This statement has been agreed by Cohn,R.A.,& Lessard,D.R, (1980), Geske,R.,& Roll,R (1983), Kaul (1987), Gan et el (2006), Quayes,S.,& Jamal,A (2008) and Pereira-Garmendia (2010) whose show that the shock of CPI or inflation has a negative impact on the stock return.

In contrast, Fisher effect predicts that stock returns should be positively related to expected inflation. Hasan (2008) has found that regression results show positive and statistically significant relationship between stock returns and inflation in United Kingdom which are consistent with the Fisherian hypothesis. The result is similar with Al-Zoubi,M.,&Al-Sharkas,A.A (2011) who found that inflation shock was having a positive relationship which made a good inflation in stock in the long run period.

2.2.3 The relationship between Exchange Rate and Stock Price

The relationship between exchange rates and stock prices were examined by Aggarwal (1981), Giovannini and Jorion (1987), Solnik (1987) and Smith (1992). The evidences of these studies indicate that there is significant positive relationship between the variables studied. Similarly, the studies of Soenen and Hennigar (1988), Muhammad and Rasheed (2002), Bhattacharya and Mukherjee (2003), Rahman and Uddin (2009) also investigated the connection between exchange rates and stock prices and found negative relationship among the variables.

Some other studies have also attempted to investigate the causal relationship between the above variables and established bidirectional relationship (Bahmani-Oskooee and Sohrabian, 1992; and Kumar, 2010) and unidirectional relationship

(Abdalla and Murinde, 1997; Mishra, 2004; and Alagidede et al., 2011). Finally, Ong and Izan (1999); Nieh and Lee (2001) studies revealed that there is no empirical association between exchange rates and stock prices. A study of Abdalla and Murinde (1997) explored the relationship between exchange rates and stock prices in the emerging markets of India, Korea, Pakistan and Philippines for the time span of January 1985 to July 1994. This study results provide an evidence of unidirectional relationship and that runs from exchange rates to stock prices in case of India, Korea and Pakistan. However, this study could not find any relationship between exchange rates and stock prices in case of the Philippines. Mishra (2004) analyzed whether foreign exchange markets and stock market are related each other in case of India by using data from April 1992 to March 2002. The Granger causality test results indicate that there is unidirectional relationship and that runs from exchange rates to demand for money and interest rate. Though, this study couldn't find any causal relationship between exchange rates and stock returns. The results of VAR model indicate that the observed variables are related each other but there is no consistency in this regard. Further, this study employed forecast error variance decomposition method to confirm the relationship among the variables and results reveal that each variable is influenced by other variable (s). In a similar way, Aydemir and Demirhan (2009) investigated the relationship between stock prices and exchange rates for the period of February 23rd, 2001 to January 11th, 2008 by using daily data in case of Turkey. Their study results reveal that there is a bidirectional relationship and also evidenced that there is a positive and negative causal relationship between exchange rates and stock market indices. On the other way, negative causality occurs from exchange rates to all stock market indices.

There are different economic models regarding exchange rate determination. "Flow oriented" models introduce country's current account as important determinant of exchange rate. In this perspective, asset markets determine the exchange rate at a point in time, but the current account through its effect on net asset positions, and on

asset markets, determine the path of the exchange rates over time (Dornbusch and Fischer, 1980). Thus movements in the stock prices may affect the exchange rates. On the other hand, models that concentrate on the capital account of the balance of payments are known as stock models. Stock models are divided into monetary models and asset (or portfolio) models. According to the monetary model the exchange rate is seen as a relative asset price. The present value of an asset is thought to be largely influenced by its expected rate of return. Thus the actual exchange rate has to be determined by expected future exchange rates (see Gavin, (1989)). The portfolio balance model states that if prices of domestic stocks rise, it will persuade investors to buy more domestic assets by selling foreign assets to obtain domestic currency. An increase in demand for domestic currency will lead to appreciation of domestic currency. On the other side, if the prices of domestic assets rise that will result in growth of wealth, which will also increase the demand for money by the investors. That will give rise in domestic interest rates. More foreign capital will be attracted in this situation which will increase the foreign demand for domestic currency and the ultimate result will be the appreciation of domestic currency. Thus according to the portfolio balance model there is an inverse relationship between stock prices and exchange rates (for detail see, Frenkel (1976), Branson (1983), Macdonald and Taylor (1992)). So there is no theoretical harmony among the models regarding the interactions between stock prices and exchange rates.

The empirical debate regarding the interaction between stock prices and exchange rates has been started a few decades ago. Since then a good number of empirical studies so far have been conducted to investigate the relationship between the variables. But the researchers have found contradictory results regarding the existence of relationship and the direction of relationship which has made the area a disconcerted environment in finance literature. Some of the studies showed that there is a significant positive relationship between the variables, such as, Aggarwal (1981), Giovannini and Jorion (1987), and Roll (1992). But some of the studies counter this

argument and showed a significant negative relationship between the variables, such as, Soenen and Hennigar (1988). Some other studies find that there is no significant relationship between the variables, such as, Franck and Young(1972), Solnik (1987), Chow et al. (1997), and Bhattacharya and Mukherjee (2003). Bahmani-Oskooee and Sohrabian (1992), Niehand Lee (2001) found no long-run relationship between the variables. So there is no empirical harmony among the researchers regarding the interactions between stock prices and exchange rates which justify the need of more research in this area to contribute to the literature.

Kim (2003) in his study found that the S&P 500 stock price has a positive correlation with industrial production but negative relationship with the real exchange rate.

The association between exchange rates and stock prices is found to be negatively related, showing that a depreciation of the Indian currency in terms of US Dollars would have a favorable impact on the Indian stock market. This negative relationship was found to exist between exchange rate and stock prices but it insignificantly persists. (Ray, 2012)

2.2.4 The relationship between Money supply M2 Growth Rate and Stock Price

However, Kraft, J. and Kraft, A. (1977) have found that there is no causal relationship between US money supply and stock return. However, Maghayerah (2003) found negative but not statistically significant relationship stock return and money supply in Jordan. Moreover, Ozbay (2009) has also proved that the relationship between stock return and money supply is found to be insignificant in Turkey case.

The money supply is an important instrument for controlling the inflation by economists. Maskay,B.,& Chapman,M., (2007) declare that there is a positive relationship between changes in the money supply and stock prices. The results support the real activity theorists arguments that an increase in the money supply increase stock prices and vice versa. Changes in the stock price are predominantly set

by changes in money supply intuitively makes sense to argue that an increase in the rate of growth of money supply strengthens the rate and finally increase in stock prices (Shiblee, 2009).

According to Fama (1981) he has concluded that the degree of excess liquidity influences the stock market. The impact of the change in monetary policy is relatively quick and direct. Monetary expansion reduced short-term interest rate as far as the liquidity effect dominates the combined expected price effect and income effect. In turn, bolsters stock market as stock price and interest rate should be negatively correlated. Sellin (2001) has proved that an unexpected money supply increase indicates higher money demand given an accommodating monetary policy. Higher money demand will lead to increase in risk. As a result, investors demand higher risk premium for holding stocks making them less attractive, which causes equity prices to fall. (Sellin, 2001)

Wongbangpo and Sharma (2002) showed that in the ASEAN-5 countries, high inflation in Indonesia and Philippine leads to a long run negative relationship between stock prices and the money supply, while the money growth in Malaysia, Singapore and Thailand causes a positive effect on their stock market indices.

Sellin (2001) lays out competing theories on how the money supply affects the stock market prices. The competing theories to be examined here are the ones developed by the Keynesian economists and the real activity theorists. Keynesian economists argue that there is a negative relationship between stock prices and money supply whereas real activity theorists argue that the relationship between the two variables is positive (Sellin, 2001).

Consequently, a key dimension of analyzing financial market performance is to investigate the effect of policy actions on the financial markets. Over the past two decades, several studies have been conducted on the efficiency of the stock market

and the relationship between monetary and fiscal variables and stock prices. The bulk of these studies examined stock markets in developed nations, while more recently; a few studies have focused on developing and emerging market economies. In particular, there is limited empirical evidence for the Caribbean on the long term relationship between stock price movements and monetary and fiscal variables. Some analysts account for this by highlighting that emerging markets are usually characterized by market participants as well as quality and availability of information which change rapidly through time.

Consequently, stock markets in emerging market countries are generally characterized as unstable and shallow.

The Johansen multivariate co-integration tests indicate that there exists a long term relationship between the JSE index and the five monetary variables examined. The coefficient from the co-integrating vector, normalized on the stock price, suggest that, as broadly expected, the JSE index was influenced positively by the inflation rate and M3 and negatively by the exchange rate, interest rate and M2. Impulse response functions, which investigate the short term dynamic linkages between the stock market returns and the monetary variables, indicate that M2 has a negative impact on stock prices while the impact on M3 was positive. The impact of the exchange rate and the interest rate on the JSE Main Index was negative while inflation rate had a positive effect. (Raymond, 2009)

Bernanke and Kuttner (2005) combine the real activity and risk premium hypotheses and argue that the price of a stock is a function of the present value of future returns and the perceived risk in holding the stock. The authors believe that there is a positive relationship between the money supply and stock prices, agreeing with the real activity hypothesis but disagreeing with Cornell's risk premium hypothesis. A stock is attractive if the potential of high returns is high. On the other hand, a stock is unattractive if the perceived risk of holding it is high. The authors argue that the

money supply affects the stock market through its effect on both present value of future returns and the perceived risk. Money supply affects the present value of future returns through its effect on the interest rate. The authors believe that a tightening of the money supply raises the real interest rate. An increase in the interest rate would in turn raise the discount rate, which would decrease the present value of future returns, which in turn decreases the price of a stock (Bernanke and Kuttner, 2005).

Baharumshah (2004) study the demand for money function for Malaysia, using the multivariate co-integration and error correction model and found Stock prices have a significant negative substitution effect on long-run as well as short-run broad-money demand (M2).

Friedman and Schwartz (1963) explained the relationship between money supply and stock returns by simply hypothesizing that the growth rate of money supply would affect the aggregate economy and hence the expected stock returns.

In addition, By Biniv Maskay (2011) show that there is a positive relationship between changes in the money supply and stock prices, as the coefficient for the actual change in M2 is positive. These results support the real activity theorists' argument that an increase in money supply increase stock price and vice versa. (Maskay, 2011)

An increase in M2 growth would indicate excess liquidity available for buying securities, resulting in higher security prices. Empirically, Hamburger and Kochin (1972) and Kraft and Kraft (1977) found a strong linkage between the two variables, while Cooper (1974) and Nozar and Taylor (1988) found no relation.

In the opinion of Mukherjee and Naka (1995), the effect of money supply on stock prices is an empirical question. An increase in money supply would lead to inflation, and may increase discount rate and reduce stock prices (Fama, 1981). The negative

effects might be countered by the economic stimulus provided by money growth, also known as the corporate earnings effect, which may increase future cash flows and stock prices. Maysami and Koh (2000), who found a positive relationship between money supply changes and stock returns in Singapore.

2.3 Previous researches

No	Year	Author	Title	Review of research
1	1997	Gautam Goswami and Sung-Chang Jung	Stock Market and Economic Forces: Evidence From Korea	<p>This research investigates the effects of economic factors on Korean stock market. Using Vector Error Correction Model (VECM), this paper studies the short-run dynamics as well as long-run relationship between stock price and nine macroeconomic variables from Korean economy.</p> <p>This study got the results that they can investigate the long-term relationship as well as the nature of short-term adjustment process between the Korean Stock Index and Macroeconomic variables. They find that the Korean stock market is cointegrated with nine macroeconomic variables. The Korean stock price are positively</p>

				related to industrial production, inflation and short-term interest rate, and negatively related to long-term interest rates and oil price. The foreign exchange rate changes may affect stock price in either direction.
2	2012	Heng Lee Ting, Sim Chuit Feng, Tee Wee Wen and Wong Kit Lee	Macroeconomic determinants of Stock market Return: The case in Malaysia	<p>This paper examines the relationships between Kuala Lumpur Composite Index and four macroeconomic variables from January 1992 to December 2011 which contains a monthly data set of 240 observations. Additionally, this paper investigates the short-run and long-run dynamic linkages by using Johansen Cointegration Test and Granger Causality test respectively.</p> <p>The results indicate that KLCL is consistently examined by interest rate, money supply and consumer price index in the short run and long run. For the crude oil price, there is a long run linkage with KLCL but turn to be insignificant in the short run.</p>
3	2011	Adaramola,	The Impact of	This study set out to investigate

		Anthony Olugbenga	Macroeconomic Indicators on stock Prices in Nigeria	<p>the impact of macroeconomic indicators on stock prices in Nigeria. Secondary data on stock prices of selected firms and six macroeconomic variables between 1985:1 and 2009:4 were used for the analysis. The macroeconomic indicators used in the research work are: money supply, interest rate, exchange rate, inflation rate, oil price and gross domestic product (GDP).</p> <p>The results indicate that interest rate, exchange rate, and international oil price exert strong significant influence stock prices while money supply, inflation rate and GDP exert weak influence on stock price in Nigeria.</p>
4	2009	Nguyen Trong Hoai and Nguyen Thi Bao Khuyen	Stock prices and Macroeconomic Variables in Vietnam: An Empirical Analysis	<p>The article employs the cointegration and error correction version of Granger causality test to investigate whether Vietnamese stock market exhibits the publicly informational efficiency. Data are collected from three official sources, namely, Thomson Reuters, Bloomberg and</p>

				<p>International Monetary Fund during the December 2000 to June 2009 period.</p> <p>The results imply that:</p> <p>-First, three out of twelve macroeconomic variables, specifically consumer prices, M2 money supply, and foreign exchange rates, have the contemporaneous relationships with the stock prices.</p> <p>-Second, the bivariate causality test results show that two groups of macroeconomic variables have different impacts on the stock prices. Group one, including industrial production, imports, exports, lending rates, deposit rates, domestic credit, foreign currency reserves, and money reserves, largely indicates that the lagged changes in macroeconomic variables have no significant predictive ability for the movements in stock prices. For group two, including foreign exchange rates, M1 money supply,</p>
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				M2 money supply, and consumer prices as well, the lagged changes in macroeconomic variables really have significant predictive ability for the movements in stock prices.
5	2013	Siti Maziah	Macroeconomic variables of stock prices (KLCL)	<p>This paper investigates the relationship between Kuala Lumpur Composite Index (KLCL) and selected macroeconomic variables such as money supply (M2), Consumer Price Index (CPI), Industrial Production (IP) and interest rate (IR) from 2008 until 2011.</p> <p>The findings reveal that among four of the independent variables, only three variables which are money supply, industrial production and consumer price index are significant with dependent variable. Besides, only one independent variable, which is interest rate is insignificant with dependent variable (KLCL).</p> <p>This study investigates the relationship of macroeconomic variables on stock prices. From the</p>

				<p>analysis shows that f- statistic for this research is significant for the overall regression equation where f-statistic is greater than f- table. In this research also determine the Coefficient of determination (R^2) where 80% of the changes in the Kuala Lumpur Composite Index can be explained by the macroeconomic variables that is M2, CPI, IR and IP. In addition, money supply, interest rate and industrial production has positive relationship but consumer price index is negative relationship with stock price.</p>
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2.4. Theoretical Framework

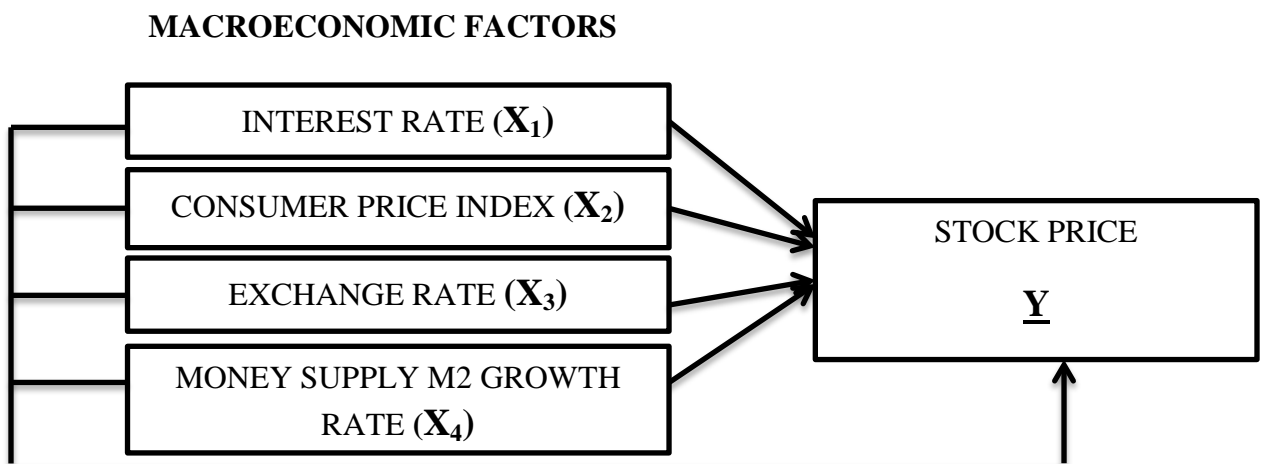


Figure 2.2: Theoretical Framework (Constructed by researcher)

The Researcher uses four variables which consist of independent and dependent variables. Interest Rate, Consumer Price Index, Exchange rate and Money Supply M2 Rate as independent variable influence Stock Price as dependent variable.

2.6. Hypothesis

H_{01} : There is no significant influence of Interest rate towards Stock price at Banking, Finance and Insurance Sector listed in HOSE.

H_{a1} : There is significant influence of Interest rate towards Stock price at Banking, Finance and Insurance Sector listed in HOSE.

H_{02} : There is no significant influence of Consumer Price Index towards Stock price at Banking, Finance and Insurance Sector listed in HOSE.

H_{a2} : There is significant influence of Consumer Price Index towards Stock price at Banking, Finance and Insurance Sector listed in HOSE.

H_{03} : There is no significant influence of Exchange Rate towards Stock price at Banking, Finance and Insurance Sector listed in HOSE.

H_{a3} : There is significant influence of Exchange Rate towards Stock price at Banking, Finance and Insurance Sector listed in HOSE.

H_{04} : There is no significant influence of Money Supply M2 Rate towards Stock price at Banking, Finance and Insurance Sector listed in HOSE.

H_{a4} : There is significant influence of Money Supply M2 Rate towards Stock price at Banking, Finance and Insurance Sector listed in HOSE.

H_{05} : There is no significant influence of Interest rate, Consumer Price Index, Exchange Rate and Money Supply M2 simultaneously towards Stock price at Banking, Finance and Insurance Sector listed in HOSE.

H_{a5} : There is significant influence of Interest rate, Consumer Price Index, Exchange Rate and Money Supply M2 simultaneously towards Stock price at Banking, Finance and Insurance Sector listed in HOSE.

CHAPTER III: METHODOLOGY

3.1 Research Design

According to research objective in this research which is to explain effect of independent variable (variable used to predict) to dependent variable (variable to be predicted) which is the analysis of the impact of Macroeconomic factors on stock price at Banking, Finance and Insurance Sector listed in Ho Chi Minh Stock Exchange period 2010-2013 , *Quantitative Method* will be used because of the objective of this research is to develop and employ mathematical models, theories and/or hypotheses pertaining to phenomena. In the social sciences, quantitative research refers to the systematic empirical investigation of quantitative properties, phenomena and relationships to managerial decision making (Barry Render, Ralph M. Stair & Michael E. Hana, 2006). Using quantitative research method, the data can be easily converted into number and analyze through mathematical expression. Quantitative research shows the relationship between independent variables and the dependent variable. The process of measurement is central to quantitative research because it provides the fundamental connection between empirical observation and mathematical expression of quantitative relationships (Barry Render, Ralph Stair & Michael E. Hana, 2006).

The functional or positivist paradigm that guides the quantitative mode of inquiry is based on the assumption so that social reality has an objective ontological structure and that individuals are responding agents to this objective environment (Lind, Marchal & Wathen, 2010). Quantitative research involves counting and measuring of events and performing the statistical analysis of a body of numerical data. The assumption behind the positivist paradigm is that there is an objective truth existing in the world that can be measured and explained scientifically. The main concerns of the quantitative paradigm are that measurement is reliable, valid and generalizable in its clear prediction of cause and effect (Lind, Marchal & Wathen, 2010).

Being deductive and particularistic, quantitative research is based upon formulating the researcher hypotheses and verifying them empirically on a specific set of Scientific hypotheses are value-free, the researcher's own values, biases and subjective preferences have no place in the quantitative approach. Researchers can view the communication process as concrete and tangible and can analyze it without contacting actual people involve in communication (Mark L. Berenson, David M. Levine & Timothy C. Krehbiel, 2009).

In order to test the hypothesis, the method used is regression analysis. Multiple regression analysis is chosen because there are two independent variables of X which are Interest Rate (X_1), Consumer Price Index(X_2), Exchange Rate (X_3), Money Supply M2 Growth Rate (X_4) and one dependent variable of Y Stock Price(Y). By using the regression analysis, the researcher can be able and understand the relationship between variables either dependent or independent. Besides, regression analysis also used to predict the value of one variable to another variable. It means that regression analysis makes the prediction of dependent variable using independent variables (Lind, Marchal&Wathen,2010).

The hypotheses will be tested using SPSS 22.0 application software which will make the process of calculation and testing much faster and easier. Alternative software is using Microsoft Excel to make possible charts. Both of them are also very important in improving productivity of research.

3.2 Research Instrument

3.2.1. Type and Source of Data:

According to character and objectives of the research, the data can be categorized as Quantitative data. The Quantitative data refers to the data which are derived in the forms of numbers, for instance, the percentage of Interest rate, Consumer Price Index and GDP Growth Rate.

Different with other quantitative research which use questionnaire and interviews as research instrument, this research will use secondary data from the website of Vietnam General Statistic Office, State bank of Vietnam, Ho Chi Minh Stock Exchange, The World Bank , etc. as main reliable sources of information. According to its sources, the data that the researcher preferred to use is secondary data. Secondary data is not originated by the investigator who doing this research itself, but basically it obtains the source from someone else's record. Such data are cheaper and more quickly obtainable than the primary data and also may be available when the primary data cannot be obtained at all (Render, Stair & Hanna, 2006).

According to Malhora and Peterson (1996), secondary data is called "Data collected from some purpose other than problem at hand". Actually, secondary data is used for exploratory study, but more formalized studies are typically structured which clearly stated hypothesis or investigative questions which are known as descriptive studies. This type of data is generally taken from newspapers, magazines, bulletins, reports, journals, etc. The purpose of using this data are use of secondary data is very convenient, It save the limited times and finance, in some enquiries primary data cannot be collected, Reliable secondary data are generally available for many investigations (Barry Render, Ralph M. Stair & Michael E. Hana, 2006).

3.2.2. Data Collection Method:

The collecting of data should be systematic because if the data is not systematic, it will be difficult for the writer to accomplish this research (Lind, Marchal & Wathen, 2010). The writer used secondary data to do this research; the data was collected from several reliably Vietnam's Governmental sources:

- Monthly data from 2010-2013 of interest rates taken from the official website of the State Bank of Vietnam which controls all of the banking system and operating business in Vietnam. This website provided full

information about interest rate of Vietnam every year:
(<http://www.sbv.gov.vn>)

- The Monthly from 2010-2013 data of Consumer Price Index was been collected from the official website of General Statistic Office of Vietnam. The data was taken from this website: (<http://www.sbv.gov.vn>), (<http://www.gso.gov.vn/>)
- Exchange rate monthly data and Money Supply M2 growth rate from 2010-2013 in Vietnam was taken from the report of The State Bank of Vietnam and the official website of Asian Development Bank and The Ministry of Finance.
- Monthly Stock Price data from a year 2010-2013 was taken from the official website of Ho Chi Minh Stock Exchange and cafesang.vn:
(<http://www.cafesang.vn/>), (<http://www.hsx.vn/hsx/>)

3.2.3. Data Analysis Method:

Because there are three (4) variables in this research that 3 of X correlated to 1 Y, Multiple Regression will be used to analyze the data. Regression analysis is a technique for modeling and analyzing several variables, when the focus is on the relationship between a dependent variable and one or more independent variables (Lind, Marchal & Wathen, 2010). Moreover, multiple regression analysis enables us understand how the typical value of the dependent variable changes when any one of the independent variables is varied, while the other independent variables are held fixed (Barry Render, Ralph Stair & Michael Hanna 2006).

Multiple Regression analysis is not only widely used for predicting and forecasting but also to understand which among the independent variables are related to the

dependent variable, and to explore the forms of these relationships (Mark L. Berenson, David M. Levine & Timothy C. Krehbiel, 2009).

For the process of analyzing the data, the researcher will use SPSS 22 and Microsoft Excel software for statistic purpose. It makes the calculation can be done easily by this software. For making the report or book of this research, Microsoft Word was used to make diagram and framework.

3.3 Sampling Design

Sampling Design is part of statistical methodology that related in taking a portion of the population. If a sampling is done correctly, statistical analysis can be used to generalize a whole population. There are two major types of sampling design: probability and nonprobability sampling. In probability sampling, the elements in the population have some known non-zero chance or probability of being selected as sample subjects. In non-probability sampling, the elements do not have a known or predetermined chance of being selected as subjects (Sekaran, Bougie, 2010).

3.3.1 Population and Sample

The population in this study includes those Banking, Finance and Insurance companies which were listed in Ho Chi Minh Stock Exchange period 2010-2013 with total number of ten companies. Yet, this study tends to pick those publicly traded companies involved in Banking, Finance and Insurance industries concerning the reason that how the macroeconomic factors impact to the stock price of Banking, finance and insurance sector.

The sample in this study is Banking, finance and Insurance companies which are selected by purposive sampling technique. Nevertheless, in selecting the sample there were several pre-determined criteria including:

- The firm has listed in Ho Chi Minh Stock exchange(HOSE) before 2010

- The firm's stock has been traded before 2010
- The stock price of the firm has been completed record during January 2010 until September 2013
- Vietnam has been completed economic report during 2010 until 2013

	List of Companies	Code
1	AgriBank Securities Joint Stock Corporation	AGR
2	Bao Minh Insurance Corporation	BMI
3	Bao Viet Holding	BVH
4	Viet Nam Joint Stock Commercial Bank for Industry and Trade	CTG
5	Vietnam Export Import Commercial Joint Stock bank	EIB
6	Ho Chi Minh City Securities Corporation	HCM
7	Ma San Group Coporation	MSN
8	Sai Gon Securities Incorporation	SSI
9	Sai Gon Thuong Tin Commercial Joint Stock Bank	STB
10	Joint Stock Commercial Bank for Foreign Trade of Trade of Viet Nam	VCB

3.4. Testing the Hypothesis and Data Analysis:

3.4.1 Classical Assumption Testing:

The estimation method used in this research is the Ordinary Least Square (OLS) method. Least Square method determines a regression equation by minimizing the sum of the squares of the vertical distance between the actual Y values and the predicted values of Y (Lind, Marchal & Wathen, 2010). This method is chosen because it is the most powerful and popular methods of regression analysis. Moreover, it is also simpler mathematically. The use of this mathematic has to meet several assumptions to make sure that the data collected are valid and reliable distribution (Mark L. Berenson, David M. Levine & Timothy C. Krehbiel, 2009).

1. Normality Test

It is assumed in multiple regression that residuals (predicted minus observed values) are distributed normally. Even though most tests are quite robust with regard to violation of this assumption, it is always a good idea, to review the distributions of the major variables of interest. This test can be done by producing histograms for the residual as well as normal probability plots, in order to inspect the distribution of the residual values (Barry Render, Ralph Stair & Michael Hanna, 2006).

The normality test also can be done by using SPSS statistical software and can be viewed in the graph of Normal Probability Plot (NPP) that is a graphical device to study the shape of the Probability Density Function (PDF). NPP is used to assess how well empirical data approximates a particular theoretical distribution (Mark L. Berenson, David M. Levine & Timothy C. Krehbiel, 2009). In this case a linear relationship distribution; the data can also be plotted on the probability scale by plotting the cumulative probabilities of the data under the assumed distribution against their expected probabilities.

2. Multicollinearity Test

Multicollinearity is the correlation among the independent variables which makes it difficult to make inferences about the individual regression coefficients and their individual effects on the dependent variables. Another reason for avoiding correlated independent variable is they may lead to erroneous results in the hypothesis tests for the individual independent variables. In practice, it is nearly impossible to select the independent variables that are completely unrelated or not correlated in some degree (Lind, Marchal & Wathen, 2010). Multicollinearity problems arise if there is perfect relationship or certainly among the few independent variables or all variables in the model. In cases of serious multicollinearity, regression coefficients are no longer showing pure effect on independent variables in the model. Multicollinearity does not affect the multiple regression equation's ability to predict the dependent variable.

However, it might show unexpected results on the relationship between each independent variables and the dependent variable (Mark L. Berenson, David M. Levine & Timothy C. Krehbiel, 2009).

If multicollinearity is presented in a multiple regression model, the model is still good for prediction, but interpretation of individual coefficient is not valid. There are many methods to detect the presence of multicollinearity, in this research the writer would like to do a test on the variables with the measurement of the Variance Inflation Factor (VIF) (Lind, Marchal & Wathen, 2010).

$$VIF = \frac{1}{1 - R_j^2}$$

Formula 3.3 Variance Inflation Factor model

(Source: Lind, Marchal & Wathen, Statistic Techniques in Business and Economics, 2010)

The term R_j^2 refers to the coefficient of determination, where the selected independent variable is used as a dependent variable and the remaining independent variables are used as independent variables. A VIF greater than 10 is considered unsatisfactory, indicating that the independent variable should be removed from the analysis. When VIF is under 10 and value of tolerance >0.1 , it means that there is no multicollinearity problem aroused (Lind, Marchal & Wathen, 2010).

3. Autocorrelation Test (the Durbin – Watson statistic)

Autocorrelation is the correlation (relationship) between members of a time series of observations (as in time series data) or space (as in cross sectional data). Since the basic assumption of the regression model is the independence of the errors, a good regression model is one that has no correlation problem. If autocorrelation happens in the regression model, the sample will not show variance of the population (Lind, Marchal & Wathen, 2010).

Although estimates are still linear and unbiased there are no longer best of efficient. The standard errors become so wide that confidence intervals will be larger. As a consequence, the result of regression model t- test and F – test may give inaccurate result which cannot be used to predict the value of dependent variable toward particular independent variable (Mark L. Berenson, David M. Levine & Timothy C. Krehbiel).

When a set of data has significance autocorrelation, the validity of regression model can be serious doubt. Thus, a good model should be free from autocorrelation. The statistics used to detect autocorrelation is Durbin Watson. When the value of Durbin Watson is between -2 and +2, then the residual are not correlated, in other word the model is valid. If the value of Durbin Watsin is smaller than -2, there are positive autocorrelation problem. If the value of Durbin Watson is bigger than +2, there is negative autocorrelation problem (Autocorrelation, 2013)

A good regression model should have no presence of autocorrelation to validate the result of t- test and F – test to predict the value of dependent variable toward particular independent variable (Gerald Keller, 2009).

4. Heteroscedasticity test:

One of the classic assumptions of the regression model is that the disturbance variance is constant, or homogeneous, across observation. If this assumption is violated, the errors are said to be “heteroscedastic”. Heteroscedaticity often arises in the analysis of cross sectional data and time series data (Lind, Marchal & Wathen, 2010).

If heteroscedascity exist in the regression model, the variance and standard error will tend to increase as the t value will not get lower than the actual t value. The consequences are the t – test and F – test will be inaccurate and fail to reject the null hypotheses (Mark L. Berenson, David M. Levine & Timothy C. Krehbiel, 2009).

A simple test for heteroscedasticity is to plot the standardized residuals (on vertical axis) against the dependent variable (horizontal axis). If no heteroscedasticity occurs, the plot will appear to spread randomly. If a systematic pattern (wave, straight, narrow, widen) appears in the scatter plot then heteroscedasticity exists (Mark L. Berenson, David M. Levine & Timothy C. Krehbiel, 2009).

3.4.2 Multiple Regression Analysis:

According to the Basic Business Statistic book established 2009 by Mark L. Berenson, David M. Levine & Timothy C. Krehbiel, multiple regression model is used for estimating or forecasting the value of variable Y, which calculated using several variables that affect Y. The research on relationship between 1 dependent variable (Y) with two other independent variables (X_1 , X_2) used to understand the relationship between them. According to Barry Render, Ralph M, Stair, Jr, Michael E. Hanna (2006), in any regression model, there is an implicit assumption (which can be tested) that a relationship exists between the variables. In order to decide whether to reject or accept the hypothesis, random error $\alpha = 5$ that can be predicted.

The result from this regression analysis will be used to accept or to reject the hypothesis as to observe whether there is any effect or not between dependent and independent variables. Referring to the research objective to examine how significance the correlations between Interest Rate, Consumer Price Index, Exchange Rate and Money Supply M2 in Vietnam, the underlying multiple regression model will be used:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e$$

Equation 3.1 - Multiple Linear Regression Model

(Source: Mark L. Berenson, David M. Levine & Timothy C. Krehbiel, Basic Business Statistic, 2009)

Where, Y = Stock Price
 X₁ = Interest Rate

- X_2 = Consumer Price Index
- X_3 = Exchange Rate
- X_4 = Money Supply M2 Rate
- β_0 = Intercept / constant (value of Y when X=0)
- $\beta_{1,2,3,4}$ = Regression coefficient of the i^{th} independent variable
- e = Random Error

However, in order to finish the regression model to see the correlation between the variables, there are some tests including measuring the regression model to test the validity of the data which are normality test & classic assumption tests.

3.4.3. Measuring the Variability of the Regression Model

A regression equation can be developed for any variables X and Y, even random numbers. There are two ways to know that the model is actually helpful in predicting Y based on X:

1. Coefficient of Determination (R^2)

In the multiple regression model, the coefficient of multiple determination r^2 represents the proportion of variant in Y that is explained by the independent variables X_1 and X_2 in the multiple regression equation. The coefficient of determination is a summary measure that tells how well the sample regression line fits the data (Mark L. Berenson, David M. Levine & Timothy C. Krehbiel, 2009). Statistically, it measures how many percentage variation of Y variable explained by the repressors jointly. The r^2 value can range from a low of 0 to a high 1 ($0 \leq r^2 \leq 1$).

$$R^2 = \frac{SSR}{SST}$$

Formula 3.4 Coefficient of Multiple Determination

(Source: Mark L. Berenson, David M. Levine & Timothy C. Krehbiel, Basic Business Statistic, 2009)

Where: SSR = Regression Sum of Squares

SST = Total Sum of Squares

- a. If $r^2 = 0$, indicating that X explains 0% of the variability in Y
- b. If $r^2 = 1$, indicating that every point in the sample were on the regression line (meaning all errors are 0). In the other words, 100% of the variability in Y could be explained by the regression equation. In developing regression equation, a good model will have an R^2 value close to 1.

3.4.4. Testing the Hypothesis

1. Testing the Model for Significance

To determine if there is a linear relationship between X and Y, a statistical test (F-Test and T-Test) is performed. The null hypothesis is that there is no linear relationship between the two variables (i.e., $\beta = 0$), and the alternate hypothesis is that there is a linear relationship (i.e., $\beta \neq 0$). If the null hypothesis can be rejected, then we have proven that a linear relationship does exist.

1) F-Test

The F-Test determines whether or not there is a relationship between set of independent variables and dependent variable simultaneously. And F-Test is used to statistically test the null hypothesis that there is no linear relationship between the X and Y variables (i.e. $\beta = 0$). If the significance level for the F-Test is low (significance level α used is 0.05), we reject H_0 and conclude there is a linear relationship, and vice versa (Lind, Marchal & Wathen, 2010).

$H_0: \beta_1 = \beta_2 = \beta_3 = 0$, if significant $F > 0.05$, accept H_0

H_a : at least there is one $\beta \neq 0$, if significant $F < 0.05$, reject H_0

$$F = \frac{[R^2/k]}{[(1 - R^2)/(n - k - 1)]}$$

Formula 3.6 F - test

(Source: Lind, Marchal & Wathen, *Statistic Techniques in Business and Economics*, 2010)

Where:

F = Statistic test for F distribution

R² = Coefficient of determination

k = Number of independent variables in the model

n = Number of sample period

2) T-Test

The T-Test is applied to determine the partial relationship between each independent variable (coefficient) and the dependent variable. The null hypothesis is that the coefficient of X (i.e., the slope of the line) is 0. If the significance level for the T-Test is low (significance level α used is 0.05), we reject H₀ and conclude there is a linear relationship, and vice versa (Lind, Marchal & Wathen, 2010).

H₀: $\beta_1 = 0$, if *Significant T* > 0.05, accept H₀

H_a: $\beta_1 \neq 0$, if *Significant T* < 0.05, reject H₀

The strength of the relationship between two numerical variables was measured using correlation coefficient \textcircled{R} , the test for the existence of correlation is using t test

$$t = \frac{b_j - \beta_j}{S_{b_j}}$$

Formula 3.7 t- test

(Source: Lind, Marchal & Wathen, *Statistic Techniques in Business and Economics*, 2010)

Where: t = statistic test for t distribution

b_j = sample slope

β_j = slope of the population

S_{b_j} = standard error of the slope

CHAPTER IV: ANALYSIS AND INTERPRETATION

4.1. Company Profile

On July 2000, Vietnam took a major step towards establishing a more robust market economy and creating a new channel of capital mobilization for developing the economy with the opening of its first functioning stock exchange in Ho Chi Minh City (HCMC), the so-called economic centre of the country. After four years of preparation and numerous delays, the communist governmental regime of Vietnam finally fulfilled its commitment to the creation of a public securities market.

The setting up of a stock exchange has been the target of the Vietnamese government since the early 1990s, marked by the establishment of a governmental special committee in 1993, specializing in researching and preparing strategic plans for the initiation of a stock market. In a step towards materializing the plan, the State Securities Commission of Vietnam (SSC) was established in 1996. The SSC is the highest governmental body, which is responsible for the promulgation of laws and other regulations, organization and management of the stock exchange, as well as supervision of all activities of relating parties and individuals in the stock market.

The **Ho Chi Minh City Securities Trading Center (HOSTC)** located in Ho Chi Minh City, was officially inaugurated on July 20, 2000, and trading commenced on July 28, 2000. Initially, two equity issues were listed, Refrigeration Electrical Engineering Joint Stock Corporation (REE) and Saigon Cable and Telecommunication Material Joint Stock Company (SACOM).

In the beginning, an overall foreign ownership limit of 20% for equities and 40% for bonds was implemented. In July 2003, in a bid to improve liquidity, the government raised the foreign ownership limit for equities to 30% and totally removed the foreign ownership limit of a particular issuer's bonds. Foreign participants on the Stock

Trading Center of Vietnam must register through a custodian licensed to hold securities on behalf of foreigners. Once registered, a securities transaction code is issued to the foreign investor that will permit securities trading.

As of 2006, there are thirteen licensed securities companies. Of these, nine have been licensed to conduct a full range of securities services including underwriting, brokerage, custody, research, portfolio management and trading. The minimum capital required to operate effectively as an investment bank was VND43b (c. US\$2.7m).

At the end of 2006, combined market capitalization of both Ho Chi Minh City Securities Trading Center and Hanoi Securities Trading Center is 14 billion US dollars, or 22.7% GDP of Vietnam.

On 8 August 2007, HOSTC was renamed and upgraded to the **Ho Chi Minh Stock Exchange**. This is the largest stock exchange of Vietnam at the moment.

As of July 2010, there were 247 companies listed on the HOSE with a market capitalization of VND537.4 trillion (\$28.28 billion). The exchange had 141 listings in January 2008, including 138 company stocks and three fund certificates, with a total market capitalization of 365.7 trillion dong (\$23 billion). Vietnam limits foreign ownership of listed companies to 49%.

On 10 May 2014, HOSE had 342 listings, including 302 company stocks, 2 fund certificates and 38 bonds. The total listed volume was 30.415 billion, in which 99.62% were stock shares. The market capitalization was 310.5 trillion VND. On the same date, HOSE's benchmark Vn Index ended 542.46, with the PE ratio of 12.16, the lowest compared to other South East Asia countries. The highest record of Vn Index was on 12 March 2007 at 1,170.67 points.

4.1.1. AgriBank Securities Joint Stock Corporation

AgriBank Securities Joint Stock Corporation established on March 26th, 1988, operate under the Law on Credit Institutions Vietnam, so far, Vietnam Bank for Agriculture and Rural Development - Agribank is a leading commercial bank plays a key role and main force in economic development in Vietnam, especially investment in agriculture, farmers and rural areas.

Agribank is the largest bank in Viet Nam in terms of capital, assets, workforce, operating network and customer base. As of December 2013, the leading role of Agribank has been confirmed by:

Total asset: VND 705,365 billion

Total fund resource: VND 626,390 billion

Equity: VND 29,605 billion

Total outstanding loans: VND 530,600 billion

Operating network: 2,300 branches and transaction offices nationwide

Personnel: 40,000 staffs

Agribank has always focused on the innovation and application of banking technology in favour of business administration and the development of an advanced banking services network. Agribank is the first bank to accomplish the Project “Intra Payment and Customer Accounting System” (IPCAS) funded by the World Bank. The finalized IPCAS has enabled Agribank to provide local and foreign customers with modern banking products and services with extensive safety and accuracy. At present, Agribank is serving millions of households and enterprises.

Agribank is one of the banks in Viet Nam who have the largest number of correspondent banks with 1,026 correspondent banks in 92 countries and territories.

Agribank is currently taking the Chairmanship of Asia Pacific Rural and Agricultural Credit Association (APRACA) in term of 2008-2010, and also a member of International Agricultural Credit Confederation (CICA) and Asian Bankers Association (ABA). Agribank has hosted a number of big international conferences, i.e., FAO Conference in 1991, APRACA Meeting in 1996 and 2004, CICA International conference on agricultural credit in 2001, APRACA Meeting on fishery in 2002.

Agribank is the leading bank in Viet Nam in receipt and implementation of foreign projects. In the context of economic volatility, Agribank has received 136 projects from the World Bank (WB), Asian Development Bank (ADB), French Development Agency (AFD), European Investment Bank (EIB), etc. with the total fund of over USD 5.1 billion. Apart from this, Agribank has continuously got accessed to and attracted new projects: Financing Agreement with European Investment Bank (EIB) phase II; Rural Finance Project III funded by World Bank, Biogas Project funded by ADB; JBIC Project by Japan; Small rubber farming project funded by AFD.

Vision:

To bring prosperity to customer

Mission:

With the position of a leading commercial bank in Viet Nam, Agribank has shown its great efforts, reaching encouraging achievements, and contributing greatly to the nation's industrialization and modernization as well as economic development.

4.1.2. Bao Minh Insurance Corporation

History of Bao Minh Insurance Corporation

- On 28.11.1994: Established Insurance Company Ho Chi Minh City (Bao Minh)
- Privatization from the date of 01/10/2004: Establishment of Corporation shares Bao Minh
- 05/05/2006: Established Company Bao Minh Thang Long

Products: Health insurance and personal accident insurance; Property insurance and damage insurance; Insurance of goods transported by land, sea, river, rail and air; Hull insurance and civil liability of ship-owners; General liability insurance; Aviation insurance; Motor vehicle insurance; Fire insurance; Agricultural insurance; Types of non-life insurance; Receive and reinsurance for all industry specific non-life insurance; Buy government bonds; Buy stocks, corporate bonds; Real estate business; Capital contribution to other enterprises; Loans under the provisions of the Credit Institutions Act; Deposits at financial institutions; And other activities as prescribed by law.

Vision:

- Always be one of the insurers non-life operations leading in Vietnam in the field of business financial services, insurance.

Mission

- Bring back the safety and stability of the economy - society.
- Contribute to promote the healthy growth of the insurance market in Vietnam.
- Benefit to shareholders and contributing to bring job for people. Bring back the safety and stability of the economy - society.

- Contribute to promote the healthy growth of the insurance market in Vietnam.
- Benefit to shareholders and contributing to bring job for people.

4.1.3. Bao Viet Holding

Bao Viet was set up following Government Decision 179/CP from 17 Dec 1964. It started operating on 15 Jan 1965, providing traditional insurance products in two branches in Hanoi and Haiphong with a total staff of 20 people and a capital stock of 10 million VND. It was transformed into a corporation (Tổng Công ty) in 1989. Subsidiary BAVINA was set up in England in 1992. By 1996, it was among the 25 largest state companies in Vietnam and was ranked as a special class state company. The government decided to turn Bao Viet into a major finance and insurance group in 2003, enabling it to offer a broad range of financial products other than insurance - a decision that was not implemented until 2007. In 2007 the company established partnerships with national groups such as Vinashin and international companies, namely HSBC. HSBC acquired a stake of 10% and options for another 15% in 2007 and bought another 8% in 2009. From 2007 to 2008 Bao Viet was also restructured, including registration as a joint-stock company and the setting up of several wholly owned subsidiaries in the insurance sector. Bao Viet stocks have been traded in Ho Chi Minh city Stock Exchange since 2009.

Bao Viet (also Bao Viet Holdings Vietnamese: Tập đoàn Tài chính-Bảo hiểm Bảo Việt) is the largest Vietnamese insurance company and Vietnam's seventh largest listed company by market capitalisation. It is state-owned and has a strategic partnership with HSBC, which also holds 18% of Bao Viet's shares. HSBC is, however, soon to be replaced by Sumitomo Life. Besides various insurance products, Bao Viet has diversified into stock market trading, fund management and real estate. It also has subsidiaries in banking, hotels and construction. Bao Viet has been losing market shares in recent years and has also been making losses in the insurance sector since 2009.

Vision

“To be the leading financial-insurance group in Vietnam, with solid financial strength, strategically integrating into regional and international markets, focused on the three core pillars of insurance, banking and investment.”

Mission

“To ensure the peace of mind, prosperity and long-term benefits for our customers, shareholders, employees and community”

4.1.4. Viet Nam Joint Stock Commercial Bank For Industry And Trade

The Vietnam Industrial and Commercial Bank (Incombank) was set up by the State Bank of Vietnam in 1991 as one of the first four commercial banks after the introduction of a two-tier banking system. Other sources suggest that the bank was set up in 1988.

As other major commercial state banks, Vietinbank was pressurized by the government to continue lending to unprofitable state companies. It was subject to a 1 trillion VND recapitalization by the government in December 2002, effectively doubling the bank's charter capital (from 1.045 trillion in 2001). It was the only of the four major state banks not part of the second stage of recapitalization in 2003.

Incombank changed its name to Vietinbank in April 2008. It was listed on the Ho Chi Minh City Stock Exchange in July 2009.

According to the VNR500 (Top 500) ranking, Vietinbank is Vietnam's 13th largest company.

Vision:

To become a modern and strong financial and banking group that holds a dominant position both domestically and internationally.

Mission:

VietinBank is a leading financial and banking group in Vietnam that operates in diverse areas and provides products and services in compliance with international standards and business goal of improving the values of life.

4.1.5 Vietnam Export Import Commercial Joint Stock Bank

Eximbank was established on May 24, 1989 under the decision No. 140/CT of the Chairman of the Council of Ministers under the name VIETNAM EXPORT IMPORT BANK and was one of the first joint-stock commercial banks of Vietnam.

The Bank officially came into operation on January 17, 1990. On April 6, 1992, the Governor of the State Bank of Vietnam signed the license No. 11/NH-GP allowing the Bank to operate for a term of 50 years with the registered charter capital of VND50 billion (equivalent to USD12.5 million) and the new name Vietnam Export Import Commercial Joint-Stock Bank (Vietnam Eximbank for short).

Vietnam Export Import Commercial Joint Stock Bank has developed a nationwide network with its Head Office located in Ho Chi Minh City and 207 branches and transaction offices and has established correspondent banking relationship with over 869 banks and their branches in more than 84 countries in the world.

Vision

To become a leading investment bank in Vietnam

Mission

Ceaselessly thinking and acting to create the best values for clients, shareholders, and employees and contributing to the development of Vietnamese securities market. We are willing to share responsibilities with community and society in the national development.

4.1.6. Ho Chi Minh City Securities Corporation

Since being established in 2003, continuous growth in both capital and business scale has made HSC (Ho Chi Minh Securities Corporation) one of the leading securities and financial services firms in Vietnam. Over the 10-year of establishment and growth, HSC has reached the top position with the largest market share nationwide.

Ho Chi Minh City Securities Corporation (HSC) is a leading and award-winning professional securities brokerage and equity firm in one of the fastest growing Asian economies, Vietnam. HSC delivers a comprehensive list of financial services for Private and Institutional Clients, providing professional investment advisory backed by solid, trusted research. For Corporate Finance Clients, HSC has established an exceptional track record of connecting businesses to investors and creating long-term partnerships.

Vision:

To become one of the country's most admitted, trusted, and valued financial institutions, and be an active contributor to the economy and community of Vietnam.

Mission:

Being a leading securities company in the industry and Vietnam's capital markets with the standard for professionalism, innovation, financial health and sustainability.

4.1.7 Ma San Group Corporation

Masan Consumer is one of Vietnam's largest local diversified FMCG companies. We manufacture and distribute a range of food and beverage products, including soya sauce, fish sauce, chili sauce, instant noodles, instant coffee, instant cereals and bottled beverages. We commenced operations in 2000 and have subsequently grown our product portfolio, domestic sales and distribution channels to establish a leading position in Vietnam's branded consumer food and beverage product market. Masan Consumer has created and owns some of the most recognized and trusted consumer brands such as Chin-Su, Nam Ngu, Tam Thai Tu, Omachi, Kokomi, Vinacafé, Wake Up, Kachi and Vinh Hao through a strategy of putting Vietnamese consumers first.

Vision

- To be Vietnam's leading consumer company by sales, profitability and brand recognition;
- To meet the daily needs of Vietnam's 90 million evolving consumers;
- To be the destination for top talent and recognized as the best workplace in Vietnam; and
- To be a symbol of quality and a source of pride among Vietnamese.

Mission

- To expand the group's consumer platform

4.1.8 Sai Gon Securities Incorporation

30/12/1999: 30/12/1999: SSI was founded with the head office based in Ho Chi Minh City, and two main operations: Brokerage services & Investment Advisory.

Saigon Securities Inc. (SSI- HOSE) is a leading and reputable financial corporation in Vietnamese market. With a sound financial potential, a large and professional

employees of the company, SSI always provides to all its customers the outstanding level of products and services and maximizing shareholders' interest. SSI has an extensive branch network in Vietnam at major cities such as Hanoi, Ho Chi Minh City, Nha Trang, Vung Tau.

With a wide range of international standardized products and services for institutional, individual, domestic and foreign customers. SSI has gained credibility not only from local but also from global clients and partners. Honored at HNX as an exemplary member and Top 10 securities firm with largest share in brokerage service at HOSE in 2013.

Vision:

- The Business of success

Mission:

- Being a leading and prestigious financial organization in Vietnam.

4.1.9 Sai Gon Thuong Tin Commercial Joint Stock Bank

Established on December 21 1991, Sacombank started as a small bank, with initial charter capital of VND 3 billion. Nowadays, Sacombank has total current assets of approximately VND 150,000 billion, with more than 10,000 employees and 400 branches over the country and transaction offices in Laos and Cambodia. Sacombank was rated by Moody's and Standard&Poor's as having the sustainable prospect for long term credit rating. Before 2011, major shareholders of Sacombank are institutions (ANZ Bank, IFC – International Financial Company, Dragon Financial Holding – Dragon Capital (UK) and Refrigeration Electrical Engineering Corporation (REE) with 5-10% shares each), the largest individual shareholder is Mr Dang Van Thanh, Former Chairman of the Board of Director (who is also the founder of Sacombank), who held 15% stake. The rest shares are greatly diversified

among 70,000 investors. This shareholding position implies that any shareholder can gather 51% stake can have his influence over the decision of the Board of Director.

Vision

- To be the first modern multi-functional retail bank in Indochina.

Mission

- To maximize value for customers, investors and staff and upholding our highest commitment to corporate social responsibility

4.1.10. Joint Stock Commercial Bank For Foreign Trade Of Viet Nam

JSC Bank for Foreign Trade of Vietnam, formerly known as Bank for Foreign trade of Vietnam, was established on 01/04/1963 from the Foreign Exchange Bureau (of the State Bank of Vietnam). Being the first state commercial bank chosen for pilot privatization by the Government, Joint Stock Commercial Bank for Foreign Trade of Vietnam officially came in to operation on 02/06/2008, after successfully implementing the equitization plan through IPO. Vietcombank (stock code: VCB) officially listed on the Ho Chi Minh Stock Exchange (HOSE) on 30/06/2009. After more than a half-century operating in the market, Vietcombank currently has almost 14,000 employees, more than 400 branches/ transaction offices/ representative office/ affiliates both in Vietnam and abroad.

Vision:

Being a secure investment in Vietnam

Mission:

To bring benefit and security to customer.

4.2. Data Analysis

The data analysis in this study is presented in both descriptive and statistical. This study utilizes the multiple regression model and the hypothesis testing was initially conducted in this study prior to classical assumption testing which including the normality test, multicollinearity, autocorrelation and heteroscedasticity test.

4.2.1 Descriptive Statistic

The descriptive statistic might provide an illustration of data used in this study. The population in this study is those Banking, Finance and Insurance companies which are listed in Ho Chi Minh Stock Exchange and by use of purposive sampling technique.

There are 10 companies that included as sample. The writer limits the study for the period January 2010 until December 2013. Further, the descriptive statistic includes the average value, minimum value and the standard deviation of all variables tested in this study. The following table might offer descriptive analysis of data used in this study.

Table 4. 1: Maximum, Minimum, Mean and Standard Deviation for variables
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
IR	48	.07	.15	.1015	.02866
CPI	48	.0504	.2302	.109281	.0545329
ER	48	17941	21040	20171.81	975.948
M2_Rate	48	.1039	.2991	.216550	.0567315
SP	48	23230	44070	33861.46	5974.169
Valid N (listwise)	48				

(Source: Secondary Data, Processed with SPSS 22)

As show by table 4.1, variables used in this study are Stock price, Interest rate, Consumer Price Index, Exchange Rate and Money Supply M2 Rate with the total number of samples is 48.

Table 4.1 shows the explanation of each value used for variables in this study consist of the below details:

1. For Interest Rate, maximum data is 0.15 with the minimum data 0.07. This variable has mean 0.1015 which standard deviation as much 0.02866.
2. For Consumer Price Index, maximum data is 0.2302 with the minimum data 0.0505. This variable has mean 0.109281 which standard deviation as much 0.0545329.

3. For Exchange Rate, maximum data is 21040 with the minimum data 17941. This variable has mean 20171.81 which standard deviation as much 975.948.
4. For Money Supply Rate, maximum data is 0.2991 with the minimum data 0.1039. This variable has mean 0.216550 which standard deviation as much 0.567315.
5. For Dependent Variable, Stock Price, maximum data is 44070 with the minimum data 23330. This variable has mean 33861.46 which standard deviation as much 5974.169.

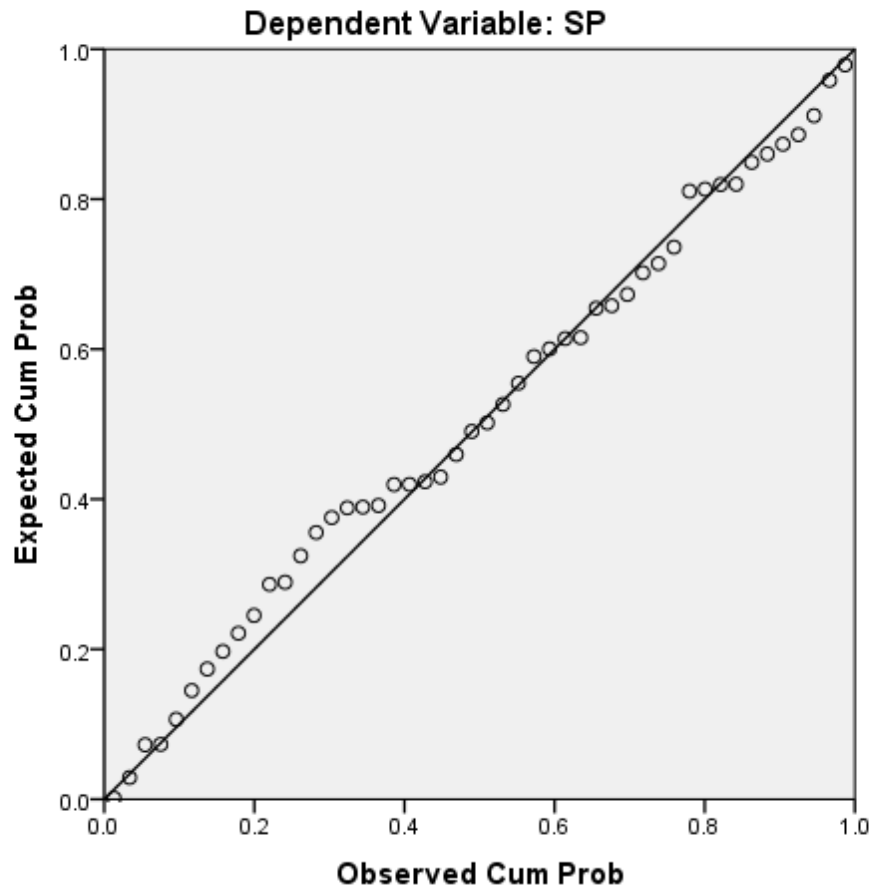
4.2.2 Classical Assumption Testing

The classical assumption testing is supposed to be conducted to acknowledge the quality of data used to test the multiple regression model in this study. The classical assumption testing including the normality test, multicollinearity test, autocorrelation and heteroscedasticity test might indicates whether a deviation or anomaly exist within the results gain from the regression analysis.

1. Normality Test

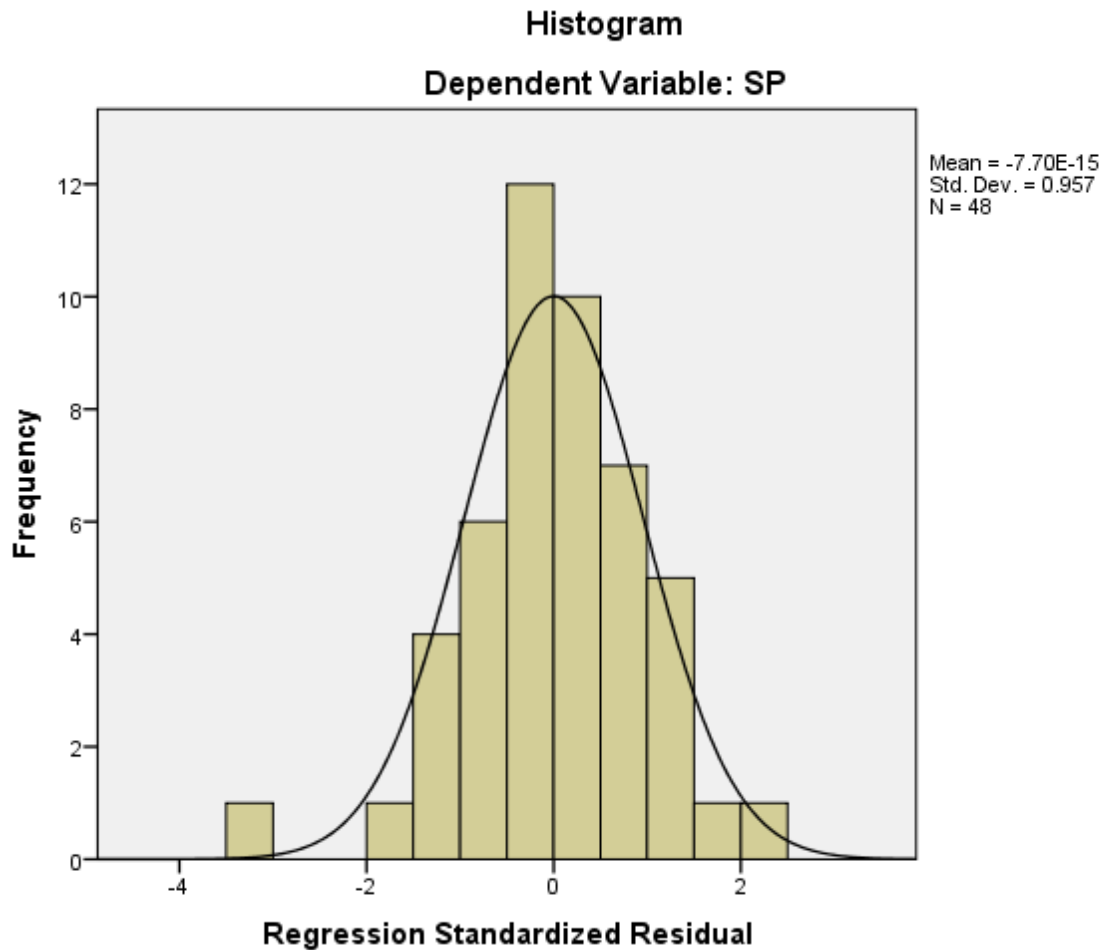
The first test conducted by the researcher is normality test. Normality test is used to determine the normality of the data that are distributed in the statistics. The normality of data distribution can be determined from residual value that normally distributed. Based on Figure 4.1, the standardized residual spreads around diagonal line.

Normal P-P Plot of Regression Standardized Residual



Figures 4. 1 Normal P-P Plot of Regression Standardized Residual

(Source: Secondary Data, Processed with SPSS 22)



Figures 4. 2: Histogram of Regression Standardized Residual

(Source: Secondary Data, Processed with SPSS 22)

Based on Levine and Stephen (2010), the histogram bar chart shows the data has normal distribution if the curve has a bell shape. If the bar chart curve is deviated to the right or left, the data are not normal. The good data should have a normal distribution pattern. In the histogram above about the regression standardized residual, the curve has a bell shape which means that the data used in this research has normal distribution.

2. Multicollinearity Test

In detecting the presence of multicollinearity within a regression model, one might use the value of tolerance or its opponent, Variance Inflation Factor (VIF). A Regression is assumed to have multicollinearity if the value of tolerance is less than 0.10 or if the value of VIF is more than 10 (Ghozali, 2009). The result of collinearity testing in this study is shown in the table 4.2

Table 4. 2 Multicollinearity Test

Model	Collinearity Statistics	
	Tolerance	VIF
1 (Constant)		
IR	.108	9.264
CPI	.209	4.788
ER	.598	1.674
M2_Rate	.354	2.822

a. Dependent Variable: SP

(Source: Regression result of SPSS 22.0)

Table 4.2 exposes that the tolerance value of Interest Rate, Consumer Price Index, Exchange Rate and Money Supply M2 Rate are respectively 0.108, 0.209, 0.589, 0.354 which are greater than 0.1. Base on above result it is assumed that multicollinearity is not exists in this study or each variable has no multicollinearity. Further, the VIF of Interest Rate, Consumer Price Index, Exchange Rate and Money Supply M2 Rate are respectively 9.264, 4.788, 1.674 and 2.822 which are less than 10. It is assumed that multicollinearity is not exists in this study.

3. Autocorrelation Test

Autocorrelation test aim to examine whether a correlation of a time series with its own past and future values exist or not within the model used in this study. In detecting the presence of autocorrelation within the model, this study uses Durbin-Watson test. The autocorrelation does not exist when the value of Durbin-Watson is between -2 and +2. In this study shows the result for Durbin-Watson test.

Table 4. 3 Autocorrelation Test

Model	Durbin-Watson
1	.826

a. Predictors: (Constant), M2_Rate, ER, CPI, IR

b. Dependent Variable: SP

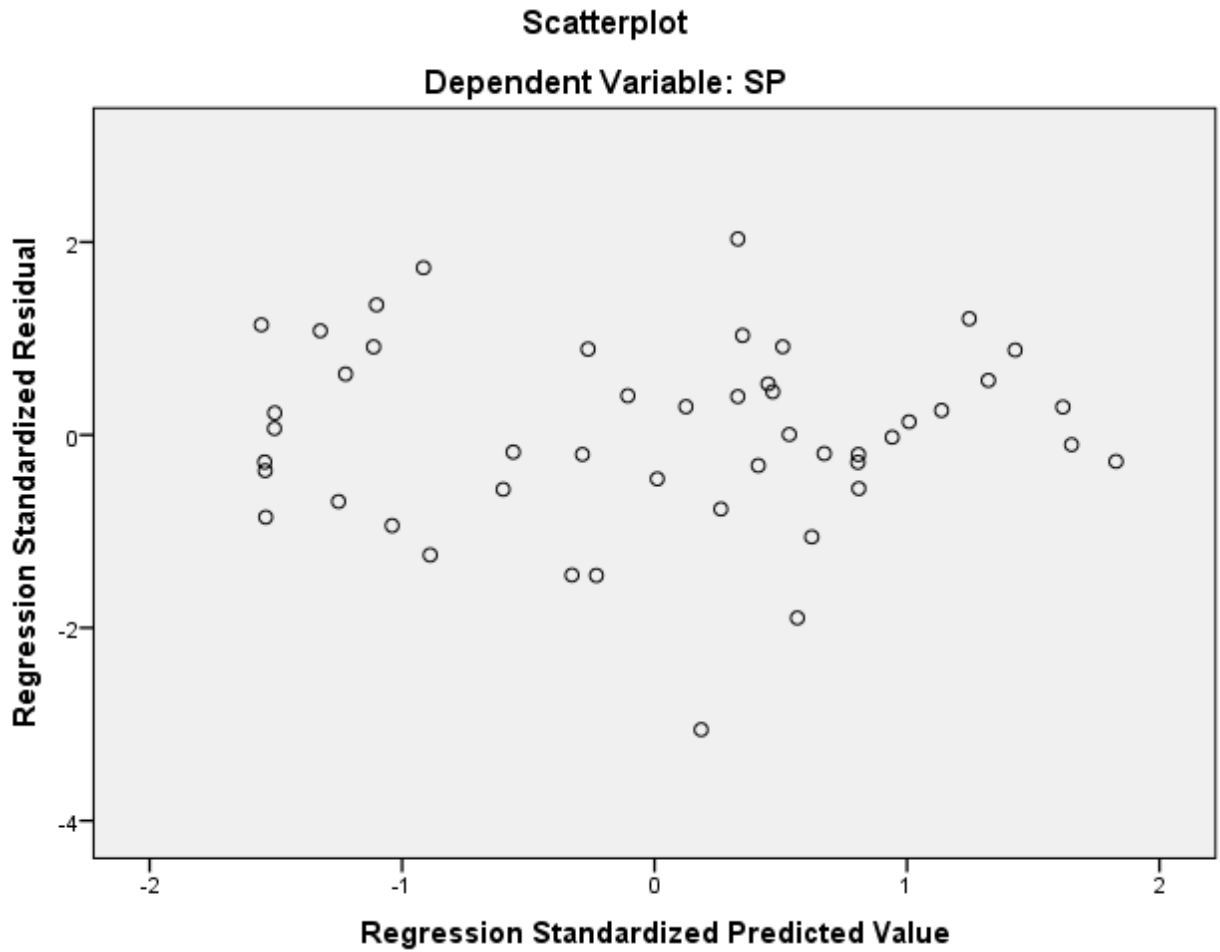
(Source: Regression result of SPSS 22.0)

As shown in table 4.3 the value of Durbin-Watson in this study is 0.826 that falls between -2 until +2. Thus, there is no autocorrelation with the regression model used in this study.

4. Heteroscedasticity Test

Heteroscedaticity test is intended to examine whether the regression model has a different variability in the residual (error) variances. In detecting the heteroscedasticity within the model, the writer uses scatter plot. Below figure 4.3 shows the scatter plot results of this study.

Figures 4. 3 Scatter plot for Heteroscedasticity Test



(Source: Secondary Data, Processed with SPSS 22)

Base on the figure 4.3 shows the pattern of the plots is spread randomly, it indicates that there is no heteroscedasticity problem. There is no specific pattern occurs in the scatterplot, therefore the data in this research are normal and can be used for further analysis.

4.2.3 Hypothesis Testing

In order to prove or disapprove the hypothesis in this study, there are several statistical test used as follow:

1) *F-Test*

The F-Test is utilized to measure the collective influence of all independent variables in multiple regression model on the dependent variable. The result of F-Test in this study is clearly demonstrated in table 4.4

Table 4. 4 F-Test
ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1260294717.669	4	315073679.417	32.477	.000 ^b
	Residual	417167680.248	43	9701573.959		
	Total	1677462397.917	47			

a. Dependent Variable: SP

b. Predictors: (Constant), M2_Rate, ER, CPI, IR

(Source: Secondary Data, Processed with SPSS 22)

The null Hypothesis (H_0) would be rejected if the significance value is less than given parameter ($\alpha= 5\%$). If the null hypothesis is rejected, it implies that there is collective influence of all independent variables toward dependent variable. Above table 4.4 reveals that the significance value of F-Test is 0.000 which is less than 0.05 (5%) and subsequently the null hypothesis (H_0) is rejected. Thus, all independent variables tested in this study including Interest Rate, Consumer Price Index, Exchange Rate and Money Supply M2 Rate has collective influence on stock price.

2) *T-Test*

The T-Test aims to examine the significance of all independent variables partially toward dependent variable. The significant of Independent variables including Interest rate, Consumer Price Index, Exchange Rate and Money Supply M2 Rate will be analyzed toward dependent variable, Stock Price. Considering that the data inputted in this study is the original scale of data without doing any conversion to other scale, then the value of β will be analyzed through the unstandardized column (Ghozali, 2006). The result of T-Test in this Study illustrated by the below table 4.5:

Table 4. 5 T-Test

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	86598.727	10463.129		8.277	.000
	IR	195574.535	48253.820	.938	4.053	.000
	CPI	-55044.879	18230.959	-.502	-3.019	.004
	ER	-2.795	.602	-.457	-4.641	.000
	M2_Rate	-470.245	134.541	-.447	-3.495	.001

a. Dependent Variable: SP

(Source: Secondary Data, Processed with SPSS 22)

In accordance to the data shown in the table 4.5, one might gain the analysis result for each hypothesis tested in this study:

1. **Regression test of Interest Rate:**

The p – value is significant at 0.05 and according to table 4.5 output of t – test, Interest Rate as the first independent variable (X_1) has a significant (sig) value of 0.000 which is far below comparing to the p – value of 0.05 and the value of β is

not equal to zero. This result means the Interest Rate partially has significant influence toward the Stock Price. It can be concluded that the first null hypothesis H_0 states there is no significant influence of Interest rate towards Stock price at Banking, Finance and Insurance Sector listed in HOSE is rejected and it accept the first alternative hypothesis H_a .

2. Regression test of Consumer Price Index

The p – value is significant at 0.05 and according to table 4.5 output of t – test, Consumer Price Index as the second independent variable (X_2) has a significant (sig) value of 0.04 which is less than the p – value of 0.05 and the value of β is not equal to zero. This result means the Consumer Price Index partially has significant influence toward the Stock Price. It can be concluded that the first null hypothesis H_0 states there is no significant influence of Consumer Price Index towards Stock price at Banking, Finance and Insurance Industry listed in HOSE is rejected and it accept the first alternative hypothesis H_a .

3. Regression test of Exchange Rate

The p – value is significant at 0.05 and according to table 4.5 output of t – test, Exchange Rate as the third independent variable (X_3) has a significant (sig) value of 0.00 which is less than the p – value of 0.05 and the value of β is not equal to zero. This result means the Exchange Rate partially has significant influence toward the Stock Price. It can be concluded that the first null hypothesis H_0 states there is no significant influence of Exchange Rate towards Stock price at Banking, Finance and Insurance Industry listed in HOSE is rejected and it accept the first alternative hypothesis H_a .

4. Regression test of Money Supply M2 Rate

The p – value is significant at 0.05 and according to table 4.5 output of t – test, Exchange Rate as the fourth independent variable (X_4) has a significant (sig) value of 0.01 which is less than the p – value of 0.05 and the value of β is not equal to zero. This result means the Money Supply Rate partially has significant influence toward the Stock Price. It can be concluded that the first null hypothesis H_0 states there is no significant influence of Money Supply M2 Rate towards Stock price at Banking, Finance and Insurance Industry listed in HOSE is rejected and it accept the first alternative hypothesis H_a .

According to the data shows in the table 4.5 and its explanation shows that Interest Rate, Consumer Price Index, Exchange Rate and Money Supply M2 rate has significant influence toward stock price hence the Regression Model in this study might be presented as:

$$\text{Stock Price} = 86598.727 + 195574.535 IR - 55044.879 CPI - 2.795 ER - 47024.547 M2 rate + e$$

The proceeding regression model might then be interpreted as the following:

- a. The regression coefficient of Interest Rate is equal to 195574.535 that indicate the stock price volatility might rises for 195574.535 for each upsurge on interest rate with assumption all other factors remained constant.
- b. The regression coefficient of Consumer Price Index is equal -55044.879 that indicate the stock price volatility might decreases for 55044.879 for each upsurge on Consumer Price Index with assumption all other factors remained constant.
- c. The regression coefficient of Exchange Rate is equal to -2.795 that indicate the stock price volatility might decreases for 2.795 for each upsurge on exchange rate with assumption all other factors remained constant.

d. The regression coefficient of Money Supply M2 Rate is equal -47024.547 that indicate the stock price volatility might decrease for 47024.547 for each upsurge on Money Supply M2 Rate with assumption all other factors remained constant.

1) R² (Coefficient of Correlation (R) and Coefficient of Determination (R Square))

R² measures the proportion of the total variation in y which is explained by the predictive power of all independent variables within the multiple regression model. R square value falls between 0 and 1. The closer the R² value to 1 then the better independent variables in providing information required to predict dependent variable. The purposive sampling technique is using in this study which mean the subject which analyzed in this study is not consider as sample hence the standard for coefficient of multiple determination is enough from based on the value of R-Square because it does not aim to generalize to a wider population (Ghozali, 2006). The R² of this study is show in table 4.6

Table 4.6 Model Summary

Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate	Durbin-Watson
1	.867 ^a	.751	.728		3114.735	.826

a. Predictors: (constant), M2_Rate, ER, CPI, IR

b. Dependent Variables: SP

c. (Source: Secondary Data, Processed with SPSS 22)

Table 4.6 reveals that the correlation of coefficient (R) is 0.867. This result show the amount of R is 0.867 close to 1. So, it indicates that R is a positive linear relationship between dependent and independent variables and has strength relationship between variables.

Moreover, the result of this study for R-square value of the regression model utilized in this study is 0.751. It illustrates the proportion of the total variation in dependent variable, stock price that might be explained by independent variables including interest rate, consumer price index, exchange rate and money supply rate is 0.751 or 75.1%. Based on above scale, it is assumed that independent variables including Interest Rate, Consumer Price Index, Exchange Rate and Money Supply M2 Rate use in this study has strong correlation with dependent variables, Stock Price or independent variables utilized in this study is strong enough in providing information required to predict the dependent variable, Stock Price.

4.3 Interpretation of Results

4.3.1 F-Test Interpretation of Result

The regression analysis gained in this study reveals that there is collective influence of all independent variables tested including Interest Rate, Consumer Price Index, Exchange rate and Money Supply M2 Rate on Stock Price. This F-Test shows that compositely, Interest Rate, Consumer Price Index, Exchange Rate and Money Supply M2 Rate has strong relationship with stock price of Banking, finance and insurance sector listed in Ho Chi Minh Stock Exchange. This result is reasonable enough to be accepted considering the stock price and macroeconomic issue cannot be separated, any issues within macroeconomic factors will eventually affect the fluctuation on stock price, not only on Banking, Finance and Insurance sector but also other sectors in Vietnam Capital Market. Further analysis about this result, the writer has explored several previous journals and the result shown within those studies.

According Adaramola and Anthony Olugbenga (2011) in their journal entitled “*The Impact of Macroeconomic Indicators on Stock Prices in Nigeria*” the result of their study indicates that significant relationship is occurred between macroeconomics variables(interest rate, exchange rate, oil price, GDP) on stock price in Nigeria.

Another study by Heng Lee Ting and friends (2012) with journal entitle “*MACROECONOMIC DETERMINANTS OF THE STOCK MARKET RETURN: THE CASE IN MALAYSIA*” got the results indicates that has significant relationship between macroeconomic variables (Interest rate, consumer price index, money supply and crude oil price) and stock price in Malaysia.

4.3.2 T-Test Interpretation of Result

1. Interest Rate

The significant value of Interest rate is 0.000 which is less than 0.05 has indicated there is significant influence of interest rate toward stock price. Moreover, the value of parametric coefficient of interest rate in the amount of 195574.535 which means it has positive relationship with stock priceso when Interest Rate increase one percent will result the increas of 195574.535 of stock price value. According Wongbampo and Sharma (2002) explored the relationship between stock returns in 5-Asian countries viz. Malaysia, Indonesia, Philippines, Singapore and Thailand withthe help of five macroeconomic variables such as GNP, inflation, money supply, interest rate, and exchange rate. Using monthly data for the period of 1985 to 1996, they found that, in the long run all the five stock price indexes were positively related to growth in output and negatively related to the aggregate price level. However, they found a negative relationship between stock prices and interest rate for Philippines, Singapore and Thailand, but positive relationship for Indonesia and Malaysia.

In addition, Apergis Nicolas & Eleftherious Sophia (2002) found a positive correlation between interest rates and stock prices in Athens Stock Exchange.

This result of positive relationship between Interest rate and Stock Price in Banking, finance and insurance sector listed in Ho Chi Minh Stock exchange because Vietnam Stock exchange is emerging stock market and the Vietnamese stock market is not informationally efficient in both short- and long-run, hence the stock price is volatility.

2. Consumer Price Index

The significant value of Consumer Price Index is 0.04 which is less than 0.05 has proved that is significant influence of Consumer Price Index toward Stock price. On other hand, the value of parametric coefficient of consumer price index in the amount of -55044.879 which means it has negative relationship with stock price, hence when Consumer Price Index increases one percent, the stock price will decrease in amount of 55044.879 simultaneously.

The inflation computed from consumer price index affects the stock price negatively. Since an increase in inflation increases the discount rate, it should affect the stock price negatively. However, increase in inflation also increases the expected future cashflows, thus having a positive effect on the stock price. These two opposite effects may or may not neutralize each other. In most developing economies, a steady and low inflation helps the growth in real sector, and in effect have a positive effect on stock prices. Most previous studies however, Fama and Schwert (1977), Geske and Roll (1980), Chen, Roll and Ross (1986), Chen (1991) and DeFina(1991) document negative relationship between stock price and inflation.

3. Exchange Rate

The significant value of Exchange Rate is 0.000 which is less than 0.05 has indicated that is significant influence of Exchange Rate toward Stock price. Otherwise, the value of parametric coefficient of exchange rate in the amount of -2.795 which means it has negative relationship with stock price, thus when Exchange Rate increases one percent, the stock price will tend to decreases amount of 2.795.

According Kim (2003) in his study found that the S&P 500 stock price has a positive correlation with industrial production but negative relationship with the real exchange rate.

In addition, the association between exchange rates and stock prices is found to be negatively related, showing that a depreciation of the Indian currency in terms of US Dollars would have a favorable impact on the Indian stock market. This negative relationship was found to exist between exchange rate and stock prices but it insignificantly persists. (Ray, 2012)

4. Money supply M2 Growth Rate

The significant value of Money supply M2 rate is 0.01 which is less than 0.05 has indicated that is significant influence of Money supply M2 rate toward Stock price. Moreover, the value of parametric coefficient of money supply M2 rate in the amount of -47024.547 which means it has negative relationship with stock price, so when Money supply M2 Rate increases one percent, the stock price will decrease amount of 47024.547.

The effect of money supply on stock price is also not conclusive (see Darrat (1990)). In the short run, the increase in money supply will reduce the interest rate and thus discount rate in the valuation model. An increase in money supply also increases investments in the production sector which may increase the expected future cashflows, thus increasing the stock prices. In the long run, however, an increase in money supply will cause inflation and increase in interest rates which in turn will increase the discount rate in the valuation model. Therefore, the stock price may be negatively related to money supply.

According to Baharumshah (2004) study the demand for money function for Malaysia, using the multivariate co-integration and error correction model and found Stock prices have a significant negative substitution effect on long-run as well as short-run broad-money demand (M2).

CHAPTER V

CONCLUSION AND RECOMMENDATION

This research is entitled **“THE IMPACT OF MACROECONOMIC FACTORS ON STOCK PRICES: AN EMPIRICAL AT BANKING, FINANCE AND INSURANCE SECTOR LISTED IN HO CHI MINH STOCK EXCHANGE (HOSE) IN VIET NAM PERIOD 2010- 2013”**.

In this chapter of research, the researcher construct the conclusion and recommendation developed from the quantitative analysis results mentioned on chapter 4 with the method of multiple regression analysis about the impact of macroeconomic factors on stock price. The analysis was conducted to understand the effect of Interest Rate, Consumer Price Index, Exchange Rate and Money Supply M2 Rate on Stock Price.

5.1 Conclusion

Based on the research and tests done in this study, some key points can be drawn to answer the statements of problem as follow:

1. Is there a partial significant influence of Interest rate towards Stock price at Banking, Finance and Insurance Sector listed in HOSE?

The result from the finding also shows significant and positive relationship between Interest rate and stock price. A few evident state that the positive relationship between interest rate and stock price. When the interest rate rises, demand on deposit will increase rather than going for investment because the cost of borrowing is costly. Therefore, the return on the deposit may increase. Few economists found positive effects of increase in interest rate on stock prices while; some studies explored negative relationship between these two variables for example regarding to Ratanapakorn, O. and Sharma, S.C (2007), they reported positive relationship stock

prices and rate of interest. There is positive correlation between interest rates and stock prices found by Apergis, N. & Eleftheriou,s (2002).

2. Is there a partial significant influence of Consumer Price Index toward Stock price at Banking, Finance and Insurance Sector listed in HOSE?

Other than that, the finding also shows consumer price index has significant with stock price but there is negative relationship. This is because when increase in inflation expected to increase the nominal risk-free rate, which in turn will raise the discount rate used in valuating stocks. Moreover, higher discount rate will be neutralized if cash flows increase at the same rate. Besides, if contracts are nominal and cannot adjust immediately, the effect will be negative. This action will guide the stock prices caused by higher demand in stocks. According to Zoicas and Fat (2008), they found that inflation rate has led to the estimation of significant relationships to the variations of stock market. The study by Suliaman et al., (2009) also found that whole sale price index is significantly related to stock prices. Regarding to Chen et al. (1986), Mukherjee and Naka (1995), Wongbangpo and Sharma (2002), Flannery and Protopapadakis (2004), they also found that inflation rate negatively affect stock returns. Consistent with Kaul's results, Spyrou (2001) found that inflation and stock returns are negatively related. While some studies such as Fama and Schwert (1977), Fama (1981) found a significant negative relationship between stock market and inflation. Regarding to Sharma, Subhash C. & Wongbangpo, Praphan (2002), they found a negative effect has been found between CPI and stock prices and this can be explained as the results of the higher risk of future profitability. It means an increase in prices level will increase the cost of production which, in turn, would reduce future profitability.

3. Is there a partial significant influence of Exchange Rate toward Stock price at Banking, Finance and Insurance Sector listed in HOSE?

In a similar way, Aydemir and Demirhan (2009) investigated the relationship between stock prices and exchange rates for the period of February 23rd, 2001 to January 11th, 2008 by using daily data in case of Turkey. Their study results reveal that there is a bidirectional relationship and also evidenced that there is a positive and negative causal relationship between exchange rates and stock market indices. On the other way, negative causality occurs from exchange rates to all stock market indices.

4. Is there a partial significant influence of Money Supply M2 Growth Rate toward Stock price at Banking, Finance and Insurance Sector listed in HOSE?

Supply of money affects economic activities and that is why its control has been the chief function of the central monetary authority of any given economy (IO, 2003). Kevin (2000) classifies the supply of money as a leading indicator. M1 refers to currency in circulation plus demand deposits; while M2 is M1 plus near monies, for example, time deposit. The researchers will adopt M2 growth rate for this study. Many studies conducted using data from developed countries, came up with the interesting conclusion that money growth affects stock prices adversely to hedge against the erosive effect of inflation on financial assets (Oaikhenan, 2003). Following the widely held view and given the explosive growth in the Nigeria's money supply, we expect stock prices to be adversely and significantly affected by changes in this variable (Davidson and Froyen 1982; (Rozeff, 1994)). The consensus of opinion in this regard proceed from the reasoning that money growth, except accompanied by growth in output of goods and services, serves to unleash inflationary spiral on the economy , driving stock prices downwards as a consequence; as rational economic agents diversify their wealth holdings away from financial assets (such as stocks and shares) to real(tangible) assets. This strategy is often adopted. By Osamwonyi and Esther (2012) investigate that Money supply (M2)

has a negative relationship with SMI in both the short-run and long-run. It is in the short-run but not in the long-run. The reason for its negative sign is the fiscal indiscipline of financing money supply growth by ways and mean, the focus on trade instead of manufacturing, import fuelled consumption, and poor capacity utilization in the real sector.

5. Is there a significant influence of Interest rate, Consumer Price Index, Exchange Rate and Money Supply M2 simultaneously towards Stock price at Banking, Finance and Insurance sector listed in HOSE?

The objective of this research is to investigate the relationship between consumer price index, interest rate, and money supply with stock price of Banking, Finance and Insurance sector listed in HOSE. Base on T-Test, it can conclude that among four of the independent variables, which is interest rate, consumer price index, exchange rate and money supply M2 rate have significant with dependent variable. In addition, interest has positive relationship but consumer price index, exchange rate and money supply M2 rate are negative relationship with stock price. Among the four macroeconomic variables shows the most significant variables are interest rate and exchange rate than consumer price index and money supply M2 rate.

This study investigates the relationship of macroeconomic variables on stock prices. From the analysis shows that F-Test for this research is significant for the overall regression equation. In this research also determine the Coefficient of determination (R^2) where 75.1% of the changes on the Stock Price in Banking, Finance and Insurance Sector listed in Ho Chi Minh Stock exchange can be explained by the macroeconomic variables that is Interest Rate, Consumer Price Index, Exchange Rate and Money Supply M2 Rate. While another 24.9% remains unexplained, this could be due to the omission of some important variables. The coefficient of determination for this analysis is more than 50% means that dependent variable is strongly explained by independent variables.

5.2 Recommendation

1. For Ho Chi Minh Stock Exchange

Ho Chi Minh Stock Exchange should provide historical long-term series of data of each company listed in. Moreover, HOSE must attach Excel or word document of historical price of stock to make convenience for investors and researches. In addition HOSE need provide full information and general financial situation of each company listed in to let investors and researches make clearly understanding about the general situation.

2. For Future Researcher

First, the researcher must add more independent variables in order to analyze the relationship between stock return and macroeconomic variables. More independent variables are potential the researcher to get more significant result. The researcher will get significant relationship for all the independent variables. In this study the researcher get only four independent variables are significant relationship with dependent variable which is money supply M2 rate, consumer price index, interest rate and exchange rate. If the researchers use more independent variable, it can help the investor to forecast market condition based on variety macroeconomic variables used.

Secondly, the researchers need to use more data or number of observations. If the researcher use in quarterly basis for a long period the researcher will get more data than using monthly data like this study. In order to get accurate and reliable result, the researcher should consider the length of observation. Other than that, use more data will the researcher to get consistency of the findings as well as increase the reliability of the study.

Thirdly, the researcher can use other methods than multiple linear regressions to investigate the relationship between stock price and macroeconomic variables. The researcher can use method of multiple regression test to examine the relationship the dependent and independent variables. The researcher will get accurate result if use other methods.

3. For investor

In particularly, examine the relationship between stock price and macroeconomic also important to investor .The investors also need to know or understand about the relationship between stock prices and macroeconomic indicators in order to make investment decisions. As an investor, they need to choose the best result and they also must know and follow about the stock market and the economy to minimize their risk and avoid loss. Investors may use research as a guideline in forecasting stock market viability and to decide whether it is worthwhile to invest in it. Investors also need to forecast stock prices and earn profits.

4. For Viet Nam Government

In addition, Viet Nam government must plan and control the macroeconomic indicators to enhance the effect of macroeconomic factors on stock price. Besides that, government should public data of macroeconomic indicator that will bring more opportunities and convenience to investigate and invest for researchers and investors.

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APPENDIX

**Data collection of Interest Rate, Consumer Price Index, Exchange Rate, Money
Supply M2 Growth Rate and Average Stock Price Period January 2010 to
December 2013**

	IR	CPI	ER	M2 Growth Rate	AVR_SP
Jan-10	0.08	0.0762	17941	0.2246	36740
Feb-10	0.08	0.0846	18243	0.2256	35000
Mar-10	0.08	0.0946	18544	0.2049	36810
Apr-10	0.08	0.0923	18544	0.1944	37840
May-10	0.08	0.0905	18544	0.1945	37680
Jun-10	0.08	0.0869	18540	0.1946	39340
Jul-10	0.08	0.0819	18540	0.22	41900
Aug-10	0.08	0.0818	18720	0.2074	38880
Sep-10	0.08	0.0892	18930	0.25	28130
Oct-10	0.08	0.0966	18930	0.252	27640
Nov-10	0.08	0.1109	18930	0.2971	25380

Dec-10	0.09	0.1175	18930	0.2991	29000
Jan-11	0.09	0.1217	18930	0.2898	30410
Feb-11	0.11	0.1231	20318	0.2587	31750
Mar-11	0.12	0.1389	20673	0.228	32500
Apr-11	0.13	0.1751	20713	0.1971	32830
May-11	0.14	0.1978	20679	0.1745	33790
Jun-11	0.15	0.2082	20622	0.1868	36320
Jul-11	0.14	0.2216	20610	0.2056	35420
Aug-11	0.14	0.2302	20618	0.15	36640
Sep-11	0.14	0.2242	20628	0.1263	37410
Oct-11	0.15	0.2159	20708	0.1245	44070
Nov-11	0.15	0.1983	20803	0.1194	44000
Dec-11	0.15	0.1813	20813	0.1179	43140
Jan-12	0.15	0.1727	20828	0.1039	42470
Feb-12	0.15	0.1644	20828	0.133	42100
Mar-12	0.14	0.1415	20830	0.1544	42470
Apr-12	0.13	0.1054	20830	0.1755	40540
May-12	0.12	0.0834	20830	0.1738	39510
Jun-12	0.11	0.069	20830	0.1714	37150

Jul-12	0.1	0.0535	20830	0.133	38660
Aug-12	0.1	0.0504	20830	0.178	30880
Sep-12	0.1	0.0648	20830	0.2031	25300
Oct-12	0.1	0.07	20830	0.229	34580
Nov-12	0.1	0.0708	20830	0.2454	35270
Dec-12	0.09	0.0681	20830	0.2788	34520
Jan-13	0.09	0.0707	20830	0.2962	32360
Feb-13	0.09	0.0702	20830	0.2981	30940
Mar-13	0.08	0.0664	20830	0.2842	30370
Apr-13	0.08	0.0661	20830	0.2735	29490
May-13	0.07	0.0636	20830	0.2716	29350
Jun-13	0.07	0.0669	20830	0.2619	26780
Jul-13	0.07	0.0729	20850	0.2538	26270
Aug-13	0.07	0.075	20850	0.2554	24720
Sep-13	0.07	0.063	21040	0.2579	23230
Oct-13	0.07	0.0592	21040	0.2628	24990
Nov-13	0.07	0.0578	20040	0.2683	25550
Dec-13	0.07	0.0604	20040	0.2886	25230

Data collection of Stock price of 10 companies at Banking, Finance and Insurance Sector listed in HOSE period 2010-2013 and Average Stock price (units: thousand VND)

	AGR	BMI	BVH	CTG	EIB	HCM	MSN	SSI	STB	VCB	AVR SP
Jan-10	21.6	21.3	35.5	28	23	54.5	36.8	82.5	22.2	42	36.74
Feb-10	21.8	23	43	30.4	23.1	52.3	37.7	55.5	23.2	40	35
Mar-10	20.3	22.2	42.6	29	23.4	60	38.7	54.2	27.9	49.8	36.81
Apr-10	26.8	25.5	49	28.3	21.6	59.5	45.3	48.6	26.8	47	37.84
May-10	16.8	24.9	46.8	27	20.8	58	58.5	47.5	29.7	46.8	37.68
Jun-10	15.3	23.4	49.2	26.4	24.9	63.1	59.8	47.9	34.8	48.6	39.34
Jul-10	14.4	21.8	49.5	33.8	24.1	61.7	66	52.8	40.1	54.8	41.9
Aug-10	13.6	20.2	48.5	29.5	16.9	56.8	61.9	50.1	38.9	52.4	38.88
Sep-10	10.6	16.8	55.5	18.9	17.9	32.3	49.5	26.9	16.7	36.2	28.13
Oct-10	12.5	16	58.5	19.2	14.4	29.3	51	24.7	16	34.8	27.64
Nov-10	12.6	13.6	50.5	15.6	12.1	24.5	51.7	24.7	14.7	33.8	25.38
Dec-10	13.3	15.5	58.5	21	15.5	30.1	55.4	32	16.2	32.5	29
Jan-11	12.9	15.7	62.5	22.3	15.3	29.2	64	29.9	15.8	36.5	30.41
Feb-11	11.8	14.2	71.5	26.5	14.8	24.5	83	24.4	14.4	32.4	31.75
Mar-11	11.5	13.1	74.5	28.2	14.6	23.4	92	22.5	14	31.2	32.5
Apr-11	10.9	13.1	81.5	28.5	14.7	20.8	100	18.5	11.9	28.4	32.83
May-11	9.9	12.1	82.5	26.9	14.9	21.5	111	16.4	12.7	30	33.79
Jun-11	9.4	13.6	85.5	30.2	14.6	24.5	107	19.7	19	39.7	36.32
Jul-11	7.7	12	78	36.7	14.9	27	98.5	17.4	23.9	38.1	35.42
Aug-11	8.2	11.2	73	33.6	15.2	25.4	117	22.3	23	37.5	36.64
Sep-11	8.5	10.3	75	32.2	20	25	125	21.5	21.3	35.3	37.41
Oct-11	7.2	10.3	86.5	37.2	25.7	33.7	137	33.5	33.4	40.2	44.47
Nov-11	4.7	9	78.5	39.8	33.3	35	129	36.1	36.4	38.2	44

Dec-11	4.4	12.4	75	38.7	34.3	34	122.5	35.2	38.1	36.8	43.14
Jan-12	5.5	10.5	68	39	30.8	32.4	130	34.1	39	35.4	42.47
Feb-12	6.2	19.6	65	34.2	37.9	30.9	125	32.5	32.5	37.2	42.1
Mar-12	8.9	13	75	30	27.8	28.5	119	30.4	35.3	38	40.59
Apr-12	24.2	17.58	69.9	24.4	28.1	29.9	113	29.7	33.62	35	40.54
May-12	26.3	20	58	30.1	28.3	31.3	108	28.4	35.2	29.5	39.51
Jun-12	27.7	19.7	43.6	28.6	27.8	29.5	106.7	25.8	32.5	29.6	37.15
Jul-12	30.2	25.3	48.3	28.8	25.5	28.4	106.5	27.6	39.3	33.5	39.34
Aug-12	16.9	18.7	34.3	20.1	28.1	25.3	96.6	19.7	23.6	25.5	30.88
Sep-12	5.2	8	32.4	17.6	14.4	18	96.5	16.3	20	24.6	25.3
Oct-12	15.1	17.8	30	27.1	25.7	27.4	104.5	35.8	29.1	33.3	34.58
Nov-12	14.8	19.6	37.3	28.5	24.3	26	110	34.2	28	30	35.27
Dec-12	15.5	17.9	38.4	26.7	25.7	22.6	115	26.3	29.9	27.2	34.52
Jan-13	5.8	9.3	52.5	23	16.6	22	119	18.6	22.8	34	32.36
Feb-13	5.6	9.9	53.5	20	15.7	20.7	112	18.1	21.6	32.3	30.94
Mar-13	5.2	11.1	49.6	16.1	14.5	21	120	17.5	20.7	28	30.37
Apr-13	4.7	14.7	46.9	18.4	14.5	20.6	109	17.1	21.6	27.4	29.49
May-13	5.4	12.3	51.5	18.8	14.9	21.9	101	19	17.8	30.9	29.35
Jun-13	5.1	11.7	42.1	20	15.1	21.7	89	17.6	17.5	28	26.78
Jul-13	4.7	12.5	41.7	19.2	14.7	21	88.5	16.5	17.1	26.8	26.27
Aug-13	4.5	11.3	35.9	19.5	14.7	21.4	82	16.3	16.9	24.7	24.72
Sep-13	4.5	8.6	34.4	16.6	14.1	17.9	80	16.6	17.7	21.9	23.23
Oct-13	4.3	11.4	39.8	17.7	13.6	18.8	81.5	16.5	16.8	29.5	24.99
Nov-13	4.8	12.1	41.3	17.2	13.3	21.1	82.5	17.4	17.3	28.5	25.55
Dec-13	4.8	12	37.8	16.2	12.5	24.5	82.5	18	17.2	26.8	25.23

SPSS RESULTS

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	M2_Rate, ER, CPI, IR ^b		Enter

a. Dependent Variable: SP

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.867 ^a	.751	.728	3114.735

a. Predictors: (Constant), M2_Rate, ER, CPI, IR

b. Dependent Variable: SP

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1260294717.669	4	315073679.417	32.477	.000 ^b
	Residual	417167680.248	43	9701573.959		

Total	1677462397.91	47		
	7			

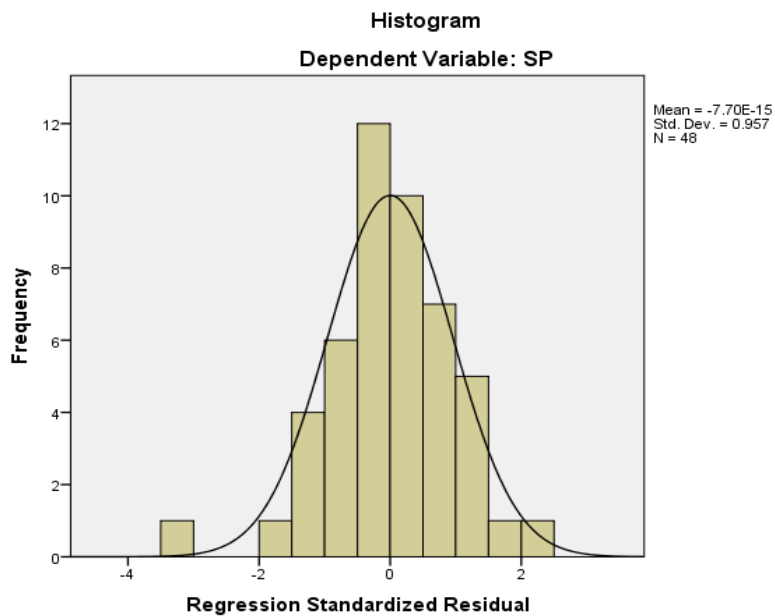
a. Dependent Variable: SP

b. Predictors: (Constant), M2_Rate, ER, CPI, IR

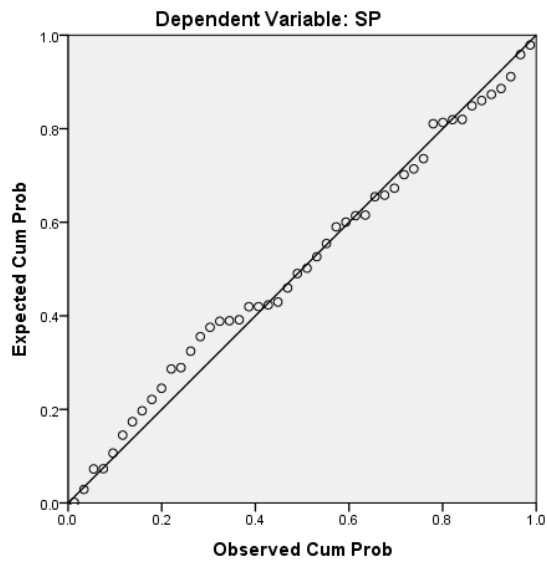
Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	86598.727	10463.129		8.277	.000
	IR	195574.535	48253.820	.938	4.053	.000
	CPI	-55044.879	18230.959	-.502	-3.019	.004
	ER	-2.795	.602	-.457	-4.641	.000
	M2_Rate	-47024.547	13454.128	-.447	-3.495	.001

a. Dependent Variable: SP



Normal P-P Plot of Regression Standardized Residual



Scatterplot

