THE INTERNATIONAL JOURNAL OF BUSINESS & MANAGEMENT

The Effect of Global Financial Crisis on Stock Market Returns in Ghana

Najimu Abubakari
Assistant Registrar, Department of Academic Affairs Directorates
Tamale Technical University, Ghana

Abstract:
The Global financial crisis which started in 2007 in USA had several effects on the country and other developed economies. The objective of our study was to examine the effect of global financial crisis on stock market returns from the perspective of a developing country such as Ghana. Data was taken from the Bank of Ghana (BOG) for the period of 2000-2013 using annual time series while using Ordinary Least Square (OLS) estimation approach for the regressions. The findings per the regression and our analysis indicated that for most part, financial crisis positively affected Ghana stock market although there also an evidence that, it may have a negative effect. Thus, the impact of financial crisis on stock market returns in Ghana is inconclusive and depends on the model specification. Exchange rate depreciation and trade openness also negatively affected the stock market returns in Ghana. However, financial development proxy by private credit and inflation positively affects the stock market returns in Ghana. Moveover, reduction in investment and savings from local and foreign investors, drop in remittance and higher price financial flow from international financial market as well as a stagnant growth of the financial market and declined external demand for Ghana export are the implications of financial crisis on Ghana stock market returns. Furthermore, government should liberalize their stock market more international in order to attract foreign investors and also government should stabilize prices and maintain balance of payment equilibrium. However, the general public should be made aware on the negative effect of global financial crisis on the stock market returns.

Keywords: Financial, crisis, stock, Ghana

1. Introduction

Financial crisis is where a financial instrument experience a reduction in value, businesses and consumers are not able to redeem their debt and financial intermediaries experience a liquidity shortage.

A stock market is a place whereby financial instrument are traded whether publicly or privately by listed company. According to Gockel, financial crisis is also known as credit crunch, which occurs when there is an uncontrollable reduction in money supply in wealth with people losing confidence refusing to honor their debt obligation.

The financial crises which commence in July 2007 in United State of America worsen the global economic crisis in the following months. This discouraged investor's interest to invest or purchase financial asset. Due to the fall in prices of the financial assets, investor has lost faith in financial institutions and existing investors withdrew their money. These economic crises have brought about a loss of hope of savers to convert their loans to other securities and other value of financial instrument experienced a decline in price in both the 19th century.

Financial crises continue to spread beyond United Kingdom and United Stated of America which actually affected industries and financial institutions in the global economy. This financial crisis started in United State of America as a mortgage crisis led to global financial and economic crises that forced the United States of America in connection with the European Central Bank to put an unknown amount of money into the financial market to curb these financial crises.

The stock market analysis has mainly two situations that is, Fundamental Analysis and Technical Analysis. Fundamental analysis is concerned or recognizes the following components and these are economic effects industries matters and any important business information like turn over, profitability, shareholders' compensations and a prudent board of management.

The Technical analysis connotes on its own evidence that analyzes organization basis information or data for any concern mention in the stock price. The technical personnel have a view that all the convictions that is required to know an organization stock have to be generated or derived from its chart.

Financial crises as discussed earlier on, is the situation where fear or a financial institution operate by which investors disposed-off their financial assets or withdraw money from savings account due to a panic that the prices of those financial instrument will continue to lose its value if they do not sell off or withdraw those financial assets from the financial institutions (Banks).

The financial crisis was the worst economic disaster, since Great Depression of 1929. Following each event with its own challenges at its final stage in the close, collapsing of the financial institutions or financial systems. There has been

debate that, the foundation of the financial crisis starts for a very long time in the year 1970s with the community development act, that compelled the financial institution (banks), denying them to meet their credit worthiness for low-income users that actually path a way for sub-prime mortgages.

The available sub-prime mortgage debt that Freddie Mac and Fannie Mae assured to support in other to keep on extending in the year, 2005 when the Federal Reserve Board start to reduce interest rate drastication in other not to initiate or to prevent recession. The blending of not tighten credit requirement and easy money encourages a housing been in an economic prosperity or a good fortune that brought continuous and a profound contemplation forcing the housing prices which does brings a real estate to move up or rise.

A stock market is a place whereby financial instrument are traded whether publicly or privately by listed company. If an asset is purchased in any form the gain (loss) from that asset is known as the return on that investment. There are two components of returns; the first is when cash is received directly on asset only. This is known as the income component of the return.

The second component, there will be a change in value of the investment acquired and for that matter, there will be a capital gain (loss) on the asset acquired.

The already existing literature on this study focus on the impact of the global financial crises on most developing countries stock exchange limiting the details of the impact on stock market returns in Ghana. Hence, there is the need for us to be given the chance to dig more to this already existing study mainly Ghana, the actual impact that global financial crises brought on the stock market returns in Ghana (GSMR) which happened in July 2007.

To the best of our knowledge there is no work published in Ghana and international literature that emphasizes exclusively on the effect of global financial crises on stock market returns in Ghana. Existing research talked about the implications of Global financial crises (GFC) on the developing countries economy but not specifically the stock returns (Ghana), this study is to make an effort to link the idea of effect of GFC on stock market returns in Ghana and address the effect on the GSE returns.

For instance, the study of Gockelis is relevant for the world financial crises and its implication for Ghana as a whole. His emphasis was on the Ghana economy as whole and its effect on Ghana's Real GDP, declined external demand for Ghana export, falling commodity prices, drop in remittances and higher-priced financial flows from the international financial markets. The effect of global financial crises on stock market returns in Ghana by finding out the true causes and the effect on the Ghana's stock returns and how to address the impact. The stakeholders in Ghana also want to know more about the actual effect on the stock market returns in Ghana.

2. Literature Review

This chapter reveals associated literature and other findings that are significant to the study. It comprises the evolution and the effect of the global financial crisis over the years. The chapter also comes with the various causes and effect of global financial crisis on the stock market returns in Ghana. Finally, it reveals the link between global financial crisis and stock market returns in Ghana.

2.1. Stylized Facts on the Global Financial Crisis

Financial crisis is a condition that arises as a result whereby financial institution unexpectedly loses small or large parts of their value. Financial crisis actually evolved in the early 19th and 20th century where many financial consociates with banking panics and many recessions involved with these panics. Things that often-caused financial crisis include stock market crushes and the blasting of other financial, financial bubbles, currency crisis and sovereign defaults. Financial crisis directly results in a loss of paper wealth; they do not directly result in change in the real economy unless recession or a depression follows (Tight 1994).

The next evolution of financial crisis occurs in 21st century that is July 2007 which commence in the United States of America. The root of crisis mainly depends on the numerous conditions, these includes policy settings and mistake, market failure, rapid financial innovation, poor underwriting standards, risk models failure, financialleverage, asset liability mismatch and uncertainty and herd behavior. We discuss the causes of financial crisis based on Gockel's (2008) study.

2.1.1. Policy Setting and Mistakes

Financial crisis which commence in July 2007 was categorized into low real short policy interest rate following an improved reduction inflation and disinflation frightened in the U.S and European Union. There was no specific difference between long term and short-term interest rate, therefore the borrowers were determining the time period for the repayment and was interchangeable using the long term and short-term credit. This as a result will lead to financial crisis.

2.1.2. Regulation Failure

Government regulation is where by the government comes out with policies or strategies to help curb situations affecting the welfare of its citizens or the economy of the country. Transparency is one major aim of government regulation. Transparency is where information is made available or publicly to every individual in a colony, institution, etc. Another aim is providing relevant assets for institutions to meet their contractual obligations, through reserves requirements, capital requirements and other limits in leverage. (Franklin, 2004).

Regulation failure has led to numerous financial crises on the stock market of many countries in recent years. Where government issues regulations on stock market and this information are not made publicly or made available to

general public, stockholders such as investors and financial markets may misuse this information. This as a result may lead to regulation failure and also result in financial crisis.

2.1.3. Asset-Liability Mismatch

Another component believed to play part in the financial crisis is asset liability mismatch, a set of circumstances in which the risk related to the company's debt and assets are not properly put in order or arranged.

For instance, commercial banks render deposit accounts to customers and can withdraw at any time and they apply the returns to create a long-term loan to businesses and landlords. The mismatch between banks long term loans and its short-term debts is seen as one of the reasons why bank withdrawal occurs (where depositors fear and withdraw their money as fast as the bank can get back the returns of its loan) (Diamond, 1983).

In the same way, Bear Stearns filled in 2007 -2008 because it was unable to renew the short-term debt it's used to finance long term investment in mortgage securities (economist, 2009).

2.1.4. Financial Leverage

Financial leverage involves investing with borrowed money as a way to amplify potential gains which is often acknowledged as a contributor to financial crises. When an investor invests its own money there is an equal likelihood of making profit or lose but in a situation where the investor borrows in order to invest more, the investor is likely to earn more but also loses more than he or she has. Thus, leverage amplifies the potential returns from an investment as well as creating risk of bankruptcy. Bankruptcy is a situation where a firm is unable to discharge all its debt as they come due, it may bring financial troubles among firms. The average degree of leverage in the economy often rises prior to financial crises. For instance, borrowing to finance investment in the stock market ('margin by') became increasingly common prior to the walls street crush of 1929 (Kaufman et al, 2003).

The Ghana Stock Exchange GSE; Is the main stock market in Ghana, the country in its own capacity actually have the initiatives in July 1989 but starts its business in a year after the initiatives 1990. And by so doing, it has currently listed 42 instruments (equity) from about 37 listed companies and two main corporate bonds.

The stock exchange or market gives a place for which this particular trading very simple for bringing buyers and sellers of the stock or financial instruments together. The Ghana stock Exchange is being captured in the main index, thus all share index. In 1993 the Ghana Stock Market is the sixth Succeeding index performing stock exchange being part of the known markets, generating 124.3% index level. The index performing 6.3% in the 1995, as a result of high inflation and interest rates.

And also, in the year 1997 the index experiences a 42% growth and within 1998 about 868.35. The market capitalization of Ghana Stock market being in the range of 111,500 billion cedi's in October 2006. Also, in month of December 2007, GSE'S cap value 131,633.22billion cedis. The index also increases in wealth by 31.84%.

In these days Stock Exchange returns gives a significant room for people to notice the amount of change in returns (volatility) and the rate of returns the parties can think or believe in the up -coming years, when they chase financial instruments in the market Investment.

The Stock Market Assets lose it values, a reduction in Stock Market Returns happens, we think of one year in each four years averagely. The past years' information signals that, in those years there is a positive year overcomes those with negatives years. The standard year returns of the S&P 500 index is around 11.69% during the period of 1973 to 2016. For each period, the main return holder of the assets yield is considerably varied than the average returns.

And for which the average happens in many years' worth in performance. And this would also lead to market corrections and bear markets. The table below can be related to the past S&P, Stock Market Returns all share index in each twelve months (yearly), from 2006 to 2017.

Year	Percentage % Return
2006	5.21
2007	3.21
2008	58.16
2009	-46.58
2010	32.25
2011	-3.10
2012	27.81
2013	78.81
2014	5.4
2015	-11.77
2016	-15.33
2017	52.73

Table 1: The Ghana Stock Exchange Returns (All-Share-Index)
Source: Bank Of Ghana (2018)

The table above gives the Stock Exchange Returns over 11years spanning 2006 to 2017. And during the year 2008 experience a 20% reduction within 2008 as a result of the 2007 financial crises in connections with all the known stocks in the world. The average Stock Market Return, above indicated that, at the long-run information or data for the Stock

Exchange stood at 7%. As a result, between 1950 and 2009, in considering the S&P500 for inflation and dividends the standard year returns amounted to 7.0%.

2.2. Theoretical Review

Atukoralalage et al (2010), the effect of financial crises on international stock market volatility transmission, Economic joint scientific conference (pp.1-250), Korea economic association. The paper explains the nature of such interaction between stock market returns and their volatility. They use multivariate generalized auto regression conditional heteroskedasticity. (MGARCH) and weekly data (January 1992 to June 2009)

Upon the outcome generated from the main return generation they were not able to find out any relevant effect on returns leading to the Asian crises and the current global financial crises over these four financial markets. By using the (GRACH) as their methodology their findings give adequate evidence that the 2008 global financial crises have given rise to the increase stock returns and the likelihood of its unpredictable changes across all the four markets that is USA, UK (bigger market) and Australia and Singapore (smaller market). The results indicate that the delay in the returns in the US stock market heavily influence the returns of the Australian stock market but not the other side or vice versa.

Ali and Afzal (2012),examine the respond of Pakistani and India stock market to global financial crisis which commence on the mid of 2007 to 2008. The daily stock price from January 2003 to August 2010 of Karachi stock exchange and Mumbai stock exchange which was formally the Bombay stock exchange to access the impact of the crisis on Pakistan and India stock market. The methodology employed was the EGARCH model to capture the volatility of the stock market in both country (Pakistan and India). The outcome pinpoints a negative significant impact on stock return in this market, though the effect was not strong enough with the reference to the recent financial crisis.

Sakthivel et al (2014), analyzing the effect of the global financial crisis on the volatility in Indian stock market. The study used the daily closing price of indices in the NSE and BSE between March 1st, 2005 and December 30th, 2012, were used as their analysis. The research used GJR GRACH model to gather asymmetric volatility NSE and BSE. Their result shows a negative impact of the global financial crisis on the stock return and an increase in the volatility of the Indian stock market.

Mwangi (2010) examine to know whether financial crisis have any effects on the performance of the Nairobi Stock Exchange depending on each year dataset of Nairobi stock exchange for the period of 1991-2010. The month end indices for the period generated from Nairobi stock exchange were summarized using means and variance with the help of SPSS statistical package (the outcome was presented using tables' graphs and charts). His result shows that, there is great distinction in the performance of the market on the after the financial crisis hits the major exchange despite that the effect are not very strong to permit any fear.

It is due to the inconsistency in theories reviewed in Ghana stock exchange; we want to bring up the knowledge gap to build up in finding out the effect of global financial crisis on stock market returns in Ghana specifically.

2.3. Empirical Literature Review

2.3.1. Ghana Stock Exchange All –Share Index

The Ghana stock exchange (GSE) is where shares, also known as stock that signify ownership equity of an organization who issues shares or securities are marketed. This financial asset is normally issued by large business-oriented organizations who are also obliged to pay returns to the financial instrument or shares (holders), popularly known as dividend received on investment.

The dividend or the returns would usually have relied on performance or the profitability on business as profitability is concerned. Equity share (holders) wealth or investment also increases as a result of increase in price in financial asset (FA). The stocksare normally listed and trade in the stock market that brings both stock brokers and traders (buyers and sellers). The equity which the stock markets deal with is; share, unit trust, derivatives, pooled investment products and bonds. Therefore, all these mentioned securities should be listed in the GSE before it can be traded.

The financial institutions are considerably the stock market has experienced a growth in most of the developed and developing countries over the 19th and the 20th centuries. Claesens, et al (2004) cited in Koirala (2009) states that several factors have aided in their growth such as bettering macro-economies fundamentals like monetary stability and higher economic growth. Also, the whole economic and other based capital market changes, in association of privatization of state own-enterprises, financial liberalization and a better organizational framework for equity shareholders who then give more confidence to capital stock development (Rajan and Zingalies 1998).

To find out how the GSE all-share index as a dependent variable will react based on the independent variables. This includes financial crisis, exchange rate, inflation, financial development and trade openness.

2.3.2. Financial Crisis

Financial crisis is any of a broad variety of situation where some financial asset suddenly loses a large part of their nominal value. The financial crisis has an inverse relationship on the stock market. Where there is financial crisis, individuals, investors and financial institutions who have invested in the stock market will redraw their finances from the stock market. This will therefore develop a panic among stakeholders, investors and financial institutions. This will trigger them to redraw their finances and this will therefore have a negative impact on the stock market.

Ali and Afzal (2012) which states that, financial crisis has a negative impact on stock market returns in the Pakistani and India and moreover the findings of Sakthrvel et al (2014) whose findings also gave a negative impact of financial crisis on the stock market returns on Indian stock market and this shows a consistent conclusion.

Mwangi (2010) findings also states that there is a great distinction in the performance of market on the after financial crisis hits the major exchange despite that the effect are not very strong to permit any fear in the Nairobi stock market which shows that there was a positive relationship of financial crisis on the Nairobi stock market and in the findings of Wiafe and Banor (2015) concluded that there is a positive correlation between stock exchange performance and stock market returns in Ghana and their findings also concluded that financial crisis has a negative impact on the stock market performance in Ghana.

2.3.3. Exchange Rate

This study analyzes the effect of exchange rate on stock market returns in Ghana, using the exchange rate data obtain from Bank of Ghana and the monthly market returns calculated from Ghana Stock Exchange all index from January 2000 to December 2013. The exponential generalizes auto regressive conditional heteroskedascity (EGARCH) method was used to determine the relationship between exchange rate and the stock market, and was concluded that there is negative relation relationship between the stock market and the exchange rate.

A decrease in value of the local currency leads to an increase in the stock market returns in the long run whereas an increase in the value the local currency will lead to a reduction in the stock market returns. Buys or consumers price index has a powerful relationship with the stock market; which means when there is an increase in the price of consumer will lead to an increase in the stock market.

2.3.4. Inflation

Inflation as the increase in price of goods and services reduces purchasing power of how much each unit of currency can buy. When inflation is higher the prices of inputs are higher and consumers can only buy fewer with much money, revenues and profit decline and the economy slows down for sometimes and then reaches a steady state. Consumers are ones who feels the unexpected "pinch" when goods and services cost rises. However, businesses and consumers will finally become adapted to the new price. When this happens, consumers do not want to hold cash or save more because the value of money decreases with inflation as time goes by. Investors in this case get perplexed; due to the impact inflation has on the economy and the stock market. A number of studies have looked at the impact of inflation on stock market returns, but it is so unfortunate that the results that come out from these studies are conflicting. Studies conclude that, expected inflation either positively or negatively affect stock market returns depending on the investors capacity to hedge or save guard against inflation and government monetary policy.

2.3.5. Trade Openness

Trade openness is when a country aborts all the restrictions or barriers on trading of goods and services among nations. These include; reduction of tariffs, such as import duties surcharges and non-tariffs obstacles like quotas, licenses and other requirements.

Other theories findings did not find it easy and the mystery behind the trade openness effects on GSE, the improvement in stock exchange is not easy identify, El-Wassal(2015)came out with a theoretical frame work in order to give reasons for the stock market development and its associated returns, to give a clarity number of factors that are also associated with the effects of the market improvement level and the possible development and returns. These include economic activities, political stability and economic policy among others from the model of El-Wassal,(2013) policies that gives a rapid financial sector liberalization have a direct and positive influence on the stock exchange.

In the case of Wiafe and Barnor, (2015), financial openness and stock market development in Ghana indicated that there is a positive correlation between stock exchange performance and financial openness in Ghana. Some way they also came out with another finding that, financial crisis had a negative impact on stock market development in Ghana. They also tried and came out with other variables that is considerably have impact on the stock market in Ghana which includes exchange rate, inflation and apparently the GDP per capita.

2.3.6. Financial Development

Financial development involves the establishment and expansion of institution, instrument and market that support investment and growth process. Studies on financial crises and growing market integration are becoming more evidently in finance literature (see Wongswan 2003, Gilmore and McManus 2002, Patev and Kanaryan 2003, Bekaert, Harvey and Ng 2005). With growing market integration, the direct financing effect arising from the crisis of one country can affected by other countries through foreign direct investment, reductions in trade credit and other capital flows. For example, if USA supplies capital to Ghana, a crisis in USA will reduce capital supply in the form of bank lending and other forms of investment to Ghana (Claessens and Forbes, 2004). Financial linkage is similar to trade linkages and demonstrated by Račickas and Vasiliauskaitė (2012:91) that "the debate on the relative importance of trade linkages versus financial flows continues to be unresolved. Nevertheless, most researchers agree that financial linkage and trade linkage cannot be separated when considering financial development, because most countries that are linked in trade are also linked in finance".

In conclusion, the literature review aims to highlight other findings or existing studies that has been conducted over the years. Findings like GJR GARCH model together with asymmetric volatility NSE and BSE, which examines the negative impact of the global financial crises on the stock market returns and the increase in the volatility of stock market. Gockel, also deliberated other causes of the financial crises which includes; policy certain and mistakes, rapid financial innovation, regulations and others brought the then financial crisis in July 2007.Trade openness hypothesis theories, was also used in other reviews or studies that indicated that financial crisis had a negative impact on stock market returns in

Ghana, they also tried to fish out with variables like exchange rate, inflation and apparently the GDP per capita which can be considered to have influence on the stock market returns in Ghana, Wiafe and Barnnor(2015),financial openness and stock market development in Ghana.

The chapter talked about the relationship between dependent variable and independent variables and on how the independent variables have impact on the dependent variable thus financial crisis, inflation, exchange rate, financial development and trade openness.

3. Data Description and Empirical Strategy

3.1. Data Description

This section describes the data that will be used in the study of the effect of global financial crisis on stock exchange returns in Ghana. And this financial crisis will be computed using two sections.

Firstly, the Pre-period from 2000 to 2006 and

Secondly the Post- period from 2007 to 2013

We will also denote pre- financial crisis by zero(0) and post financial crisis by value

one (1), which means; 2000 to 2006 will be denoted by zero (0) and 2007 to 2013 will be proxy by one (1). We are also using specifically data from the Ghana Stock Exchange All Share Index (GSE-ASI) will be proxy GES by stocks returns and computed by the Bank of Ghana (BOG).

It also comprises of six variables which includes; the Ghana stock market returns, financial crisis, exchange rate, inflation, financial development proxy by private credit and Trade openness.

3.2. Definition of Dependent Variable

3.2.1. Stock Exchange Returns

These are the benefits or the gains an investor receives from the stock market as reward of trust when financial assets are purchased. This returns is usually in the form of profit in the process of dealings or dividends received on investments for which these gains /or profits and benefits will usually be based on the profit pronounce by the trust company or the business oriented organization before security holders dividends are declared on time basis; daily, weekly, monthly and annually assessments etc.

The stock market returns is also the profit an investor gained on his or her investment at hand, it could be any variation amount of the assets or physical cash received by the investor in the way of interest and dividend. And usually dollar based or as rate of capital invested. These returns are not always stable due to the nature of the market it can negative or positive through the trading process. The earning can also be gain from the secondary market.

3.3. Definition of Independent Variables

3.3.1. Financial Crisis

A financial crisis is often involved with a panic or bank run whereby investor and stake holders withdraw their finance or sell their assets or financial instrument from the bank or stock market because they are frightened the value of those assets will diminish if they are kept in the financial institution. A continuous sell off the assets, can further lead to lower assets prices or more saving withdrawals. This can lead to a recession or depression of the economy and this create a negative link between the financial crisis and the stock market returns.

3.2.2. Inflation

Inflation as the increase in price of goods and services reduces purchasing power of how much each unit of currency can buy. The higher the inflation, the higher the input price and consumers buy fewer with much money, revenue and profit decline making the economy slow down. Consumers are ones who feels the unexpected "pinch" when gods and services cost rises. Investors in this case get perplexed, due to the impact inflation have on the economy and the stock market. Hence inflation is expected to be negatively linked to stock exchange returns.

3.2.3. Exchange Rate

Exchange rate is the percentage at which a country's currency can be exchanged or value against another countries currency (money). For example, Ghana cedi to US dollar (Bank of Ghana cedi 5.30ps is equivalent to 1 dollar). In the case of Adjasi et al (2008), the effect of Exchange Rate Volatility on the Ghana Stock Exchange. The purpose of the study is to look at the relationship between stock market and foreign exchange market and determined the weather movement in exchange rate have an effect on stock market in Ghana. The EGARCH model was used in establishing the relationship. Their finding concludes that, there is negative correlation between exchange rate volatility and stock market returns.

3.2.4. Financial Development

Financial development is considered as the improvement in producing information about the possible investment and allocating capital, monitoring firms and exerting corporate governance, trading, diversification, and management of risk, mobilization and pooling if savings, easing the exchange of goods and services. Private credit was used as the proxy for financial development and from an empirical demonstration, financial development have a positive effect on stock

exchange returns. The vectors of financial development include private credit, domestic credit, broad money supply, stock market capitalization and liquidity liabilities.

Private credit is a credit that is given to companies on bilateral bargaining basis which privately traded instead of public trade which includes corporate bonds and being in the premises of leaders rather than banks. This includes loans, bonds, notes or private securitization in a legal way. The financial sector that provides input or finances to the real sector for the purpose of investment (Quality base financial system) in order to generate income.

3.2.5. Trade Openness

This refers to a situation where a particular economy exposes its trade relationship or the willingness to liberalized policies between two or more sister countries for the purpose of business incorporation based on the countries policies and regulations (capital flows) with the issue of trading specifically in goods and services. And for the purposes of regulations each sister countries has the trade limits or wealth that should be exported or imported in their countries.

And in the case of Barnor and Wiafe (2015) in their findings stated that trade openness has a positive relationship with stock development in Ghana and also found out that there is a negative impact between financial crisis and stock development in Ghana.

3.3. Empirical Strategy

This section particularly presents the models that are going to be use in this study and discusses which variable will be a dependent and the independent variables and we have one dependent and five independent variables. Given the objectives the dependent variable is the Ghana stock exchange returns whiles the independent variables includes; financial crisis, exchange rate, inflation, financial development and trade openness. We also proxy financial development by private credit.

The Ghana stock exchange returns is a function of the independent variables, specifically we construct model one as follows;

$$GSER = \propto_0 + \propto_1 FC_t \qquad \qquad 3.1$$
$$GSER = \propto_0 + \propto_1 FC_t + \propto_2 ER_t \qquad \qquad 3.2$$
$$GSER = \propto_0 + \propto_1 FC_t + \propto_2 ER_t + \propto_3 INF_t \qquad \qquad 3.3$$
$$GSER = \propto_0 + \propto_1 FC_t + \propto_2 ER_t + \propto_3 INF_t + \propto_4 PC_t \qquad \qquad 3.4$$
$$GSER = \propto_0 + \propto_1 FC_t + \propto_2 ER_t + \propto_3 INF_t + \propto_4 PC_t + \propto_5 TO_t \qquad \qquad 3.5$$

GSER is proxies as Ghana stock exchange returns
$\propto_0$ represents the constant coefficient
$\propto_1$ represents the coefficient financial crisis.
$\propto_2$ represents the coefficient of exchange rate.
$\propto_3$ represents the coefficient of inflation.
$\propto_4$ represents the coefficient of financial development.
$\propto_5$ represents the coefficient of Trade openness.
If $\propto_1 < 0$, it means financial crisis negatively affect Ghana stock exchange returns otherwise financial crisis positively affect Ghana stock exchange returns where $\propto_1 > 0$.
If $\propto_2 < 0$, it means exchange rate negatively affect Ghana stock exchange returns otherwise exchange rate positively affect Ghana stock exchange returns where $\propto_1 > 0$.
If $\propto_3 < 0$, it means inflation negatively affect Ghana stock exchange returns otherwise inflation positively affect Ghana stock exchange returns where $\propto_1 > 0$.
If $\propto_4 < 0$, it means financial development (private credit) negatively affect Ghana stock exchange returns otherwise financial development positively affect Ghana stock exchange returns where $\propto_1 > 0$.
If $\propto_5 < 0$, it means trade openness negatively affect Ghana stock exchange returns otherwise trade openness positively affect Ghana stock exchange returns where $\propto_1 > 0$.
Ordinary Least Square was used to estimate the equation which is the single regression model.

3.3.1. Hypothesis Testing
Null hypothesis $H_0 : \propto_1 \propto_2 \propto_3 \propto_4 \propto_5 = 0$
This shows that the effect of the independent variable in insignificant.
Alternative hypothesis $H_1 : \propto_1 \propto_2 \propto_3 \propto_4 \propto_5 \neq 0$
This shows that the effect of the independent variable is significant.

4. Findings and Discussions

This chapter discusses the findings from the estimation of data of the study. This chapter is categorized into two sections descriptive statistics and empirical findings. The descriptive statistics outlines the basic feathers of the data in our study, in addition to the correlation coefficient which forms the basis of the quantitative analysis of our study. Empirical findings show the regression result of various independent variables from model 1to model 5.

4.1. Descriptive Statistics

This section discusses the descriptive statistics in the table 2 below.

	GSER	FC	ER	INF	PC	TO
Mean	4115.926	.5	1.175	15.927	13.944	86.258
Median	4161.2	.5	13.72041	13.72041	14.229	89.731
St.Dev	3010.063	.945	.439	7.547	1.637	17.842
Coefficient of variation	0.731	1.891	0.373	0.473	0.117	0.206
Skewness	.512	0	.850	1.000	-.310	.078
Kurtosis	.512	1	2.527	2.939	1.646	1.682
Minimum	858	0	.697	7.126	11.093	61.687
Maximum	10431.6	1	2.101	32.905	15.882	116.048
Observation	14	14	14	14	14	14

Table 2: Descriptive Statistics
Notes: GSER = Ghana Stock Exchange Returns, FC = Financial Crisis, ER = Exchange Rate; INF =
Inflation; PC = Private Credit, TO = Trade Openness

From the table above, it was notice that, Ghana stock exchange returns has a mean value of 4115.926 and a standard deviation of 3010.063 showing some degree of volatility and which is also skewed to the right. The value of kurtosis and the skewness of Ghana stock exchange returns show our distribution is platykurtic which means it is not normally distributed and for this reasons, investment comes with less risk. The mean value of financial crises which is 0.5% shows that the effect of financial crises is below average. We also observed an average exchange rate of GHC1.75. Moreover, we also revealed inflation, private credit and trade openness also have a mean value of 15.927%, 13.944% and 86.256% respectively. Also the evidence shows that private credit is the only independent variable which is skewed to the left and the rest is skewed to the right. The coefficients of variation of all the variables were computed using the ratio of standard deviation to mean. This will help us examine the relative volatilities of all the variables. We discovered that, financial crises had the highest coefficient of variation of 1.891followed by Ghana stock exchange returns 0.73. Private credit had the lowest volatility. This means financial crises is most volatile while private credit is the least volatile.

	GSER	FC	ER	INF	PC	TO
GSER	1					
FC	0.2697	1				
ER	-0.0705	0.7912	1			
INF	-0.2210	-0.5255	-0.5737	1		
PC	0.3534	0.6609	0.4082	-0.3376	1	
TO	-0.5294	-0.6715	-0.5321	0.5622	-0.1678	1

Table 3: Correlation Matrix
Notes: GSER = Ghana Stock Exchange Returns, FC = Financial Crisis,
ER = Exchange Rate, INF = Inflation, PC = Private Credit, TO = Trade Openness

4.2. Correlation coefficients

This section discusses the correlation between the variables as shown in Table 3 above.
Correlation coefficient is used to examine how strong or weak a relationship is between two variables. When correlation coefficient is one (1), it means for every positive increase in one variable there will be a positive increase in a fixed proportion in the other variable. However, when correlation coefficient is negative one (-1), it means an increase in one variable there will be a decrease in the fixed proportion of the other variable.

Table 3 represents the correlation coefficient of Ghana stock exchange returns and other variables including financial crisis, exchange rate, inflation, private credit and trade openness. Here, our main focus is one the correlation between Ghana stock exchange returns and all the independent variable. Our findings state that, Ghana stock exchange returns is positively correlated with financial crisis and private credit, except the other variables exchange rate, inflation, and trade openness which is negatively correlated. Correlation between Ghana stock exchange returns and exchange rate, inflation and trade openness are considered as strong and the rest of the variable are seen to be weak since they are positively correlated. Financial Crisis has a positive correlation with exchange rate and private credit whereas inflation and trade openness are all negative. With inflation, it has a negative correlation with Ghana stock exchange returns, financial crisis and exchange rate. The private credit also has a positive correlation with all variables except inflation and trade openness also has a negative correlation with all variables except inflation.

4.3. Empirical findings

This section discusses the empirical results based on the regressions as shown in Table 4.

	MODEL 1	MODEL 2	MODEL3	MODEL4	MODEL5
Constant	3333.73	7710.82	10834.6	7045.89	5973.95
	-1140.3	-2615.5	-4174.2	-10543	-7792.7
	[2.92]	[2.95]	[2.60]	[0.67]	[0.77]
	{0.013}	{0.013}	{0.027}	{0.521}	{0.465}
FC	1564.39	5048.6	4711.84	3960.09	-2461.1
	-1612.6	-2412.9	-2446.2	-3187.9	-3222.6
	[0.97]	[2.09]	[1.93]	[1.24]	[-0.76]
	{0.351}	{0.060}	{0.083}	{0.246}	{0.467}
ER		-5204.2	-6081	-5750.9	-3582
		-2851.6	-3002.7	-3247.6	-2510.5
		[-1.83]	[-2.03]	[-1.77]	[-1.43]
		{ 0.095}	{0.070}	{0.110}	{0.191}
INF			-120.83	-117.42	23.3632
			-125.56	-131.5	-108.43
			[-0.96]	[-0.89]	[0.22]
			{0.359}	{0.395}	{ 0.835}
PC				266.934	1282.43
				-676.21	-608.66
				[0.39]	[2.11]
				{0.702}	{0.068}
TO					-170.07
					-58.302
					[-2.92]
					{0.019}
Diagnostic					
R squared	0.0727	0.2882	0.3486	0.3597	0.6897
Adjusted R squared	-0.0046	0.1588	0.1531	0.0751	0.4958
F statistics	0.94	2.23	1.78	1.26	3.56
P value	0.3511	0.1541	0.2137	0.3523	0.0546
VIF	1.078	1.404	1.535	1.561	3.222

Table 4: Regression Results on the Effect of Global Financial Crisis on Stock Market Returns in Ghana
Notes: Values In ( ),[ ],{ } Represents Standard Error, T Statistics and the Probability Value Respectively

Critical value for t-statistics are 1% =± 2.58, 5% = ±1.96, 10% = ±1.64. Critical value for 5% F-statistics = ± 4.5
In model 1 where we have only financial crisis as the independent variable, we find that, financial crisis has a positive effect on Ghana stock exchange returns. However, when financial crisis increases so will stock market increase whereas financial crisis decreases, Ghana stock exchange returns decreases. Furthermore, when there is a 1% increase in financial crisis there will be 1564.394% increase Ghana stock exchange returns and also 1% decrease in financial crisis will lead to a 1564.394% decrease in Ghana stock exchange returns. Financial crisis is insignificant at all conversional levels therefore we do not reject the null hypothesis.

Financial crises had a positive impact on Ghana stock exchange returns. Meaning that inter financial crises is low, it will not discourage investors. Existing investors will still buy more of the financial assets and new investors will also come into the market this will make the Ghana stock exchange returns improve. This is consistent with the study ofMwangi (2010).

In model two (2), financial crisis have a positive relationship with Ghana stock exchange returns and exchange rate also has a negative relationship with Ghana stock exchange returns. An increase in financial crisiswill lead to an increase in Ghana stock exchange returns and a decrease in financial crisis will lead to a decrease in Ghana stock exchange returns. Also an increase in exchange rate will lead to a decrease in Ghana stock exchange returns and a decrease in exchange ratewill lead to an increase in Ghana stock exchange returns. Whenever there is 1% increase in financial crisis will lead to 5048.598% increase in Ghana stock exchange returns and 1% decrease in the financial crisis will lead to 5048.598% decrease in Ghana stock exchange returns. Moreover, When exchange rate increase by 1% Ghana stock exchange returns will decrease by 5204.188% and when there is a 1% decrease in exchange rate there will be an increase of 5204.188% in Ghana stock exchange returns. The financial crisis is significant at 5% and 10% therefore we reject the null hypothesis but insignificant at 1%. The exchange rate is significant at 10% so we reject the null hypothesis and insignificant at 1% and 5%.

The impact of exchange rate is negative on the Ghana stock exchange returns. This means it will depreciate the value of the cedi and it will affect the Ghana stock exchange returns. So government should pump more money into the

system and use that to stabilize the economy and there will be money in the system and people will be willing to save more and Ghana stock exchange returns will increase. This is consistent with the study of Adjasi et al (2008).

In model three (3), financial crises have a positive effect on Ghana stock exchange returns. However, an increase in financial crisiswill lead to an increase in Ghana stock exchange returns and a decrease in financial crisis will lead to a decrease in Ghana stock exchange returns. Exchange rate also has a negative effect on Ghana stock exchange returns so an increase in exchange rate will lead to a decrease in Ghana stock exchange returns and a decrease in exchange ratewill lead to an increase in Ghana stock exchange returns. Also, inflation has a negative effect on Ghana stock exchange returns making them inversely related meaning an increase in inflation will lead to a decrease in Ghana stock exchange returns and a decrease in inflation will result to an increase in Ghana stock exchange returns. When there is 1% increase in financial crisis will lead to a 4711.836% increase in Ghana stock exchange returns and a 1% decrease in financial crisis will result to 4711.836%. Moreover, 1% increase in exchange rate will result in a 6080.95% decrease in Ghana stock exchange returns and 1% decrease will result in a 6080.95% increase in exchange rate. When inflation is increased by 1% Ghana stock exchange returns will decrease by 120.8307% and when inflation is decreased by 1% Ghana stock exchange returns will increase by 120.8307%. Financial crisis is significant at 10% therefore we reject the null hypothesis and it is insignificant at 1% and 5%. The exchange rate is significant at 5% and 10% so we reject the null hypothesis and insignificant at 1%. Inflation on the other hand is also insignificant at 1% and all conversional level.

The impact of inflation on the Ghana stock exchange returns is negative so it will affect Ghana stock exchange returns badly. This means higher rate of inflation will lead to macroeconomic instability and therefore it will affect financial sectors and the Ghana stock exchange returns as a whole. When this happens purchasing power reduces likewise the real income and as a results decrease banks level of growth because savings by individuals reduces.

In model four (4), financial crises have a positive effect on Ghana stock exchange returns. However, an increase in financial crisiswill lead to an increase in Ghana stock exchange returns and a decrease in financial crisis will lead to a decrease in Ghana stock exchange returns. Exchange rate also has a negative effect on Ghana stock exchange returns so an increase in exchange rate will lead to a decrease in Ghana stock exchange returns and a decrease in exchange rate will lead to an increase in Ghana stock exchange returns. Also, inflation has a negative effect on Ghana stock exchange returns which is inversely related meaning an increase in inflation will lead to a decrease in Ghana stock exchange returns and a decrease in inflation will result in an increase in Ghana stock exchange returns. In addition, private credit has a positive effect on Ghana stock exchange returns so an increase in private creditwill lead to an increase in Ghana stock exchange returns and a decrease in private credit will also lead to a decrease in Ghana stock exchange returns. When there is 1% increase in financial crisis will lead to a 3960.088% increase in Ghana stock exchange returns and a 1% decrease in financial crisis will result to 3960.088%. Moreover, 1% increase in exchange rate will result in a 5750.851% decrease in Ghana stock exchange returns and 1% decrease will result in a 5750.851% increase in exchange rate. When inflation is increased by 1% Ghana stock exchange returns will decrease by 117.4225% and when inflation is decreased by 1% Ghana stock exchange returns will increase by 117.4225%. Furthermore, when private credit is increased by 1% Ghana stock exchange returns will be increased by 266.9336% and when private credit decreases by 1% Ghana stock exchange returns will also decrease by 266.9336%. Financial crisis is insignificant at 1% and all conversional level therefore we do not reject the null hypothesis. The exchange rate is significant at 10% so we reject the null hypothesis and insignificant at 1% and 5%. Inflation on the other hand is also insignificant at 1% and all conversional level therefore we do not reject the null hypothesis. Private credit is insignificant at 1% and at all conversional levels hence we do not reject the null hypothesis.

An increase in private credit will call the stock market returns to increase since the financial sector is able to meet the demand of the real sector (Private credit) and that will grow the investor wealth and capital, hence an increase in stock market returns.

In model five (5), financial crises have a negative effect on Ghana stock exchange returns. However, an increase in financial crisis will lead to a decrease in Ghana stock exchange returns and an increase in financial crisis will lead to a decrease in Ghana stock exchange returns. Exchange rate also has a negative effect on Ghana stock exchange returns so an increase in exchange rate will lead to a decrease in Ghana stock exchange returns and a decrease in exchange ratewill lead to an increase in Ghana stock exchange returns. Also, inflation has a positive effect on Ghana stock exchange returnswhen there is an increase in inflationwill lead to an increase in Ghana stock exchange returns and a decrease in inflation will result in a decrease in Ghana stock exchange returns. In addition, private credit has a positive effect on Ghana stock exchange returns so an increase in private creditwill lead to an increase in Ghana stock exchange returns and a decrease in private credit will also lead to a decrease in Ghana stock exchange returns. Trade openness has a negative effect on Ghana stock exchange returns and an increase in trade openness will cause a decrease in Ghana stock exchange returns and a decrease in trade openness will cause an increase in Ghana stock exchange returns. When there is 1% increase in financial crisis will lead to a 2461.111% decrease in Ghana stock exchange returns and a 1% decrease in financial crisis will result to 2461.111% increase in Ghana stock exchange returns. Moreover, 1% increase in exchange rate will result in a 3582. 005% decrease in Ghana stock exchange returns and 1% decrease in exchange rate will result in a 3582.005% increase in Ghana stock exchange returns. When inflation is increased by 1% Ghana stock exchange returns will increase by 23.36322% and when inflation is decreased by 1% Ghana stock exchange returnswill decrease by 23.36322%. Furthermore, when private credit is increased by 1% Ghana stock exchange returns will be increased by 1282.425% and when private credit decreases by 1% Ghana stock exchange returns will also decrease by 1282.425%. Henceforth, a 1% increase in trade openness will result in 170.071% decrease in Ghana stock exchange returns and a 1% decrease in trade openness will result in 170.071% increase in Ghana stock exchange returns. Financial crisis is insignificant at all conversional levels therefore we do not reject the null hypothesis. The exchange rate is insignificant at all conversional level so we do not reject the null hypothesis. Inflation on the other hand is also insignificant at all conversional levels

therefore we do not the null hypothesis. Private credit is significant at 5% and 10% so we reject the null hypothesis and insignificant at 1%. Trade openness is significant at 1% at all conversional levels so we reject the null hypothesis.

Financial crises in the long run had a negative impact on the Ghana stock exchange returnswhich means the inter financial crises is high. So investors are going to be discouraged and existing investors will withdraw their investment from the market and the new investors will also panic or unwilling to invest. Higher financial crises will lead to instability in the financial system as a result will affect the financial sectors willfully. This will therefore decrease the level of investment and then affect the Ghana stock exchange returns. This finding is consistent with the study of Ali and Afzal (2012) and Sakthivel et al (2014).

The impact of exchange rate is negative on the Ghana stock exchange returns. This means it will depreciate the value of the cedi and it will affect the Ghana stock exchange returns. This will deter foreign investors from investing into the market. Unstable exchange rates disrupt trade and investment because agents are uncertain about the specific exchange rate to use for transaction. When this happens' Ghana stock exchange returns will run down.This is consistent with the study of Adjasi et al (2008).

The impact of inflation on the Ghana stock exchange returns is positive so its effect on Ghana stock exchange returns will be good. This means lower rate of inflation will lead to macroeconomic stability and therefore it will affect financial sectors and the Ghana stock exchange returns positively. When this happens purchasing power increases likewise the real income and as a results increase banks level of growth because savings by individuals increases.

The positive impact of private credit will call the stock market returns to increase since the financial sector is able to meet the demand of the real sector (private credit) and that will grow the investors' wealth and capital, hence an increase in stock market return.

The impact of trade openness on Ghana stock exchange returns is negative, meaning that, the liberalization of stock market is very low which is not making the financial market to expand and many people may not invest in the stock market that will affect the financial sectors negatively and will cause unemployment in the economy and real income will reduces. Therefore financial sector liberalization should be encouraged. This study is inconsistent with the study of El-Wassal,(2013) and Barnor and Wiafe (2015).

4.4. Diagnostic Statistics. (Relevance of the findings)

The diagnostic statistics looks at the overall model, which is the relevance or qualities of the findings. This includes testing for the coefficient of determination, adjusted coefficient of determination, the overall or joint significance of the model and the multi-collinearity.

Coefficient of determination (R^2); measures the changes in the dependent variable caused by changes in the independent variable. In model 1 to 5 the coefficient of determination is 7.27%, 29%, 35%, 36% and 68% respectively. This means, about 7.27% in model 1 of the variation in the dependent variable Ghana stock exchange returns(GSER) was caused by the changes in the independent variable. Meaning we are able to explain 7.27% of the captured variable whiles the 92.8% comprise error term or unexplained term. Moreover, in model 2, 3, 4 about 29%, 35%and 36% of the variation in the dependent variable is caused by changes in the independent variables respectively. This means, we are able to explain 29%, 35% and 36% of the captured variable whiles the 71%, 65% and 64% comprise error term or unexplained term. In model 5 the coefficient of determination is 68% and this is the only model that had the coefficient determination above 50%. This means, about 68% in the model 5 of the variation in the dependent variable is caused by changes in the independent variables. However, we are able to explain 68% of the captured variables whiles the 32% comprise error term or unexplained term in model 5. Due to the presence of all the variables in model 5, the coefficient of determination is able to give us the above the minimum of 50%.

After adjusting the R^2in model 1, 2, 3, 4 and 5 we had -0.46%, 16%, 15%, 7.51%and 50% respectively. We observed that about -0.46%, 16%, 15%, 7.51% and 50%of variation of the stock market returns, caused by changes in the independent variables.

The overall or joint significance of the model in all the five model is 0.94, 2.23, 1.78, 1.26 and 3.56 respectively. This shows all the models are insignificant at 5% because they are all below the F-statistical critical value of 4.5therefore we do not reject the null hypothesis.

The multicollinearity demonstrates how the independent depends on each other. This is measured by the variance inflation factor (VIF). It is calculated as one divided by tolerance (1-R^2). If the variance inflation factor (VIF) is less than ten (10) there is no multicollinearity and when it is greater than ten there is multicollinearity. From our observation in Table 4 model 1 to 5 had 1.078, 1.404, 1.535, 1.561 and 3.56 respectively. This shows, there is no multicollinearity in all the five models so the independent variables do not depend on each other for their changes.

4.5. Conclusion and Policy Implications

Considering the regression outcome, our study has proven that, inflation and private credit are statistically relevant determinants of stock market returns in Ghana and has a positive effect on it. Moreover, our outcome also gives a negative impact of financial crises, exchange rate and trade openness on the stock market returns. However, in table 4.1, financial crisis had the highest volatility followed by Ghana stock exchange returns. Financial crisis and Ghana stock exchange returns were all skewed to the right and the kurtosis showed their distributions to be platykurtic which means they are not normally distributed and for this reason investment comes with less risk.

Policy implications are that; the policy makers in Ghana should liberalize their stock market or financial systems more internationally in order to conquer the globe for the purpose of attracting foreign investors that will lead to a reshape of Ghana's stock market and that will bring an increase of the stock market returns of the investors. Furthermore,

policy makers need to keep more reforms on inflation or macroeconomic stability. This reason that when there is macroeconomic instability the investors lose confidence in the stock market that will inhibit in the stock market returns. Again the exchange rate as a regulation of money, the government can either restrict the foreign currency or make it abundance or set a mid-point value for the cedi allowing it to trade in a certain range just like the Chinese government policies. In addition policy makers should also be conscious about the heat of financial crises. Last but not the least; financial system should be able to supply the need of the real sector which brings about a balance of input in the financial sector. Also government should stabilize prices and maintain balance of payment equilibrium.

If policy makers are able to put all these measures in place, it will lead to an increase on stock market returns in Ghana.

5. Policy Recommendations

The study prevails a positive long run correlation between the explained variables or independent variables and the Ghana stock exchange return (GSER) which reveals that financial crisis, exchange rate, inflation, private credit and trade openness plays an essential role on stock market returns in Ghana as a whole. Due to this essentials the government with the aid of bank of Ghana and other policy makers (stakeholders) particularly the ministry of finance should build and affirm a proceed by implementing policies for the indicators (financial crisis, exchange rate, private credit, trade openness and inflation) by putting in place a new and improved form or conditions that will lead to an increase in the stock market returns. The most effective variables are the indicators of stock market returns therefore to improve in the stock market returns the policy bodies or the government of Ghana has to make sure that there is a continuous reform of policies that will lead to an improvement on the stock market returns in Ghana. This will actually bring hope and confidence of stock holders in the economy of Ghana as a whole when there is a macroeconomic stability. The financial crisis has a major impact on the stock market return in

Ghana and trends for a long time (Fourteen years), so policy makers should be alert in changing policies when the world stock market experiences crisis in order to be proactive instead of reactive so that investors will not be disappointed in their investment in those financial assets. They should also ensures that exchange rate are being supervised and manage to encourage investment within the economy whiles the stabilization of inflation should be the target for policy makers in order to promote investment within the economy as well as maximizing the returns on stock returns. Private credit should also be encouraged and adequate enough within the economy in order to attract investors. Policy makers should liberalization and integration of stock market that will increase the worth of investors.

6. References

i. Afzal, R. A. (2012). impact of global financial crisis on stock market: evidence from Pakistan and India.
ii. Agyeman, C. A. (2010). how the Ghana stock exchange can be improved. Ghana.
iii. Aman, D. A. (n.d.). global financial crisis and market reactions: evidence from the Karachi stock exchange. Pakistan.
iv. Anspach. (2018, December 18). Ghana stock exange. Retrieved from wikipedia: http://en.m.wikipedia.org
v. Ashraf, A. H. (2006). Stock Market Volatility and Weak-form Efficiency : Evidence fro an Emerging Market. Pakistan.
vi. Charles Komla Delali Adjasi, S. K. (2008). effect of exchange rate volatility on the Ghana stock exchange (Vol. 3). Ghana. Retrieved from www.researchgate.net
vii. Gockel, D. F. (n.d.). the world financial crisis and its implications for Ghana.
viii. Gyan, M. K. (2015). factors influencing the patronage of stocks on Ghana Stock market.
ix. Jordan, R. W. (n.d.). fundamental o corporate finance (ninth (9th) ed.).
x. Kenton, W. (2018, July 19). Platykurtic. Retrieved from Investopedia: www.investopedia.com
xi. Mwangi, M. M. (2010). The Effect of Financial Crisis on the Performance of Nairobi Stock Exchange. Nairobi, Kenya.
xii. Sakthivel, K. V. (2014). impact of global financial crisis on stock market volatility: evidence from India. India.
xiii. Udoka Bernard Alajekwu (M.Sc.), V. N. (2013). Trade Openness, Stock Market Development and Economic Growth of Nigeria (Vol. 4). Retrieved from http://www.iiste.org
xiv. Wiafe, C. B. (2015). Financial Sector Openness and Stock Market Development in Ghana (Vol. 6). Retrieved from http://www.iiste.org
xv. Zucchi, K. (n.d.). CFA. Retrieved from investopedia: http//:investopedia.com