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COLLEGE OF HUMANITIES AND SOCIAL SCIENCES
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IMPACT OF FINANCIAL CRISIS ON THE FLUCTUATIONS OF NIGERIAN STOCK MARKET DEVELOPMENT

BY

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THESIS SUBMITTED TO THE DEPARTMENT OF ECONOMICS OF THE COLLEGE OF SOCIAL SCIENCES AND HUMANITIES, KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY, IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR AWARD OF MASTER OF SCIENCE DEGREE IN ECONOMICS

OCTOBER, 2016

DECLARATION

I hereby declare that this submission is my own work towards the M.Sc Degree in Economics and that, to the best of my knowledge, it contains no material previously published by another person nor material which has been accepted for the award of any other degree of the University, except where due acknowledgement has been made in the text.

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DEDICATION

I dedicate this research work to my father, Mr Chidimma Imo and my immediate family.

ACKNOWLEDGEMENT

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ANOVA – Analysis of Variance

ASI – All Share Index

CBN – Central Bank of Nigeria

DFC – Dummy Variable for Financial Crisis

EGARCH – Exponential Generalised Autoregressive Conditional Heteroskedastic Model

EXR – Exchange Rate

GARCH - Generalised Autoregressive Conditional Heteroskedastic Model

GDP – Gross Domestic product

INF – Inflation rate

MCA – Market Capitalisation

MBS- Mortgage-Backed Securities

NBS – National Bureau of Statistics

NSE – Nigerian Stock Exchange

OLS – Ordinary Least Square

SEC – Securities and Exchange Commission

USA – United States of America

ABSTRACT

Musleh (2009) studied the implications of the global financial on macroeconomic and development policies in Pakistan and discovered the financial crisis led to the fall of liquid assets, gradual economic development, currency value and equity prices decline, etc. According to Jenrola & Daisi (2012), the collapse of the Nigerian Stock Exchange is not credited to the global financial crisis but as a result of the volatility of macroeconomic variables. Previous studies conducted revealed divers results on the effects of the global financial crisis on the stock market covering shorter periods of analysis. This study is intended to examine impact of financial crisis on the fluctuations of Nigerian stock market Development taking into account a longer period analysis from 1990 to 2014. The study used the OLS regression technique to examine the magnitude of the effect of the financial crisis on the fluctuations in the Nigerian stock market development using annual time series from 1990-2014. The study revealed that financial crisis has had no significant on the development of the Nigerian stock market and so does inflation. Gross domestic product and exchange rate rather had an effect on the development of the Nigerian stock market. The study therefore recommended that policy makers make efforts to implementing favourable policies or measures aimed at improving economic growth and reducing the rate of inflation in the economy, regulatory authorities implement policies aimed at stock market development by encouraging more domestic currency purchase which yield in country's exchange rate appreciation, the Nigerian stock market should engage in activities which improve stock market development, regulatory authorities ensure transparent and fair trading transactions and dealings in the Nigerian stock market.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The global financial crisis can be traced to the period of subprime mortgage crisis which occurred in the United States of America (USA) in 2007 spreading to other parts of the world and the economy as a whole. The crisis also affected some developed and developing economies such as Europe, United Kingdom, Asia, Japan, Nigeria, etc. (Sere-Ejembi, 2008). The global financial crisis brought about adverse effects in the economy such as credit and liquidity crunch, declining consumer demand, loss of jobs, downfall of the stock market, decreasing output and other various macroeconomic volatility indicators (Steinberg, 2008).

Prior to the global financial crisis, the Nigerian stock market was among the most rewarding financial institutions in the economy as a result of the banks consolidation exercise in 2004 leading to a rise in All share index (ASI) and Market capitalisation (MCA) to about 66,371 points and ₦12.64 trillion respectively in 2008 (George, 2008; Ajakaye & Fakiyesi, 2009).

In the early part of 2008, the Nigerian Stock Exchange (NSE) had all share index and market capitalisation of 58,580 listings and N10.264 trillion respectively. The all share index and market capitalisation continued to rise till it attained its highest value of 66,371 points and ₦12.64 trillion respectively at the close of 2008 first quarter. Subsequently after it attained its highest value, all share Index dropped inevitably by 20% which persisted till it ended up with 27.9% decline (George, 2008; Ajakaye & Fakiyesi, 2009).

The global financial crisis persisted bringing down market capitalisation to about ₦5.4 trillion during the fourth quarter of 2009 (Aluko, 2008 and Olaoye, 2010). This

disclosed negativity from the first quarter of 2008 to fourth quarter of 2009 of which All share index and market capitalisation went short by about 67% and 62% as a result of the global financial crisis on the Nigerian stock market (Ajakaye & Fakiyesi, 2009).

The Nigerian stock market witnessed instability in 2009 third quarter arising from declining market indices due to constant fall in share prices. The resultant effect was a capital market that was unfavourable and less attractive to investors after its drastic decline between 2008 and 2009.

Market capitalisation in the Nigerian Stock Exchange (NSE) decreased to ₦5.23 trillion in the concluding week of September 2009 from ₦6.18 trillion at the opening week of that quarter. Also, all share index closed at 22,507.08 basis points at the close of September 2009 from 22,861.55 basis points initially in the quarter, signifying a decline. This trend was as a result of the decline in share prices of banks which accounts for 60% of the NSE market capitalization. Consequently upon this development, all capital market operators were mandated by Securities and Exchange Commission (SEC) to put a stop to periodic registration with a view to improving capacity (Okeke, 2009).

Total market value of 309 listed securities on the exchange rose by 159.6% to close at N13.295 trillion by the end of 2007. The increase in market capitalisation was as a result of price appreciation. Market capitalisation of 212 equities listed accounted for N10.301 trillion or 77.5% of the aggregate market capitalisation. All share index also increased by 74.73% or 24,800.92 points to close at a historic value of 57,990.22 points in 2007 compared to the previous year which closed at 33,189.30 points. Its performance revealed a positive improvement in the prices of a large number of quoted equities.

As at January 2011, the capital market closed at a growth of 8.3% as the Nigerian Stock Indicator grew from 24,770.52 points to close at 26,830.97 points. Market capitalisation of equities listed summed up to ₦675 billion to close at ₦8.575 trillion coupled with the reforms introduced into the financial system and the market regained itself back in 2010. The capital market gained better performance later in terms of value and volume of shares traded. A commitment of about ₦104.04 billion was made by investors on 10.84 billion shares in January 2011 revealing an increase of 114% above ₦48.65 billion which was invested in 8.63 billion shares in 2010. The capital market also experienced some volatility between end of January and beginning of February 2011. Looking at the investments in the first few days of that year, investors have witnessed higher appreciation that is higher than growth posted by index. Notwithstanding year to date growth of index still being below 10%, some stocks posted growth of between 18% and 22% (Ogoh, 2011).

As at March 13, 2012, All Share Index went up by 0.65% to close at 21,227.90 points in contrast to its rise by 0.67% revealed in the records of the previous day closing at 21,091.36 basis points. Market capitalisation in the Nigerian stock market appreciated by ₦6.69 trillion greater than the rise by ₦44.6 billion revealed in the previous day's records closing at ₦6.65 trillion. Volume of transaction in equities declined by 15.6% resulting from an exchange by the investors of 243.45 million shares valued at ₦4.45 billion traded on 4,165 transactions in the stock market the previous day leading to gain in the market (Johnson 2012).

The Nigerian Stock Exchange (NSE) was formed in the year 1960 and was referred to as Lagos Stock Exchange at that period. In December 1977, it became known as the Nigerian Stock Exchange having its branches founded in the key cities of the country. In May 2009, the exchange had 295 listed securities constituting of 41 federal government stocks, 47 with a

total of ₦9.45 trillion. Also as at December 2013, there were 200 companies listed on the exchange having ₦12.88 trillion as its total market capitalisation (Nigerian Stock Exchange Facts Book, 2014).

1.2 Statement of Problem

The 2008 global financial crisis was the most unfavourable crisis ever since the great depression of the 1830s and 1930s. It became obvious in September 2008 as a result of its collapse in various big companies based in the United States of America. Causes such as decline of bank stock prices, reduced level of production by firms and increased cost of goods resulting from increased level of demand by the society which led to financial crisis were reported for months prior to September 2008 in several business journals (McClure & Morton, 2008).

Market capitalisation of the Nigerian Stock Exchange witnessed a profound recess in activity with an extreme 45.8% decline in 2008 and recollected the period in 2007 when the market rose by 74.7% showing a significant fall (Ajakaye & Fakiyesi, 2009).

According to Udeme (2009), market capitalisation of more than 303 listed equities worth ₦10.18 trillion in 2004 consistently appreciated to ₦12.4 trillion in March, 2007 indicating its optimum record ever attained since its 48 years of operation. Market capitalisation and all share index also declined to ₦3.2 trillion and 31,450.78 respectively at close of 2008.

According to Jenrola & Daisi (2012), the collapse of the Nigerian Stock Exchange is not credited to the global financial crisis but as a result of macroeconomic variables volatility in Nigeria such as unfavourable exchange rate, inflationary pressure, insufficient infrastructural facilities, etc.

Olowe (2009) also examined the effect of the global financial crisis on stock return response and Nigerian stock market instability with the use of EGARCH model. The study reported that stock returns and its instability are free from the financial crisis gravity due to low exposure of the Nigerian stock market to the foreign society.

Khlor (2009) threw more light on how finance and international trade became the main ways through which western crisis spread to developing economies. In the case of finance, the transmission is in form of toxic assets, foreign capital flow, liquidity crisis and foreign domestic investment. He discovered that the value of export declined by 46% in Japan, 44% in Taiwan, 40% in Singapore, etc

Musleh (2009) studied the implications of the global financial crisis on macroeconomic and development policies in Pakistan and discovered that financial crisis led to fall of trade in goods and services rate, currency value decline, equity prices decline and interest rate increase declined on stock price index.

Studies carried out previously indicated diverse results on the effects of the global financial crisis on the stock market and the economy covering shorter periods of analysis. This study is however intended to examine the impacts of the financial crisis on the fluctuations of Nigerian stock market development taking into account a longer period of analysis.

1.3 Objectives of the Study

The main objective of the study is to examine the impact of the financial crisis on the fluctuations of Nigerian stock market development.

The specific objective of the study is:

- To examine the trend of market capitalisation.

1.4 Research Hypothesis

The study seeks to validate the following hypothesis:

H_0 – Financial Crisis has no effect on the fluctuations of the Nigerian stock market development

H_1– Financial Crisis affects the fluctuations of the Nigerian stock market development

1.5 Justification and Significance of the Study

This study is significant in the sense that the Nigerian stock market is extremely essential for the growth and development of the financial and industrial sectors of the country as a whole. This study will be useful to financial institutions, private investors, financial analysts and government which constitute the key operators in the stock market in understanding the effects of the crisis and establish guidelines, legal framework in relation to lending to avoid situations resulting in crisis.

This study is useful to both to the financial and non-financial institutions at national and international levels because the crises affects various aspects of life such as multinational firms which operate directly or indirectly around the world will discover the negative effects brought about by the financial crisis and take measures to kick against such occurrences in the future by diversifying their portfolio.

This study is significant in providing the public investors with investments to improve their process of decision making by imparting them with the knowledge of selecting between medium-term and long-term investments as compared to short term investments that usually turn into gambling.

1.6 Scope of the Study

This research intends to study and examine the impacts of financial crisis on the fluctuations of Nigerian stock market development. The research digs into a period of 25 years starting from 1990 to 2014.

1.7 Organisation of the Study

The study comprises five (5) chapters. Chapter One introduces the background to the study, statement of problem, objectives of the study, research hypothesis, justification and significance of the study, scope and limitations of the study, methodology and organisation of the study. Chapter two reviews relevant literature. Chapter three entails the method for the study. Chapter four presents data analysis and discussion of results. Chapter five covers the summary of findings, conclusions and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter entails a review of literature which consists of theoretical literature, conceptual framework and empirical literature.

Under the theoretical literature, models/theories related to the study were reviewed. In the empirical literature, various empirical studies related to the study were reviewed and the conceptual framework is a summary of the ideas or concepts of the study.

2.1 Theoretical Literature

2.1.1 Concept of Financial Crisis

Financial Crisis is generally used in conditions where a greater portion of the value of financial institutions or financial assets is lost. Conditions such as stock market crashes, currency crisis and sovereign default are also referred as financial crisis (Kindleberger & Aliber, 2005; Laeven & Valencia, 2008).

The global financial crisis traceable to the subprime mortgage crisis began in the US in 2007 and later affected several financial sectors of the economy. The crisis also affected developed economies such as United Kingdom and Japan. In the Nigerian stock market, the effects of the crisis became obvious in 2008 first quarter. Market indicators across the world stock market inclusive of Nigeria began to decline resulting in adverse economic growth (Sere-Ejembi, 2008).

According to Okereke (2009), the 2008 global financial crisis (GFC) led to a decline in equity market capitalisation from ₦12.64 trillion on 30th May, 2008 to ₦6.21 trillion on 16th December, 2008 prior to its closing at ₦9.56 trillion on 31st December, 2008 which was as a result of the weak position of banks liquidity, lack of currency flow caused by a fall in the public sector, surplus withdrawals and stock value shortfalls by the public demanding banks profits to fall as shown in the financial reports.

The Nigerian stock market collapse was due to the market capitalisation decline from ₦13.5 trillion in the earlier period of 2008 to below ₦4.5 trillion in the consistent period of 2009 which brought about consequences such as confidence in the Nigerian economy been lost, investors rather changing naira to foreign currencies and resulted in worsening the exchange rate as compared to the naira. This also caused investors' large sized losses in the stock market and exposure of stock broking firms/investors to banks. The crisis also brought about credit crisis in the economy due to insufficient funds by banks to give to productive sectors resulting in interest rate being high (Olisaemeka, 2009).

2.1.2 Causes of Financial Crisis

Financial crisis can be attributed to various causes which include:

- Speculations – Conventionally, homes were handled as investments such as stocks, but later revolutionized during the period of housing expansion which caught the interest of uncertain buyers rendering assumptions in real estate becoming a determining factor.

  In 2006, 22% of homes were bought for investment reasons meaning about 40% of acquired homes were not major houses; thus, uncertain/risky purchase brings about a decline in prices of homes (Crotty, 2008).

- Poor credit rating – As a result of security routines, credit rating agencies acquire the propensity to allocate investment-rank rating to mortgage-backed securities (MBS) resulting in the occurrence of high default rate of loans bundled and passed on to others (Black's Law Dictionary, 2008)

- High-risk loans − There seems to be common understanding that swift credit growth phases could be followed by slacking lending standards (Dell'Ariccia et al, 2008).

2.1.3 Theories on Fluctuations in Stock Market Development

2.1.3.1 Efficient Market and Fluctuations in Stock Market Development

This efficient market theory proposes there is impossibility of surpassing the stock market since the stock market efficiency drives the integration of existing prices of shares at all times and shows every adequate data. However, this implies that stock are traded regularly at values which are reasonable on the stock exchange resulting in the impossibility of purchasing stocks that are underestimated or sell stocks at overestimated values.

The efficient market theory which is exceptionally incorrect initiated a disastrous combination of lax controls, asset bubbles, etc and instruments that are complex resulting in the present situation at hand (Grantham, 2011).

According to Fama (1970), efficient market theory (EMH) says that securities prices depict recognised information which in turn has an effect on their value. Efficient market hypothesis could be defined in various ways depending on the presumed information level such as preceding prices of securities, widely accessible and internal information, etc. However, regardless of the employed definition, EMH holds no statement of the market price being

constantly accurate. On the other hand, the hypothesis most often indicates inaccuracy in the market prices if both the current and future information are taken into account.

However, the hypothesis holds that given any fixed time, whether the prices in the market seem to be very high or low cannot be simply ascertained. Thus, market prices are in their present state for several beneficial purposes notwithstanding the fact that history has presumed market prices to be so incorrect. If the hypothesis is correct or false gives no justification to chief executive officers of collapsed financial organisations or the regulators for their deficiency to the level of risks presented to the economy's financial stability by the subprime mortgage-backed securities (Siegel, 2009).

From the researcher's perspective, the theory also does take into account other factors such as market capitalisation, number of shares traded, market index which also have an impact on stock market and has several unanswered questions such as whether the stock market prices are inaccurate or not which have not been proven practically. Thus, there are limitations as regards this theory and therefore cannot be applied in this study.

2.1.3.2 Wealth Effect and Fluctuations on Stock Market Development

Wealth effect can be defined as the tendency of people consuming more given additional assets. It is also when the value of stock portfolio increase as a result of rising prices of stocks leading to investors spending more. The principle of this theory is that as equity value increases, wealth and disposable income rises making consumers and investors at ease to spending more. The wealth effect has developed a rising concern as a result of the rising number of investors investing leaving the Federal Reserve with little control of the prices of stocks.

A rise in the value of an asset for a continuous time period leads to individuals spending more money in buying cars and on luxurious vacations. Most of the Wall Street analysts presume wealth effect to be the cause of the present day's negative saving rate.

Analysing stock prices instability from the wealth effect perspective serves as another reason leading to stock prices being the forerunner of the country's economic activities. However, due to the direct impact stock market instability has on aggregate spending, the economy can be determined from the stock market. As stock market increases, investors become richer and consume more resulting in economic expansion. However, a fall in prices of stock leads to reduced wealth and consumption by investors bringing about gradual growth of the economy. Another reason for stock price power on economic activities is the fact that the market is progressive. With regards to stock market, the fall in value of shares traded led to a decline in the wealth effect of investors causing investors to rather capitalise their income in real estate properties instead of shares due to the fall in the prices of shares (www.oppapers.com).

2.2 Conceptual Framework

The conceptualisation of this study summarizes the ideas on the relationship/correlation between the independent and dependent variables depicting a positive (significant) or negative relationship between the variables.

According to Ogun & Iyoha (2005) using the granger causality model discovered a statistically significant relationship between real gross domestic product (GDP) and market capitalisation in the Nigerian stock market. It was revealed that economic activities in the nation are promoted by stock market.

Onaolapo et al (2012) indicated a negative relationship between exchange rate and market capitalisation, which implies that as exchange rate rises market capitalisation declines indicating an insignificant relationship between the variables.

Onaolapo et al (2011) indicated a negative relationship or correlation between inflation rate and market capitalisation with the use of OLS regression technique implying that the higher the inflation rate, the lower the market capitalisation.

Jenrola & Daisi (2012) discovered a positive relationship between global financial crisis and market capitalisation which furthermore implies a decrease in market capitalisation in the short run as a result of the global financial crisis.

This framework is captured in the figure below.

Independent Variable   **Dependent Variable**
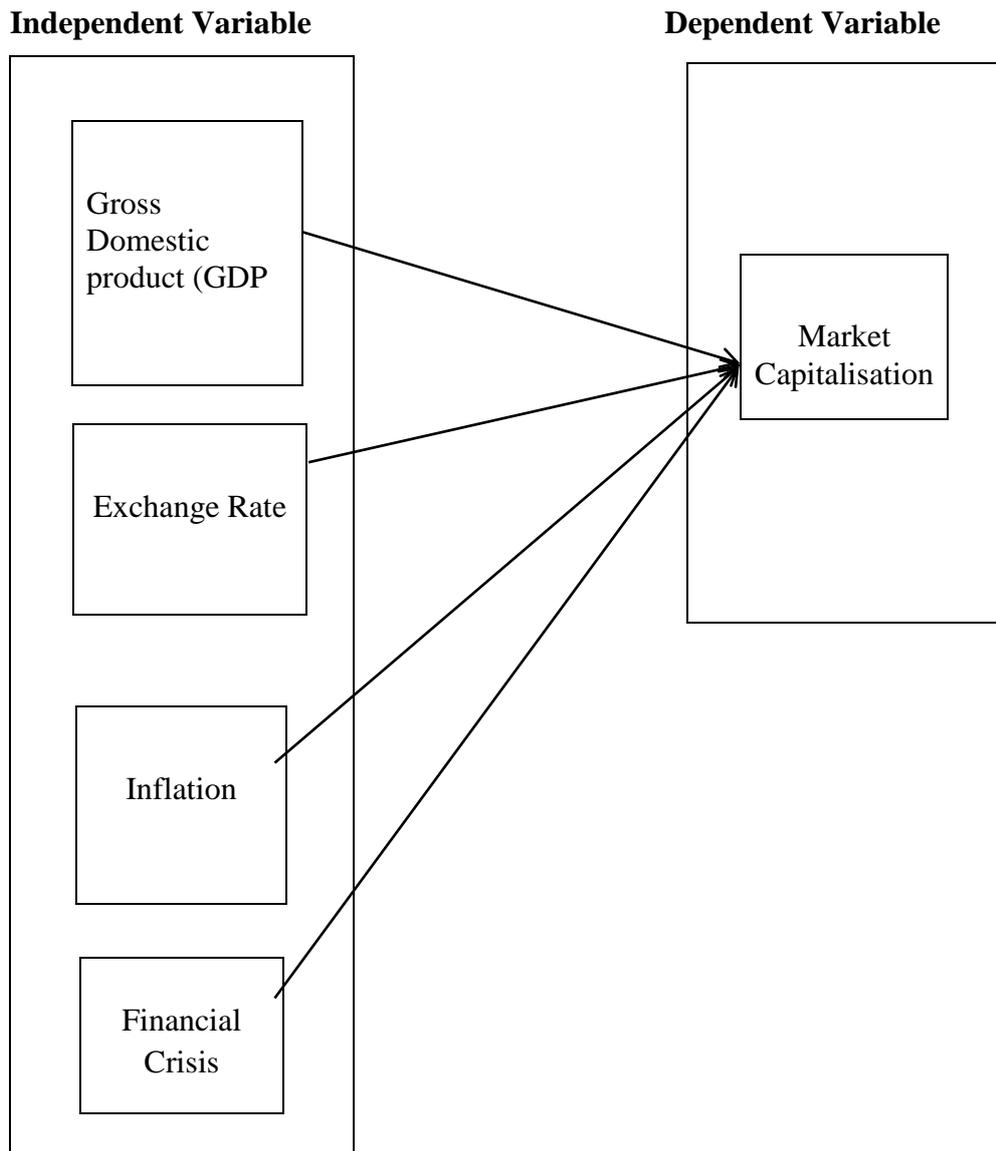
Source: Conceptualised by the Researcher (2016)

The justification of this framework focused on the point that there is a positive relationship between gross domestic product and market capitalisation, financial crisis and market capitalisation and a negative relationship between exchange rate and market capitalisation, inflation and market capitalisation implying gross domestic product and financial crisis have a positive impact on market capitalisation while exchange rate and inflation rate have a negative impact on market capitalisation.

2.3 Empirical Literature

Alper & Yilmaz (2004) used GARCH model in investigating the relationship between Istanbul and other prominent stock markets with emphasis on the financial crisis which started in Turkey in 1994, Asia in 1997 and Latin America from 1998-2001 and revealed international contagion within the stock market. The findings from this study also conforms to that of Musleh (2009) examining the implications of macroeconomic and development policies in Pakistan with emphasis on the global financial crisis with use of empirical econometrical approach demonstrating financial crisis led to fall of trade in goods and services, currency value decline and equity prices decline.

Mun et al (2008) applied the causality test on annual Malaysian data for periods 1977-2006 and analysed to ascertain the relationship between the stock market and the economy. The findings showed a causal relationship exists between stock market and the economy. The research showed that expectations for future economic activities are created through looking at the previous economic trends. The findings from this study disputes models emphasizing adverse aspects of stock market and the economy (Levine & Zervos, 1998).

Olowe (2009) examined the effect of the global financial crisis on the response of stock return and Nigerian stock market instability with the use of EGARCH model and discovered stock returns and its instability in Nigeria are relieved of the financial crisis gravity due to low exposure of the Nigerian stock market to the foreign society. The findings of this study is however disputes from that of Adamu (2010) examining the impacts of financial crisis on Nigerian stock market volatility using standard deviation and variance analysis and further splitting the data into pre and post financial crisis period demonstrated stock market volatility went up throughout the financial crisis period.

Jenrola & Daisi (2012) examined the effects of global financial crisis on the Nigerian stock market with the use of time series data cutting across periods 2000-2008. Simple regression analysis was applied to this research showing the failure of the Nigerian stock exchange which was not as a result of the global financial crisis but due to macroeconomic variables volatility such as inflationary pressure, insecurity problems, insufficient infrastructural activities, etc. This finding was consistent with that of Yakubu & Akerele (2012) which show that the collapse of the Nigerian stock market could not be attributed to the global financial crisis but as a result of the instability of macroeconomic variables in the economy.

Ifionu (2010) examined the effect of the financial crisis on the Nigerian stock exchange with the use of times series cutting across periods 1989-2009. Secondary data was used. Ordinary Least Square (OLS) technique was applied to this study revealing financial crisis has a positive relationship with the Nigerian stock market meaning the financial crisis affected the Nigerian stock exchange. The finding from this study is consistent with those of Unuakpor (2010) and Onaolapo et al (2011) with the use of OLS technique demonstrating financial crisis has a positive impact on the Nigerian stock market.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter consists of four sections, the first section presents research design, section two presents data type and sources, section three entails model specification, section four defines variables, section five entails a priori expectations for the study, the last section discusses the estimation technique used in analysing the data collected for the study.

3.1 Research Design

The main aim of this study is to examine the impact of financial crisis on the fluctuations of Nigerian stock market development. To achieve this objective, explanatory type of research design will be used. The explanatory type of research helps to identify and examine the relationships between the variables under consideration (Marcyzk et al, 2005). However, in this study, the explanatory research design was employed to examine the relationship of the stated variables. A time series data study design was used in obtaining the parameter estimates of the model (Gujaratti, 2004).

3.2 Data Types and Sources

Secondary data was used to analyse the impact of financial crisis on the fluctuations of the Nigerian stock market development. Annual data was sourced from the National Bureau of Statistics (NBS) and WDI data tables for the period of pre and post financial crisis spanning 1990-2014. The data containing the variables which include Market Capitalisation (MCA) and Exchange Rate (EXR) were sourced from the National Bureau of Statistics statistical

tables. Gross Domestic Product (GDP) and Inflation Rate (INF) were sourced from WDI data tables for the period of analysis.

3.3 Model Specification

The study adopted the model of Onaolapo et al (2011) evaluating the effect of global economic meltdown on capital market performance. The model specified in its functional form is:

$Y = f(X_1, X_2, X_3, X_4, D_v)$

Where,

Y = Market capitalisation

X_1 = Market share index

X_2 = Exchange rate

X_3 = Inflation rate

X_4 = Interest rate

D_v = Dummy variable for economic crisis period to distinguish the pre economic crisis and post economic crisis periods.

This model was modified to suit the study. The models in its functional and econometric form are:

$MCA = f(EXR, INF, GDP, DFC)\dots\dots\dots\dots\dots\dots\dots.(i)$

$MCA = \beta_0 + \beta_1 EXR + \beta_2 INF + \beta_3 GDP + \beta_4 DFC + \mu\dots\dots\dots .(ii)$

Where,

MCA = Market Capitalisation

EXR= Exchange Rate

INF = Inflation Rate

GDP = Gross Domestic Product

DFC = Dummy Variable for Financial Crisis

β_0 = Intercept

μ = Stochastic Variable

β_1, β_2, β_3 and β_4 are coefficients of the explanatory variable.

3.4 Definition of Variables

Market capitalisation refers to the market value of the outstanding shares of a company and can be calculated by multiplying the prevailing share price by the total number of company's outstanding shares (Okonkwo et al, 2014)

Exchange rate (EXR) is the price of one currency in terms of another currency. It is measured as average cumulative mean of a country's currency to another currency such as average cumulative mean of naira to dollar (Abubakar, 2014).

Inflation rate is the percentage change in the value of consumer price index (CPI) on an annual basis and can be calculated by using the consumer price index (CPI) as base.
Gross domestic product (GDP) refers to the value in monetary terms of goods manufactured and services created in the geographical limits of a country over a given time period. It represents the economic growth of a country (Olokoyo et al, 2011).

Financial crisis is mostly used in conditions where a higher portion of the value of financial institutions or assets is lost (Kindleberger & Aliber, 2005; Laeven & Valencia, 2008). Financial crisis can be measured through indicators such as balance of payment deficit, level of capital inflows, level of exports and imports, current account deficit, losses in reserves, level of returns on assets, etc. The dummy variable for financial crisis was used to represent the period of no financial crisis and period of financial crisis denoted as 0 and 1 respectively.

3.5 A priori Expectations

According to Onaolapo et al (2011) studies on the evaluation of the effect of economic meltdown on the capital market, exchange rate (EXR) is expected to have negative insignificant relationship with market capitalisation (MCA), thus having $\beta_1 < 0$ which implies that exchange rate appreciates, market capitalisation falls.

According to Onaolapo et al (2011), inflation rate is expected to have negative insignificant relationship with market capitalisation, thus $\beta_2 < 0$ implying that as inflation rate increases, market capitalisation declines.

According to Olokoyo et al (2011) studies on the empirical analysis of the effect of market crisis on economic growth, GDP is expected to have positive significant effect on market capitalisation, thus $\beta_3 > 0$ which implies that as GDP rises, market capitalisation rises.

According to Yakubu & Akerele (2012) studies on impact of global financial crisis on the Nigerian stock exchange, financial crisis (DFC) is expected to have positive insignificant effect on market capitalisation, hence $\beta_4 > 0$.

3.6 Method of Analysis

Relevant data are analysed to determine the impact of the financial crisis on the fluctuations of Nigerian Stock Market Development using the Ordinary least Squares (OLS) regression technique. The objective of the OLS regression technique is to test for the validity, reliability and significance for the acceptance of one of the hypothesis and rejection of the other hypothesis using T-statistic, F-statistic and Standard Error methods of analysis.

3.7 Estimation Technique

It is the method in analysing the data that has been collected for the purpose of the research which covers a period of 25years (1990-2014). The Ordinary Least Square (OLS) regression technique was used to estimate the model specified for the study. The OLS regression technique was used because the study was focused on examining just the general impact of the financial crisis on the fluctuations of the Nigerian stock market development and data. Several tests will be conducted. R^2 which is coefficient of determination was used to test the goodness of fit of the regression. F-Statistics was used to test the statistical significance of R^2. The t- statistics, p-values and standard error tests were used in testing the statistical significance of the parameter estimates (β_1, β_2, β_3 and β_4) at 5% significance level. The model specified was run on Stata 13 software package.

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSION OF RESULTS

4.0 Introduction

This chapter discusses the methodology, trend analysis of market capitalisation for the study period and the model diagnostics showing the unit root test, descriptive statistics, correlation analysis, model summary, ANOVA (Analysis of Variance) and parameter estimates of the model.

4.1 Methodology

The study made use of secondary data. Annual data collected will be obtained from the Nigerian Bureau of Statistics and WDI data tables for the pre and post financial crisis period spanning from 1990 to 2014. The research will adopt multiple regression analysis in examining the impact of financial crisis on the fluctuations of Nigerian stock market development. The model specified Market Capitalisation (MCA), Exchange Rate (EXR), Gross Domestic Product (GDP) and Inflation Rate (INF) as the independent variables and Dummy variable for the financial crisis. The Ordinary Least Square (OLS) estimation technique was used to analyse the data. The OLS estimation technique was used because the study was focused on examining just the general impact of the financial crisis on the fluctuations of the Nigerian stock market development.

The specified model was run on Stata 13 software package.

4.2 Trend Analysis

The trend analysis was conducted to assess how market capitalisation has performed for the period under study. The result is shown in figure 4.1 below

Figure 4.1 Trends in Market Capitalisation (1990-2014)
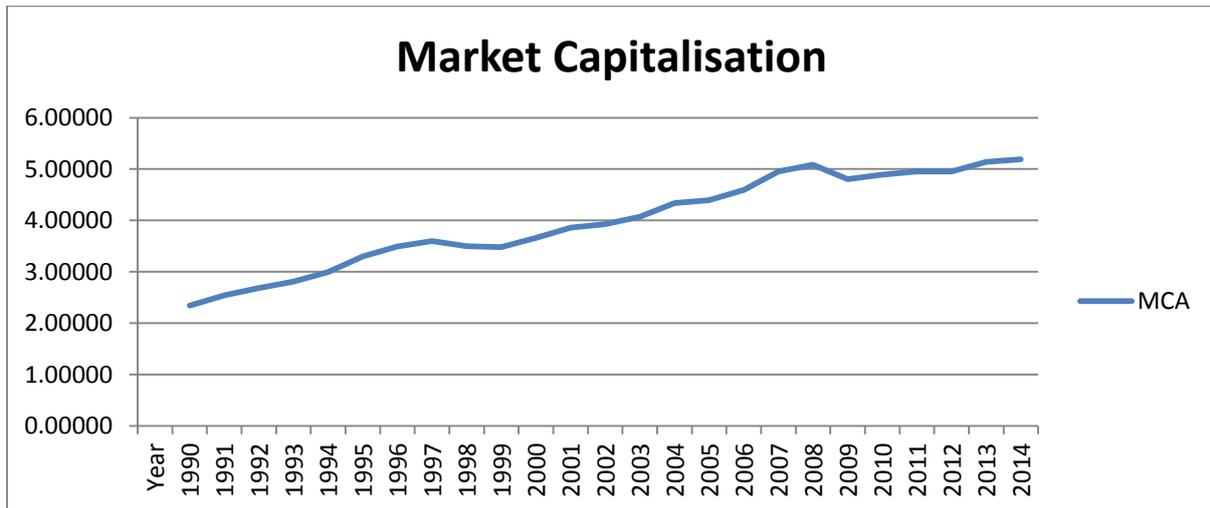
Source: Researcher's Own Construction

The figure 4.1 shows the trend of market capitalisation for the period under study. From figure 4.1, market capitalisation was rising from 1990 till it declined in 1999 due to fall in stock growth. It was increasing steadily from 2000-2008 and reached its peak in 2008 as a result of the bank consolidation exercise in 2004. It slightly declined in 2009 as a result of the occurrence of the global financial crisis. It was also rising in 2010 and maintained a steady level till 2014 as a result of increase in market share index and stock growth.

4.3 Model Diagnostics

4.3.1 Unit Root Test

The unit root test is a diagnostic test used to test for the stationarity of the variables. It indicates whether the variables are stationary or not and at what significance levels.

Table 4.1 Augumented-Dickey Fuller Test for Unit Root

	Levels	First Difference
MCA	1.251	3.910**
DFC	2.493	3.082**
GDP	0.204	2.659***
INF	2.233	3.614**
EXR	2.013	3.386**

Source: Researcher's Own Construction

Market Capitalisation (MCA) is significant at 5% significance level at first difference. Therefore, Market capitalisation (MCA) is stationary. Dummy Variable for financial crisis (DFC)is significant at 5% significance level at first difference. Thus, dummy variable for financial crisis (DFC) is stationary. Gross Domestic Product (GDP) is significant at 10% level of significance at first difference. Therefore, GDP is stationary. Inflation rate (INF) is significant at 5% significance level at first difference. Thus, INF is stationary. Exchange rate (EXR) is significant at 5% level of significance at first difference. Therefore, EXR is stationary.

4.3.2 Descriptive Statistics

Descriptive statistics are brief descriptive coefficients summarising a given data set which could be a presentation of the entire population.

Table 4.2 Descriptive Statistics

Variable	Mean	Std deviation	Minimum	Maximum
MCA	3.9816	0.8968	2.3424	5.1906
DFC	0.12	0.3317	0	1
GDP	3.2127	0.1191	3.0927	3.4063
INF	0.1928	0.1835	0.0538	0.7283
EXR	1.8022	0.4429	0.9052	2.2002

Source: Researcher's Own Construction

Following table 4.2 titled descriptive statistics, on the average, market capitalisation (MCA) is 398.16% with a minimum of 234.24% and a maximum of 519.06%, evidence shows the Nigerian stock market is making good returns on market capitalisation in the Nigerian stock market. The standard deviation shows that MCA varies by 89.86% from the average value.

Table 4.2 shows that dummy variable for financial crisis (DFC) is average around 0.12 when natural log is taken while the minimum is 0 and maximum is 1 with standard deviation of 0.33.

Following table 4.2 above, on the average, gross domestic product (GDP) shows a mean of 321.27% with a minimum of 309.27% and maximum of 340.63%, evidence suggest that good economic growth. The standard deviation shows GDP varies by 11.91% from the average value.

In addition, table 4.2 shows inflation rate (INF) is average around 0.19 when natural log is taken while the minimum is 0.05 and maximum is 0.72 with standard deviation of 0.18.

Also, table 4.2 shows exchange rate (EXR) is average around 1.80 when natural log is taken while minimum is 0.91 and maximum is 2.20 with standard deviation of 0.44.

4.3.3 Correlation between the dependent and independent variables

Correlation measures the strength of the relationship between the two or more variables. It measures the degree to which two or more variables fluctuate together. The correlation therefore shows the extent to which the dependent and independent variables fluctuate together. The correlation between the dependent variable (MCA) and the independent variables (DFC, INF, GDP, EXR) in the model are provided in table 4.1 below

Table 4.3 Correlation between the dependent and independent variables

	MCA	DFC	INF	GDP	EXR
MCA	1.0000	0.4060	-0.4862	0.8822	0.8915
DFC	0.4060	1.0000	-0.1980	0.3613	0.2666
INF	-0.4862	-0.1980	1.0000	-0.4310	-0.4736
GDP	0.8822	0.3613	-0.4310	1.0000	0.7040
EXR	0.8915	0.2666	-0.4736	0.7040	1.0000

Source: Researcher's Own Construction

From table 4.1, it can be deduced that gross domestic product (GDP) and exchange rate (EXR) correlate substantially with the dependent variable (MCA) with Pearson correlation values of 0.8822 and 0.8915 respectively than as compared to the correlation between the other independent variables DFC and INF and the dependent variable.

This result indicates that among the four (4) independent variables (DFC, INF, GDP and EXR), "EXR (Exchange Rate)" followed by "GDP (Gross Domestic Product)" relate to the dependent variable (Market Capitalisation(MCA) more than "DFC (Dummy Variable for Financial Crisis)" and "INF(Inflation Rate)" relate to MCA (Market Capitalisation).

4.3.4 Correlation between the Independent Variables

The correlation between the independent variables illustrates the extent or degree of relationship between the independent variables. It also reveals the fluctuation level between the independent variables. The correlation between the independent variables (INF, GDP, EXR and DFC) in the model is shown in table 4.2 below.

Table 4.4 Correlation between the independent variables

		INF	GDP	EXR	DFC
INF	Pearson Correlation	1	-.431*	-.474*	-.198
	Sig. (2-tailed)		.031	.017	.343
	N	25	25	25	25
GDP	Pearson Correlation	-.431*	1	.705**	.361
	Sig. (2-tailed)	.031		.000	.076
	N	25	25	25	25
EXR	Pearson Correlation	-.474*	.705**	1	.267
	Sig. (2-tailed)	.017	.000		.198
	N	25	25	25	25
DFC	Pearson Correlation	-.198	.361	.267	1
	Sig. (2-tailed)	.343	.076	.198	
	N	25	25	25	25

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).
Source: Researcher's own construction

From table 4.2, only GDP and EXR had the strongest/positive relationship or correlation with a p-value of 0.000 indicating that the correlation or the strength of relationship is significant. The positive correlation value for GDP and EXR (0.705) gives the indication that GDP increases with increasing EXR by a value of 0.705. Apart from GDP and EXR, the table additionally reveals a significant negative relationship or correlation between INF and GDP. The negative correlation value for INF and GDP from the table is -0.431 indicating that

increase in INF marginally decreases GDP by 0.431. Finally, table 4.2 reveals another significant correlation but negative relationship between INF and EXR with a correlation value of -0.474. This value as a result depicts that any increase in INF will marginally decrease EXR by 0.474.

4.3.5 Model Summary and ANOVA (Analysis of variance)

The model summary and ANOVA illustrates how the model is evaluated. The R-Square value measures how much of the variability in the dependent variable is explained by the model. The Adjusted R-Square value corrects the R-Square value to produce a better estimation of the population since the R-Square value in the sample tends to be an optimistic overestimation of the true value of the population. The ANOVA is used to assess the statistical significance of the model to show that null hypothesis that R (Coefficient of Correlation) in the population equals zero. The model summary and ANOVA are represented in table 4.3 and 4.4 below.

Table 4.5 Model Summary

Model	R	R-SQUARED	ADJUSTED R-SQUARED
1	0.9646	0.9305	0.9166

Source: Researcher's Own Construction

Table 4.6 ANOVA (Analysis of Variance)

Model	Sum of Squares	DF	Mean Square	F	Prob>F
Regressions	17.9595412	4	4.4898531	66.92	0.0000
Residuals	1.3418563	20	0.067091281		
Total	19.3013669	24			

Source: Researcher's Own Construction

From the labelled model summary, the R-Square value measures how much of the variability in the dependent variable (MCA) is explained by the model which includes DFC, INF, GDP and EXR.

In this case, the value of R-Square from the model summary is given as 0.9305. By expressing this value as a percentage (i.e. multiply 0.9305 by 100), we obtain approximately 93%. This as a result means that the model which includes DFC (Dummy Variable for Financial Crisis), INF (Inflation Rate), GDP (Gross Domestic Product) and EXR (Exchange Rate) explains about 93% of the variability or the variance in the dependent variable, MCA (Market Capitalisation) which as a result makes the model a good model.

From table 4.3, the value of the Adjusted R-Square which is 0.9166 therefore indicates or implies that about 92% of the R-Square has been corrected; hence, the model can produce a better estimate of the value of the population.

Furthermore, from table 4.4, it can be deduced that the probability value or the significant value of the model is 0.0000 which as a result is less than the level of significance 0.05. Since the p-value of the model or regression is less than 0.05, then it can be concluded that the model is statistically significant; hence, there exists a significant relationship between MCA (Market Capitalisation) and the independent variables (DFC, GDP, INF and EXR).

4.3.6 Parameter Estimates

Parameter estimates illustrates the regression results on the model indicating the independent variables which show a positive or negative relationship with the dependent variable. It also reveals the independent variables having significant or insignificant effect on the dependent variables.

Table 4.7 Parameter Estimates

Variable	Coefficient	Standard Error	T	p>/t/
DFC	0.2496179	0.1711857	1.46	0.160
INF	-0.0738288	0.3311789	-0.22	0.326
GDP	3.538013**	0.6534832	5.41	0.000**
EXR	1.070289**	0.1745471	6.13	0.000**
CONSTANT	-0.9329319	1.932668	-4.83	0.000**

Source: Researcher's Own Construction

From table 4.5 above, the result indicates that dummy variable for financial crisis (DFC) has a positive but insignificant relationship with market capitalisation at 5% level of significance with coefficient of 0.2496179 and p-value of 0.160 (i.e. 0.160>0.05) which implies that financial crisis did not significantly contribute to market capitalisation. This could be as a result of fluctuating stock prices, irregular capital inflows and returns on assets, etc. According to Yakubu and Akerele (2012) studies on impact of global financial crisis on the Nigerian stock exchange, financial crisis (DFC) revealed positive insignificant effect on market capitalisation and the result conforms to the a priori expectations.

In addition, results indicated inflation rate (INF) has negative insignificant relationship with market capitalisation (MCA) at 5% level of significance with coefficient of -0.0738288 implying that as inflation rate increase, market capitalisation falls by 7.38%. This could be as

a result of rising wages, rise in import prices, fall in productivity, higher taxes, etc. According to Onaolapo et al (2011) studies on the evaluation of the effect of economic meltdown on the capital market, inflation rate has negative insignificant relationship with market capitalisation. This result conforms to the a priori expectations.

Furthermore, gross domestic product (GDP) has positive significant relationship with market capitalisation (MCA) with coefficient of 3.538013 and p-value of 0.000 (i.e. 0.00<0.05) implying that as GDP increases, market capitalisation also increases by 353.80%. This could be as a result of economic and political stability, increase in capital, rise in working population, labour productivity increase, improvement in technology, etc. According to Olokoyo et al (2011) studies on the empirical analysis of the effect of market crisis on economic growth, GDP showed a positive significant relationship with market capitalisation. This result therefore is consistent with a priori expectations.

Finally, from table 4.5, exchange rate (EXR) has positive significant relationship with market capitalisation (MCA) at 5% significance level with coefficient of 1.070289 which implies that as exchange rate appreciates, market capitalisation rises by 107.03%. This could be as a result of surplus on current account, interest rate increase, domestic currency purchase, etc. According to Onaolapo et al (2011) studies on the evaluation of the effect of economic meltdown on the capital market, exchange rate (EXR) has negative insignificant relationship with market capitalisation (MCA). However, this result is inconsistent with the a priori expectations. This is due to the fact that exchange rate has high and positive significant effect/impact on market capitalisation implying that as exchange rate appreciates, market capitalisation rises.

It can therefore be deduced from the table 4.5 that only GDP and EXR have statistically significant effect on MCA whilst the other independent variables, DFC and INF have statistically insignificant on MCA.

Thus, we accept the null which implies the financial crisis (DFC) has no effect on the fluctuations of Nigerian stock market development.

The estimated model containing the significant variables (GDP and EXR) as well as the constant is therefore formulated as:

MCA = -9.329319 + 3.538013GDP + 1.070289EXR

From the above estimated model, it can be deduced that GDP and EXR tends to an upward trend of the MCA since their coefficients or estimates are positive and significant. This as a result implies that as GDP and EXR increases, MCA increases by 353.80% and 107.03% respectively.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter discusses the findings of the study, possible conclusions drawn from the study and recommendations.

5.1 Summary

This study examined the impact of the financial crisis on the fluctuations of Nigerian stock market development and discovered findings from the study.

Based on the analysis conducted in the study, it was revealed that the variable, DFC (dummy variable for financial crisis) has a positive insignificant relationship with MCA (market capitalisation) at 5% significance level which implies that DFC has positive and insignificant effect on market capitalisation.

The study indicated that INF (inflation rate) has negative insignificant relationship with market capitalisation (MCA) which therefore implies that inflation rate has no statistically significant effect on market capitalisation.

It was found that gross domestic product has positive significant relationship with market capitalisation (MCA) which implies that gross domestic product has positive and significant effect on market capitalisation.

Finally, exchange rate (EXR) also showed positive significant relationship with market capitalisation (MCA). This further implies that exchange rate has positive and significant effect on market capitalisation.

5.2 Conclusion

The thesis objective is to find out the impact of financial crisis on the fluctuations of Nigerian stock market development. It was observed from the study that market capitalisation was fluctuating during the period of study but attained its optimum level in 2008 which were as result of level of stock growth, stock price, level of market share index, banks consolidation exercise in 2004, etc.

Evidence from the study showed that financial crisis has no significantly effect on market capitalisation. It was found out that gross domestic product (GDP) and exchange rate (EXR) have positive and significant effect on the market capitalisation, inflation negative insignificant effect on market capitalisation and financial crisis has positive insignificant effect on market capitalisation.

The study concludes financial crisis has no significant effect on the fluctuations of Nigerian stock market development.

5.3 Recommendations

From the findings of the study, some recommendations made by the researcher following subjective propositions for the Nigerian stock market development include:

Policy makers should make efforts in implementing favourable policies or measures aimed at improving economic growth and reducing the rate of inflation on the economy.

Regulatory authorities should implement policies or measures aimed at stock market development by encouraging more buying of domestic currency which yield appreciation of exchange rate in the country.

The Nigerian stock market should engage in activities which improve the development of its stock market.

Regulatory authorities should ensure transparent and fair trading transactions and dealings in the Nigerian stock market

5.4 Limitations of the Study

As a result of the broad nature of this research, it could experience some limitations such as financial constraints, time constraints and inability to obtain all relevant information and data from the Nigerian Stock Market.

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APPENDIX

Market Capitalisation, Inflation Rate, Exchange Rate, Gross Domestic Product and Dummy Variable for Financial Crisis in Nigeria from 1990-2014

Year	Market Capitalisation (MCA	Inflation Rate (INF)	Gross Domestic Product (GDP)	Exchange Rate (EXR)	Dummy Variable for Financial Crisis (DFC)
1990	2.34243	0.07	3.13654	0.90516	0
1991	2.54254	0.13	3.12278	0.99605	0
1992	2.68437	0.45	3.11370	1.23801	0
1993	2.80498	0.57	3.11181	1.34371	0
1994	2.99718	0.57	3.10489	1.34234	0
1995	3.29693	0.73	3.09272	1.34035	0
1996	3.49031	0.29	3.10305	1.34014	0
1997	3.59843	0.09	3.10421	1.34017	0
1998	3.49618	0.10	3.10498	1.34017	0
1999	3.47769	0.07	3.09615	1.96538	0
2000	3.65864	0.07	3.10774	2.00731	0
2001	3.85809	0.19	3.11553	2.04623	0
2002	3.92548	0.13	3.12067	2.08127	0
2003	4.06999	0.14	3.15240	2.11134	0
2004	4.33650	0.15	3.26748	2.12349	0
2005	4.39448	0.18	3.27091	2.11818	0
2006	4.59440	0.08	3.29380	2.10942	0
2007	4.95378	0.05	3.31102	2.09971	1
2008	5.08566	0.12	3.32589	2.07389	1
2009	4.80316	0.12	3.34341	2.17290	1
2010	4.89165	0.14	3.36454	2.17695	0
2011	4.95247	0.11	3.37359	2.18960	0
2012	4.95175	0.12	3.38009	2.19728	0
2013	5.14162	0.08	3.39125	2.19676	0
2014	5.19059	0.08	3.40627	2.20017	0