

EMPIRICAL ANALYSIS OF THE NIGERIAN STOCK MARKET AND THE GLOBAL FINANCIAL CRISIS

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Abstract

This paper examines the effect of the recent global financial crisis which can be likened to a dragon king on the Nigerian stock market. A transfer function approach by Joseph (1986) was adapted for the paper. Empirical findings and results from the paper shows that the recent global financial crisis negatively influenced the Nigerian stock market in that the coefficients of the autoregressive and moving average models are less than unity.

Keywords: Stock Market, Global Financial Crisis, Transfer Function, Autoregressive, Moving Average.

Introduction

The global financial crisis which can also be likened to an extreme event such as “Dragon King” otherwise known as meltdown began in the United States of America (U.S. A) through the bursting of the United States housing bubble, which peaked in 2006, caused the values of securities tied to U.S.A real estate pricing to plummet, damaging financial institutions globally. According to Wikipedia (2016) the financial crisis was triggered by a complex interplay of policies that encouraged home ownership, providing easier access to loans for (lending) borrowers, overvaluation of bundled subprime mortgages based on the theory that housing prices would continue to escalate, questionable trading practices on behalf of both buyers and sellers, compensation structures that prioritize short-term deal flow over long-term value creation, and a lack of adequate capital holdings from banks and insurance companies to back the financial commitments they were making. This crisis later spread to United Kingdom when the global credit market came to a stand still in 2007 and to other countries of the world of which Nigeria was not an exception (Avgouleas, 2008).

This global crisis systematically resonated or spillover to other sectors of the world financial industry and the economy at large. It spread quickly to the developed economies with Japan becoming well affected as well as the emerging economies like African countries including Nigeria and others (Okpara, 2011),.

Objectives of the study

The objective of this study is to examine the effect of the recent global financial crisis on the Nigerian stock market

Hypothesis of the Study

H₀: There is no significant relationship between the Nigerian stock market and the recent global financial crisis.

This paper is divided into five parts. Part I deals with introduction as well as the objectives and hypothesis of the paper. Part II examines the literature review that is relevant to the paper. Part III examines the model used for the paper. Part IV deals with empirical findings and results while part V which is the final part deals with conclusion.

II Literature Review

The Nigeria Stock Exchange started with an All-share Index value of 58,580 in early 2008 with a market capitalization of N10.284 trillion later increased to its highest value of 66,371 by end of first quarter in 2008 with a market capitalization of about N12.640 trillion, due to large troop of both public and private sectors to the market to raise fund (Sere-Ejembi, 2008).

However, ever since that high, the All Share Index (ASI) has inexorably declined, exhibiting a peculiar bear posture since July 17, 2008 when the All Share Index (ASI) fell below by 20%. The global economic meltdown had continued to erode the market capitalization to about N5.4 trillion in the fourth quarter of 2009 (Aluko, 2008 and Olaoye, 2010). This revealed that the aftermath of Global Meltdown on the Nigerian capital market had been negative from the 1st quarter of 2008 to the 4th quarter of 2009, with an All Share Index loss of about 67% and 62% value in market capitalization (Ajakaiye and Fakiyesi (2009).

According to Okereke –Onyiuke (2009), The Nigerian stock market felt the impact of the global meltdown from the second quarter of 2008 with equity market capitalisation dropping from a high of N12.64 trillion on May 3 to a low of N6.21 trillion on December 16 before finally closing at N9.56 trillion on December 31, 2008.

Before the global financial crisis took shape in early 2008 in the Nigerian capital market, there was already the feeling that Nigerian stocks were over valued. According to Okpara, (2011) some investors were, even prior to the global economic meltdown troubled by high valuations, dubious corporate governance, rampant speculation and suspicions of market manipulation.

Agbana (2009) opined that some Nigerian banks embarked on multiple issues over short period of time, throwing capital market rules and regulations on offer of issues to the wind. Banking valuations were going as high as twenty five (25) times earnings compared to about eight times earnings in other leading markets. This led to the flight of hedge funds in the Nigerian capital market.

According to Okereke –Onyiuke (2010), all stock market indicators recorded downward movements. turnover on the exchange closed the year (2010) at N685.72 billion or 2.9% of GDP down by 71.2% from the N2.4 trillion (10.4% of GDP) recorded in 2008. Average daily activity dropped from 775.65 million shares worth N9.55 billion in 2008 to 44.73 million shares valued at N2.8 billion in 2009. The global economic meltdown invariably impacted untold hardship on the Nigerian stock market just as it did to most of the stock markets in the world.

III Model for the Study

In accordance with Joseph (1986), the researcher develops a Transfer Function (TF) model to show a cause and effect relationship between the output series and global financial crisis. The output series that is examined in this study is the Nigerian Stock Exchange All share index while the

global financial crisis is represented by an intervention term, AD. The general form of this model (TF) takes the following form:

$$Mkt_{ind(t)} = f(CS_{ind1t}, CS_{id2t}, \dots, CS_{nt}) + \mu_{it} \dots \dots \dots (1.1)$$

Where: Mkt_{ind} is the market index representing the output series

An intervention model is introduced to the model as shown below:

$$Mkt_{ind(t)} = BCS_{ind(t)} + \mu_2 \dots \dots \dots (1.2)$$

$$Mkt_{ind(t)} = \frac{BCS_{ind(t)} + \mu_2 \dots \dots \dots}{(1 - \partial_1 L)} \dots \dots \dots (1.3)$$

Where: $Mkt_{ind(t)}$ is the time series to be modelled.

$CS_{ind(t)}$ is the intervention time series

IV Empirical Analysis and Results

To examine the effect of the recent global financial crisis which can be likened to an extreme event such as “Dragon King”, the researcher estimates the intervention model of equation 1.2. The results are reported in table 1.1 below.

Table 1.1 The Result of the Test Conducted on the Relationship between Output Index and Recent Global Financial Crisis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AD	-0.066713	0.138464	-0.481804	0.6310
AR(1)	-0.051314	0.089870	-0.570977	0.5693
MA(1)	-0.063666	0.132886	-0.479098	0.6329

Source: Summarized by the Author from E-view Window 8

Table 1.1 above presents the coefficients of the AR and MA of order 1, then the AD which is the intervention term representing global financial crisis. The autoregressive (AR) model and moving average (MA) model coefficients are 0.051 and -0.064 respectively. Since these coefficients are individually less than unity in absolute term, the series of the market index is stationary and invertible in nature. The coefficient of the AD is -0.068 implying that the recent financial crisis influenced the market negatively.

V Conclusion

Attempt has been made in this paper to examine the effect of the recent global financial crisis on the Nigerian stock market. A transfer function approach by Joseph (1986) was used for the study to show a cause and effect relationship between the Nigerian stock market represented by All Share Index and the recent global financial crisis represented by an intervention model, AD. Results from the paper shows that the Nigerian stock market was negatively affected by the recent global financial crisis.

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