

The Efficiency Market Theory: A Case of Commercial Banks Stocks in Nigeria

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Abstract

This study focused on testing the efficient market theory in Nigeria. The quest to stimulate research interest in testing this theory using the stock price before announcement of dividends and the stock price after the announcement of dividends motivates the conduct of this study. To this end, a pilot experiment is conducted using the stock prices of five commercial banks that are listed on the Nigerian Stock Exchange market. The sample are selected based on the fact that the selected banks have concluded their financial year on or before the end of September 2017. In the result, it was observed that that announcement did not make any significant difference between the stock prices in the banking sector in Nigeria and therefore conclude that the efficient market theory does not hold in the Nigerian Stock Exchange market. We recommend that there should be consistent sensitization of investors by banks listed on the Nigerian Stock Exchange market and stock broking firms to guide them in making informed investment decisions make it difficult for individual investors and agents to 'beat the market'.

Key words: Efficient Market Theory; Stock Price; Commercial Banks; Nigeria Stock Exchange.

J.E.L. classification: C22, G14, H54, P34

1. Introduction

The Efficient Market theory was developed by financial economist during the early 1960s to determine stock market efficiency. According to the theory, financial markets can be said to be "informationally efficient" (Eisenhardt, 1989; Fox and Sklar, 2009; Gómez-Baggethun et al, 2010). This means that stock prices are expected to fully reflect available information owing to the fact that it is expected that there is symmetric information in the stock market (Fama, 1970; Malkiel and Fama, 1970). It also means that the current price of a security current reflect its intrinsic value. Furthermore, because it is believed that the arrival of new information is random, the prices of stock randomly fluctuate. Hence, the market is expected to be efficient in information dissemination to investors in order to that the real prices of securities sold in the stock market reflect their intrinsic values. According to Jovanovi *et al* (2016), investors are aware of the "true" pricing models of securities at their various equilibrium values. Therefore, the resultant effect of this is to admit that Efficient Market Hypothesis test makes it possible to determine if there is symmetric information in the market and if the prices paid by investors reflect the intrinsic values of the securities.

The financial structure of a country is that within which the pattern of investment takes place (Gereffi and Wyman, 2014; Piketty and Zucman, 2014). It provides the model within which the surplus sector's savings are made accessible to the deficit sectors of the economy for investment purposes (Onodugo *et al*, 2013; Raheem *et al*, 2017). This is facilitated by the intermediation of both money and capital markets. Since the rapid industrialization in an economy largely depends on access to financial services, hence, the ability of Nigerian government to speedy-up the development of the capital market is essentially connected with the objective of facilitating the industrial development of the country (Richard and Okoye, 2013). Since the capital markets have

important roles to play in enhancing the socio-economic development of developed and developing economies, it becomes very crucial for these markets to be efficient in providing information to investors in order to reduce the possibilities of an individual investor or agent taking advantage of the system. As identified by Adeusi *et al* (2013), the Nigerian capital market facilitates the provision of the lubricants that maintains the turning wheels of the Nigerian economy by both providing the required investment funds and efficiently allocating them to the best projects. Therefore, this allocation role must be seen to be efficient before it can sustain the development of the nation's economy. If this is not the case, the study by Anyanwu and Yameogo (2015) is of the opinion that quality service of the markets will be altered and this can inhibit the pace of economic growth of the country.

In line with this, it is important to conduct a study to empirically determine the existence of the efficient market theory among Nigerian banks operating in the Nigerian stock market by examining the relationship existing between the stock price before and stock price after announcement in the banking sector in Nigeria. The study will also investigate the disparity between the stock price before and the stock price after announcement in the banking sector in Nigeria and then make appropriate policy recommendations based on the observed relationship between both set of prices using the paired sample t-test. The rest of the study is organised in the following order. Section 2 provides a brief literature review, section 3 provides the research methodology, section 4 provides the presentation of results, and section 5 provides the conclusion and recommendations.

2. Literature Review

In empirical literature, studies have been conducted to determine the relationship between stock returns and its determinants. For instance, Al-Majali and Al-Assaf (2014) observed that macroeconomic variables like short term interest rate, inflation, industrial production, exchange rate, and money supply are important determinants of stock prices in Jordan rather than just efficient information flow. In a similar study, Hussain *et al* (2016) found that the exchange rate, consumer price index, Treasury bill rates, and the broad money supply are important determinants of stock prices and stock returns and not just market efficiency. As confirmed by Chen (2010), stock returns are worsened by monetary shocks. Furthermore, Chiarella *et al* (2013) observed that the stock prices of firms belonging to different industries react in a different way to monetary policy announcement. It also suggested that the asymmetry observed between the stock price movement and monetary announcement is determined by the industry affiliation of the firm. Khan *et al* (2015) investigated the relationship between stock prices and the macroeconomy of six European countries; Netherlands, France, Switzerland, Germany, the United Kingdom and Italy using a quarterly data covering 1962 and 1995. It was observed that the stock prices in Germany positively enhanced the return of the stock markets in the other five European countries. Yang *et al* (2014) observed that the asymmetric asset-price movements in Asia are caused by the exchange rate elasticity of the real money balance. It was also found that fiscal revenues expenditures have strong positive impacts on stock prices in the Asian Pacific Region

Ananzeh (2014) conducted a test on the efficiency of the Amman stock exchange (ASE) market. The study examined the randomness of ASE stock prices using daily data and both parametric and nonparametric tests. The Jarque-Bera result confirmed that the daily returns of the ASE stock prices were not normally distributed, and that they were inefficient too at the weak form. Furthermore, the stationarity results confirmed the weak-form inefficiency in the stock price of ASE. It was therefore concluded that the ASE stock market is inefficient at the weak form level and hence, the efficient market hypothesis could not be ascertained for ASE. Recently, Hamid *et al* (2017) conducted an enquiry to test the weak-form market efficiency of the stock market returns of fourteen Asian economies. It was observed that the monthly returns of the stock prices were not normally distributed meaning that the monthly prices do not follow random walks in the fourteen Asian economies. This can make investors and agents take the stream of rewards through the process of arbitrage from profitable opportunities across the various markets. It is evident from the foregoing that there is dearth of studies testing the efficient market theory in the literature. Also, in Nigeria, searchlight has not been focused on assessing the efficiency of the stock market. Moreover, testing the efficient market theory using the 'price before announcement' and the 'price

after announcement' is novel, thereby throwing up more research possibilities in this area. This is the original contribution of this study to the literature.

3. Research Methodology

In this section, the methodology employed in this study is discussed. This includes the research design, population of study, study sample, and sources of data. The quantitative research design was adopted in this study using a purposive sampling and based on secondary data collected in accordance with the research objectives stated in the introductory section. The population of the study is made up of commercial banks in Nigeria, which have concluded their fiscal year on or before the mid-term of the year 2017. As a result of this, five commercial banks that have their financial reports ready are selected in the sample. The purposive sampling is more useful due to the nature of this empirical enquiry to test relationship between the prices before and prices after announcement for the stocks of commercial banks operating in the Nigerian stock exchange market (Barratt *et al*, 2015; Etikan *et al*, 2016). The banks include First bank, First City Monument Bank, Fidelity Bank, Guaranty Trust Bank, and Stanbic IBTC. Specifically, the data for the study were sourced from the reports of the Nigerian Stock Exchange (NSE). The data collected include prices of stocks before the declaration of dividend reports (announcement) and prices of stocks after the declaration of results (announcement).

4. Data Presentation and Analysis

In this section, the result of the study is presented starting with the descriptive analysis. This is followed with the presentation of the research result and the implications of findings.

4.1 Descriptive Analysis

Table 1: Descriptive statistics of stock price before and after announcement

S/N	Banks	Price Before (₦)	Price After (₦)	Price Difference (₦)
1	First Banks	3.48	3.17	+0.31
2	Stanbic IBTC	21.45	21.49	-0.04
3	First City Monument Bank	1.17	1.25	+0.08
4	Fidelity Bank	0.93	0.92	-0.01
5	Guaranty Trust Bank	25.95	24.50	+1.45

Source: Author's Computation (2017)

From Table 1, First Bank of Nigeria price before and after announcement were ₦3.48 and ₦3.17 respectively indicating increase of 8.91% in the value of the stock. Stanbic IBTC recorded a decrease of -0.18% in stock price before and after dividend declaration. For First City Monument Bank, there was an increase of 6.29% in the value of stock before and after the declaration of dividends. For Fidelity Bank there was 1.07% decrease in the prices of stock prices after the announcement of dividends, while Guaranty Trust Bank, there was a 5.58% increase in the value of its stock prices after the declaration of its dividends to shareholders.

4.2 Research Result and Implication of Findings

Table 2: Test of the difference between price before and price after announcement

Pair* Price Before – Price After	Price Before		Price After		<i>t-test-Sig val.</i>
	Mean	S.D	Mean	S.D	
	10.5960	12.10860	10.2660	11.70015	1.145--0.316

Source: Author's Compilation (2017)

In Table 2, the research result presented suggests that the significance test for the stock price before announcement and stock price after announcement as denoted by the t-test is 1.145 while its probability value as denoted by the 'sig' value is 0.316. Therefore, in line with our first objective, there is no significant difference between the price of stock before announcement and the price of stock after announcement among the selected banks in Nigeria. This means that there is significant relationship between both set of stock prices. Furthermore, as presented in Table 2, the mean of stock prices before announcement is 10.59 while its standard deviation is 12.11. Also, the average of the stock price after announcement is 10.26 while its standard deviation is 11.70. Therefore, in line with our second objective, it means that after comparing the standard deviations of both prices, we found that there is no significant disparity between the stock price before announcement and the stock price after announcement in the banking sector in Nigeria. Owing to the result of this empirical enquiry, we have confirmed that announcement does not make any significant difference between the stock prices in the banking sector in Nigeria. We, therefore, conclude that the efficient market theory does not hold in the Nigerian banking sector.

Owing to the results of this study, which did not find support for the efficiency market theory, the following recommendations are made in this study: (i) the regulatory authorities should work assiduously in making information available to investors to ensure that future investment decisions are made on the basis of symmetric information flow; (ii) every commercial bank operating in the Nigerian Stock Exchange market should be encouraged to submit financial statement bi-annually. This can help to bridge the information gap and make the market more efficient; and (iii) there should be consistent sensitization of investors by banks listed on the Nigerian Stock Exchange market and stock broking firms to guide investors in making informed investment decisions. This will also make it impossible for individual investors and agents alike to 'beat the market'.

5. References

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