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EFFICIENT CAPITAL MARKETS: A REVIEW OF SPECIALIZED LITERATURE AND METHODOLOGY ON NIGERIAN STOCK MARKET

Abstract

The efficiency of securities market has generated a lot of controversy over four decades in finance and economic discussions leading to some people accepting or rejecting the efficient market hypothesis. Hence this paper examines the growing body of empirical research on efficient market hypothesis on the Nigerian capital market for the past twelve years (2010-2021). The paper particularly surveys empirical research and specialized literature as it relates to the Nigerian capital market. The paper is purely empirical research that have been published in various academic journals on the Nigerian capital market. Findings from the empirical research show that there has been no consensus on the efficiency of the Nigerian capital market. However, the market seems to be efficient in the weak-form. The conclusion of this paper is that there are inherent difficulties in testing for market efficiency in developing countries capital market due to certain market imperfections that could affect the informational efficiency of the market.

Keywords: efficient capital markets, weak-form, Nigerian stock market, market efficiency.

JEL Classification: K23

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1. Introduction

The concept of efficiency is fundamental to finance as a result of its implications to financial managers, investment analysts, market regulators, investors among others. An efficient market thus is one in which security prices quickly and fully reflect all available information [Fama 1991]. Implied from this is that in an efficient market, the same rate of return for a given level of risk should be realized by all investors. The behaviour of any participant or group should not influence the price of a security in the market [Khoury 1983]. In other words, abnormal returns [if any] should not be statistically significant from zero [Fama 1970, 1991; Fox, Opong 1999].

The debate on efficiency of the capital market has been a subject of discussion for over four decades starting from the works of [Fama 1965] and [Samuelson 1965]. Since then, a lot of empirical studies on efficient capital market have been conducted in both developed and developing countries. However, despite the increased research attention, there is limited work on the review of empirical studies on the efficient capital market. Hence, this constitutes the need for this study.

This paper attempts to review the status of the Efficient Market Hypothesis [EMH] with the emphasis on the Nigerian capital market. Even if many tried to find the truth behind the EMH, no ultimate conclusion exists. There are many opposing opinions regarding this for each article that confirms the hypothesis, there is another that invalidates it. This is true in any economy, without exception, whether it is an emerging economy or a developed one. As a result, the question of whether the markets are efficient or not still remains unanswered [Titan 2015].

The central issue in capital market is efficiency. Capital market efficiency can be viewed from the roles that capital markets are expected to perform in an economy which include allocational efficiency, operational efficiency and pricing efficiency [Fama 1970, 1991; Khoury 1983; Olowe 2011]. However, in finance the emphasis is on pricing efficiency, although pricing efficiency implies in a limited sense operational and allocational efficiency [Copeland, Weston 1983; Olowe 1996]. It has been noted, however that stock markets with higher informational efficiency are more likely to retain higher operational and allocational and allocational efficiencies [Okpara 2011].

A market is efficient with respect to a set of information if it is impossible to make economic profits by trading on the basis of this information set. This implies that no arbitrage opportunities can be tapped using ex ante information as all the available information has been discounted in current prices [Magnus 2008]. The primary role of the capital market is to allocate and channel resources from the surplus units and make them available to deficit unit for productive investments [Ekiran 1999], In ideal capital markets, prices provide accurate signals for resource allocation through which firms can make production decisions and investors can choose their investments with the assumption that security prices at any time fully reflect all available information [Fama 1976; Khoury 1983; Akbar 2010].

According to [Fama 1970], a capital market is a martingale, that is, fair game. He posited that all individuals have the same information functions and at least conditional on the information under consideration, they share the same beliefs. This allows him to use the terms efficient capital markets without ambiguity.

This paper is organized into five sections. Section 1 deals with introduction. Section 2 examines the methodology adopted for the study while section 3 deals with the empirical literature for the study. The fourth part presents results and discussions of the study while the fifth section which is the final part concludes the study.

2. Methodology

This paper is empirical in nature as it deals with research works that have been published in academic journals in Nigeria on the efficiency of the Nigerian capital market covering the period of twelve years (2010 to 2021). The twelve-year period is considered reasonable for this study. For the purpose of clarity, the paper also considers the following:

[i] Empirical works between 2010 to 2021,

[ii] Empirical works that focused on market efficiency,

[iii] Empirical works that focused on weak-form efficiency.

2.1. Efficient market hypothesis

The efficient market hypothesis is associated with the idea of a "random walk" which is a term loosely used in the finance literature to characterize a price series where all subsequent price changes represent random departures from previous prices. The logic of the random walk idea is that if the flow of information is unimpeded and information is immediately reflected in stock prices, then tomorrow's news and will be independent of the price changes today [Malkiel 2003].

The efficient market hypothesis is an express tool that supports the assertion that the stock market leads economic activities since market efficiency ensures that past and available current information is fully cannot reflected in current stock prices, investors cannot usurp any privileged information as to beat the market and make abnormal returns. Thus, in any information, namely; efficient market, past/current levels of economic activity cannot be used to predict present/ future stock prices [Raja, Sudhahar, Selvam 2009]. [Fama 1970] defines market efficiency as circumstances in which prices fully reflect all available information and formally as a martingale property of prices.

[Leroy 1973] and [Lucas 1978] were among the first to clarify that with risk aversion, only discounted, risk-adjusted, prices could have the martingale property. The martingale property, and the weaker super martingale property of discounted, risk-adjusted prices, reflects the non-existence of trading strategies that produce positive, expected, risk-adjusted excess return.

2.2. Forms of market efficiency

There are three main forms of market efficiency. They are; the weak-form efficiency, semistrong efficiency and strong form [Fama 1970]. As opined by Fama, strong form efficient markets are efficient in semi-strong form and the market in semi-strong form is efficient in weak-form efficient and not vice-versa.

Under a weak-form efficiency, asset prices incorporate all information from the historical record. In other words, prices in a weak-form efficient market incorporate all information about price trends or repeating patterns that occurred in the past. This proposition implies that trading strategies based on analysis of historical pricing trends or relationship cannot be used to outperform the market. Prices in a weak -form efficiency will be unpredictable and will change only in response to the arrival of new information. In order words, this means that prices follow a random walk.

The weak-form efficiency can be expressed mathematically as:

$$E(Pt) = Po + ei$$

where:

E(Pt)	= the expected price of an asset next period.

Po = today's price

Ei = random error which has an expected value of zero.

[Samuels, Yacout 1981] was the first attempt to test the weak-form of efficiency of the Nigerian capital market in Nigeria. Their test which spans the period 1977-1979 covering 21 companies quoted on the exchange and employing standard least square technique as well as autoregressive analysis for the error term. They found that Nigerian share prices follow a random walk. [Ayadi 1984] investigates Monday closing prices of thirty firms quoted on the Nigerian Stock Exchange between 1977 and 1980 using weekly data. He employed non-parametric tests to determine if the Nigerian stock market is weak form efficient. He found that share prices in Nigeria follow a random walk implying that the market was weak form efficient. [Ekechi 1989] examined most actively traded firms in the Nigerian stock market between 1980 and 1986. He employed serial correlation and runs tests techniques as well as the log difference of prices. With regard to the latter, he computed the mean standard deviations of the empirical distribution of log price differences. He found that the three methods he used to test weak form market efficiency provided evidence that the Nigerian stock market was weak form inefficient thereby conflicting the studies of Samuels and Yacout. Since the above studies were carried out, subsequent researches have been conducted on the weak form of efficiency in the Nigerian capital market with mixed results. For instance, many studies such as [Okpara 2010], [Nwosu, Oseni 2011], [Gimba 2012], [Ajao, Osayuwu 2012], [Yadirichukwu, Ogochukwu 2014], [Nelson, Gbalam 2019] have shown that the Nigerian capital market is weak-form efficient. However, the works of pAgwuegbo et. al 2010], [Afego 2012], [Nneji 2013], [Obayagbona, Igbinosa 2015], [Ogbulu 2016], [Adebanjo et. al 2018], [Nageri, Abdulkadir 2019], [Ejem, Ogbonna, Okpara 2020], [Daniel, Omiete 2021] and [Ogemudia, Isibor 2021] have shown that the Nigerian capital market is weak-form inefficient.

The semi-strong form efficiency asserts that asset prices incorporate all publicly available information. The key point about this form of efficiency is that it requires only those prices reflect information that can be gleaned from public sources (for example, newspapers, press releases and computer databases). There is both "stock" and "flow" aspect to the information- processing capabilities of semi strong-form efficient markets: first, the level of asset prices should correctly reflect all pertinent historical, current, and predictable future information that investors can obtain from public sources. Second, asset prices should change fully and instantaneously to the arrival of new information. Thus, in semi-strong-form efficiency no public information will help investor select undervalued securities. Event studies and portfolio studies are widely used to verify semi-strong-form of efficiency [Abdullahi, Garba 2017]. However, there has not been consensus among the researches that have been carried out on the semi-strong form in the Nigerian capital market. For

instance, [Imafidon, Arowoshegbe 2015] found that the Nigerian capital market was by and large efficient in responding to the information of removal of the Director-General of the Nigerian Stock Exchange in August 2010. Using event study with the aid of non-parametric tests, they concluded that the Nigerian capital market is information efficient. However, [Ajayi, Oshadare, Ajala 2018] used daily stock prices from the Nigerian stock market to test the semi-strong form of efficiency in the Nigerian capital market by employing transfer function approach from the period of 2005-2013 found that the Nigerian stock market is semi-strong inefficient.

The strong-form efficiency is the third level of efficiency where asset prices reflect all information, public and private. This extreme form of market efficiency implies that important-specific information will be fully incorporated in asset prices with the very first trade after the information is generated. For example, a firm's stock price should increase immediately after the board of directors vote for a dividend increase and before the firm publicly announces the increase. In strong-form efficient markets, most insider trading would be unprofitable, and there would be no benefit to ferreting out information on publicly traded companies. Any data morsel so obtained would already be reflected in stock and bond prices. Like semi strong-form efficiency, strong-efficiency also implies that there is both a stock and flow aspect to a market's information-processing abilities. Few studies have been carried out on this form of efficiency in the Nigerian capital market and this includes the works of [Azeez, Sulaimon 2012], [Fapetu, Adesina 2013], [Whisky 2014]. Their findings showed that the Nigerian capital market is strong-form efficient.

Despite the various researches that have been undertaken for over four decades on the three forms of market efficiency, [Fama 1991] recategorized the three forms of market efficiency as follows; weak form as test for return predictability, the semi-strong as event studies and strong-form as tests for private event studies information.

3. Empirical literature

A lot of empirical works have been done on the various forms of efficiency in the Nigerian capital market. Empirical investigations have been conducted on weak, semi-strong and strong forms of efficiency in the Nigerian capital market. The nature of data, analytical method employed and the period of carrying out the various researches vary from one point to the other. This is outlined in the summary table below.

3.1. Weak-form efficiency of market hypothesis

The weak-form of market efficiency asserts that security prices adjust to historical price or return information. Implied by this is that, in a weak-form efficient market, no investor can earn excess or abnormal return by studying the past, present and future stock prices. Thus, tape watchers and chartists who follow the price trend in order to forecast price or determine when to buy and sell the stock are wasting their time [Malkiel 1990]. A lot of empirical studies have been conducted in both developing and developed countries on the weak-form of market hypothesis such as [Kendall 1953], [Osborne 1959], [Roberts 1959], [Alexander 1961], [Moore 1962], [Fama 1970], [Black, Scholes 1973], [Samuel, Yacout 1981], [Ayadi 1984], [Olowe 1996], [Adelegan 2003], [Okpara 2011], [Yadirichukwu, Ogochukwu 2014], [Nelson, Gbalam 2019], [Daniel, Omiete 2021] among others. These studies were arrived at in different countries.

In early literature, the test of weak-form efficiency was conducted through the random walk theory (RWT). The original and analytical empirical study on the random walk theory was done by [Bachelier 1900]. He was the first person to point out that security prices and prices of other speculative commodities follow a random walk. His study was not recognized until [Working 1934] confirmed the same result. To prove that a stock market is efficient in the weak-form, there is the need to show that successive price changes are independent. Test of independence can be shown by choosing whether security prices are correlated. The absence of correlation shows that the market is weak-form efficient [Olowe 2011].

Other tests of testing the weak -form efficiency of capital market include; Devising trading rules and measuring the rate of return derived from them against buy and hold strategy, Filter rules, Run test, Autocorrelation test, Serial correlation test, non-parametric runs test, Variance ratio tests, Unit root test, GARCH models, Ljung and Box-Pierce test among others. These tests were carried out to test whether successive prices are independent of one another.

In the Nigerian capital market, various studies on the weak-form of efficiency have been carried out using different methodologies and data of different periods. Some of which are examined below.

[Okpara 2010] used monthly price index for the years, 2003, 2004 and 2005 for 121 listed companies in the Nigerian stock market to analyze the weak form of efficiency. He carried out his study by applying Run and autocorrelation tests and found out that the Nigerian stock market is weak-form efficient.

[Agwuegbo et. al 2010] analyzed the behaviour of daily returns of 60 quoted companies in the Nigerian stock market by the use of Markov chain model. The results of his analysis shows that the Nigerian stock market is weak-form inefficient. [Nwoso, Oseni 2011] did a study on the Nigerian capital market by analyzing stock prices over a five-year period spanning 1986-2001. They used serial auto- correlation and regression analysis method for the study and found out that the Nigerian capital market is weak-form efficient.

[Afego 2012] examines the weak- form of market hypothesis in the Nigerian stock market by testing for random walks in the monthly index returns over the period, 1984-2009. Non- parametric runs test was used to analyze the study and he found out that the Nigerian capital market is weak-form inefficient. [Gimba 2012] tests the efficiency of the Nigerian capital market in a weak- form by using daily and weekly All share index and five most traded oldest bank stocks of the Nigerian stock exchange. The author employed auto-correlation test, non-parametric runs test and variance ratio test and found out that the Nigerian capital market is weak-form efficient.

[Nneji 2013] used a different analytical technique by employing augmented dickey-fuller (ADF) unit root test, the autoregressive- moving average (ARMA) test, the VAR-based granger causality test, the Cointegration analysis and the Vector Error Correction Test on the Nigerian capital market from 1986 to 2009 through the random walk theory. The study confirmed that the market does not follow a random walk model implying that the Nigerian capital market is weak-form inefficient as there is still room for improvement of its efficiency level. The study of [Nageri, Abdulkadir 2019] which used generalized autoregressive conditional heteroskedasticity (GARCH) models to test the efficiency of the Nigerian stock market using secondary data of the Nigerian stock exchange from 2010 to 2016. The study found out that the Nigerian stock market is inefficient in the weak-form.

Recent studies such as [Daniel, Omiete 2021] used a secondary 30-day data from the statistical database of the Central Bank of Nigeria and the Stock exchange Factbook of various publications covering 1981-2020. The authors employed runs test, and box-pierce test Ljung and box-pierce test and concluded that the Nigerian stock market is inefficient in weak-form.

A cursory look at the review above shows that there is no consensus among the studies that have been conducted in Nigeria over the years.

Though so many empirical studies have been conducted on the weak-form of efficiency in the Nigerian capital market, tests of other forms of efficiency have also been tested. For instance, [Afego 2012] tested the semi-strong efficiency in the Nigerian capital market by using daily closing prices and earnings announcements for a sample of listed firms in Nigeria for the period of 2005 and 2008. He employed event methodology to analyze his study and found out that the Nigerian capital market is semi-strong inefficient. In a similar vein, [Imafidon, Arowoshegbe 2015] tested the semi-strong efficiency theory in the Nigerian capital market by using daily stock prices data which was three months to an event day and three months after the event date. Augmented Dickey Fuller test was employed in the study and the result of the study showed that the Nigeran stock market is semi-strong efficiency in the Nigerian capital market spanning the period of 2005-2013 in which they used daily data from the Nigerian stock market. They employed modified transfer function approach to analyze the study and found out the Nigerian capital market is inefficient in its semi-strong form.

Attempts have also been made to test for the third form of efficiency, the strong form in the Nigerian capital market. For instance, [Azeez, Sulaimon 2012] used returns on 240 stocks of the Nigerian capital market from 2003 to 2007 and daily index numbers ranges between January 2008 and December, 2010. Ordinary least squares method was applied for the study and they found out that the Nigerian capital market is strong -form efficient. The works of [Whisky 2014] on strong form of capital market also showed that the Nigerian capital market is strong form efficient.

It should be noted, however, that semi-strong and strong form of efficient capital markets require the market to be weak- form efficient. Table 1 below summarizes some selected empirical studies on informational efficiency of the Nigerian capital market.

Year	Author[s]	Data	Analysis	Result
2010	Okpara	Monthly price index for years 2003, 2004 and 2005 for 121 listed companies	Run and autocorrelation tests	Weak-Form Efficient
2010	Agwuegbo et. al	The study analyzed the behaviour of daily returns of 60 quoted companies in the Nigerian stock market. The chain took into account the behaviour of the market for two successive days, for a period of 5 weeks or 20 days	Markov chain model	Weak-Form Inefficient

Table 1: Summary of Some Selected Studies on Informational Efficiency of the NigerianCapital Market (2010 – 2021)

2011	Afego	The study used the daily closing prices and annual earnings announcement dates which were obtained	Event study method	Semi-Strong Inefficient
		for a sample of firms listed on the Nigerian Stock Exchange between 2005 and 2008 [inclusive]		
2011	Nwosa, Oseni	Stock prices over a fifteen- year period [1986 – 2010]	Serial auto-correlation and regression analysis	Weak-Form Efficient
2012	Azeez and Sulaiman	Returns on 240 stocks for a period from 2003 to 2007; and Daily index numbers ranges between January 2008 and December 2010	Ordinary Least Squared [OLS]	Strong-Form Efficient
2012	Afego	This paper examines the weak-form efficient markets hypothesis for the Nigerian stock market by testing for random walks in the monthly index returns over the period 1984-2009	Non-parametric runs test	Weak-Form Inefficient
2012	Gimba	Daily and weekly All Share Index and five most traded and oldest bank stocks of the NSE	Auto-correlation tests; non-parametric runs test; and variance ratio tests	Weak-Form Efficient
2012	Ajao, Osayuwu	Month end value of the All- Share Index from 2001 – 2010	Serial correlation technique	Weak-Form Efficient
2013	Fapetu, Adesina	Average monthly returns data of five banks over the period of 2007 to 2011	Market model for estimating residuals	Strong-Form Efficient
2013	Nneji	Stock prices from 1986 to 2009	ADF unit root test, the ARIMA Test, the VAR- based granger causality test, the Cointegration analysis and the Vector Error Correction Test	Weak-Form Inefficient
2014	Yadirichukwu, Ogochukwu	Monthly stock market indexes of the Nigerian stock market within the period s of 1984 and 2012	Unit root test and t-test to investigate efficient market hypothesis. Johansson cointegration test was used to establish relationship between the monthly share prices	Weak-Form Efficient
2014	Whisky	Monthly stock data for the period January to December 2011	Runs and GARCH techniques	Strong-Form Efficient
2015	Obayagbona, Igbinosa	The study uses three tests of randomness based on autoregressive technique to check for the presence or otherwise of autocorrelation in daily stock prices and returns from the Nigerian Stock Market from January 2006 to December 2011	Autoregressive technique	Weak-Form Inefficient
2015	Imafidon, Arowoshegbe	Daily stock prices data used was three months to the event day [6 th August 2010] and three months after the event day	Augmented Dickey- Fuller test	Semi-Strong- Form Efficient

2016	Ogbulu	The paper employed daily, weekly, monthly and quarterly aggregate stock price data using the NSE All Share Index series from 4th January, 1999 to 31st December, 2013 to test for the weak-form efficiency of the Nigerian Stock Exchange	The study employed a combination of seven [7] statistical and parametric tools namely- Autocorrelation tests, the ADF and P-P unit root tests, Variance Ratio tests, the Normality/Random Walk tests, the Granger Causality test, the ARCH-GARCH test and Regression rest	Weak-Form Inefficient
2016	Manasseh, Ozuzu, Ogbuabor	The study used daily data of 121 bonus issues observed and examined for the period 2002-2006	Event study methodology	Partial-Semi- Strong-Form Efficiency
2018	Ajayi, Oshadare, Ajala	Daily stock prices from 2005-2013	Modified transfer function approach	Semi-Strong Inefficient
2018	Adebanjo et. al	Monthly data from 2004 – 2014	Partial autocorrelation [PACF] test, runs test and Kolmogorov Smirnov test	Weak-Form Inefficient
2019	Gbalam, Nelson	Daily Nigerian Stock Exchange All Share Index from June 27, 2019 to August 18, 2019; Weekly Nigerian Stock Exchange All Share Index from August 5, 2018 to September 22, 2019 and Monthly Nigerian Stock Exchange All Share Index from October 2014 to September 2019	Unit root tests	Weak-Form Efficient
2019	Nageri, Abdulkadir	Secondary data from Nigerian Stock Exchange dated January 2010 to December 2016 divided into pre and post meltdown	GARCH models	Weak-Form Inefficient
2020	Ejem, Ogbonna, Okpara	Daily data from January 02, 2014 to May 20, 2019 and annual data from 1985 to 2018 collected from the Nigerian Stock Market Fact books	Unit root test, GARCH Model and the Autocorrelation	Weak-Form Inefficient
2021	Daniel, Omiete	Secondary 30-day data was secured from the statistical database of Central Bank of Nigeria and the Nigerian Stock Exchange Fact book of various publications covering 1981-2020	Runs test and Ljung and Box-Pierce test	Weak-Form Inefficient
2021	Ogemudia, Isibor	High and low frequency sample of Daily, Weekly, Month-end and Quarterly data spanning the period 1985 to 2019	OLS regression technique, serial correlation test, Runs Test [RT] and [K-S] method of analysis	Weak-Form Inefficient

Source: Author's own compilation.

4. Results and discussion

In this paper, a total of 23 studies were reviewed from 2010 till 2021which shows that the work is up to date. The evidence to show that the Nigerian capital market is informational efficient in the weak- form supports the earlier work of [Samuels, Yacout 1981] and later [Olowe 1996], [Okpara 2010], [Nwosu, Oseni 2011], [Gimba 2012], [Ajao, Osayuwu 2012], [Yadirichukwu, Ogochukwu 2014] among others. In another vein, some studies such as [Agwuegbo et. al 2010], [Afego 2012], [Nneji 2013] and a host of others. The above results showed that there is a lack of consensus on the weak form of efficiency in the Nigerian capital market. Be that as it may, it appears that the market is efficient in weak-form level.

It is however apparent that the findings on the efficiency of the Nigerian capital market may be influenced by structural problems concerning the level of the market development [Smith 2007; Chordia et al. 2008]. The reality is that stock or equity markets in most emerging economies remain highly illiquid and segmented, with trading and capitalization concentrated on few firms [Abdullahi, Garba 2017]. In Nigeria, while some investors entered the capital market to buy securities and hold unto them as a status symbol and a source of income, some acquire shares as alternative to savings while others see it as wealth, which should not be sold but bequeathed to children [Onoh 2002]. Invariably, only very few, actually trade insecurities for speculative purposes. This buy-and-hold attitude of investors with regard to securities impair the capital market activities. Liquidity is the barometer of how easily one can enter and exit the stock market. In Nigeria, for example, on a good day, the daily ticket size in about \$30m, in Turkey, one stockbroker could do about \$2m to \$3m [Oteh 2014]. The level of liquidity of a stock market is measured by the total value of shares traded on the stock exchange as a share of the gross domestic product. It is also measured as the value of traded shares as a percentage of total market. High liquidity of the capital market is by apriori positively related to the economic growth. The above scenario painted a gory picture of the illiquidity of the Nigerian capital market which invariably affect the market from being efficient among others.

4.1. Methodological issues

Both parametric and non-parametric measures have been employed by various researchers on the efficiency in the Nigerian capital market. The parametric tests include; Generalized Autoregressive Conditional Heteroskedacity (GARCH), Augmented Dickey-Fuller (ADF) test, Unit root test, Auto-correlation test, Serial auto-correlation, and a host of others. The non-parametric tests include Phillips-Perron (PP) unit root test, the Runs test, variance ratio tests. Most studies on the market efficiency in emerging stock markets have used the runs test and/or unit root test in detecting a random walk, which is a necessary condition for market efficiency in the weak-form [Gimba 2012]. Table 1 above also shows the methodology that has been employed by various researchers in testing the weak-form of efficiency in the Nigerian capital market.

The above tests are employed to show whether there is correlation among stock prices and the absence of correlation shows that the stock market is weak-form efficient or viceversa.

5. Conclusion

This paper provides empirical studies that have been published on the weak-form of efficiency in the Nigerian capital market spanning the period of 2010 to 2021. The review shows the absence of consensus among the various empirical studies which may be attributed to various forms of certain market imperfections, but, however, the Nigerian capital market appears to be efficient in the weak-form. However, Nigerian researches did not limit their empirical studies to the weak-form efficiency as they carried out tests in the other two forms of market efficiency as shown in Table 1 above, though the studies were very few.

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