Theoretical Evidence of the Efficient Market Test in the Nigerian Capital Market

Dumani Markjackson[*], Theophilus Kogiesi Omie[**]

*Department of Finance and Accountancy, Niger Delta University, P.M.B. 71, Bayelsa State, Nigeria
**Russian Presidential Academy of National Economy and Public Administration (RANEPA)

Abstract- The capital market is an integral part of the development of a nation. Thus, several studies have been carried out to determine the pricing mechanism and efficient market test of capital markets in both advanced and developing countries (Nigeria inclusive). This paper sets to determine the type of efficiency in the Nigerian Capital Market. The study adopted a desk research approach and reviewed several empirical works on the subject to provide theoretical evidence in the Nigerian Capital Market. The findings revealed that the Nigerian Capital Market is efficient in the weak form due to the ability of investors to decode a whole lot of information concerning the entire operations of the organizations listed in the exchange. It also emerged that the share prices in the NSE are not random and thus not efficient in the weak form. The findings are obviously antagonizing. Reason being that, the studies reviewed lacks clear cut demarcation between information, operation, and allocation efficiency in the capital market as one cannot assume the place of the other. We therefore suggest the creation of a real time channel for speedy dissemination of information concerning corporations in the exchange. For the researchers, we strongly suggest that more probing studies should be carried out to ascertain the operational, allocation and informational efficiency of the Nigerian Stock Exchange.

Keywords: Nigeria capital market, efficient market test, weak form, information.

I. INTRODUCTION

The efficient market hypothesis (EMH) was introduced by Eugene Fama in the mid-1960s to the field of finance (Chandra, 2012). The idea behind this concept is that all known information is immediately discounted by all investors and reflected in share prices in the capital market due to intense competition (Bhalla, 2011). Thus, the most crucial implication of the EMH can be put in the form of a slogan: Trust market prices! Also the implication of market efficiency to the functioning of the capital market especially as it concerns investors' returns and thus stimulation of investor's interest cannot be overemphasized. This is due to the fact that the behaviour of stock prices is explained by the behaviour of investors (Myowa & Richard, 2012). Simply put, the actions and inactions of investors determine share prices.

This perhaps is the reason why it continues to stimulate insight and controversy even today. Warren Buffet with all his insight on investment was amazed to the randomness the market and thus characterized the market as *"a slough of fear and greed untethered to corporate realities."* This is due to the fact that

price changes are not forecast-able because investors know all available information. According to Aguebor, Adewole, & Maduegbuna (2010), stock market forecasting is marked more by its failures than by its successes since stock prices reflect the judgment and expectations of investors based on information available.

The capital market, more than ever before, has metamorphosed into a conduit for economic development. Thus, according to Lagoarde-Segot & Lucey (2008), this function is dependent on the informational, operational, and allocation efficiency of the stock market. Therefore, efficient markets provide ready finance for worthwhile business ventures and drain capital away from corporations which are poorly managed or producing obsolete products. Thus, it is essential for nations to have an efficient market if such a nation is to enjoy the highest possible economic indices. This implies that to have an inefficient market is to have the lowest possible economic indices.

It is worthy of note that market efficiency does not occur out of serendipity. According to Osie (1998) in Azeez & Sulaiman (2012), market efficiency depends heavily on the analytical and interpersonal abilities of those who trade in the market, and their effort towards obtaining and spreading price sensitive information. Thus, the poor analytical and interpersonal inability of the investors and the inability of the capital market to execute its functions (liquidity and fair pricing of securities; Pandey, 2010) suffice an inefficient capital market.

However, due to the potency of different strides of information, Fama (1970) proposed three forms of EMH. They are; the weak form, the semi-strong form, and the strong forms of efficient market. These strides of information are further categorized into: price information, other public information, and inside information. Thus, tests of market efficiency are essentially tests of whether these three types of general information can be used to make above-average returns on investment.

The objective of this paper however, is to use the deck research technique to ascertain the form of efficiency that is obtainable in the Nigeria capital market. The rest of this paper is organized as follows: empirical literature review, discussion of findings, conclusion and recommendations.

II. EMPIRICAL LITERATURE REVIEW

Several scholars both of old and contemporary times has investigated and tested the various forms of efficient market. Fama (1965) studied the weak form of market efficiency with sample of 30 Dow Jones Industrial stocks. The serial correlation coefficients were statistically significant but too small to cover

transaction costs of trading. That is, Dow Jones Industrial stocks are efficient in the weak form.

Subsequently, a number of studies have shown evidence in favour of the random walk of securities. Udoka (2012) investigated information efficiency of the Nigerian Stock Exchange (NSE) with monthly time series data and adopted ordinary least square (OLS) to determine the efficiency of the NSE and found that the Share Price Index is statistically significant (i.e. the market is efficient in the weak form). Further probe found that an informed investor can make capital gains from the price differential resulting from the fact that the t-value is greater than the p-value. Similarly, Samuels & Yacout (1981) applied autocorrelation tests on weekly price series of 21 stocks listed on the NSE from 1978 to 1979. Their study found no autocorrelation and concluded that the NSE is efficient in the weak form.

Mayowa & Richard (2012) also tested the weak form of efficient market hypothesis in the Nigeria Capital market. The All Share Index from 2001 t0 2010 were analyzed using serial correlation technique. The analysis found that price changes of shares in the NSE are unrelated and normally distributed. They therefore concluded that Nigerian Capital Market is efficient in the weak form.

Furthermore, Jefferis & Smith (2005) tested for efficiency across time in 11 African markets including Nigeria. They adopted time-varying GARCH models on equity price data spanning the period (1990-2001). The study reported that Egypt, Morocco and Nigeria only became weak-form efficient towards the end of the study period (i.e. 2001).

III.   DISCUSSION OF FINDINGS

Empirical evidence from previous studies reviewed in this paper shows that there are two opposing views to the weak form of the efficient market hypothesis (EMH) in the Nigerian Capital Market and some markets in Africa. Studies by Fama (1965), Udoka (2012), Samuels & Yacout (1981), Mayowa & Richard (2012), and Jefferis & Smith (2005) found the Nigerian Capital Market to be efficient in the weak form. This means that current share prices in the NSE carry record of past prices and volume information. Thus, this implies that past data cannot be used to predict future stock prices to make abnormal profits due to monopoly of superior trading information. This according to our findings is because investors know all information concerning management style, operational style, product quality and demand and industry indices etc. simultaneously, interprets it similarly, and behaves rationally. The implication of this is that the NSE is a veritable conduit for draining capital away from corporations that are poorly managed or producing obsolete products to better managed corporations.

The other side of the divide is studies by Nwidobie (2014), Mojekwu & Ogege (2012), Magnusson & Wydick (2002) and Afego (2012). In their separate studies, we found that the share prices in the NSE are not random and thus not efficient in the weak form. This means that share prices in the NSE can be predicted using past information about the stock. This further refutes Fama's 1965 postulation of no serial correlation of successive share prices. The implication of this is that share prices are not reflecting the intrinsic value of the corporation. Thus, the NSE drain capital away from productive and better

In sharp contrast to these findings are the studies that have evidence against the random work hypothesis. Nwidobie (2014) carried out an empirical test in the Nigerian Capital Market. The All Price Index (API) data covering Jan; 2000 to Dec; 2012 was adopted and the Augmented Dickey-Fuller (ADF) test show that share price movements on the NSE do not follow the random walk pattern described by Fama (1965). Thus, the study concluded that the random walk hypothesis is not supported by findings in the Nigerian Capital Market. Mojekwu & Ogege (2012) also evaluated the weak form efficiency of the Nigeria stock market. They used monthly data between (January 1985 to December 2010) and the econometric analysis found that there exist a strong correlation between past prices and present prices. This means that share prices under this period were not random, thus, the stock market is not efficient in the weak form.

Furthermore, in a combined study by Magnusson & Wydick (2002) using partial autocorrelation test for a number of African markets including Nigeria. The study found evidence of autocorrelation in share returns for Nigeria, Ghana and Zimbabwe, thus suggesting that these markets are not weak form efficient. In the same vein, Afego (2012) analysis on the weak form efficient market for random walk in the monthly index returns between the years (1984-2009) displayed predictable components of share prices in the NSE and therefore suggested that traders can make superior returns by applying superior trading rules.

Consequently, due to the lack of consensus in findings from previous literatures; we intend to consolidate the empirical findings with theory.

managed corporations to poorly managed corporations that are producing obsolete products, thereby hampering growth and development of the economy.

Furthermore, we also found that almost all the studies considered in this paper neglected a clear cut demarcation between informational, operational, and allocation efficiency in the NSE. Thus, there is no evidence to affirm whether the market is information, operation and or allocation efficient; as one cannot assume the place of another.

IV.   CONCLUSION

The paper examined empirical studies aimed at presenting theoretical evidence of the efficient market test in the Nigerian capital market. The paper observed that the NSE drain capital away from productive and better managed corporations to poorly managed corporations that are producing obsolete products, thereby hampering growth and development of the economy. Irrespective of this, the place of the Nigeria capital market and the efficient market hypothesis cannot be down played. Although, empirical evidence is conflicting on the randomness and or non-randomness of stock prices in the Nigerian Capital Market, it still gives an understanding of the operations in the capital market.

We recommendations the following:

Systemic and creative channels should be created to ensure the speedy dissemination of information concerning corporations in the Nigerian Stock Exchange.

Researchers should embark on more probing studies to ascertain the operational, allocation and informational efficiency of the Nigerian Stock Exchange.

REFERENCES

[1] P. Afego, "Weak form efficiency of the Nigeria capital market: An empirical analysis (1984-2009)," 2012.

[2] B. A. Azeez, & L. A. Sulaiman, "Capital market efficiency: A test of the strong form in Nigeria" *Australian Journal of Business and Management Research*, 2012, 2(3)

[3] V. K. Bhalla, *Investment Management: Security Analysis and Portfolio Management* (17th ed.). New Delhi: S. Chand and Company Ltd, 2011

[4] P. Chandra, *Investment Analysis and Portfolio Management* (4th ed.). New Delhi: McGraw Hill Education, 2012

[5] E. F. Fama, "The behaviour of stock-market prices," *Journal of Business,* 1965

[6] K. Jefferis, & G. Smith, "The changing efficiency of Africa stock markets" *South African Journal of Economics*, 2005, 2(2).

[7] T. Largoarde-Segot, & B. M. Lucey, "Efficiency in emerging markets: evidence from the MENA region," *International Financial Markets, Institutions and Money*, 2008, 3(4).

[8] M. A. Magnusson, & B. Wydick, "How efficient are Africa's emerging Stock Markets?," *Journal of Development Studies,* 2002, 38.

[9] G. A. Mayowa, & O. Richard, "Testing the weak form of efficient market hypothesis in Nigerian Capital Market," *Accounting and Finance Research*, 2012, 1(1).

[10] J. N. Moyekwu, & S. Ogege, "Econometric Investigation of the Random Walk Hypothesis in the Nigerian Stock Market, 2012 (Unpublished)

[11] B. M. Nwidobie, "The random walk theory: An empirical test in the Nigerian Capital Market," *Asian Economic and Financial Review*, 2014, 4(12).

[12] I. M. Pandey, *Financial Management* (10th ed). New Delhi; Vikas Publishing House PVT Ltd, 2010

[13] J. M Samuels, & M. Yacout, "Stock exchange in developing countries," *Savings and Development*, 1981, 5(4).

[14] C. O. Udoka, "Weak-form market efficiency: Dynamic effects of information on the Nigerian Stock Market," *Interdisciplinary Journal of Contemporary Research in Business*, 2012, 4(7).

[15] J. Wang, "Fundamentals of erbium-doped fiber amplifiers arrays (Periodical style—Submitted for publication)," *IEEE J. Quantum Electron.*, submitted for publication.

AUTHORS

First Author – Markjackson, Dumani,
B.Sc, M.Sc Banking and Finance,
Department of Finance and Accountancy,
Niger Delta University,
abibami1990@gmail.com

Second Author – Theophilus Kogiesi Omie,
B.Sc Accounting, M.Sc Global Finance,
Russian Presidential Academy of National Economy and Public Administration (RANEPA),
cephastheophilus@gmail.com

Correspondence Author – Markjackson, Dumani,
abibami1990@gmail.com, +2348089383905