Measurement of Liquidity Effects on Stock Market Returns Using Market Capitalization Ratio – A Study of Zenith Bank Nigeria Plc

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Abstract

The study focused on measuring liquidity effects of stock market returns on one of the leading quoted participant in the banking sector –Zenith Bank Plc which has performed consistently well within the banking subsector of the market. The methodology used was simple regression method. Again the variables were daily data from 2001 to 2017. The ALL Share Index when logged was a proxy for stock returns and the market capitalization ratio measured by value of shares traded divided by market capitalization multiplied by 100. The results showed that the coefficient of determination (R-square), which measures the goodness of fit of the model, indicates that 94.1 % of the variations observed in the dependent variable were explained by the independent variables. The result shows that market capitalization value ratio has a positive and significant impact on All Share Index. This study recommends that the Nigerian Securities and Exchange Commission should create policies that will encourage increases in firms profit after tax and their dividends as these variables have been statistically proven to have strong significances on the changes in the company's performance and the value of market capitalization. Further attempts can be made to study the cross-sectional variation of stock liquidity and trading activity given the vulnerability of investors to unexpected market shocks. It is important that more research be made in studying theoretical and empirical applications of models measuring weighty risk management strategies such as portfolio rebalancing. As a risk control strategy knowledge of portfolio rebalancing can be seen where an informed investor acknowledges the usefulness of compounding effect of returns on his portfolio by calculating based on compound average and not simple average.

Keywords: Measurement, liquidity effects, stock market returns, market capitalization ratio and Zenith bank Nigeria Plc.

I.0 Introduction

Zenith Bank Plc was established in May 1990, and commenced operations in July of the same year as a commercial bank. The Bank became a public limited company on June 17, 2004 and was listed on the Nigerian Stock Exchange (NSE) on October 21, 2004 following a highly successful Initial Public Offering (IPO). Zenith Bank Plc currently has a shareholder base of about one million and is Nigeria's biggest bank by tier-1 capital. In 2013, the Bank listed $850 million worth of its shares at $6.80 each on the London Stock Exchange (LSE).

Headquartered in Lagos, Nigeria, Zenith Bank Plc has more than 350 branches and business offices in prime commercial centers in all states of the federation and the Federal Capital Territory (FCT). In March 2007, Zenith Bank was licensed by the Financial Services Authority (FSA) of the United Kingdom to establish Zenith Bank (UK) Limited as the United Kingdom subsidiary of Zenith Bank Plc. Zenith Bank also has subsidiaries in: Ghana, Zenith Bank (Ghana) Limited; Sierra Leone, Zenith Bank (Sierra Leone) Limited; Gambia, Zenith Bank

(Gambia) Limited; UAE, Zenith Bank (UK) Limited - (DIFC Branch). The bank also has representative offices in South Africa and The People's Republic of China. The Bank plans to take the Zenith brand to other African countries as well as the European and Asian markets.

Zenith Bank is one of Nigeria's largest banks. The bank currently has a shareholder base of about one million and is the biggest tier-1 bank in Nigeria. Established in May 1990, it became a public limited company on June 17, 2004 and was listed on the Nigeria Stock Exchange on October 21, 2004. The bank's shares are traded on the London Stock Exchange (LSE) following a listing of the $850 million worth of its shares at $6.80 each. With its headquarters in Lagos, Nigeria, Zenith Bank has more than 350 branches and business offices spread across all states of the Federation and the Federal Capital Territory (FCT), Abuja. Zenith Bank has presence in the United Kingdom, United Arab Emirates, Ghana, Sierra Leone and The Gambia. The Bank also has representative offices in South Africa and China and plans are afoot to take the Zenith franchise to other Sub-African regions as well as the European and Asian markets while consolidating its position as a leading financial service provider in Nigeria and locations where she currently operate.

The efficient market hypothesis posits that stocks are priced efficiently to reflect all available information about the intrinsic value of the security as it has been said that an efficient market is one where all unexploited profit opportunities are eliminated by arbitrage (Ajayi, Mehdian and Perry, 2004). A considerable volume of literature has, however, documented several persistent and potentially exploitable daily patterns on stock market liquidity and these anomalies present legitimate challenges to an efficient stock market.

Testing the efficiency of the market is very important for the investors, stock brokers, financial institutions, government etc. for understanding the functioning of the capital markets and ability to enhance liquidity. An efficient market is one which does not provide any chance to the potential investors for earning abnormal profit as all the information is dispersed and absorbed in the market and is quickly and accurately reflected by the prices of securities thereby opening up the market. Therefore, there will be no undervalued securities offering higher than expected returns, considering the risk associated with them. The capital market of an economy plays a significant role in the overall development of the economy. It is an institutional arrangement which facilitates the long-term borrowing and lending of funds. A market is termed as efficient if prices of securities reflect all the information pertinent to them.

A market is characterized as efficient if stock prices promptly reflect any new publicly available information and it is called efficient when all available information whether available publicly or privately affects stock market returns. It is against the concept of how efficient the Nigerian stock market is that, this study examined the impact of liquidity and volatility on stock market returns of the Nigerian stock market.

Over the years, Economists have been emphasizing the need for effective mobilization of resources as a catalyst for national development in any economy, which can only be achieved through the effectiveness in the mobilization and allocation of funds to different sectors of the economy. Basically, the capital market is primarily created to provide avenues for effective mobilization of idle funds from the surplus economic units and channel them to the deficit economic units for long-term investment purpose. It, therefore, serves as a linkage or mechanism between the deficit sector and the surplus sector in any economy. The suppliers of funds are basically individuals and corporate bodies as government rarely supply funds to the market. The users of funds, by contrasts, consist mainly of corporate bodies and government.

There is ample evidence that liquidity and volatility affects asset returns. There are market-wide liquidity risks and volatility factors, stock with higher sensitivity to innovations in aggregate liquidity have higher expected returns. However, there is still a considerable debate on the precise definition and role of liquidity and its link to volatility.

Studies on the relationship between stock market returns, market liquidity and volatility in the Nigerian Capital Market are few. But for the much of the study that is available the validity of volatility measures used has been called to question considering contradictions to theory.

The limitations of the traditional procedures motivate the different approaches for measuring and analyzing properties of volatility and market liquidity and scholars such as Dimitri and Jiang (2012) assumed in their premise that asymmetric nature of information influences the speed and magnitude at which information reflects in prices and have consequences on the level of liquidity and volatility by causing the prices to wander away from the intrinsic value especially in periods of low liquidity. Forgha (2012) stated that this mispricing makes investors to feel disappointed when their high risk premium falls short of expectations causes increases in the cost of capital.

One line of research views liquidity as a characteristic that influences returns beyond trading costs. Nyong (2005) identifies high costs of transactions as a liquidity constraint. He specifically mentioned that the fixed elements of transaction costs are unfairly tilted against small volume investors. Onwumere (2005) opines that transaction costs can cause one transaction or market to be more profitable than the other but they are not reflective on the share price directly hence in the short run they have liquidity implications but no volatility significance. Ajayi (2004) stressed that volatility in the Nigerian capital market is common in periods where investor behaviour changes, he also stated that market reactions are linked to sensitiveness of returns to fluctuations in aggregate liquidity.

Ekundayo (2002) identifies liquidity constraints as caused by unfair valuations in pricing securities and informational asymmetry and so concluded that the Nigerian capital market was inefficient. The degree of efficiency of the stock market often depend on the level of information disclosure and the speed with which that information is processed by the market and incorporated in returns. Stock markets have been found to be fairly efficient in advanced economies as well as in a number of emerging markets (Pandey, 2005). However, given the peculiarities of the Nigerian environment, the attributes of an efficient stock market have not been achieved. An efficient stock market enhances liquidity and ensures fair valuations of shares prices thereby encouraging investors to invest. Over time in Nigeria, this attributes of efficiency such as no entry barrier, large number of buyers and sellers, divisibility of financial assets, absence of transaction cost, no tax differences and free trading has not been achieved.

Another problem which has also bedeviled the Nigerian investors from enjoying liquidity thereby reducing confidence is the incidence of tax abnormalities and information asymmetries. Choudhry (2000) also mentioned tax abnormalities as a constraint especially in countries with higher company tax prevalence. Most economies have varieties of taxes and tax incentives which enhances confidence however, the different types of taxes such as capital gain tax, vat etc have reduced benefits which would have accrued to the investor. Again, most financial information is published and is publicly available. But sometimes, certain persons may have superior information than others. In Nigeria, the quality of information is low as all available information are not easily processed and incorporated into shares prices. Investors therefore, interpret lack of information as an increase in the risk of equity investment and consequently they shift their funds to less risk businesses.

Since Keynes' stock market critique in 1936, stock price volatility has been related to low transaction costs which allegedly facilitate destabilizing financial speculation. Although existing empirical evidence mostly suggests that higher transaction costs foster rather than mitigate financial price volatility, it suffers from serious methodological problems related to the data structure and biased volatility measurement. The rate of regulatory, organizational and technological progress seen in more developed markets is not the same in Nigeria so the effect on reduction of transaction costs in the Nigerian market is not significantly felt subsequent to which the profit and dividend expectations dwindles due to high costs of transactions in the course of transferring or conversion of assets.

Sarr and Lybek (2002) mentioned high transaction of liquidity problems and consequently creating more uncertainty. Ekundayo (2002) interprets uncertainty as risky and may lead many whose costs as a frequent cause are risk averse to invest funds in less risky funds outside the capital market, this affects the variables measuring liquidity and volatility such as the All Share Index, volume and value of shares traded and market capitalization. In the long run this impact can cause reduction in foreign and domestic investment and increase the opportunity costs associated with not trading in market at a time it would have been more profitable to do so as observed by Banaji (2002) in his work on foreign portfolio effects on the equity segment of the Indian stock market.

The research has as its primary objective the task to examine the impact of stock market liquidity using the market capitalization ratio in the Nigerian capital market by studying the Zenith Bank Plc. The study intends to know the significance or otherwise of the effect of stock market liquidity on stock returns of Zenith Bank.

2.0 Literature review

Therefore the investment strategy of an investor will consider the overall risk and return of the portfolio rather than of an individual security. However, if markets are not efficient, higher returns can be made by correctly picking winners (Rutterford, 1993). It has been empirically proved that most western equity markets are more efficient in comparison to their developing countries counterparts (Gupta and Basu, 2007). Like fair game in game theory the expected return from efficient market is also zero (Fama, 1965). Fama (1970) and (1991) provided the formal definition of "Market Efficiency". Fama categorized market efficiency into three classes which are weak form, semi strong form and strong form. In Weak form of efficiency the stock yields are serially un-correlated and have a perpetual mean. In other words, a market is considered weak form efficient if current prices completely imitate all information incorporated in past prices, which means that no investor can toil a plan on the basis of past price patterns alone with the purpose of earning abnormal returns. Semi strong efficiency suggests that only information that is not publicly available can benefit investors seeking to earn abnormal returns on investments. All other information is accounted for in the stock price and, regardless of the amount of fundamental and technical analysis one performs, above normal returns will not be had. The last of the market efficiency ideology is the strong market efficiency which implies that profits exceeding normal returns cannot be made, regardless of the amount of research or information investors have access to, the premise being that all market information public or private is accounted for in the stock price.

Seasonalities in security market returns have been extensively documented. Among the different seasonal effects observed in stock markets, an interesting one is the seasonality across the days of a week. Its discovery goes back to Fields (1931). Fields observed that the US stock market consistently experienced significant negative and positive liquidity on Mondays and

Fridays respectively. The observation once again started receiving increasing attention during the 1980's (French, 1980; Gibbons and Hess, 1981; Lakonishok and Levi, 1982), especially when it was discovered that capital markets of many other countries also experience similar seasonality (WesterField, 1985; Peiro, 1994; Agarwal and Tandon, 1994). This "day of the week effect", in sharp contrast to the theories of efficient market, was considered a puzzle and despite different theories, so far the puzzle has not been satisfactorily resolved.

As more and more empirical evidence are obtained from different stock markets all over the world, the puzzle far from being solved seems to have increased. Using a long time series data from 1962–1993, Wang *et al* (1997) found out that the US capital market enhances liquidity. Also studying liquidity in the US market, Peiro (1994) observed that there were positive stock market returns. Of late, studies have incorporated volatility of market returns in the framework of analysis (Ho and Cheung, 1994; Choudhry, 2000).

The vital roles played by the capital market in the achievement of economic growth thereby enables governments, industries and corporate bodies to raise long-term capital for the purpose of financing new projects and for expanding and modernizing industrial concerns. A unique benefit of the capital market to corporate entities is the provision of long-term, non-debt financial capital. To determine the impact of stock market on the Nigeria economy, more funds are needed to meet the rapid development and expansion of the economy. The stock market serves as a veritable tool in the mobilization and allocation of savings among competing ends which are critical and necessary for the growth and efficiency of the economy. Therefore, the determination of the overall growth of an economy depends on how efficiently the stock market performs its allocation functions of capital.

In capital markets, the stock in trade is money which could be raised through various instruments under well-governed rules and regulations, which are carefully administered and adhered to by different institutions or market operators. It is, therefore, a fact not disputed that the rate of economic growth of any nation is inextricably linked to the sophistication of its financial market and specifically its stock market efficiency. The fund required by the corporate bodies and governments are often huge, sometimes running into billions of naira. It is, however, usually difficult for these bodies to meet such funding requirements solely from internal source. Hence, they often look up to the stock market because it is the ideal source as it enables corporate entities and government to pool monies from a large number of people and institutions.

Recently, the volatility of stock market return on the Nigerian stock market has been of concern to investors, analysts, brokers, dealers and regulators. Stock return volatility which represents the variability of stock price changes could be perceived as a measure of risk. The understanding of the volatility in a stock market will be useful in the determination of the cost of capital and in the evaluation of asset allocation decisions. Policy makers therefore rely on market estimates of volatility as a barometer of the vulnerability of financial markets. However, the existence of excessive volatility, or "noise," in the stock market undermines the usefulness of stock prices as a "signal" about the true intrinsic value of a firm, a concept that is core to the paradigm of the informational efficiency of markets (Karolyi, 2001).

Financial markets are well known for their uncertainty, especially the irregularity in the behaviour of certain financial indices, such as stock prices, exchange or interest rates, government bonds, treasury bills and so on, that are prone to constant variability. Such variability, otherwise known as volatility can generate very high frequency series of random

variables which are stochastic in nature, the dynamics of which can best be described by means of models.

Numerous studies have documented evidence showing that stock market returns exhibit phenomenon of volatility clustering, leptokurtosis and Asymmetry. Volatility clustering occurs when large stock price changes are followed by large price changes, of both signs, and small price changes are followed by periods of small price changes. Leptokurtosis means that the distribution of stock market returns is not normal but exhibits fat-tails. In other words, Leptokurtosis signifies high probability for extreme values than the normal law predicts in a series, meaning that a fall in return is followed by an increase in volatility, greater than the volatility induced by an increase in returns. This implies that more prices wander far from the average trend in a crash than in a bubble because of higher perceived uncertainty (Mandelbrot, 1963; Fama, 1965; Black, 1976). These characteristics are perceived as indicating a rise in financial risk, which can adversely affect investors' assets and wealth. For instance, volatility clustering makes investors more averse to holding stocks due to uncertainty. Investors in turn demand a higher risk premium in order to insure against the increased uncertainty. A greater risk premium results in a higher cost of capital, which then leads to less private physical investment.

There is a very significant correlation between money supply, deflated for changes in the consumer price index, and the general level of stock prices. Increases in the money supply provide liquidity, however increases in the consumer price index decreases liquidity. Evidence have been provided in the studies of many stock market models by academics ranging from rigorous analytical frameworks to questionable intuitive reasoning suggesting that liquidity plays a significant role in explaining the cross-sectional variation in stock returns. According to Mazumdar, (2004), changes in liquidity measured by increase in market capitalization are also a casual factor producing immediate changes in stock returns.

Adequate market liquidity motivates investors to adjust their wealth portfolios in such a manner as to yield predictable movements in the prices of securities. Liquidity considerations correspond to the individual's attitude to risk, the risk preference of the investor influences the individual's choice for precautionary-liquid balances. Generally as the size of an individual's portfolio increases the smaller will be the portion of highly liquid assets held. Demand pressure, exogenous trading costs, inventory risk, search frictions, and asymmetric information are common denominators affecting liquidity in the market. There is increased cost to the investor who holds assets that are less than perfectly liquid hence there is a positive relationship between stock returns and illiquidity, conversely, the relationship between stock returns and liquidity should be negative. Patient investors who make long term investments in assets that are sensitive to liquidity expect higher returns as a compensation for additional risks. That is why there should be liquidity risk premium in stock pricing (Amihud, 2002).

Amihud et al (2005) studied the implications of liquidity on stock returns defining the degree of market liquidity as the cost of immediate execution. They also indicated that the bid-ask spread contains a premium for immediate purchase or sale, and also that the spread between supply and demand is a natural measure of liquidity. Amihud et al (2005) proved that in an equilibrium context there is an increasing and concave relationship between required return rate and the degree of liquidity of financial assets. They also show that financial assets spreads are negatively correlated with certain measures of liquidity such as trading volume. Amihud et al (2005) indicate that measuring the degree of liquidity compared to bid-ask spread is critical since the spread contains an information asymmetry component. In other words the

effects of liquidity with information asymmetry may often be measured by the variable component of transaction costs. As anticipated return increases expectedly market liquidity reduces but time forecast return excess compensates market's anticipated liquidity. Amihud (2002) proves that anticipated market illiquidity has a positive and significant effect, while non-anticipated illiquidity has a negative and significant effect. Market-wide liquidity is a factor for pricing common stocks. Expected stock returns are related cross-sectionally to the sensitiveness of stock returns to innovations in aggregate liquidity. Stocks that are more sensitive to aggregate liquidity have substantially higher expected returns, even after accounting for exposures to the market return as well as size, value, and momentum factors.

Dimitri and Jiang (2012) used liquidity measures capturing dimensions associated with the strength of volume-related return reversals. Liquidity measures are characterized by significant commonality across stocks, supporting the notion of aggregate liquidity as a priced state variable. Smaller stock are less liquid, according to our measure, and the smallest stocks have high sensitiveness to aggregate liquidity.

Financial markets deviate, to varying degrees, from the perfect-market ideal in which there are no impediments to trade. Trade impediments reduce the liquidity that markets offer. In theory lack of market liquidity is often attributed to underlying market imperfections such as asymmetric information, different forms of trading costs, and funding constraints. Dimitri .V and Jiang .W (2012) studied how these imperfections affect expected asset return across markets by empirical estimating measures of liquidity using theoretical models relating them to asset characteristics and asset returns.

Theoretically, researches are conducted studying a variety of market imperfections, relying on different modeling assumptions. For example Nilsson (2002) in his study of Nordic stock return characteristics assumed the life-cycle and risk sharing motives to trade and relating them to trading costs. The findings of Najand (1991) also using liquidity models consolidated positions taken by Mestel et al (2003) that asymmetric information often rely on noise trading.

Some scholars who worked on the assumptions of asymmetric information mostly assume risk-neutral market makers who can take unlimited positions, while others studying imperfections typically assume risk aversion or position limits. In the attempts to link empirical methodologies and findings with theory Dimitri and Jiang (2012) considered six imperfections affecting measures of liquidity; they are participation costs, transaction costs, asymmetric information, imperfect competition, funding constraints and search to measure the effect of price volumes on price and also measure price reversal using auto-covariance of returns.. Some of the liquidity measures used in finance are derived from theoretical models while other measures are intuitive or heuristic especially useful in interpreting existing results and suggesting new tests and analysis.

Imperfection affects price reversals and expected returns in a unified model hence delivers new insights by improving on existing literature. These imperfections where accurately measured can indicate the existence and to what extent of price impact per unit trade and trade size per period measured. Again imperfections do not always raise expected returns and the validity of the assumption has been put to test on a number of occasions and many scholars are in agreement that this assumption are likely to hold in certain conditions than others. Some liquidity impact measures such as price reversal are motivated by theory but others like bid-ask spread, market depth, turnover and trade size are more intuitive or heuristic. Other ways of measuring liquidity could be as an aggregate asset, single asset, variations across assets

overtime, relationship to asset characteristics such as supply and volatility and expected asset returns.

Emphasis has been placed in literature reviews on links to theory of empirical measures of liquidity reflecting underlying market imperfections by trying to find out the role of theory in accounting for the variation of liquidity measures and asset characteristics such as expected returns. Theory in most cases has been proven to shed new light on existing empirical results and suggest new tests and analysis. Huang, Jennifer and Jiang (2009) opines in theory that effectiveness of a particular measure of illiquidity, in terms of reflecting the underlying market imperfection, depends on the imperfection. This is why some measures are more successful than others in capturing liquidity and its relationship with expected asset returns in some markets. Using those measures, and controlling for additional factors suggested by theory, would yield sharper empirical tests.

Liquidity effects can manifest themselves over different time horizons. The market microstructure literature focuses on short horizons, from minutes or hours to days or weeks. At the same time, recent work on the limits of arbitrage finds that flows can affect returns even at the longer horizons used in asset-pricing analysis, e.g., months, quarters or years. Most of the theoretical literature considers one imperfection at a time and thus does not allow for interactions. Again the underlying economic causes of the imperfections and the ways in which imperfections are linked is also contentious. Huberman et al (2001) attributed the linkage problem to some imperfections being a consequence of other more fundamental ones. For example, some types of transaction costs viewed as a consequence of participation costs or asymmetric information, then costly participation could be linked to asymmetric information. Asymmetric information could underlie the contracting frictions that give rise to funding constraints.

Endogenizing some market imperfections from more fundamental frictions could further streamline, clarify and deepen the study of market liquidity. In particular, various forms of informational problems could be the underlying economic cause for various forms of imperfections. Geert and Guojun (1997) wrote that a large fraction of trading activity in financial markets is generated by specialized financial institutions, and these institutions can be important suppliers or demanders of liquidity. In the models a common friction unfortunately often underestimated or ignored in studies of this nature is funding constraints. The importance of financial institutions in affecting asset prices is emphasized in a rapidly growing literature on the limits of arbitrage.

Related to the institutional context is the issue of market design. While some researches consider ways in which markets deviate from the Walrasian ideal, they have not studied market design in depth observed Huberman et al (2001). The market microstructure literature studies various dimensions of market design and shows that they can affect market performance. Such dimensions include whether liquidity is supplied by dedicated market makers or an open limit-order book, whether limit orders are visible to all traders, whether transactions are disclosed to all traders after they are executed, etc. It is vital for any analysis to be conducted at a more aggregate level with more market detail, so that an attempt can be made to derive some key effects within a tractable unified model is in computing empirical measures of market depth and resiliency at such horizons.

Liquidity measures applied in certain models at the microeconomic structure are strong indicators on how imperfections can measure policy actions on welfare, asset returns. Amihud,

Mendelson and Pedersen (2005) focused mainly on transaction costs while Huang et al (2009) concentrated their study on imperfections attributed to limits of arbitrage and how ex-ante expected returns are affect by imperfections. Huang and Wang (2009) study how participation costs affect both the demand for immediacy, which Grossman and Miller (1988) treat as exogenous, and the supply. They assume that liquidity shocks are opposite across agents and do not affect the price in the absence of participation costs. Participation costs lower the price because sellers are more willing to participate than buyers. The intuition is that sellers receive a larger risky endowment, and are hence more concerned about the risk that an additional shock will leave them with a large risk exposure.

In addition to costs of market participation, agents typically pay costs when executing transactions. Transaction costs drive a wedge between the buying and selling price of an asset. They come in many types, e.g., brokerage commissions, exchange fees, transactions costs can be viewed as a consequence of other market imperfections. Costly participation can generate price-impact costs. The difference between transaction costs and participation cost is that the decision whether or not to incur the transaction costs is contingent on the price. The effect of transaction costs on the price depends on the relative measures of liquidity suppliers and demanders since transaction costs impact the liquidity measures and the expected return.

Vayanos (2004) explores time variation in investor horizons, assuming constant transaction costs. He assumes that investors are fund managers subject to withdrawals when their performance drops below a threshold, and the volatility of asset dividends is time-varying. During volatile times, fund managers' horizon shorten because their performance is more likely to drop below the threshold. This causes liquidity premium per unit of transaction costs to increase precisely during the times when the market is the most risk averse. In researching on time varying transaction costs and liquidity premium Vayanos (2004) further supports pricing factors related to aggregate liquidity augments traditional pricing models like CAPM.

According to Guha Deb and Mukherjee (2008) who posit that academic literature on the relationship between financial development and economic growth dates back to as early as the early twentieth century Schumpeter (1911).The issue of financial development and economic growth has been of great interest and had generated considerable amount of debate among economists for many years. The debate primarily revolved around two major questions: first whether at all there is a relationship between development of financial sector on economic growth and second: what could be the nature and direction of the causal relationship, if any i.e. does development of financial sector promote economic growth or does economic development foster financial sector development? The possible directions of causality between financial sector development and economic growth were highlighted by Granger (1987) in his 'supply leading' and 'demand following' hypotheses. The 'supply leading' hypotheses claims a causal relationship from financial development to economic growth by saying that intentional creation and development of financial institutions and markets would increase the supply of financial services and thus lead to economic growth while the demand following hypothesis claims that it is the growth of the economy which causes increased demand for financial services which in turn leads to development of financial markets.

Levine and Zervos (1998) have found positive impact of financial development on economic growth in line with the 'supply leading' hypothesis. Kletzer and Pardhan (1987), Beck (2002), also argue along similar lines but they also tried to establish that financial development is much more effective in promoting economic growth in more industrialized economies than in agricultural economies. Their view has been contradicted in some other studies which argue

that countries at their early stage of development benefit more from financial sector development than their older and mature counterparts (Fry, 1995).

However most of these studies being cross country regression based studies; there were some inherent weaknesses in such analysis that drew considerable criticism from contemporary researchers. Levine and Renelt (1992) talks about omitted variable bias or misspecification, Evans (1995) and Pesaran and Smith (1995) highlight the effect of heterogeneity of slope coefficients across countries, while problems of causality and endogeneity are explored by Demetriades and Hussain (1996) and Harris (1997).

Motivated by such criticism, Levine et.al (2000) examined empirically the same issue by incorporating adequate corrections for the effects of simultaneity bias and country specific effects, effects of other determinants of growth and biases arising from model specific errors like omitted variables. Their conclusions identified a causal relationship running from financial development indicators to economic growth even after controlling for such factors. Support for the 'demand following' argument is also there in the research works over the last four or five decades. Robinson (1952) argued that financial development primarily follows growth in the real economy, as a result of increased demand for financial services. Lucas (1988) stated that the role of financial sector development in causing economic growth of a country has been 'badly overstressed'.

Guha Deb and Mukherjee (2008), explore the causal relationship between stock market development and economic growth in the Indian economy for the period from 1996:Q4 – 2007:Q1 using Granger non-causality proposed by Toda and Yamamoto (1995) and using three important indicators for stock market development variables such as market capitalization ratio (size proxy), value traded ratio (activity proxy) and stock market volatility and GDP growth rate is used as a proxy for economic development, they found that first, there is a bidirectional causality between real GDP growth rate and real market capitalization ratio and secondly, there is a unidirectional causality both with stock market activity and volatility to real GDP growth in Indian economy. In other words, Toda Yamamoto (1995) causality test results which suggest that stock market development leads to economic growth at least for the period under study is in line with the 'supply leading' hypotheses.

Also Osinubi and Amaghionyeodiwe (2003) say the stock market is a common feature of a modern economy and it is reputed to perform some necessary functions, which promote the growth and development of the economy. Thus they examined whether stock market promotes economic growth in Nigeria.

3.0 Research Methodology
This research adopts the *ex-post facto* research design. In the context of social and educational research the phrase 'after the fact' or 'retrospectively' refers to those studies which investigate possible cause-and-effect relationships by observing an existing condition or state of affairs and searching back in time for plausible causal factors. In effect, researchers ask themselves what factors seem to be associated with certain occurrences, or conditions, or aspects of behavior. Kim and Singal (1993) has defined *ex-post facto* research more formally as that in which the independent variable or variables have already occurred and in which the researcher starts with the observation of a dependent variable or variables. While Onwumere (2005) posits that the *ex-post facto* research design establishes a causal link between them. From the forgoing, therefore, this research adopted the *ex-post facto* research design.

Secondary data is data which has been collected by individuals or agencies for purposes other than those of our particular research study (Onwumere, 2005). The justification for the use of secondary data in this research is that; it is available and is entirely appropriate and wholly adequate to draw conclusions and answer the question or solve the problem; it is far cheaper to collect; the time involved in searching secondary sources is much less than that needed to complete primary data collection; secondary sources of information can yield more accurate data than that obtained through primary research; secondary data can play a substantial role in the exploratory phase of the research when the task at hand is to define the research problem and to generate hypotheses; and it will help define the population. Thus, the data used for this research was generated from the NSE official daily report from January 2001 to December 2017.

Model Specification
The model for this study was expressed in line with the hypotheses stated as follows

Ho$_1$: Liquidity measured by market capitalization value ratio does not have any significant impact on stock market returns of the Nigerian Stock Market.

$$Log\ ASI\ = \alpha_0 + \alpha_1 MCVr + \mu \ \text{.....................................} \quad (i)$$

where;

Log ASI = Log of All Share Index (a proxy for Stock Market Returns)
MCVr = Market Capitalization Value ratio (a proxy for Liquidity measured by Market Capitalization divided by Value of Transactions)
α_0 = Equation constant
α_1 = Coefficient of independent variable
μ = Error Term

The model adopted are based on the following assumptions
1. There must be enough data available to compare with the number of parameters to be estimated. If there is too little data, then you end up with a system of equations with no unique solution. The daily data from 2001-2017 is sufficient to meet this assumption for this research. Though, this is a necessary but not a sufficient condition but if this condition fails this could lead to multicollinearity in the regressors.
2. The regressor is also assumed to be error-free. In standard regression models, regressors have been measured exactly, or observed without error; as such, those models account only for errors in the dependent variables, or responses. However since the figure will be computed from secondary sources, it is hoped that the problem will not arise.

The variables used in the models are the Dependent and Independent, the former represents the output or effects while the latter represents the inputs or causes. And since the models are statistical the dependent variable is studied to see if and how much it varies as the independent variable varies. This study adopted the daily All Shares Index (ASI) of the Nigerian Stock Market (NSE) as a measure of stock market returns in line with the works of Arumugam (1997), Berument and Kiymaz (2001) and Rahman (2009). The NSE all shares index is a composite index calculated from prices of all common stocks traded on the NSE. Specifically, the Index is a market capitalization weighted price index which compares the current market value of all listed common shares to the value on the base date of 4th January 1999 when the first session was traded on the market. The NSE-Index was primarily set at 100 points. The data was obtained over the period from January 2001 to December 2017.

Market Capitalization Value ratio measures attempts to differentiate between price movement due to the degree of liquidity from other factors such as general market conditions or arrival of new information to measure both elements of resilience and speed of price recovery. This measure uses the residuals of a regression of the asset's return on the return of the market thus purging it from its systemic risk to determine the intrinsic liquidity of the assets. This is in line with Sarr and Lybek (2002) and was measured by value of shares traded divided by market capitalization multiplied by 100.

4.0 Data Analysis and discussion of findings
Table 4.1 Unit Root Test (Zenith Bank)

Variable	Test Statistic	Order of Integration
Log ASI	-24.54743	1(1)
MCVR	-6.256154	1(0)

ADF Test Statistic	-23.41789	1% Critical Value*	-3.3437
		5% Critical Value	-2.5373
		10% Critical Value	-2.2484
*MacKinnon critical values for rejection of hypothesis of a unit root.			

Source: Researcher's Excel Result

Table 4.2 Correlation Result

	LOGASI	MCVR
LOGASI	1.000000	
MCVR	0.767543	1.000000

Table 4.3
Pairwise Granger Causality Tests
Date: 12/22/18   Time: 14:21
Sample: 1960 2017
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
MCAP does not Granger Cause _ASI	3257	2.26395	0.0839
_ASI does not Granger Cause MCAP		1.52627	0.2271

Table 4.4
Dependent Variable: ALL SHARE INDEX
Method: Least Squares
Date: 12/23/18   Time: 17:20
Sample: 3255
Included observations: 3255

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MARKET_CAPITALIZA TION_OF	4.03E+10	54208309	9.096173	0.0006
C	-3.01E+11	1.22E+09	-1.877317	0.1148

R-squared	0.941200	Mean dependent var	7.35E+09	
Adjusted R-squared	0.939740	S.D. dependent var	4.87E+09	
S.E. of regression	1.28E+09	Akaike info criterion	46.01593	
Sum squared resid	8.20E+18	Schwarz criterion	43.89462	
Log likelihood	-155.5503	Hannan-Quinn criter.	44.82337	
F-statistic	75.65825	Durbin-Watson stat	1.029535	
Prob(F-statistic)	0.000210			

We also tested for the presence of unit root in the time series data set. This was necessitated because we wanted to ensure that the parameters estimated are stationary time series data. We utilized the Augumented Dickey – Fuller (ADF). To reject the null hypothesis that the data are non – stationary, the ADF statistics must be negative than the critical values and significant. The result of the unit root test is depicted in the table 4.1. As revealed, there are no presence of stationarity since the ADF Statistics is less than the critical values at 1%, 5% and 10% respectively.

As revealed from table 4.2, there was a positive correlation between All shares index of the Nigerian Stock Market and market capitalization value ratio (R = 0.76). This indicates that 1% incease in all shares index of the Nigerian Stock Market also increase market capitalization by by 76%.

The granger causality test (see table 4.3) was conducted to test the causality of the impact of the independent variable on the dependent variable. As indicated in the above table, it was revealed that market capitalization value ratio does not granger cause stock returns (p – value $0.08 > 0.05$) also, stock returns of the Zenith Bank does not granger cause market capitalization value ratio (p-value = $0.22 > 0.05$). Hence, there is a unidirectional relationship between stock returns and market capitalization ratio.

Table 4.4 shows the result of the regression analysis of the impact of the liquidity measured by market capitalization value ratio on the stock returns measured by log of all shares index (ASI) of the Zenith Bank for the period in question. The result reveals that the model for our study is well fitted given the F-statistic. The coefficient of determination (R-square), which measures the goodness of fit of the model, indicates that 94.1 % of the variations observed in the dependent variable were explained by the independent variables. This was moderated by the Adjusted R-squared to 93.9%, indicating that there are other variables other than our explanatory variables that might also impact on the dependent variable. The result shows that

market capitalization value ratio has a positive and significant impact on All Share Index (MCVr coefficient = 0.941, p = 0.00 < 0.05, t-value = 9.09). The Durbin Watson statistic is 1.01 which indicate that there is a slight trace of spatial and serial autocorrelation.

5.0 Conclusion

Stock prices are changed every day by the market. Buyers and sellers cause prices to change as they decide how valuable each stock is. Basically, share prices change because of supply and demand. If more people want to buy a stock than sell it - the price moves up. Conversely, if more people want to sell a stock, there would be more supply (sellers) than demand (buyers) - the price would start to fall. A stock market is a market for trading in existing securities. It is a channel through which trading is done in securities after their issuance in the primary market hence it should be able to provide liquidity. The findings of this study indicate that liquidity had positive and significant impact on stock returns of Zenith bank. This is in line with the works of Raghbendra (2003) and Ekanem (2003).

By definition, stock exchange markets are markets where the buying and selling of second hand stocks, shares and securities are carried out. They are essentially secondary markets in that only existing securities as opposed to new issues could be traded on. They however, have very strong connection with the primary markets in that they facilitate and provide the assurance for primary holders of shares, stocks and securities to re-sell them later when need arises. The impacts of liquidity and volatility on stock returns have generated heated debates and interests among economists, stock market analysts, government regulatory and policy makers. This interests and debates stem in part from the implication for market efficiency, stock market bubbling, market crash and recession in some sectors of the economy. As such, stock market returns efficiency, liquidity and volatility of stock needs to be investigated continuously to guarantee stationarity in them. This is also done to assess the nature of the risk-return relationship and for market participants to evaluate assets pricing, dividends behaviour and risks management of quoted companies in the sock exchange markets. These are carried out to achieve the expected roles stock exchange markets transmit in an economy to achieve economic growth.

The fundamental role of stock market is to provide adequate guarantee to shareholders for the existence of market for their second hand securities. Adequate knowledge about the volatility, performance and efficiency of stock returns remains vital and essential information to investors. These will guide not only investment decisions but also planning for economic growth and development. Given that the Nigerian Stock Exchange has existed, its ability to generate confidence is still in doubt given the recent crash witnessed in the market. It means the confidence they are expected to instill in investors to invest is still not commensurable. Therefore, in this work, we examined the impact of liquidity of the market using three indicators of liquidity (market impact liquidity ratio, volume of transaction ratio and turnover ratio) on stock returns. It was observed that market capitalization value ratio had positive and significant impact on stock returns but value of transaction ratio had negative impact on stock returns

6.0 Policy recommendations

A capital market, unlike a money market is a financial market for raising medium and long term capital. A capital market is not a single entity, but a network of specialized financial institutions linking suppliers and users of medium to long term funds. It provides resources for financing the growth of industries. A capital market is a barometer with which to measure the state of a national economy. Thus, this study recommends that the Nigerian Securities and

Exchange Commission should create policies that will encourage increases in firms profit after tax and their dividends as these variables have been statistically proven to have strong significances on the changes in the company's performance and the value of market capitalization. Further attempts can be made to study the cross-sectional variation of stock liquidity and trading activity given the vulnerability of investors to unexpected market shocks.

Two main bodies of theories exist in the literature about the relationship between derivatives market and the underlying spot market. The theoretical literature proposes both a 'destabilizing force' hypothesis that predicts increased volatility and a 'market completion' hypothesis in which decreased volatility is predicted. Because many of the theories propounded had contradictory conclusions it would be good if further research is made by scholars in future.

Researchers can undertake empirical investigation so as to universalize the impact of equity derivatives on the underlying volatility since market information and efficiency of derivative trading have the potential to stabilize or destabilize the underlying market
New theories should be developed by further studies on the "size effect" of market returns on volume and price. Currently theoretical explanations in literature for size effect do not sufficiently explain the gaps in previous research even though there is a general agreement about the importance of size.

It is important that more research be made in studying theoretical and empirical applications of models measuring weighty risk management strategies such as portfolio rebalancing. As a risk control strategy knowledge of portfolio rebalancing can be seen where an informed investor acknowledges the usefulness of compounding effect of returns on his portfolio by calculating based on compound average and not simple average.

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