

Stock Market Liquidity and Investment Decisions of Non-Financial Quoted Companies in Nigeria

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Abstract

The study examined the impact of market liquidity on investment decision of 50 non-financial quoted companies in Nigeria between 2006 and 2012. The study employed secondary source of data collection. Data collected were analyzed using descriptive statistics and inferential statistics such as pool OLS and fixed effect model. The results showed that Size of the Firm (FS) and Firms' Age (FAGE) were the only significant determinants of Return on Investment (ROI). The turnover ratio (TOR) which is a proxy for market liquidity had positive but insignificant effect on ROI. Based on the above findings, the study concluded that for most of the companies operating in the non-financial sector of the Nigerian economy, the influence of market liquidity on investment decision is positive, but not significant. The study recommended that management should place more emphasis on the firm age and in particular firm size as they can be employed to predict the return on investment.

Keywords: Stock Market Liquidity, Investment Decisions, Firms Value

Introduction

Liquidity plays a crucial role in financial exchange markets. Without the availability of counter-offers, markets cease to exist and they are replaced by individualized bilateral contracts. Thus, some liquidity is necessary even for the existence of a financial exchange market. Further, high liquidity expands the set of potential counter-offers and enhances the probability of a favorable match. Thus, higher liquidity increases the expected level of satisfaction (utility) of market participants. These participants perceive a financial asset as liquid, if they quickly can sell large amounts of the asset without adversely affecting its price. Liquid financial assets are thus characterized by having small transaction costs; easy trading and timely settlement; and large trades having only limited impact on the market price. This is true irrespective of the particulars of the organization of the market. However, the realization of the enhancing role of market liquidity has very important implications on the relative benefits and drawbacks of different market organizations.

A market is said to be liquid, “if traders can quickly buy or sell large numbers of shares without large price effects” (Wuyts, 2007). It refers to the willingness of a market participant, a liquidity supplier, to take the opposite side in a transaction initiated by another trader, the liquidity demander. Note that a supplier can be a dealer, but also another trader, as in limit order markets. The reasoning is that investors are more likely to participate in the market if they are able to buy and sell stocks easily, quickly and at low costs, or in other words: when liquidity is high. This greater number of participants limits the price impact of trades and thus increases the stability of the market.

Investment decision is concerned with the efficient deployment of capital fund. Financing decision requires an appropriate selection and combination of capital from available source while dividend decision involve the periodical determination of proportion of a firm’s total distributable earning that is payable to its ordinary shareholders. The larger the dividend paid the less funds are retained for reinvestment and the more the company will have to rely on other source of long term funds (Such as additional issues of equity and or debt capital) to finance projects.

Over the years, there have been indications that investment decisions of non-financial quoted companies has been distorted due to conflict of interest. The fact that management is better informed than outside investors about the company's financial situation creates an informational asymmetry. This, in turn, may result in management being unable to convince its outside investors of the true value of the company, as well as of management's intentions.

As a consequence, management also may find that it is not able to raise as much capital as it wants or needs to finance new projects, or that management may have to surrender too much of the value of the firm to raise the capital it wants or needs. This has negatively impacted the managers' morale as the managers always love embarking on long-term investment which invariably will demand more retained profit and indirectly reduce the dividend to be declared which the shareholders see as unfair to their own part. Therefore, to avoid the wrath of these shareholders especially those ones that own major shares who can easily influence their removal, the investment decisions have been selective and this has greatly affected the corporate performance of Nigerian firms. As a result of this, a potential conflict of interest among managers and shareholders exists in the concentration of ownership.

Recent empirical evidence theory supports that liquidity can help overcome the free-rider problem by facilitating the appearance of block-holders or by increasing their holding. In a more liquid market, large shareholder can make more capital gains on the shares they purchase and the gain from the new purchase help cover the cost of their monitoring activities (Maug, 1998) . These also reducing agency problems, holding larger- than- expected cash balances (Opler, Pinkowitz, Stulz ., Williamson, 1999), and that public pools of liquidity allows firms to diversify their portfolios because of information asymmetry between firms and public market (Myers, Majluf, 1984).

When insiders sell their stocks, reducing their share holdings, they allow more shares to circulate in secondary markets, increasing market liquidity. The increase of market liquidity has the effect that speculators engage in the stock market introducing additional volatility in stock prices. They buy and sell stocks to gain benefits depending on market information. The marginal benefit they make must be equal to the marginal cost of external corporate governance (Mu-Shun, Shaio, An, 2011).

In view of this, most studies in developed economies have shown that market liquidity can reduce conflict of interest and enhance investment decisions, while there has been argument for and against this view in Nigeria amongst professionals. There is therefore the need to clarify the argument on whether or not market liquidity can influence investment decisions. Apart from the above introductory section, the rest of this study has been divided into four sections. In section two, we discuss the theoretical framework and literature review of the study. Section three discusses the methodology, while section four focuses on results. The study is concluded in section five.

Materials and Methods

In this study, only the companies that are observable during the periods were covered and hence; balanced panel data was used. The data were obtained from audited annual reports and accounts of the 50 non-financial companies for the periods 2006–2012 and these were collected from the Nigerian Stock Exchange. Descriptive statistics such as percentages, ratios, graphs, arithmetic mean, median, standard deviation and skewness were computed to describe values and features that are typical of some variables. Pool OLS and fixed effects model were used in data analysis.

The study is concerned with market liquidity and investment decisions, which were captured by turnover ratio and return on investment respectively. A functional equation that relates market liquidity to investment decisions is specified as follows:

$$ROIt = f(FAGEit, CPit, FINLEVit, FSit, INVOPPit, TORit) \dots \dots \dots (i)$$

Where:

ROIt represents Return on Investment of company i in period t;

FAGEit is the Age of the company i at time t;

CPit is the control power of the company i at time t;

FINLEVit is the financial leverage of company i at time t

FSit is the firm size of the companies i at time t

TORit is the turnover ratio of company i at time t

INVOPPit is the investment opportunity of company i at time t

Given the theoretical linkage between market liquidity and investment decision, there is need to build linear equations that was used to capture their relationship. Therefore, the linear relationship between market liquidity and investment decision is as shown in equation (ii) below:

$$roi_{it} = \beta_0 + \beta_1 fage_{it} + \beta_2 cp_{it} + \beta_3 finlev_{it} + \beta_4 fs_{it} + \beta_5 invopp_{it} + \beta_6 tor_{it} + \varepsilon_{it} \dots (ii)$$

A Priori Expectation:

$\beta_1 \dots \dots \dots \beta_6$ greater than zero

Where:

β_0 is the constant term, $\beta_1, \dots \dots \beta_6$ are the slopes of the regression to be estimated and ε_{it} is the stochastic error term.

Literature Review

Market Liquidity, though an elusive concept has become one of the most important influential factors in every corporate entity because of its long-term effect on investment decisions. While most observers would agree whether a given market is liquid or not, it is difficult to draw up precise definitions of market liquidity. This is because market liquidity is multi-faceted: the definition necessarily changes depending on what aspect one wishes to emphasize. “A market is said to be liquid if traders can quickly buy or sell large numbers of shares without large price effects” (Wuyts, 2007). It refers to the willingness of a market participant, a liquidity supplier, to take the opposite side in a transaction initiated by another trader, the liquidity demander. Note that a supplier can be a dealer, but also another trader, as in limit order markets. Although having the advantage of simplicity, the definition is also general and hard to implement in practice when analyzing liquidity.

In order to make the definition more specific, Black (1971), O’Hara (1995) and Harris (1990) identify several dimensions of liquidity. The bid-ask spread is a commonly used measure of market liquidity. It directly measures the cost of executing a small trade, with the cost typically calculated as the difference between the bid or offer price and the bid-ask midpoint (or one-half of the bid-ask spread). The measure can thus quickly and easily be calculated with data that are widely available on a real-time basis.

However, a drawback of the bid-ask spread is that bid and offer quotes are good only for limited quantities and periods of time. The spread therefore only measures the cost of executing a single trade of limited size. The quantity of securities that can be traded at the bid and offer prices helps account for the depth of the market and complements the bid-ask spread as a measure of market liquidity. A simple estimate of this quantity is the quote size, or the quantity of securities that is explicitly bid for or offered for sale at the posted bid and offer prices. A drawback of this estimate, however, is that market makers often do not reveal the full quantities they are willing to transact at a given price, so the measured depth underestimates the true depth.

An alternative measure of market depth is trade size. Trade size is an ex-post measure of the quantity of securities that can be traded at the bid or offer price, reflecting any negotiation over quantity that takes place. Trade size also underestimates market depth, however, as the quantity traded is often less than the quantity that could have been traded at a given price. In addition, any measure of the quantity of securities that can be traded at the bid and offer prices does not, by definition, consider the cost of executing larger trades.

A popular measure of liquidity, suggested by Kyle (1985), considers the rise (fall) in price that typically occurs with a buyer-initiated (seller-initiated) trade. The Kyle lambda is defined as the slope of the line that relates the price change to trade size and is typically estimated by regressing price changes on net volume for intervals of fixed time. The measure is relevant to those executing large trades or a series of trades, and together with the bid-ask spread and depth measures provide a fairly complete picture of market liquidity. A drawback of this measure, though, is that the data required for estimation, including the side initiating a trade, are often difficult to obtain, particularly on a real-time basis.

A liquidity measure used in the Treasury market is the "liquidity" spread between more and less liquid securities, often calculated as the difference between the yield of an on-the-run security and that of an off-the-run security with similar cash flow characteristics. Since liquidity has value, more liquid securities tend to have higher prices (lower yields) than less liquid securities, as shown by Amihud and Mendelson (1991) and Kamara (1994). A nice feature of the liquidity spread is that it can be calculated without high-frequency data. Moreover, because the spread reflects both the price of liquidity as well

as differences in liquidity between securities, it provides insight into the value of liquidity not provided by other measures. The spread can be difficult to interpret, however, for the same reason. In addition, factors besides liquidity can cause on-the-run securities to trade at a premium, confounding the interpretation of the spread. Furthermore, the choice of an off-the-run benchmark against which to compare an on-the-run security can result in considerable estimation error.

Trading volume is an indirect but widely cited measure of market liquidity. Its popularity may stem from the fact that more active markets, such as the Treasury market, tend to be more liquid, and from theoretical studies that link increased trading activity with improved liquidity. The measure's popularity may also reflect its simplicity and availability, with volume figures regularly reported in the press and released by the Federal Reserve.

A drawback of trading volume, however, is that it is also associated with volatility (Karpoff, 1987), which is thought to impede market liquidity. The implications of changes in trading activity for market liquidity are therefore not always clear. Another important measure is the turnover ratio. Ratio of total turnover and average market capitalization is a measure of market efficiency and indicator of liquidity. A higher value of turnover rate means more liquidity.

The German market, together with the Hungarian and Polish markets have had an increase in turnover rate signaling an increase in liquidity. Turnover has increased (as individual liquidity indicator this signals better liquidity) more than market capitalization (function of price increase-high change in price, lower liquidity). The Croatian, Slovenian and Bulgarian markets have had a reverse trend due to a larger increase in market capitalization than turnover, which indicates lower liquidity.

A closely related measure of market liquidity is trading frequency. Trading frequency equals the number of trades executed within a specified interval, without regard to trade size. Like trading volume, high trading frequency may reflect a more liquid market, but it is also associated with volatility and lower liquidity. In fact, Jones, Kaul and Lipson (1994) show that the positive volume-volatility relationship found in many equity market studies reflects the positive relationship between the number of trades and volatility, and that trade size has little incremental information content. (Fleming, 2001).

Empirical Review

Poor investment decisions which has led to mediocrity in firms' corporate performance has given spur to increasing the debate on whether or not there is relationship between market liquidity and investment decision. This is viewed in the perspectives of the developed and developing countries.

Hoshi, Kashyap and Scharfstein (1991) found liquidity and investing activities to be directly related. To them, companies closer to banks have better access at financing and can keep a high liquidity, thereby supporting investing activities. Why banks prefer to finance companies with closer relation is because banks have more opportunities to know the real financial situation of the company and reduce information asymmetry. The study divided samples into two sets of firms, independent firms and group firms, and predicted that liquidity is a more important determinant of investment for independent firms than for group firms with close banking ties. The proxy variables are cash flow and short-term investment.

Holmstrom and Tirole (1993) found that managers had more opportunities to get stock bonuses after the company is listed. Stock bonuses not only increased liquidity, but also provide a good way for external investors to watch the company. Under equilibrium among external investors, major stockholders and managers, the ideal quantity of stock holdings and equilibrium prices will be reached. If managers performed better, external investors would like to hold more shares, and we guess the relation between the two is positive.

Some papers often used liquidity as a proxy variable for investment activities. Fazzari, Hubbard and Petersen (1988) mentioned that a low-dividend policy would increase retained earnings and reduce constraints on liquidity. Therefore, it can be deduced that the relationship between investment and liquidity is significant. That means the over-investment hypothesis and underinvestment hypothesis provided by Myers and Majluf (1984) explain management entrenchment. It is believed that the board of directors inclines to execute the low-dividend policy to examine management performance and understand managers' investing decision when liquidity is high.

McConnell and Servaes (1990) argued that, when low shareholding insiders increase their holdings, the interest of minor shareholders can improve but, when the shareholding of insiders is high, interests between insiders and minor shareholders will be

inconsistent. Given that insiders can affect investment-cash flow sensitivity in a nonlinear method, managers invest excessively in internal cash. Hadlock (1998) thought the investment-cash flow sensitivity would drop as the stock insiders hold decreases.

That will produce more snatch effect when managers hold certain proportion of stocks in the company. The board of directors wants to replace the managers, which is not easy to do. External shareholders also think acquisition and merger are not easy. Entrenchment effects cause the incentive perusal of managers to be weak when they face external shareholders. Therefore, the incentive effect aims at managers who are lacking in ownership.

Slovin and Sushka (1993) discussed the impact of the transfer of controlling rights on corporate performance under the hypothesis that the controlling shareholder dies. They found the relation between stock price and the death of controlling shareholders positive, especially when the shareholding of major shareholder is above 10%. Brennan, Chordia and Subrahmanyam (1998) revealed the deregulation for non tradable shares increased outstanding shares, leading to a decline in the price of tradable shares. This can be confirmed if government selling state shares through IPO or issuing more new stocks leads to lower market price of shares. Reform of the division of equity tradability is intended to solve the problem of the lack of liquidity caused by limits on nontradable stocks. To reduce the impact on the stock market, it needs nontradable shareholders to offer reasonable compensation to tradable shareholders. Xie and Yang (2007) found the consideration rate positively relates to market performance.

Li (2007) studied the influence of relisted companies on market performance and the relation between the consideration and market performance. The paper pointed out that investors are sensitive to the proportion of consideration in the early stage of reform. He (2006) pointed out, the major shareholders would issue equity financing for their interests before the reform, because interests of major shareholders are from dividends and cash capital increases, not from market returns. This will have an entrenchment effect on minor shareholders. After the reform, managers will avoid equity financing and prefer debt financing. The interest of major shareholders will be consistent with minority shareholder because of the increasing number of minority shareholders.

The research infers that the increase of outside shareholders will raise the debt ratio. They are inclined to debt financing that extrapolates the incremental debt ratio. This method of financing would increase consistent interests between external investors and large shareholders. The increase of management ownership will improve the efficiency of investment spending and improve market performance.

Boyle and Gupthrie (2003) explored the reaction of investment-cash flow sensitivity on liquidity and the effect of uncertainty on investment. Baum, Caglayan, Ozkan and Talavera (2006) argued the influences of liquidity and uncertainty on managers' performance. They developed a static cash management model, which includes the signal deletion mechanism. They argued cash possession, bond interests and uncertainty are positively related. Specifically, they found companies increase cash on hand because of uncertainty.

Baker and Stein (2004) developed a model that helps to explain that an increase in liquidity predicts lower subsequent returns in both firm level and aggregate data. They posit that irrational investors participate only on over-valued market because of short sales and they over react to private signals about future fundamentals and this leads to sentiment shocks. They find that measure of equity insurance and share turnover are highly correlated and that sentiment indicators from market liquidity may be responsible for low expected returns.

Recently, Mu-Shun et. al (2011) in their work discussed the relation between market liquidity, investment decision and financial performance. The results from an analysis of 1002 firms show that reforms have significant impacts on the investment decisions. It was discovered that there is a nonlinear relationship between market liquidity and financial performance. They argued that this explains a high ratio of tradable-shareholders shareholdings. They divided tradable shareholders into five groups by different ranges ownership percentage. The results were significant but the directions of influence in each group were different.

In summary, market liquidity matters for firm value with the following economic effects. First, more liquid securities are expected to have higher values as rational investors discount securities less because of lower trading costs, *ceteris paribus* (Amihud and Mendelson, 1986; Kamara, 1994; Eleswarapu, 1997). As investors require a higher return to hold stocks with greater private information (Easley, Hvidjkaer and O'Hara, 2002), improved liquidity mitigate this information asymmetry

problem as informed traders can disguise their trades and lower their price impact in a more liquidity market. Easley and O'Hara (2004) show that market microstructure can help a firm to reduce its cost of capital by affecting the precision and quantity of information available to investors. Second, market liquidity could enhance performance monitoring (Diamond and Verrecchia, 1981; Holmstrom and Tirole, 1993), improve manager incentives to engage in value-increasing activities (Faure-Grimaud and Gromb, 2004) and increase the effectiveness of corporate governance (Kyle and Vila, 1991, Kahn and Winton, 1998, Maug, 1998, and Noe, 2002). Also, market liquidity can improve stock price informativeness (Holmstrom and Tirole, 1993; Faure-Grimaud and Gromb, 2004), which can ultimately improve corporate decisions and firm performance (Khanna and Sonti, 2004; Ferreira and Laux, 2007).

Theoretical Framework

The need to anchor the concepts of market liquidity and investment decision within the framework of certain theories cannot be over emphasized. The theories upon which this study was anchored were restricted to Agency theory and stewardship theory.

Agency theory, developed by Jensen and Meckling (1976), has been fruitfully applied in examining the nature of the relationship in a firm that exists between the principal and the agent (Denise, 2001). The firm is viewed as a "nexus of contracts between different stakeholders of the organization" (Jensen and Meckling, 1976).

The most important basis of agency theory is that the managers are usually motivated by their own personal gains and work to exploit their own personal interests rather than considering shareholders' interests and maximizing shareholders' value. For example, managers may be attracted to buying lavish offices, company cars and other extravagant items, since the cost is borne by the owners. Thus, the key predicament indicated by agency theory is ensuring that managers pursue the interests of shareholders and not only their own interests. Controversy occurs because principals are unable to monitor the performance of agents (Jensen and Meckling, 1976).

Unlike agency theory, stewardship theory based on a psychological and sociological approach, maintains that the interests of corporate executives (as stewards) are aligned with those of the organization and its owners. Stewardship theory takes an opposite

perspective and suggests that the agents are trustworthy and good stewards of the resources entrusted to them, which makes monitoring unnecessary (Donaldson and Davis, 1994). Since managers are not opportunistic and act in the best interests of owners, they should also be given autonomy based on trust and this reduces the cost of monitoring and controlling their behavior. They observed, "Organizational role-holders are conceived as being motivated by the need to achieve and exercise responsibility and authority, to gain satisfaction through effectively performing essentially challenging work and to gain recognition from peers and bosses".

According to this theory, the behavior of the steward is collective, because the steward seeks to achieve the organization's goals, for example, profitability. This, in turn, benefits the principal through the positive effects of profits on dividends and share prices. Managers believe that their interest is aligned with those of the firm's owners. Thus, stewardship theory maintains that the optimum governance structures are those that enable effective coordination in the enterprise.

Results and Discussion

Table no. 1 showed the results of descriptive analysis of the data collected on six determinants of return on investment from 2006-2012. It provided information about sample static mean, median, maximum and minimum value and distribution of the sample measured by the skewness, kurtosis, and Jarque-Bera statistics for 50 companies given 315 observations. Table no. 1 showed that the average values of FAGE, CP, FINLEV, FS, INVOPP and TOR were 1.61, 0.24, 0.59, 6.62, 0.29 and 0.28 with standard deviation of 0.19, 0.43, 8.71, 0.82, 1.47, and 1.45 respectively which measured the extent to which the data series dispersed around the mean. The skewness, which is a measure of asymmetry of the distribution of the series around the mean, was computed as -1.33, 1.19, 17.10, 0.33, 12.25, and 15.48. Except value of FAGE, others were positive and this is an indication that data sets have long right tail and hence, most of the companies' FAGE, CP, FINLEV, FS, INVOPP and TOR tend towards less than the median values (i.e, median > mean).

Also, Kurtosis statistics which measured the peakness or flatness of the distribution of a series were far greater than the standard 3.0. This is an indication that the distribution of the data series for each of the variables was peaked (i.e leptokurtic) relative to the normal. Being

peaked however is an indication that there were very few observations within the region where the median value resided. Jarque-Bera is test statistics for testing whether a series is normally distributed or not and it measures the difference of the skewness and kurtosis of the series with those from normal distribution of all the ROI drivers data series. Their Jarque-Bera statistics 162.81, 78.76, 1166530, 5.65, 412062.6 and 879311.5 with their probability values less than 0.01 (i.e. $p < 0.01$) suggested that the null hypothesis of normality in the distribution were rejected.

Table no. 1. Descriptive Statistics

	ROI	FAGE	CP	FINLEV	FS	INVOPP
Mean	0.1416	1.6079	0.2468	0.5842	6.6144	0.2869
Median	0.0979	1.6628	0.0000	0.0000	6.4814	0.0471
Maximum	1.9786	1.9445	1.0000	152.8720	8.6062	22.727
Minimum	-0.6979	0.8451	0.0000	-6.0892	4.4391	-1.0000
Std. Dev.	0.2622	0.1851	0.4319	8.6924	0.8167	1.4684
Skewness	2.6318	-1.3385	1.1743	17.1302	0.3330	12.2690
Kurtosis	17.0850	5.3063	2.3790	300.1119	3.0358	179.0386
JarqueBera	2976.8887	164.3868	77.70542	1177748	5.855881	415957.5
Probability	0.000000	0.0000	0.0000	0.0000	0.0535	0.0000
Sum	44.75310	508.0974	78.0000	184.5964	2090.142	90.66953
Sum Sq. Dev	21.66093	10.79762	58.74684	23800.88	210.1296	679.2832
Observations	316	316	316	316	316	316

Source: Author’s Computation, 2015

The average return on investment of the non-financial quoted companies was computed as 0.78 with standard deviation of 6.57 and skewness was computed as 11.60 and being positive implied that return on investment distribution had a long right tail and hence the ROI distribution of most of the non-financial quoted companies tend towards greater than the median. The kurtosis of the distribution of the series was computed as 153.82 which was greater than standard value of 3.0. This is an indication that return on investment was peaked (i.e. leptokurtic) relative to the normal. This implied that the distribution is not normal and Jarque-Bera statistics of 305606.4 ($p < 0.01$) indicated that the null hypothesis of normality in the distribution should be rejected.

Multicollinearity Test

The correlation matrix was carried out in order to test for multicollinearity in all the independent and dependent variables. It tells how the variables are related. The result showed that all possible combinations for return on investment, firm age, control power, financial leverages, firm size, investment opportunity and turnover ratio had correlation coefficients which were very low, less than 0.9, weak, positive and negative.

Table no. 2. Correlation Matrix

	ROI	FAGE	CP	FINLEV	FS	INVOPP	TOR
ROI	1.0000						
FAGE	0.0523	1.0000					
CP	-0.0634	0.0769	1.0000				
FINLEV	0.0289	-0.0058	-0.0543	1.0000			
FS	0.2270	-0.0160	0.0781	0.0574	1.0000		
INVOPP	-0.0259	-0.0405	-0.0533	-0.0054	-0.0020	1.0000	
TOR	-0.0289	0.0187	-0.0032	-0.0105	-0.2245	-0.0059	1.0000

Source: Author's Computation, 2015

This revealed that independent variables were independent of each other and implied that the variables can be included in regression analysis as independent variables using Ordinary Least Square (OLS) technique of estimation without obtaining spurious results.

Unit Root Test Results

The variables used in the regression and econometrics analysis were further subjected to unit root tests using Levin, Lin and Chut, Im, Pesaran and Chi-square, ADF-Fisher Chi-square as well as PP-Fisher Chi-Square. This is done in order to reinforce and ensure robustness and to boost the confidence in the reliability of the results.

Table no. 3. Unit Root Test Result

Variables		Levin, Lin &Chu t*	Im, Pesaran & Chi-square	ADF-Fisher Chi-square	PP-Fisher Chi-Square	Order of Integration
ROA	Level	-19.167*** (0.0000)	-5.45430*** (0.0000)	134.663*** (0.0000)	234.606*** (0.0000)	I(0)
ROI	Level	-53.311*** (0.0000)	-9.22525*** (0.0000)	143.132*** (0.0000)	179.282*** (0.0000)	I(0)
INVOPP	Level	-23.934***	-4.9205***	152.790***	192.330***	I(0)

		(0.0000)	(0.0000)	(0.0000)	(0.0000)	
FS	Level	-33.843*** (0.0000)	-12.4334*** (0.0000)	257.605*** (0.0000)	271.188*** (0.0000)	I(0)
FINLEV	Level	-23.639*** (0.0000)	-4.63823*** (0.0000)	128.570*** (0.0000)	85.2479*** (0.0000)	I(0)
FAGE	Level	-7.5849*** (0.0000)	-563.463*** (0.0000)	902.708*** (0.0000)	633.621*** (0.0000)	I(0)
TOR	Level	-91.899*** (0.0000)	-20.0985*** (0.0000)	182.033*** (0.0000)	279.568*** (0.0000)	I(0)

Source: Author, Computation 2015

Note: *** denotes significance at 1% level

Unit root tests were carried out to determine the order of integration of all variables employed and the result revealed that the variables are stationary at level. The essence of this is to ensure that the estimated parameters obtained from regression models using OLS are Best Linear Unbiased Estimators (BLUE). When this is taken into consideration, the result will be reliable, efficient and consistent. As shown in table no. 3, the test of null hypothesis for the presence of a unit root was rejected for the variables under consideration which mean that they are stationary at level.

In order to achieve the objective of the study, the results of pooled and fixed effects panel methods were presented in the column (1) and column (2) of Table no. 4. The Hausman (1978) specification test showed that fixed effects models had better results and hence was reported. Using pooled effect, Firm Size (FS), ($\beta = 1.926, p < 0.01$) was the only significant determinant of Return on Investment (ROI) as a unit increase in the FS will result in an increase of about ₦1.93 million increase in ROI, while the turnover ratio (TOR) which is a proxy for market liquidity did not significantly affect ROI as a unit increase in TOR ($\beta = 0.10575, p > 0.05$) will generate a ₦0.1057 million increase in ROI.

Table no. 4. Summary Result of the Regression Analysis

Variable	Pool Effect (1)	Fixed Effect (2)	Random Effect (3)
Intercept	-15.14136 (-3.422444)	-33.63584 (-3.815488)	-15.14136 (-3.492612)
FAGE	2.180374 (1.109711)	9.534687** (2.130261)	2.180374 (1.132462)
CP	-1.338713 (-1.574992)	-0.759890 (-0.425533)	-1.3388713 (-1.607283)
FINLEV	0.008225 (0.196856)	-0.077175* (-1.748652)	0.008225 (0.200892)

FS	1.926466*** (4.209468)	2.920881*** (3.666218)	1.926466*** (4.295772)
INVOPP	-0.122331 (-0.495266)	-0.058813 (-0.224762)	-0.122331 (-0.505420)
TOR	0.105749 (0.412735)	0.047679 (0.169563)	0.105749 (0.421197)
F-Statistic	3.479925	1.518242	3.479925
Prob (F Statistics)	0.002416	0.017046	0.002419

Source: Author, Computation 2015

Note: ***, **, * denote 1%, 5% and 10% level of significance respectively, t-statistics are in parenthesis.

Using fixed effect however, a unit increase in the FAGE, ($\beta = 9.534$, $p < 0.05$) would generate an increase of about #9.534 million increase in ROI. While a unit increase in FINLEV ($\beta = -0.0177$, $p < 0.01$), would significantly reduce ROI by #0.0177 million, a unit increase in FS ($\beta = 0.10575$, $p > 0.01$) would significantly generate a #0.1057 million increase in ROI.

This implied that as firms continue to exist, all things being equal, there will be expansion which invariably will lead to increase in return on investment. With this, large firms in Nigeria have more chances of successful investment pursuits than those with less age and size.

This result is consistent with the works of Fazzari, Hubbard and Petersen (1988), Majluf (1984), Holmstrom and Tirole (1993) coupled with the work of Hoshi, Kashyap and Scharfstein (1991) who found liquidity and investing activities to be directly related. To them, companies closer to banks have better access to financing and can keep a high liquidity, thereby supporting investing activities.

Conclusion and Recommendation

From the findings of this study, it can be reasonably concluded that for most of the companies operating in the non-financial sector of the Nigerian economy, market liquidity plays insignificant role in influencing the investment decision of non-financial quoted companies. Hence, it can be used to predict the future value of return on investment of these companies.

It is therefore recommended that management should place more emphasis on the firm age and in particular firm size as they can be

employed to predict the return on investment as both are positively and significantly correlated with return on investment.

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