

*Full Length Research Paper*

# Accounting Information and Bond Market Liquidity Evidence from Nigerian Capital Market 2003-2012

Uchechukwu Godwill Akpu\* and Samuel Ojo Iwene

Department of Accounting, College of Management and Social Sciences, Novena University, Nigeria.

Accepted 24<sup>th</sup> August, 2017

## **Abstract**

The study is an empirical examination of the causal connection between quantitative accounting information and bond market liquidity on one hand and qualitative attributes of accounting information on the other. The study is motivated by the perceived underperformance of the Nigerian domestic bond market, and therefore, investigates whether accounting data published by corporate and government entities conveys information that will affect bond liquidity thereby impacting on the performance and development of the Nigerian domestic bond market. A Correlation and casual comparative (Ex-post Facto) designs were adopted. Ten years' published accounting data and bond market turnover of 5 state governments and 5 corporate bonds listed on the bourse of the Nigerian Stock Exchange were extracted for the period 2003-2012. Survey data of eight qualitative accounting information attributes were also obtained from 275 respondent stakeholders in the Nigerian bond market using researcher-designed questionnaire validated by experts and shown to have a reliability coefficient of .846. Data were analyzed using multiple regression techniques with the aid of Statistical Package for Social Sciences (SPSS). The findings from the study suggest that quantitative accounting information (DEBTR, INTCR and CURR) variables were shown to have a significant influence on bond market liquidity explaining about 95.2% of changes in the bond market liquidity performance indicator which suggest that published accounting data affects the liquidity of domestic bonds. While a significant variation of about 84.5% explained by qualitative accounting information attributes. This suggests that bond market liquidity is significantly predicted by qualitative accounting information attributes such as Relevance, reliability, comparability, completeness and faithful representation. The result exposed the paucity of accounting information of the high rate of creative accounting practices by government and corporate bond issuers which tend to impair transparency, probity, accountability, and loss of confidence by users of accounting data in the Nigerian bond market. Furthermore, the untimely and in most cases non-disclosure of financial statements by government entities whose bond issues are the dominance of the Nigerian bond market hinders the development and performance of the domestic bond market. The work, therefore, recommends that government and corporate bond issuers should compulsorily disclose at least 10 years' financial statements to the investing public before accessing the bond market, with strict compliance to post listing regulation requirements of the statutory authorities through the Nigeria Stock Exchange X-issuers portal.

**Keywords:** Accounting Information, Bond Market, Liquidity, capital market.

---

Accounting information is the quantitative written details, facts, figures and representation contained in a complete or partial statement of an entity at a given period, communicated to various stakeholders for evaluation and decision making. Its quantitative components include a balance sheet, profit and loss account, cash flow statement, value added statement, notes on the accounts and with qualitative attributes of relevance, reliability, comparability, timely disclosure, faithful representation among others. Extant literature provides notable insights on the definition, roles, usefulness, qualitative attributes of accounting information, objectives and benefits of accounting information reporting and disclosure to various users and stakeholders of an entity (William, 1968; Atrill *et al.*, 2007; Christensen and Demski, 2003; Obaidat, 2007; Maines and Wahlen, 2006; Benston, 2007; Vishnami and Shah, 2008; Perera *et al.*, 2011; Hossain *et al.*, 2004; Sherlita, 2011; Kothari, 2001; Igben, 1999; International Accounting Standard(IAS); International Public Sector Accounting Standard (IPSAS); Companies and Allied Matters Act (CAMA),1990; Investment and Securities Act(ISA), 2007;

A group of indispensable investors in the capital market that uses accounting information are the bond holders (lenders/investors). Bonds are "I Owe You" debt instruments issued by the borrower to the lender (bond holder) with promissory to pay the principal and interest on maturity. Bonds maturities and tenors last for three, five, and ten, twenty while the interest payments by the issuer (borrower) are made semi-annually. Primarily, bond issuers (borrower) may call up the bond issued before maturity for a bond with call features, and the lenders may not hold the bond to maturity due to various factors. Thus, a channel called the bond market need to be created where these two parties through financial intermediaries can seamlessly exchange (trade) the debt instrument (bonds). Ajayi (2013) defined the bond market as an environment where debt securities are issued and traded, and comprises both the primary market where new debts are issued to participants, and secondary markets where participants can buy and sell debt securities. Thus, the bond market is a veritable component of the capital market where borrowers and lenders meet for purposes of trading on debt instruments through the services of financial intermediaries so as to raise long term funds for governments, agencies and corporate institutions. Although, most studies on accounting information disclosure and bond market liquidity has been focused on advanced economies of the world. (krisnamurthy ,2009; Francis *et al.*, 2005; Chen *et al.*, 2007; Subramayam and Zhang, J. (2010); Zhang *et al.*, 2010; Sherlita, E, 2011; Kyle, 1985; Watts, 1974). The aforementioned studies, provides no significant validity of existing empirical evidence of the effect of

accounting information on the liquidity of emerging Nigerian domestic bond market. Suffice it to say that Nigeria capital market research literature in accounting is scanty. According to Negah (2008) it has not been comprehensively researched primarily because of problems with data availability. While, Jagetia and Nwadike (1983) assert that in Nigeria, fairly related literature is on accounting systems. Therefore, this study is an attempt to close the knowledge gap in the literature by examining the impact of quantitative and qualitative characteristics of accounting information on the liquidity of domestic bond market in Nigeria.

Quantitative and qualitative attributes of accounting information must have lost their importance to investors in the recent times and therefore put under severe criticism at the instance of investors, analysts, creditors and other users of accounting information all over the world who have been short-changed as a result of corporate financial reporting failures. Corporate organizations such as Merrill-Lynch, Enron, Tyco, World com, Lehman Brothers among others disastrously collapsed as a result of corporate financial reporting malpractices. Investigation of these companies revealed among others illegal corporate activities such as fraudulent accounting practices, presentation of complex and confusing financial statements to shareholders, executive self-dealing transactions and other unethical transactions.

Relatively, Nigeria financial community equally witnessed corporate reporting failures. The case of Cadbury Nigeria plc, the defunct fortune Bank, Oceanic Bank, Spring Bank, Intercontinental Bank, Afribank, Bank PHB among others are as result of accounting information failures. How bond market and its attendant liquidity will strive in a financial environment where accounting records are falsified, misrepresented and unreliable given rise to investors lost of significant parts of their wealth, and loss of confidence in business activities of reporting entities and the underlying financial reporting system is of great concern to the researcher and require examination. In view of the above concerns, the following specific research questions were formulated:

- 1). To what extent does quantitative accounting information affect bond market liquidity in Nigeria?
- 2). To what extent does qualitative accounting information influence bond market liquidity in Nigerian?

Accordingly the following null hypotheses were formulated and tested.

- 1). Quantitative accounting information does not significantly affect bond market liquidity in Nigeria.
- 2). Qualitative accounting information has no significant affect the liquidity of the Nigeria bond market.

## RELATED LITERATURE

Accounting information is any data or information obtained from accounting system of a firm whether contained in a financial statement, a special or verbal statement (William, 1968). The usefulness of accounting information is anchored on its distinct ability to aid investors and other users to predict the results of the past, present and future recurrences of an entity in making an economic decision. Thus, in the wide range of accounting literature, accounting is a veritable source of information. According to Atrill *et al.*, (2007), the main role of accounting is to help people make informed financial decisions. The informed financial decisions engender efficient and effective investment decision to investors' base on the available financial data. While, Christensen and Demski (2003) state that accounting provides data on organizations financial history. Thus, accounting information possess the potential to tell us about what we do not know about the organizational financial history, potential to mitigate uncertainty, assessing change in probability and efficient allocation of economic resources. Inevitably, the stakeholders in the bond market require accounting information for financial and investment decision-making.

The bond market is an organized channel for exchange of fixed-income instruments. Bond market liquidity is the ability of the market to rapidly execute a large bond or debt instrument transactions at a lower cost with limited price impact. Baker (1996) concludes that there is no single unambiguous, theoretically correct or universally accepted definition of liquidity. However, liquidity can be defined based on the characteristics of liquid markets as the market ability to provide tightness, immediacy, depth, breadth and resiliency of the financial instruments. The tightness of the bond market refers to low transaction costs such as the difference between buying and sell prices, like the bid-ask spreads, in quote driven markets. Immediacy implies the speed with which orders can be executed and settled and therefore reflects among other things, the efficiency of trading, clearing and settlement systems.

Depth refers to the existence of abundant orders, either actual or easily uncovered of potential buyers and sellers, both above and below the price at which securities trades. Breadth means that orders are both numerous and large in volume with minimal impact on prices. While Resiliency is the characteristic of markets in which new orders flow quickly to correct order in-balances, which tend to move price away from what is needed by fundamentals. In other words resilience is the time it takes for price to return to basic values in response to a shock (an order in-balance due to new information), the ability of the market to function in a situation of market stress. These characteristics of liquidity are replicated in the bond market and what put that characteristic of liquidity

into action may not be unconnected with the provision of accounting information and the use of this information by various bond market participants. The absence of accounting information for stakeholders in the bond market can cause Information asymmetry which can contribute to illiquidity in the bond market, and cause investors to relocate their investment into other assets.

The link between accounting information and bond market liquidity is predicated on the fact that researchers and academicians have recently started examining and investigating the effects of accounting data on bond market liquidity issues (Chen *et al.*, 2007; Subrayaman *et al.*, 2010; Zhang *et al.*, 2010; Sherlita, 2011). Liquid markets are generally perceived as desirable because of the benefits they offer, including improved allocation and information efficiency. The microeconomic concept of liquidity is multifaceted.

Market participants perceive a financial asset as a liquid, if they quickly can sell large amounts of the asset without adversely affecting its price. Liquid financial assets like stock, bond etc. are thus characterized by having small transaction costs, easy trading and timely settlement; and large trades having only limited impact on the market price. According to (Krisnamurthy, 2009) asymmetry information about the quality of products can result in taking incorrect decisions and decline in the market. However, in the bond market investors can be protected from taking an incorrect decision if market clients impose premium by increasing bid-ask spreads. This is practically possible that uncertainty and information asymmetry can lead to illiquidity and market decline. The role that information quality may play in fostering liquidity and thus maintaining the health of debt markets is very imperative. Consequently, higher accounting information quality can improve liquidity in the bond market through reduce information asymmetry.

Kyle (1985) argues that in specialist markets (such as bond markets), high quality public information reduces information asymmetry by lowering the value of the private information gathered by informed traders which in turn lowers the price-protection demanded by the specialists and improve liquidity. This implies that adequate accounting information can reduce uncertainty in a specialist market such as bond market and thus improve liquidity through lower inventory and search costs. Information on liquidation values assuming book values approximate liquidation values. This implies a direct link between accounting information and bond market liquidity. Ultimately, assessing the liquidity of bonds depends on the accounting information disclosure concerning the bond instrument.

Francis *et al.*, (2005) examined the relationship between quality of accounting information and bond liquidation, linked with the cost of debt according to these studies quality of accounting information shows two reasons for bond liquidations. The first reason is high

quality accounting information will reduce asymmetric information which is shown through the decrease of bid-ask spreads. Secondly, it will enhance market information which is shown through the reduction of the unpredictability of assets value and trade information facility. According to Watts (2003), the balance sheet fulfills its role by providing information on liquidation values assuming book values approximate liquidation values. This implies a direct link between accounting information and bond market liquidity. Ultimately, assessing the liquidity of bonds depends on the accounting information disclosure concerning the bond instrument.

On the contrary, Illiquidity of the bond markets could be as a result of;

- i). Smaller sizes of a bond issue by corporate organizations which contributes to the lack of corporate bonds, including quality papers, available in the market to be traded. As such investors who hold quality corporate bonds may decide to remain invested in the paper until maturity.
- ii). Investor's preference to government bonds as these is readily available and is perceived to be a safer form of investment.
- iii). Narrow investors' base and more fundamentally low market transparency and a lack of timely accounting information. Thus, investors' decision might positively alter on the platform of bond issuers financial position transparent reporting and disclosure to various stakeholders.

### Theoretical Framework

This study is anchored on the signaling and Agent (positive) accounting theories; The Signal theory explains the justification behind organizations motive to share and disclose information regarding the financial report to external users. Justification of signaling theory (Verrecchia, 1983; Dainelli *et al.*, 2013; Beyer *et al.*, 2010; Morris, 1987; Karilainen, 2014) is as a result of information asymmetry problem, companies signal certain information to investors to show that they are better than other companies in the market for the purpose of attracting investment and enhancing a favorable reputation. In other words, in signaling theory financial statement preparers operate under conditions of information asymmetry and moral hazard, whereby they hold information about the "true value" of government and company wishing to "signal" that value to potential investors. However, signally behavior creates the perception that quality differences exist between products in the capital market since without information all products are assumed to be equal (lesser) quality. Signally behavior by both government and corporate bodies include;

- 1). Issue of financial statements whether in a regulated or unregulated environment.
- 2). Submitting to auditing procedures.
- 3). Voluntary disclosure of accounting information.

Obviously, the lack of information will cause external users tend to protect themselves by putting low values to government and companies, to increase their value, companies should reduce their asymmetry through giving the right signals to external users. The Agency (Positive) theory of Accounting, With the fundamentals assumption that an agency relationship exists between two or more parties, when one party the agent agree to act on behalf of others who are not in a position to execute their own objective (e.g. the principals). The relationship a manager and his stock holders are one such relationship.

According to (Salisu, 2011; Jensen, 1976; Agency theory conceives firm as a nexus between agent (managers) and their principals (owners). In government cycle, the citizens are the principals while governments are the agent. Governments and managers alike are assigned with the authorities of companies and government activities and are obliged to provide a financial report that will maximize their effectiveness. Thus failure to achieve this can trigger agency conflicts. Agency conflicts could arise between managers and shareholders, shareholders and creditors companies and customers, government and citizens. Notably, the economic agent has a fiduciary duty to represent the interest of the absentee owner (principal) by engaging in activities and making a decision that maximizes the wealth and power of the principal. As a positive theory of accounting, agency theory observes general characteristics of the market for accounting information and attempts to explain the specific behavior of investors, creditors and other users of accounting information.

### Empirical studies

Sherlita (2011) carried out work on the relevance of accounting information in the bond market in order to investigate the role of accounting quality in improving bond liquidity. The study based its sample on all companies who issued stocks and bonds with price data observation and daily yields in the years of 2007 -2009 in Indonesia, with a sample size of 42 companies which resulted in 252 observations. A double regression analysis method was to determine whether information quality affects bond liquidity. The study also used the model developed by Dechow and Dichev (2002) for quality measurement of accounting information in calculating the current accrual gained from changes in the current asset, current liability, cash and debt in current liability. And used income and operating cashflow as proximity for operating cash and income ratio measurement. While bond bid-ask spreads and daily

bond value were used as bond liquidity measurement with seven (7) variables of bond age, bond payoff, a book to market ratio, leverage, company size, return on asset examined in the study. Based on the study analysis and results the following findings were made; that accounting information influenced bond market which is in agreement with the research by Subramanyam *et al.*, (2010) investigates the role of accounting quality, bond liquidity, and the cost of debt. Their study tested a sample of 2292 firm-year observations over the period from 1995 to 2008 in the United States of America. They measured bond liquidity using a weighted average percentage of non-zero returns bid-ask spreads and cost of debt using weighted average yield spreads.

They analyzed data using regression analysis method on both bond characteristics (age, maturity, amount offering) and firm characteristics (size, leverage, profitability, book-to-market, operating volatility and analysts). Their study documents that accounting information quality significantly and positively effects bond liquidity, and a negative association between the cost of debt and accounting quality. And that bond age, bond offering amount, book –to-market value and leverage are negatively correlated with liquidity, and in agreement that higher risk gives rise to lower bond liquidity.

The study further provide evidence that bond age significantly affects the cost of debt while the coefficient of bond offering amount, firm size, and bond size insignificantly affects the cost of debt. They document that accounting quality does have a significant positive effect on bond liquidity, and a negative association between the cost of debt and accounting quality. From this study, it can be deduced that accounting information and its qualitative attributes seems to have a direct impact on the debt market and without exception the bond market which form the larger part of the debt market in Nigeria. The introduction of structural reform has an impact on improving bond market liquidity as investigated by Moorad (2009). The study examined the impact of reforms by attempting to ascertain if liquidity levels improved in the post reform era. The bench mark bonds theoretical versus yield error were used as proxies.

Market liquidity measures and those factors that contributed most to the maintenance of secondary market liquidity such as size, bond maturity, market confidence, the swap spread were identified. Observed price error (OPE) test regression analysis was used. The result revealed that lowest OPE was consistently shown by the two-year bench mark over all three periods. The highest spread varies across periods between the IO-year bond and the long-bond. Overall, there is a steady reduction in the OPE from period 1 to period 3 for all four bonds, indicating *prima facie* an increasing level of market liquidity over time. The study concludes that market structural reforms themselves are associated with an

improved level of liquidity in the time period following their introduction. The study further concludes that bond market liquidity is influenced by the level of swap spread, market volatility, benchmark bond issuance and other factors.

## IDENTIFIED GAPS IN THE LITERATURE

A review of extant literature shows that our work serves as complementary to the existing empirical studies both in and outside Nigeria but differ from them in the following areas:

Our study adopted a wider-perspective approach in capturing the effects of quantitative and qualitative attributes of accounting information variables on the liquidity and performance of domestic bond market in Nigeria. Financial ratios such as debt ratio, interest coverage ratio and current ratio commonly used by debt market stakeholders to evaluate financial information were used as our proxies for quantitative accounting information. While reliability, comparability, faithful representation, verifiability and timeliness, relevance completeness and understandability characteristics of accounting information were used as proxies for qualitative accounting information. Thus, there is no available empirical evidence to our knowledge that categorized accounting information into quantitative and qualitative attributes and their respective predictive efficacy on liquidity and performance of the Nigeria domestic market. Hence, our work is distinguished from the existing studies.

This study is based on different time periods spanning from 2003 to 2012. The 10 years' period is considered long enough to cover the period of transformation of the domestic bond market in Nigeria. In these periods the domestic bond market in Nigeria witnessed robust-enabling legislation through the promulgation of the Debt Management Office (establishment) Act 2004 (CAP D12, LFN), the Pension Reform Act 2004 and the Fiscal Responsibility Act 2008. These principal legislations provided support to the Nigerian bond market. In 2003, the issuance of bond was rejuvenated with the federal government 1st FGN Bond series. From this period, up on till 2012 Nigeria's bond market witnessed robust growth of over 80%.

We adopted data from primary and secondary sources. Existing studies utilized only quantitative data drawn from traded bonds of various exchanges across the globe and the Nigerian Stock Exchange and from publicly available/published financial statements and documents without incorporating the effects of qualitative characteristics of accounting information from the perceptions of various stakeholders in the domestic bond market in Nigeria. Our study identified a dearth in

literature on relevant tools for predicting the liquidity and performance of domestic bond market in emerging economy.

**METHODOLOGY**

The study adopted correlational and casual-comparative (or Ex-post facto) designs. A correlational research aims at determining the relationship between variables, to ascertain the extent to which variations in one variable are associated with variations in another. while, Causal-comparative (or Ex-post facto) design investigates possible cause and effect relationships by observing an existing state of affairs and searching back to back through the available data for possible or plausible causal factors. Furthermore, this study adopted the two approaches. The study made use of secondary data to investigate the aggregate Nigeria bond market reaction to accounting information. Secondly, the individual and institutional investor's reaction to accounting data were examined using the survey method. The users of accounting information were segmented into individual investors and institutional investors, investment analysts and stockbrokers. The study population for the aggregate market reaction to accounting information consists of State Government (15) and corporate bond (12) listed on the floor of Nigerian stock exchange as at 31/12/2012. The study population for the survey research consists of 16 approved Primary Dealers Market Makers (PDMM), 36 debt management offices, 12 corporate bond issuers, 15 Government bond issuers, 109 individual/institutional investors, 252 registered and active stock broking firms as at 31stDecember, 2012. We allotted 2 respondent stakeholders to each population group which resulted to 880 population size. The sample size is five (5) government bonds (state government bonds), and five (5) corporate bonds listed on the Nigeria stock exchange during the period 2003 to 2012 for the aggregate market reaction to accounting information. The sample size was limited to a total of ten (10) bonds because of non-availability of data. Thus, panel data of ten listed bonds comprising corporate bond and government bonds over a period of 10years resulted in 100 observations. The corporate and government bonds were selected based on the following criteria:

- 1). The bonds listed on Nigerian stock exchange.
- 2). Government and the firms have audited financial statements.

Yaro Yamen's sample selection method was adopted. The sample size of 275 with error limit of 5% was determined and adequate for this study.

**Analytical Procedures and Model Specifications**

The analytical model procedure adopted for this study conceptualized by the authors using a basic econometric model which specifies the relationship between dependent and independent variables under study. The model is specified as:  $y_i = f_i(x_i)$

Where:

$y_i$  = dependent variable (Bond market Liquidity)

$x_i$  = independent variable (Accounting information)

We accordingly specify our models as follows:

Quantitative Accounting Information Model - The effect of quantitative accounting information on bond market Liquidity indicators is specified as follows:

$$Y_1 = b_0 + b_1 (DEBTR) + b_2 (INTCR) + b_3 (CURR) + e \dots \dots \dots \text{equation (1)}$$

Where:

- Y<sub>1</sub>= Bond market liquidity (BML) proxied by volume of deals traded
- e= Error term is measuring the extent to which the model cannot fully explain bond market performance.
- B<sub>0</sub>= Constant term (or Y intercept).
- b<sub>1</sub>= Coefficient of the independent variables (DEBTR, INTCR and CURR respectively).
- b<sub>i</sub> = debt Ratio(DBTR), b<sub>2</sub>=interest coverage ratio(INTCR), b<sub>3</sub>=current ratio(CURR)

The specified for quantitative accounting information viz:

$$BML = b_0 + b_i (DBTR) + b_2 (INTCR) + b_3 (CURR) + e \dots \dots \dots \text{equation 1}$$

2. Qualitative Accounting Information Model - The effect of qualitative accounting information on bond market performance indicators.

$$Y_i = b_0 + b_1 (RELV) + b_2 (RELB) + b_3 (VERIB) + b_4 (COMPA) + b_5 (TIMLI) + b_6 (COMPL) + b_7 (UNDS) + b_8 (FREP) + e \dots \dots \dots \text{equation 2}$$

Where:

- Y<sub>i</sub> = as previously defined in eq1
- RELV = Relevance of accounting data
- RELB= Reliability of accounting information
- VERIB =Verifiability of accounting information
- b<sub>0</sub>= -Constant term (or Y intercept)
- b<sub>1</sub>, b<sub>2</sub>...b<sub>8</sub>= Coefficient of the eight independent variables in equation 2

Accordingly, the qualitative accounting information viz:

$$BML = b_0 + b_1(RELV) + b_2(RELB) + b_3(VERIB) + b_4(COMPA) + b_5(TIMLI) + b_6(COMPL) + b_7(UNDS) + b_8(FREP) \dots \text{ equation 3}$$

## RESULTS AND DISCUSSIONS

### Quantitative Accounting Information on Bond Market Liquidity

Ho1: Quantitative accounting information has no significant effect on the liquidity of the Nigerian Bond market.

Summary of the test result shown in table 1 below.

**Table 1.** Effect of quantitative accounting information on the liquidity of domestic bond market in Nigeria in four functional forms

Model	Linear Function	Semi-log Function	Double log Function	Exponential Function
Constant ( $\beta$ )	-63831.896*** (900)	3690.933*** (.130)	8.028*** (7.430)	8.128*** (2.023)
DEBTR	-96261.762*** (-1.092)	-53558.877*** (-612)	-3.927*** (-1.179)	-5.093*** (-1.019)
INTCR	162237.246*** (10.739)	210035.371*** (8.036)	6.518*** (6.546)	4.795*** (5.595)
CURR	-9925.787*** (-9.902)	-23978.687*** (-1.112)	-.635*** (-.773)	-.162** (-.547)
R	.976	.958	.938	.919
R <sup>2</sup>	.952	.917	.879	.845
R <sup>2</sup> Adj. R <sup>2</sup>	.928	.876	.879	.768
Standard error of the estimate	11634.779	15310.97	.58330	.66003
F-ratio	39.741***	22.103***	14.552***	10.927***
Durbin – Watson	1.895	1.821	2.361	2.094

**Source:** Extract from Appendix ixA--iXD

N/B:           \*\*\*     Significant at 1%  
                  \*\*      Significant at 5%  
                  \*      Significant at 10% and above  
 t values are shown in bracket

The table 1 above shows the Effect of Quantitative Accounting Information on the Bond Market Liquidity. We evaluated the influence of quantitative accounting information in the bond market liquidity. Base on the number of significant factors and the statistical values of the coefficient of determination ( $r^2$ ), and F-ratio the linear function is chosen as bases for our discussion. The F-ratio of 39.741 is significant at 1% probability level and provides sufficient evidence that the model specification is adequate. The coefficient of determination ( $r^2$ ) is .952. This result indicates that quantitative accounting information variables account for 95.2% change in the liquidity position of the domestic bond market in Nigeria. Beta value measures the extent to which independent variables affect the dependent variable, using the linear function the beta coefficient of debt ratio (DEBTR) and current ratio (CURR) of -96261.762 and -9925.787 respectively means that a unit change in debt and current

activities will lead to 96.26% and 99.25% negative influence on the liquidity level of the bond market respectively.

This suggests a large decline in debt and current ratios, and the possibility of bond issuers carrying large percentage of debts which places doubt on the bond issuers' ability to pay short term and long term obligations. It also indicates a threat to bond issuers' solvency, financial leverage, probable sign of financial distress and other financial risks. These will result to creditors not extending credit, and investors' divestment of their bond holdings thereby creating possible depression in the market. While interest coverage activities exert significant positive effects on liquidity level of the bond market with beta coefficient of 162237.246. This indicates that improvements in interest coverage activities are most likely to translate into high liquidity of the bond market. Thus, interest coverage activities beta

coefficient of 162237.246 suggests that a unit change in interest coverage activities will positively lead to 162.24% level of liquidity in the domestic bond market. Basically, an improvement in the bond issuers earning that will cover interest payment as it falls due will encourage more investors to participate in the bond market and thereby create higher liquidity in the domestic bond market. Bondholders and lenders are interested in the bond issuers' liquidity, the safety and security of their investment and the possibility of recouping their principal and interest seamlessly. Hence, bond issuers' failure (default) to meet interest payments to bondholders, lenders and other investors has negative consequences on various stakeholders and the bond market.

Relatively, the t-test using the linear function for DEBTR, INTCR and CURR are -1.092, 10.739 and -9.902 respectively. T-test serves as the basis for checking the individual significance of each independent variable. Note that t-test value less than 2 is not significant. The t-test result suggests that INTCR is highly positively significant in predicting the liquidity of the bond market. This indicates possible high solvency of the bond issuers with strong ability to earn more than its interest costs,

financially secure with zero tolerance to default on its obligations. Bond issuers with high interest covers attract potential bond investors, lenders, and a delight to investing public and the entire bond market. The current ratio (CURR) is negatively significant in explaining the bond market liquidity at t-test -9.902. This result suggest possible significant decline in current ratio which may result to bond issuers inability to meet its short term obligations. Based on the above and in a general term quantitative accounting variables influences the liquidity of the bond market either positively and negatively, therefore, we reject the null hypothesis and conclude that quantitative accounting information significantly affect the liquidity of the bond market in Nigeria. The result is in agreement with the findings of watts (2003), and Zhang *et al.*, (2010) who found a significant effect of accounting information on the bond market.

**Ho2:** Qualitative accounting information has no significant influence on the liquidity of the Nigerian Bond market

Summary of test result shown in Table (2) below

**Table 2.** Influence of qualitative attributes of accounting information on the liquidity of domestic bond market in Nigeria in four functional forms.

Model	Linear Function	Semi-log Function	Double log Function	Exponential Function
Constant ( $\beta$ )	4.242*** (6.759)	3.864*** (5.441)	1.341*** (6.965)	1.437*** (8.414)
Relevance	.199*** (2.216)	.756*** (2.320)	.178*** (2.016)	.047* (1.914)
Reliability	-077* (-1.061)	-.400*** (-1.777)	-.104** (-1.710)	-.020* (-1.003)
Verifiability	-.040* (-.542)	-.089* (-.375)	-.017* (-.260)	-.009* (-.452)
Comparability	-.070* (-1.028)	-.228*** (-.966)	-.082* (-1.291)	-.025* (-1.322)
Timeliness	-.110** (-1.549)	-.148** (-.641)	-.034* (-.538)	-.028* (-1.433)
Completeness	.200*** (2.757)	.766*** (3.328)	.217*** (3.472)	.054* (2.756)
Understanding Ability	.066* (1.041)	.118** (.606)	.021* (.395)	.015 (.874)
Faithful Representation	-.197** (-2.635)	-.579*** (-2.549)	-.143** (-2.315)	-.047* (-2.326)
R	.376	.919	.389	.362
R2	.142	.845	.151	.131
Adj. R2	.096	.768	.107	.085
F-ratio	3.116***	10.927***	3.370***	2.838***
Standard Error of the Estimate	.881	.66003	.23666	.23954
Durbin-Watson	1.993	2.006	2.027	2.007



**Source:** Extract from appendix---

N/B:	***	Significant at 1%
	**	Significant at 5%
s	*	Significant at 10% and above

t-values are shown in bracket

Table 2 above shows test result of the influence of qualitative accounting information characteristics on the changes in liquidity level of the Nigerian Bond market in four functional forms. Based on the number of significant factors, the statistical value of the coefficient of dependent ( $r^2$ ) and F-ratio, the semi-log function is chosen as the basis for our discussion. The F-ratio of 10.927 is significant at 1% level of probability and provides strong evidence that the model specification is appropriate for our evaluation and analysis. The result indicates that qualitative accounting information characteristics account for .845% change in liquidity level of the listed bonds on the floor of the Nigerian Stock Exchange.

However, the test result showed a high positive significant beta coefficient of .756 and .766 level for relevance and completeness respectively and only a low positive insignificant level of beta coefficient of .118 for understandability characteristics of accounting information. While the beta coefficient of reliability, comparability and faithful representation shows the negative significant level of -400, -228 and -579 respectively and low negative insignificant beta coefficient of -089 and -148 for verifiability and timeliness respectively. Furthermore, beta value measures the extent to which independent variable influence the dependent variable. Using the semi-log function, the beta coefficient of .756, .766 and .118 for relevance, completeness and understandability characteristics of accounting information respectively means that a unit change in relevance, completeness and understandability will lead to 75.6%, .766% and 11.8% respectively positive significant influence on the liquidity of the bond market. This implies that relevance and completeness of accounting information propels high liquidity of the bond market and understandability marginally and positively affects the liquidity of the bond market. In the same vein beta coefficient of -400, -228 and -579 for reliability, comparability and faithful representation respectively means that a unit change in these variables will accordingly result to -40%, -22.8% and -57.9% negative significant effects on the liquidity of the bond market. While a unit change of -089 and -148 for verifiability and timeliness respectively leads to -8.9% and -14.8% insignificant influence on the liquidity of the bond market.

Thus, the significant qualitative variables indicate that investors and other users of accounting information in the bond market consider as a top most priority the relevance, completeness, reliability, comparability and faithful representation characteristics of accounting

information of accounting information. However, the high perception of relevance and completeness of accounting information by users of accounting information is capable of generating high liquidity in the bond market which means that a high quality relevance and complete accounting information motivates users of accounting information in the bond market to increase trading activities in the bond market thereby creating liquidity and increase bond market performance. While the significant negative levels as shown in the test result perhaps indicate investors apathy in investing in the bond market as a result of unreliable, unfaithful representation and late disclosure of accounting information by the bond issuer capable of creating illiquidity in the bond market and by extension reduces bond market performance. Furthermore, the t-test result using the semi-log function indicates that b1 (Relv), b2 (Relb), b3 (Verib), b4 (Compa), b5 (Timli), b6 (Compl), b7 (Unds) and b8 (Frep) are 2.320, -1.777, -375, -.966, -.641, 3.328, .606 and -2.549 respectively. T-test serves as the basis for confirming the individual significance of each independent variable. Note that t-test less than 2 is not significant. The above t-test values confirm that virtually all the variables are significant and with a strong influence on the liquidity position of the domestic bond market in Nigeria.

Based on the above, we assert that qualitative accounting information characteristics such as relevance, reliability, comparability, completeness, faithful representation among others have significant influence on the liquidity level of the domestic bond market in Nigeria. Therefore, we reject the null hypothesis and conclude that there is a significant influence of qualitative accounting information on the liquidity of the Nigeria bond market. This result is in agreement with the findings of Zheng et al (2010) who found that higher accounting quality due to high relevance, reliability, faithful representation of accounting information improve bond market liquidity.

## CONCLUSION

Quantitative accounting measures and qualitative characteristics of accounting information significantly affect the liquidity and performance of the bond market in Nigeria. The application of financial ratios by bond market investors in evaluating the accounting data of bond issuers largely influence their investment decisions and affects the performance of the bond market. In the same

vein, the volume of bond traded on the bond market reflects qualitative characteristics of accounting information such as relevance, reliability, comparability, completeness, faithful representation among others, and have significant influence on the performance level of the domestic bond market in Nigeria. Thus, bond market performance is predicated on use of accounting information measures by investors for investment decisions and the all-inclusive qualitative characteristics of accounting and financial information. High quality accounting information motivates investors and users of accounting information in the bond market to increase trading activities, induce liquidity and increase bond market performance.

Although, this study statistically revealed both positive and negative stakeholders' perception on the effect of accounting information on bond market liquidity and general performance. The positive perception may result from investors who are convinced to invest in the bond market upon appraisal of bond issuers accounting data, perceived satisfactory bond issuers accounting quality and disclosure, strong policy and regulatory, and perhaps investors' sentiment in the market. Investors and other stakeholders' negative perception may not be unconnected to the historical nature of accounting information which is inherently backward looking and may possibly be inadequate for assessing the performance of the bond market and resulting to apathy in the market. Perhaps financial statements that are futuristic in nature may be of interest to the investors and other stakeholders and therefore may trigger the performance of the bond market in Nigeria.

## RECOMMENDATIONS

- 1). Accounting information preparers for corporate institutions particularly bond issuers should be made to compulsorily disclose at least 10 years past financial statement of the entity as a precondition for accessing the capital market to raise funds. The existing 3 to 5 years' financial summary report as one of the requirements for accessing the bond market is inadequate.
- 2). To make accounting information relevant in the bond market there should be promotional initiative in the bond market to increase the proportion of corporate bond that will attract the use of accounting information as a tool for investment decision by interested corporate bond investors
- 3). The need to enforce punitive measures to companies and government institutions fail to meet the required qualitative attributes of accounting information that will be verifiable, reliable, relevance, timely delivered etc. is important as these are driving force for investors' decision that can generate liquidity in the bond market.

- 4). The Nigeria Stock Exchange (NSE) launch of X-issuers' portal, an initiative for secure and electronic delivery of issuer information in a structured and continues manner is a welcome development. However, will be effective when bond issuers comply.
- 5). The need for preparers of accounting information to improve the quality of accounting information devoid of window dressing and creative accounting, regular disclosure, transparency and accountability of such accounting information is required since investors are sensitive to accounting information in assessing the performance of bond market thereby creating liquidity in the market.
- 6). The classification of accounting information into quantitative and qualitative attributes is crucial and the suggested models serves as complimentary use by policy makers, investors, bond issuers in Nigeria and as a tool for the assessment of the bond market performance and are recommended to investors, rating agencies, regulatory authorities and other stakeholders as a tool for assessing the emerging domestic bond market.
- 7). The results of this study have vital policy implications for regulatory and statutory bodies regulating both bond market and the accounting standard setting policies and other practitioners such as Nigerian Reporting Council (NRC), Securities and Exchange Commission(SEC), Nigerian stock exchange(NSE), Debt management office(DMO), Central Bank of Nigeria(CBN), International Financial Reporting Standard (IFRS), International Public Sector Accounting Standard (IPSAS, financial analysts, Researchers, Academic Community and Business Community would find this study in their policy making and other uses.

## AREAS FOR FURTHER STUDY

- 1). The study considers the association of accounting information and the liquidity of bond market in Nigeria from 2003 to 2012 and considered 5 corporate and 5 government bonds listed on the Nigerians Stock Exchange. Further research could be examined on the influence of accounting information on the prices, and risks of bonds listed on the Nigeria Stock Exchange.
- 2). Further study should evaluate the effect of accounting information on over-the-counter bond market performance in Nigeria.

## REFERENCES

- Ajayi, I.O, (2013) The Nigerian Bond Market: Understanding Monetary Policy. Central Bank of Nigeria, series No 31.
- Atrills, P. and McLaney E. (2007) Management Accounting for Decision Making. Financial Times Prentice Hall 5th Edition Chapter 1.

- Benston, G.J. (2007) Contemporary Issues in Financial Reporting: A User-Oriented Approach. *The International Journal of Accounting*, February 23-32
- Beyer, A, Cohen, D., Lys, T and Walther, B (2010) The Financial Reporting Environment: Review of the Recent Literature. *Journal of Accounting and Economics* 50(2-3), 296-343
- Chen, Y, Chang, H., Su, C. & Chang, Y (2007) The Relationship between Stock Price and EPS: Evidence Based on Taiwan Data, *Economic Bulletin*, 3(30), 1-12
- Christerien, J.A. and Demisk, J.s (2003) *Accounting Theory: An Information Content Perspective*. McGraw-Hill Chapters 1, 6, 7-13, 20.
- Company and Allied Matters Act 2007 as Amended
- Dainelli, F., Bini, L and Giunta, F (2013) Signalling Strategies in Annual Reports: Evidence from the Disclosure of Performance Indicators, *Advances in Accounting* 29(2)267-277
- Debt Management Office (2009)- General Rules and Regulation Governing the Primary Dealers Market Makers (PDMM) System in Federal Government of Nigeria (FGN) Securities- Operational Circular no. 2
- Debt Management Office Act (2004)
- Debt management office-operational circular no. 2, (2001). General Rules and Regulations Governing the Primary Dealers Market Makers (PDMM) System in Federal Government of Nigeria (FGN) Securities- Available at <http://www.dmo.gov.ng>. accessed on 21st July 2016.
- Dechow, P. and Dichev, I. (2002). The Quality of Accruals and Earnings: The Role of Accrual Estimation Errors. *The Accounting Review*, 77, 35-59.
- F. A. S. B. (1978) Statement of Financial Accounting Concepts, no. 1: Objectives of Financial Reporting by Business Enterprises; (Financial Accounting Standard Board. Stanford, conn).
- FASB (2008) Financial Accounting Series, Statement of Financial Accounting Standards N01570-100: Exposure Draft on an Improved Conceptual Framework for Financial Reporting. Norwalk.
- Financial Accounting Standard Board (2005). Conceptual Framework and Qualitative Characteristics. Memorandum 5. Norwalk.
- Francis, J.R., Lafond, P., and Schipper, K. (2005) The Market Pricing of Accruals Quality, *Journal of Accounting and Economics* 39.295- 327.
- Hossain, D.M., Khan, A. and Yesmin, 1. (2004). The Nature of Voluntary Disclosures on Human Resource in the Annual Reports of Bangladeshi Companies, "Journal of Business Studies, vol. 25, no 1, pp. 221-231
- Igben R. O. (1999) *Financial Accounting Made Simple*. ROI publishers. Isolo. Iagos
- International Accounting Standard Board (IASB) Conceptual Framework. Agenda paper 7
- Investment and Securities ("ISA") Act 2007: Abuja
- Jagetia, L. C. and Nwadike, E. C. (1983) Accounting System in Developing Nations: The Nigerian Experience, *International Journal of Accounting Education and Research*, spring, 69-81.
- Jensen, M. (1986) Agency Cost of Free Cash Flows, *Corporate Finance and Takeovers*. *American Economic Review* 76, 323-339
- Kanlainen, M (2014) Usefulness of Financial Accounting Information in Commercial Lending by Banks in Sweden. Karlstad Business School Sweden. Available on [www.diva-portal.org](http://www.diva-portal.org)
- Kothari, S.P. (2001) Capital Market Research in Accounting. *Journal of Accounting and Economics* 31, 105-231
- Krishnamurthy, A. (2009) Amplification Mechanisms in Liquidity crisis. *American economic journal macro-economies*
- Kyle A. S. (1985) Continuous Auction and Insider Trading *Econometrical* (Nov). 1315-1335
- Maines, L. and Whalen, J. (2006). The Nature of Accounting Information Reliability. *Inferences Form Archival and Experimental Research Accounting Horizon*, 20(4). 339-425
- Moorad, C. (2009) The Value of Introducing Structural Reform to Improve Bond Market Liquidity: Experience From the U.K. Gilt Market. MA Centre, university of Reading, squirrels Leap, surrey Gardens Effingham, England. *European Journal of Finance and Banking Reseach* volume 2 No 2.
- Morris, R (1987) Signalling, Agency Theory and Accounting Policy Choice. *Accounting and Business Research* 18(69), 47-56
- Nagesh, M. (2008) Liberalization and the Value Relevance of Accrual Accounting Information; Evidence from the Johannesburg Securities exchange, *Afro-Asia journal of finance and accounting* 1(1) 81-104
- Obaidat, A.N (2007) Activity Information Qualitative Characteristics Gap: Evidence from Jordan. *International Management Review* vol. 3. No 2 pp. 26-31.
- Perera R. A. A. Sand Thrikawala SS (2011). An Empirical Study of the Relevance of Accounting Information on Investors Decisions. University of Kelaniya, Sri Lanka
- Peterside, T. (2012) Assessing the Importance of Nigeria's National Stock Exchange for Economic Growth and Capital Market Development. Nigerian Stock Exchange Paper Delivered at the Bonds and Loans African Conference, Cape Town, South Africa.
- Pension Reform Act 2004. Nigeria
- Salisu, A (2011) Regulation and the Economics of corporate financial reporting in Nigeria Ahmadu Bello University; Zaria Nigeria. Available on [www.abu.edu.ng/publication](http://www.abu.edu.ng/publication). Retrieved on October 4th, 2016
- Sherlita, E. (2011). The Relevance of Accounting Information on Bond Market. *International Seminar on Business and Management*. Widyatama University Indonesia, pp. 52
- Subramayam, K.R., Qi, c 2 and Zhang, J. (2010) Accounting Quality Bond Liquidity and the Cost of Debt, Working Paper Mashall School of Business. University of southern California.
- Verrecchia, R.E (1983) Discretionary Disclosure, *Journal of Accounting and Economics*, 5(3) PP 179-194
- Vishnamis and Shah, B.K (2008) "Value Relevance of Published Financial Statements with Special Emphasis on the Impact of Cash Flow Reporting" *International Research Journal of Finance and Economics*, vol. 17, pp. 184-90.
- Watts, R. (2003) "Conservatism in Accounting, part 1: Explanations and Implications", *Accounting Horizons*, 17: 207- 221
- William, J. B., (1968). Accounting Information and Decision Making: Some Behavioral Hypothesis. *The Accounting Review*, 43(3), 469-480
- Zhang, J., Subramanyam, K.R. and Qi, c.2. (2010) Accounting Quality Bond Liquidity and the Cost of debt: Working Paper University of Southern California.