**International Journal of Advanced Finance and Accounting** | ***ISSN 2765-8457***
Published by ACADEMIC INK REVIEW | *https://airjournal.org/ijafa*
12011 WestBrae Pkwy, Houston, TX 77031, United States
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# Determinant of Capital Structure of Listed Insurance Firms in Nigeria Stock Exchange

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| ***Publication Process*** | ***Date*** |
|---|---|
| *Received* | ***June 22nd, 2021*** |
| *Accepted* | ***July 8th, 2021*** |
| *Published* | ***July 30th, 2021*** |

**ABSTRACT**

*This focus of this study is to examine the determinant of listed insurance firms in Nigeria stock exchange. The purpose of the study was to determine; the effect of profitability on debt to equity ratio, to ascertain the effect of tangibility on debt to equity ratio. This study adopts the ex-post facto i.e. after the fact or event. The paper uses secondary data only extracted from the Annual Reports and Accounts of 16 sampled firms out of the insurance companies in Nigeria representing 50% of the population. Random sampling technique is employed to select the firms so as to ensure that all the firms have equal chance of representation and also depending on availability of data. Multiple regression is used as a tool of analysis for the study covering a period of 11 years (2006-2016) using Statistical Package for Social Scientists (SPSS). The population of this study is the thirty-two (32) quoted insurance firms on the Nigerian Stock Exchange (NSE) as at 31st December, 2016. The result of the study revealed that profitability has a significant negative effect on Debt to Equity Ratio; tangibility has an insignificant positive effect on Debt to Equity Ratio. The study recommended that Managers should consider the effect of profitability on capital structure when making financial decisions, Insurance Firms should increase their retained earnings as much as possible and plough it back into the business so as to make external financing (debt or equity or a combination of both) a last resort according to the pecking order theory, the effect of tangibility on capital structure is vital in making decisions on debt and equity financing, emphasis should be on increasing total assets and not just fixed tangible Assets so as to minimise external borrowing and possible liquidation thereby incurring Bankruptcy Costs.*

***Keywords:*** *Capital Structure; Insurance Firms; Nigeria Stock Exchange; Debt to Equity Ratio*

**1. Introduction**

One of the many objectives of financial managers is to maximize the wealth of shareholders. Shareholders' wealth maximization is fully depending on some challenge like managing lower cost of capital, reducing the agency costs of debt and equity and generating tax shield benefits from debt financing, etc. All these challenges are determined and managed by reaching at a particular point of optimal capital structure. As a result, financial managers strive to ensure the optimal mix of debt and equity in the firm's capital structure (Akinyomi and Olagunju (2013).

Capital structure measured by "Leverage" can be narrowed down into long-term debt/equity and short-term debt/equity. They asserted that short-term debt exposes a firm to refinancing risk, used within reasonable limits and is justified by cost and asset matching considerations and when market value of equity is above its book value, the firm is able to sell additional equity if the need arises. They further stated that it is now prevalent for short-term financing to become a necessity in the firm's need of working capitals or representing an on-going portion of the asset base and although equity financing is more expensive than employing debt, striking a balance of both elements is deemed reasonable. Capital structure therefore is regarded as one of the financial components which could imply the firms' health conditions.

In addition to deposit insurance (implicit or explicit), official capital structure regulations play a crucial role in aligning the incentives of owners of insurance firms with clients. However, it is not altogether clear whether the imposition of capital requirements actually reduces risk-taking incentives. Actual capital requirements may increase risk-taking behaviour. Higher capital requirements may induce clients to shift to capital markets and in the process impair capital allocation. However, raising capital requirements can increase the cost of capital. Thus, theory provides conflicting predictions on whether capital requirements curtail or promote insurance firms' performance.

This study attempts to determine factors affecting capital structure of Quoted Insurance Firms in Nigeria. The study aims at determining whether the independent or explanatory variables (size, growth, profitability, tangibility and age), statistically and significantly influence the explained or dependent variable (Debt to Equity Ratio) and to identify the factors that affect the capital structure of listed insurance firms in Nigeria.

This research dwells on the determinants of capital structure within the context of Quoted Insurance Companies on the Nigerian Stock Exchange (NSE). The findings of this research are expected to contribute to existing body of knowledge. Practicing insurers and underwriters in the Nigerian Insurance Sector are anticipated to become more informed of the intricacies surrounding factors that influence capital structure in the industry. The c community will also benefit enormously from the outcome of this research.

Most of the studies on Capital Structure have been on other sectors and only very few studies have been carried out on the Insurance Sector in Nigeria. Moreover, the results of the previous studies have been inconclusive, controversial and open to further investigation.

Therefore, the study justification is to bridge the gap in knowledge by assessing the determinants of capital structure in the Nigerian insurance sector where there has been paucity of research studies and attempt to determine factors that affect capital structure in the Insurance Sector of Nigeria.

**Statement of the Problem**

In Nigeria, insurance companies do not seem to have lived up to expectation of achieving optimum capital structure. If this is not achieved, it is at the peril of both the providers of capital and the firm itself. Hence, many developing countries have experienced financial problems requiring major reforms to address weak supervision of insurance firms and inadequate capital.

The firms had ineffective to determine the effect of profitability and tangible on debt to equity ratio

**Objective of the study**

The main objective of the study is determinant of capital structure of listed insurance firms in Nigeria Stock Exchange; the specific objectives are;

i. To determine the effect of profitability on debt to equity ratio

ii. To ascertain the effect of tangibility on debt to equity ratio

**Research questions**

i. How does profitability affect debt to equity ratio

ii. How does tangibility affect debt to equity ratio

**Statement of Hypotheses**

i. Tangibility does not have significant effect on Debt to Equity Ratio.

ii. Profitability does not have significant effect on Debt to Equity Ratio.

**2. Review of Related Literature**

**Capital Structure**

Modugu (2013), citing Shah and Hijazi (2004), states that in firms' attempt to maximize their overall value, they vary with regarded to capital structures. These has given birth to variety of capital structure theories that has try to explain the difference in capital structures of firms over the certainty period of time across the regions. The capital structure of a firm consists of numerous sources, which are presented in the equity and liability side of the balance sheet. Citing Huang and Vu Thi, (2003), Modugu (2013) notes that a firm has three main sources of financing, also called capital components which are at their disposal to fund new investment opportunities. It comprises the use of retained earnings which is known as internal equity, and the issues of new shares which is known as external equity or the act of borrowing money through debt instruments known as debt capital. These sources of financing constitute the capital structure of a firm and also reflect the ownership structure of the firm.

There is nothing that is more important to a new business than raising capital. The way that money is raised can, however, have an enormous impact on the success of a business. These arguments can be appropriated to all businesses across the globe and not only to the newly established businesses. How a firm picks the combination of debt and equity in their capital structure which is depends on numerous factors such as the characteristics of the firm, the economy and the perceptions and objectives of the managers.

Furthermore, Modugu (2013) citing Karadeniz, Kandir, Balcilar, and Onal (2009), notes that management's first priority is to evaluate the various costs and benefits associated with the use of both debt and equity. Management normally based their decision with respect to the combination of debt and equity on these numerous costs and benefits. Based on these scholars, management can be able to set up an optimal capital structure, which can maximize the value of the firm. This, however, is only one side of the debate on capital structures. According to the Pecking Order theory, management will consider all methods of financing available and use the least expensive source first (Myers, 1984). Although empirical research provides varied evidence with respect to the existence of an optimal capital structure, financial theory still provides some assistance in understanding how the financing mix (debt and equity) could affect the firm's value.

**Equity**

Equity permits the firm to obtain funds without incurring debt. It means that the fund obtained through equity may not have to be repaid at a specific time. The investors acquired shares in the firm and hope to reclaim their investment out of upcoming profits. The shareholders have the pleasure to share in the profits of the company in the form of dividends or forthcoming capital gains. However, if the organization suffers a loss, the owners have limited liability, meaning that the only loss they may suffer is the amount invested in the company.

We have two types of equity: external equity and internal equity (Myers, 1984). Internal equity refers to the retained earnings of the organization and it forms the main part of the firm's distributable reserves. When distributable profit is determined in the income statement, the organization has to agree on what proportion of the profit that can be paid out as dividends to the ordinary shareholders. The remaining balance after payment will now serve as the retained earnings and this balance will be carried over to the next distributable reserves in the balance sheet.

The retained earnings will then serve as the amount that is reinvested into the firm. While External equity refers to capital from outside and it is obtained through the issuing of new shares. Generally, it comprises both ordinary and preference share capital. A firm may have to raise external equity when its internal equity or retained earnings is not enough for the required investment opportunity at that point in time. When an organization raises so much capital through equity issues, it could be interpreted as an indication to the market that the firm does not have enough reserves or cash flows, and it may result that the firm has undervaluation of shares. When investments are properly financed with external equity, the share prices of the firms sometimes fall. Therefore, it is better to have enough reserves so that a greater proportion of share capital needs can be supplied from internal sources (Modugu, 2013).

**Combination of Debt and Equity**

When considering the characteristics of and the various advantages and disadvantages associated with debt and equity, it is clear that firms should consider a combination of these different sources of financing. As already stated, using only debt in the capital structure can be very risky (especially due to the risk of bankruptcy, because the more debt an organization uses, the higher the bankruptcy risk). During the time of higher interest rates, it may cause the earnings on an investment to be wiped out by high interest payments. Issuing only shares capital in an attempt to generate funds can also be a very risky option. The main reason is because an organization must first use the available cash to fund new investments, while shares capital may not generate cash at the period the firm needed to pay for the new investment.

Theoretical research to date has specified that an organization can influence its value by changing its ratio of debt to equity. The main argument is that an organization may need to find an optimal combination of debt and equity that will ultimately increase the overall value of the organization. Therefore, it appears that the decisions concerning capital structure might impact on the achievement and future prosperity of the organization (Modugu, 2013).

**Profitability**

Citing the pecking order theory, Shehu (2011) states that firms tend to use internally generated funds first and then resort to external financing. Therefore, this implies that profitable firms will have less amount of leverage (Myers and Majluf, 1984). Also, there are no consistent theoretical predictions on the effects of profitability on leverage. In regard of trade-off theory, more profitable companies should have higher leverage because they have more income to shield from taxes. The free cash-flow theory implies that more profitable companies should use more debt in order to discipline managers, to induce them to pay out cash instead of spending money on inefficient projects. However, the pecking-order theory suggests that firms prefer internal financing to external. This implies that profitable companies have a lower need for external financing and therefore should have lower leverage. Many empirical studies observe a negative relationship between Capital Structure and profitability, such as Rajan and

Zingales (1995), Huang and Song (2002), Booth, Aivazian, Demirguc-Kunt, and Maksmivoc (2001), Titman and Wessels (1988) and Kester (1986).

**Tangibility of Assets**

Shehu (2011), states that a firm with large amount of fixed assets can borrow at relatively lower rate of interest by providing the security of these assets to creditors. Empirical evidence reveals mixed conclusion on the effect of tangibility on capital structure across various studies. While Wiwattanakantang (1999) and Booth, Aivazian, Demirguc-Kunt, and Maksmivoc (2001) found negative relationship between tangibility and leverage for Thailand firms, Prasad, Green, Murinde and Suto (2003) found a positively significant relationship for Malaysian firms. This means that a firm that has the incentive of getting debt at lower interest rate as a result of possessing higher percentage of fixed asset is expected to borrow more as compared to a firm whose cost of borrowing is high because of having less fixed assets. It is expected, from the theoretical point of view, that tangible assets can be place as collateral. Therefore, higher tangibility can reduce the risk of a creditor and increases the value of the assets in the case of bankruptcy. As Booth et al. (2001:101) state: "The more tangible the firm's assets, the greater its ability to issue secured debt and the less information revealed about future profits."

**The Nigerian Insurance Sector**

Bakara and Oladipupo (2013) give a review of the Nigerian Insurance Industry thus:

The insurance sector plays important roles in the development of any nation by transferring risks from individuals and businesses. In many nations, insurance sector is vigorously playing an increasing vital role in the stability and well-organized diversification of risks and consequently contributing enormously to economic development. However, the insurance industry in Nigeria is playing a vital role in the economic development of the nation and it is lagging behind major policy reforms that offer a huge economic potential that remains largely untapped in the industry. For instance, with the high population, Gross Domestic product (GDP) growth rate averaging 7.4% over the previous decade, the penetration ratio has always continued to lag those of other official financial services and thus underachieving in an increasing economy with a performance of 0.7% penetration rate and less than 1 percent contribution to GDP.

The insurance industry in Nigeria is confronted with many challenges. First, the coverage level for insurance services is very low in the nation with approximately 1,500,000 insurance policy holders out of the over 150,000,000 population patronizing insurance services and products. This low penetration rate demonstrates that there is low level of acceptance for insurance policy among the people and institutional clients. It is also needful to acknowledge that the perception of the people about insurance policy is shaped by people's belief and lack of awareness among the people. However, over the pass years the insurance business in the country has mainly focused on the underwriting of risks for organizations, but the ratio is still very low because it is skewed towards some sectors such as transport and trade etc. And in some area are neglecting the retail end-markets.

Also, among the chief factors that influencing against the performance of the insurance sector is the non-remittance of insurance premium by insurance intermediaries such as insurance agents and brokers, nonpayment of premium as and when due more especially by government and government agencies. It is very important to observe that the Nigerian insurance market is a broker market because brokers control around 90% of the premium income, while the remaining 10% is left for insurance agents and direct marketing by Insurers. The consequences of these actions are that Insurers will tend to fight to cover policy payment in case of any claim arising and also limited funds to invest in the economy and therefore reducing their level of profitability and contributions to the economy as well as aggravating the waning general observation. This reputational impairment is so enormous that it has dire consequences for the low penetration rate in the country more especially with the retailer consumers' patronage. Other reasons for the unsettlement of claims among others are the unwillingness on the part of the Insurers, fake insurance intermediaries, unscrupulous claims by the Insured and undercapitalization by Insurers.

Another challenge confronting the industry is lack of innovative products and services or customized products that could meet the various needs of the people. It is apparent that the insurance industry in Nigeria is far behind in information and communication technology given the rapid growth in internet and social media which serves a potent and veritable medium to drive growth and hence improve their product distribution network and awareness campaign. Thus, the industry players need to embrace new technologies to drive new products and services, new distribution networks and improved customers' service delivery in order to increase penetration and growth, expand customers' access and gain competitive prices for their service offerings.

Furthermore, the delay in compliance among insurance firms in submitting or publishing their latest financial report for approval has also contributed to the current poor market perception about the industry. With the regulatory fine of N5, 000 per day after the June 30 deadline for insurance firms to submit their annual report, the majority of the firms do not. However, this development has been attributed to challenges from converting from GAAP to IFRS compliance which is not enough. Findings from NAICOM showed that as at August 27, 2013, out of the total of 29 listed insurance firms on the NSE, only six (6) of the insurers had their results approved by NAICOM, fourteen (14) firms had not submitted their results at all, one (1) insurance firm's response was under review, four (4) results were being reviewed and four (4) companies' results were being queried and awaiting responses. In the same vein, the poor financial reporting and lack of transparency in the industry is one of the reasons for the poor market valuation for the insurance stocks, with 20 out of the 29 insurance stocks, trading at their nominal value of 50 Kobo.

Although the penetration ratio is low, dearth of innovative insurance products and services among others, the insurance sector still signifies a huge market potential and growth opportunities. The various reform processes in the industry (the Market Development and Restructuring Initiatives (MDRI), No-premium No-cover), the waves of mergers and acquisitions exercise, government supports and legislations (the local content initiatives in the oil and gas sector, the cabotage law in the maritime industry, the compulsory life insurance etc.) have once again strengthened the financial capacity of the industry to underwriter big insurance risks.

Another factor that underlines the huge potential in the industry is that the industry is highly undervalued and present potential for growth.

Furthermore, the industry boasts of a huge cash flow generating capacity which has not been adequately harnessed. The available industry data shows that the total industry gross premium stood at N233.75 billion and N200.38 billion respectively for the year 2011 and 2010 respectively compared to N60.20 billion and N53.82 billion in total claims for the industry for the same period. This depicts an annual growth rate of 16.66% and 5.48% in 2011 and 2010 for total gross premium compared to 11.87% and -13.16% for industry's total claims. However, this total gross premium is far less than the total deposit mobilized by any single bank in Nigeria and thus presents opportunity for improvement.

An overview of the analysis of the listed insurance companies indicated that most of them have started returning to profitability level given the impressive performance in their bottom line as measured by the industry PAT averages of N407 million and N224 million respectively for the mean and median industry player excluding International Energy Insurance and Investment & Allied Insurance. This development attests to the gradual recoupling effects of the various reforms and government supports in the industry. Similarly, using the Price to Book value (PBV) valuation metric (i.e. Price/Book Value per Share) implied that most of the insurance companies are trading below their book value. In case of the insurance industry in Nigeria, the low PBV is typical of the industry given the cyclical nature of their businesses. The low multiple depicts that the stocks are unfairly undervalued and the inherent fundamentals in the sector would impact on their price level given time. Combining the PBV with the Return on Equity (ROE) thus provides a better insight for growth as we expect that as the ROE is growing, it would trickle down also to higher PBV ratio. In relative term, some of the Insurers have started posting impressive financial performance growing both their top-line and bottom-line over the last two years given the challenges that had befallen the industry. Hence, the market valuation for the industry therefore showed that the market has not priced-in their real value, thus

represents undervalued industry with low PBV of 0.76 with an ROE of 5.21% for an industry mean player, as well as a 0.71 PBV with an ROE of 3.95% for a median industry player.

In Summary, though the insurance industry in the country in terms of contribution to economic growth and development has underperformed in all metrics, the happenings in the industry are pointers to a reinvigorated and competitive industry. The recent growth in the broader economic environment driven by domestic demand, the support from government through various legislations (the Oil and Gas sector, the Maritime sector, the compulsory life covers, No premium No Cover etc.) as well as the repositioning among industry players to harness the huge market potentials through Mergers and Acquisitions would be the driving forces for stellar performance in the industry in the medium term and longer term. We are of the opinion that though the insurance sector is going through a process of change and recovery, however there are lots of opportunities. However, According to Aremu, Ekpo, Mustapha, and Adedoyin (2013), capital structure is defined as the specific mix of debt and equity a firm uses to finance its operations. They further state that four important theories are used to explain the capital structure decisions. These are the Trade-Off Theory, Agency Theory, Pecking-Order Theory and Bankruptcy Cost Theory.

**Agency Theory**

Jensen and Meckling (1976) predicted capital structure choice based on the existence of agency costs, i.e. costs due to conflicts of interest. According to them, there are fundamentally two major sources of conflicts. Battles between shareholders and managers usually arise since managers have an inducement to consume on perquisites while putting fewer energy on maximizing profit for the firm. The main reason is that managers always bear the entire costs of chasing profit maximization while they do not receive the entire gain. By increasing the level of debt, this agency cost of managerial discretion can be mitigated. However, increasing debt level may give rise to another type of agency cost, namely conflicts between shareholders and debt-holders. The conflicts arise due to shareholders' incentive to invest in suboptimal projects. Returns to debt-holders are fixed. If an investment earns a return well above the face value of debt, shareholders would receive most of the gain, but if the investment fails debt-holders will bear all the cost because the maximum amount that shareholders can lose is the amount of their investments (limited liability). Subsequently, shareholders will have preference for investing in extremely risky projects even though they are value-decreasing. This agency cost of debt financing is referred to as "asset substitution effect". Accordingly, the optimal capital structure choice involves balancing the trade-off between the benefit of debt arising from mitigating the agency cost of managerial discretion against the agency cost of debt arising from "asset substitution effect".

**Trade-Off Theory**

The Modigliani and Miller model commence by oratory that, the market value of any organization is independent of its capital structure, based on the premise that capital structure does not affect a firm's cash flow (Kyereboah-Coleman, 2007). When interpreted, the argument shows that the capital structure is not expected to vary from company to company. Barclay and Smith (2005), following on their preceding 1995 and 1999 papers, justify this "invariance" argument by trying to understand the conditions under which it was developed. The authors concluded that the circumstances could be intentionally artificial and could be excluding information costs, corporate or personal taxes, transaction or contracting costs, and a fixed investment policy. Modigliani and Miller (1963) reviewed their initial stance that the financing decisions of organization do not really affect their value, signifying that organizations with higher profits should use more debt, thus substituting debt for equity to take advantage of interest induced tax shields. Kyereboah-Coleman (2007) cites Myers (1984) as advancing the static trade-off theory. The theory further explains how an organization decided on the debt-to-equity ratio on the assumption that some optimal capital structure exists, enabling the organization to operate efficiently and ensuring external claims on cash flow are reduced. Miller (1988) contends this to imply that firms are encouraged to increase their debt levels. Voulgaris, Asteriou, and Agiomirgianakis (2004) contend that a trade-off between tax gains and increased bankruptcy costs increases a firm's cost of capital. In highlighting limitations to optimal level of firm debt, Voulgaris et al. consider the arguments of the Stiglitz (1974) and (1988) papers; that bankruptcy costs increase as the firm's

level of debt increases. Myers and Majluf (1984) projected that an organization should try to achieve an optimal capital structure that maximizes the value of the organization by balancing the tax benefits with insolvency costs which are associated with increasing levels of debt. Since the development of the trade-off theory, argument has raged with researchers adapting the expectations to more realistic expectations and analysis (Kyereboah-Coleman, 2007). One amongst some recognized inadequacies is that in reality high profitable corporations tend to have fewer debt than fewer profitable corporations as the former utilize the profits for financing (i.e. ploughing back of profits). Warner (1977) pointed that bankruptcy costs are much lower than the tax advantages of debt, implying much higher debt than predicted.

**3. Methodology**

This study adopts the ex-post facto i.e. after the fact or event. The paper uses secondary data only extracted from the Annual Reports and Accounts of 16 sampled firms out of the insurance companies in Nigeria representing 50% of the population. Random sampling technique is employed to select the firms so as to ensure that all the firms have equal chance of representation and also depending on availability of data. Multiple regression is used as a tool of analysis for the study covering a period of 11 years (2006-2016) using Statistical Package for Social Scientists (SPSS).

**Population of the study**

The population of this study is the thirty-two (32) quoted insurance firms on the Nigerian Stock Exchange (NSE) as at 31st December, 2016. (Otaru, 2017).

**Sample Size**

Random sampling is used to select the insurance firms from the population of thirty-two (32) by arranging the population in groups of twos and one firm selected from each group, thereby giving a fair chance of representation of the population and also based on data availability.

**Method of Data Collection**

The data collected from the annual reports of the sampled insurance firms are presented in tabular forms namely summary of descriptive statistics, summary of coefficient of correlation, summary of regression results, model summary and Analysis of Variance (ANOVA). Multiple regression is used to analyse data and test the hypotheses at 5% significant level i.e. 0.05 using Statistical Package for Social Scientists (SPSS).

**Area of Study**

The focus of this study is on organizational age effect on debt to equity ratio in Nigeria

**Sources of Data**

Secondary data are extracted from the annual reports and accounts of the sixteen (16) sampled firms based on availability of data.

**4. Findings**

| *Year* | *Firms* | *Debt to Equity Ratio* | *Profitability* | *Tangibility* |
|---|---|---|---|---|
| *2006* | African Alliance | 1.483 | (0.0025) | 0.402 |
| *2006* | Custodian | 0.680 | 0.034 | 0.009 |
| *2006* | NEM | 1.768 | 0.013 | 0.142 |
| *2006* | Royal Exchange | 0.884 | (0.006) | 0.031 |

| | | | | |
|---|---|---|---|---|
| *2007* | African Alliance | 0.320 | 0.01 | 0.237 |
| *2007* | NEM | 0.035 | 0.091 | 0.089 |
| *2007* | Regency Alliance | 3.721 | 0.066 | 0.138 |
| *2007* | Royal Exchange | 0.287 | 0.051 | 0.041 |
| *2008* | African Alliance | 0.239 | (0.037) | 0.167 |
| *2008* | NEM | 0.238 | 0.105 | 0.093 |
| *2008* | Regency Alliance | 1.563 | 0.071 | 0.252 |
| *2008* | Royal Exchange | 1.101 | (0.010) | - |
| *2009* | African Alliance | 0.485 | (0.263) | 0.334 |
| *2009* | NEM | 0.188 | 0.154 | 0.093 |
| *2009* | Regency Alliance | 1.373 | (0.009) | 0.270 |
| *2009* | Royal Exchange | 0.974 | - | 0.481 |
| *2009* | Standard Alliance | 1.155 | (0.304) | 0.415 |
| *2010* | Goldlink | 24.79 | - | 0.359 |
| *2010* | African Alliance | 0.823 | - | 0.694 |
| *2010* | Consolidated | 0.444 | 0.042 | 0.313 |
| *2010* | WAPIC | 0.638 | - | - |
| *2010* | Cornerstone | 0.722 | 0.048 | 0.159 |
| *2010* | Equity | 0.970 | - | 0.191 |
| *2010* | Lasaco | 0.693 | (0.094) | 0.104 |
| *2010* | Linkage | 0.296 | - | 0.086 |
| *2010* | NEM | 0.362 | 0.147 | 0.190 |
| *2010* | Regency Alliance | 1.495 | 0.066 | 0.248 |
| *2010* | Royal Exchange | 0.623 | - | 0.504 |
| *2010* | Standard Alliance | 1.007 | (0.283) | 0.222 |
| *2011* | Mansard | 0.825 | - | - |
| *2011* | Goldlink | (2.818) | (0.538) | 0.462 |
| *2011* | African Alliance | 1.014 | (0.073) | 0.729 |

| | | | | |
|---|---|---|---|---|
| *2011* | AIICO | 1.925 | 0.015 | 0.173 |
| *2011* | Consolidated | 0.554 | 0.34 | 0.301 |
| *2011* | WAPIC | 0.642 | 0.063 | 0.063 |
| *2011* | Cornerstone | 1.000 | (0.031) | 0.157 |
| *2011* | Continental | 0.750 | 0.085 | 0.081 |
| *2011* | Equity | 1.012 | (0.072) | 0.295 |
| *2011* | Lasaco | 0.766 | 0.051 | 0.134 |
| *2011* | Linkage | 0.284 | 0.021 | 0.078 |
| *2011* | NEM | 0.521 | 0.061 | 0.188 |
| *2011* | Regency Alliance | 0.443 | 0.008 | 0.279 |
| *2011* | Royal Exchange | - | - | - |
| *2011* | Standard Alliance | 1.184 | 0.242 | 0.309 |
| *2012* | Mansard | 8.981 | 0.068 | 0.060 |
| *2012* | Goldlink | (2.200) | (0.220) | 0.491 |
| *2012* | African Alliance | 1.256 | (0.011) | 1.567 |
| *2012* | AIICO | 2.032 | 0.059 | 0.157 |
| *2012* | Consolidated | 0.657 | 0.059 | 0.272 |
| *2012* | WAPIC | 0.663 | 0.044 | 0.044 |
| *2012* | Cornerstone | 1.020 | 0.045 | 0.151 |
| *2012* | Continental | 0.817 | 0.071 | 0.074 |
| *2012* | Custodian | 1.180 | 0.10 | 0.282 |
| *2012* | Equity | 1.105 | 0.027 | 0.290 |
| *2012* | Lasaco | 1.115 | (0.010) | 0.257 |
| *2012* | Linkage | 0.143 | 0.003 | 0.056 |
| *2012* | NEM | 0.816 | 0.087 | 0.165 |
| *2012* | Regency Alliance | 0.501 | 0.137 | 0.247 |
| *2012* | Royal Exchange | 0.998 | 0.042 | 0.465 |
| *2012* | Standard Alliance | 0.931 | 0.099 | 0.334 |

| | | | | |
|---|---|---|---|---|
| *2013* | Mansard | 8.759 | 0.055 | 0.006 |
| *2013* | African Alliance | 1.890 | 0.075 | 0.524 |
| *2013* | AIICO | 2.982 | (0.030) | 0.139 |
| *2013* | Consolidated | 0.718 | (0.029) | 0.298 |
| *2013* | WAPIC | 0.573 | (0.028) | (0.028) |
| *2013* | Cornerstone | 1.050 | 0.061 | 0.134 |
| *2013* | Continental | 0.770 | 0.080 | 0.092 |
| *2013* | Custodian | 1.345 | 0.095 | 0.191 |
| *2013* | Equity | 1.515 | (0.038) | 0.327 |
| *2013* | Lasaco | 1.283 | 0.031 | 0.248 |
| *2013* | Linkage | 0.154 | 0.025 | 0.061 |
| *2013* | NEM | 1.139 | 0.054 | 0.175 |
| *2013* | Regency Alliance | 0.557 | 0.131 | 0.218 |
| *2013* | Royal Exchange | 1.245 | 0.041 | 0.433 |
| *2013* | Standard Alliance | 2.091 | (0.059) | 0.290 |
| *2014* | Mansard | 1.750 | 0.045 | 0.227 |
| *2014* | African Alliance | 2.591 | 0.027 | 0.412 |
| *2014* | AIICO | 3.987 | 0.056 | 0.109 |
| *2014* | Consolidated | 0.598 | 0.033 | 0.291 |
| *2014* | WAPIC | 0.553 | 0.0027 | 0.255 |
| *2014* | Cornerstone | 0.874 | 0.071 | 0.136 |
| *2014* | Continental | 0.826 | 0.051 | 0.142 |
| *2014* | Custodian | 1.149 | 0.103 | 0.198 |
| *2014* | Equity | 1.377 | 0.033 | 0.141 |
| *2014* | Lasaco | 1.219 | 0.037 | 0.244 |
| *2014* | Linkage | 0.153 | 0.018 | 0.060 |
| *2014* | NEM | 0.909 | 0.158 | 0.241 |
| *2014* | Regency Alliance | 0.576 | 0.075 | 0.202 |

| | | | | |
|---|---|---|---|---|
| *2014* | Royal Exchange | 1.908 | 0.012 | 0.361 |
| *2014* | Standard Alliance | 4.163 | (0.404) | 0.531 |
| *2015* | Mansard | 1.610 | 0.040 | 0.218 |
| *2015* | AIICO | 7.248 | 0.022 | 0.081 |
| *2015* | Consolidated | 0.647 | 0.101 | 0.246 |
| *2015* | WAPIC | 0.584 | 0.070 | 0.129 |
| *2015* | Cornerstone | 0.737 | 0.088 | 0.161 |
| *2015* | Continental | 0.866 | 0.096 | 0.141 |
| *2015* | Custodian | 1.200 | 0.10 | 0.176 |
| *2015* | Equity | 0.974 | (0.041) | 0.323 |
| *2015* | Lasaco | 1.452 | 0.025 | 0.219 |
| *2015* | Linkage | 0.195 | 0.047 | 0.066 |
| *2015* | NEM | 1.014 | 0.048 | 0.247 |
| *2015* | Regency Alliance | 0.572 | 0.078 | 0.185 |
| *2015* | Standard Alliance | 1.564 | 0.069 | 0.526 |
| *2016* | Mansard | 1.723 | 0.057 | 0.250 |
| *2016* | AIICO | 8.248 | 0.153 | 0.089 |
| *2016* | Consolidated | 1.693 | 0.050 | 0.237 |
| *2016* | WAPIC | 0.564 | 0.046 | 0.176 |
| *2016* | Cornerstone | 1.080 | (0.059) | 0.127 |
| *2016* | Continental | 1.040 | 0.116 | 0,010 |
| *2016* | Custodian | 1.263 | 0.109 | 0.164 |
| *2016* | Lasaco | 1.458 | 0.059 | 0.203 |
| *2016* | Linkage | 0.230 | 0.046 | 0.059 |
| *2016* | NEM | 0.958 | 0.148 | 0.225 |
| *2016* | Regency Alliance | 0.581 | 0.090 | 0.162 |
| | | | | |
| *2016* | Standard Alliance | 1.799 | 0.093 | 0.774 |

**Test of hypothesis**

Profitability does not have significant effect on Debt to Equity Ratio.

From table 4.5, the profitability variable has p value of 0.006.

DECISION RULE: At 5% significant level, if the p value of the profitability variable is less than 0.05 (i.e. $p<0.05$), it is significant and we reject the null hypothesis, while if it is greater than 0.05 (i.e. $p>0.05$), it is insignificant and we fail to reject the null hypothesis.

Therefore, the profitability variable with p value of 0.006 is significant at the 0.05 level, thus we reject the null hypothesis and conclude that profitability has significant effect on Debt to Equity Ratio.

Tangibility does not have significant effect on Debt to Equity Ratio.

From table 4.5, the tangibility variable has p value of 0.958.

DECISION RULE: At 5% significant level, if the p value of the tangibility variable is less than 0.05 (i.e. $p<0.05$), it is significant and we reject the null hypothesis, while if it is greater than 0.05 (i.e. $p>0.05$), it is insignificant and we fail to reject the null hypothesis.

Therefore, the tangibility variable with p value of 0.958 is insignificant at the 0.05 level, thus we fail to reject the null hypothesis and conclude that tangibility does not have significant effect on Debt to Equity Ratio.

**Summary of findings**

i. Profitability has a significant negative effect on Debt to Equity Ratio.

ii. Tangibility has an insignificant positive effect on Debt to Equity Ratio.

**Recommendation**

1. Managers should consider the effect of profitability on capital structure when making financial decisions. Insurance Firms should increase their retained earnings as much as possible and plough it back into the business so as to make external financing (debt or equity or a combination of both) a last resort according to the Pecking Order Theory.
2. The effect of tangibility on capital structure is vital in making decisions on debt and equity financing. Emphasis should be on increasing Total Assets and not just Fixed Tangible Assets so as to minimize external borrowing and possible liquidation thereby incurring Bankruptcy Costs. Too much of the firm's Total Assets should not be tied down to its Fixed Assets in order to avoid solvency problems which can be caused by unexpected events and sudden changes in business climate and inability to meet up with current financial obligations.

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