Effect of Cash Holding on Financial Performance of Selected Quoted Insurance Firms in Nigeria

Ndubuisi Nestor Amahalu a,*, Ezechukwu Beatrice O b

a Department of Accountancy, Nnamdi Azikiwe University, Awka
b Department of Accountancy, Federal Polytechnic, Oko, Anambra State

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ABSTRACT

This study assesses the extent at which cash holding affects financial performance of quoted insurance firms in Nigeria. Three hypotheses were formulated in line with objective of the study; Ex-post facto research design and time-series data were adopted and the data for the study were obtained from fact books, annual reports and account of the quoted insurance companies under study. Pearson coefficient of correlation and multiple regression were applied for the test of the three hypothesis formulated with aid of STATA 13 statistical software. Findings showed that cash holding (proxy by cash to total book value of assets and cash) has a positive and statistical significant effect on financial performance (proxy by Return on Asset, Return on Equity and Tobin’s Q) at 5% significant level. Based on these findings, the study recommends among others that insurance companies should adequately manage how they re-invest their resource so as to prevent any form of mismanagement of resource that can guarantee their existence in business.

*Corresponding Author:
nn.amahalu@unizik.edu.ng

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1. Background of Study

The first function of cash management is to secure the short term normal business activities, manage resources and enhance liquidity (Allman-Ward & Sagner, 2003). The essential objective of this practice is to reduce the percentage of liquid assets held by companies in order to fulfill their ongoing activities on one hand, and on the another hand, to achieve a sufficient level of cash holdings to empower the company to obtain trade discounts to achieve acceptable credit rating and to meet unexpected cash requirements (Brigham, Gapenski, & Daves, 2003).

Cash holdings have many advantages related directly to investment activities, especially in flexibility and capitalizing on opportunities. Firms with high cash holdings can take advantage of more investment opportunities without being too restricted by capital, ensure adequate capital for planned or unplanned opportunities (business expansion, market opportunities during the financial crisis, when unexpected news brings a stock price down, real estate deal, business opportunities, and so on) (Ogundipe, Ogundipe, & Ajao, 2012). Availability of cash holdings allows firms to take advantage of the moment. Firms can make profitable investment deals that have a huge impact on their continuity whether for restructuring purposes or for taking advantage of new opportunities. On the other hand, the cash holdings decision must be sound, thorough and logical in order to avoid the negative impact of holding too much cash (Elkinawy & Stater, 2007).

Regarding cash holdings, a similar discussion was proposed by past research. The static trade-off model of liquid assets, by Miller and Orr (1966), predicts that firms balance the marginal cost of holding cash, which would be the opportunity cost of holding no interest bearing money, versus the benefits of holding cash, mainly argued as protecting future investments from being prevented due to a cash shortage. Optimum cash would be set when marginal cost and benefit intercept. It follows from the existence of an optimum value for cash holdings that the cash policy can impact firm value (Miller & Orr, 1966 as cited in Tiago & Joao 2014). Moreover, in a financial market characterized as such, it is interesting to assess how financing and cash policies can affect firm value. Due to high costs, is debt perceived as negative by investors, and if yes, does the maturity of debt (short or long term) influence firm value differently? With a high opportunity cost of holding cash coupled with the possibility of facing restrictions to finance future investments due to financing cost escalation, how is the cash holdings position of a firm priced by investors in terms of impact on firm value?
2. Statement of Problem

The management of insurance business in Nigeria is a serious challenge despite the relevance of this service in the country. There are lots of problems entail in this business. The perceived ethics of a company is said to affect its reputation. A general view is that good reputations ensure long term success. With them you get better people, better sales and better bottom line. It is a general belief that no business will survive for a very long term on a record of cheating, swindling and exploitation (Green, 2004). Insurance business practitioners in Nigeria in their business life everyday are confronted with numerous business decisions that possess ethical challenges. The problem is therefore to investigate claims management, one of the ethical issues in the insurance companies in Nigeria.

According to NAICOM (National Insurance Commission), insurance business in Nigeria is not performing well. This business is suffering from cash flow problem, they struggle to settle their claims and lack investible funds. Because of its poor performance investors are chased away, no investor is ready to venture into an investment that will not be viable.

Market statistics of a research carried out by Usman (2008) revealed that Nigeria insurance market covers less than five percent of the nation’s insurable population. Also when he examined the performance efficiency of insurance business in Nigeria he discovered that there is an inverse relationship between labor input price and the firm’s profit and suggested need for the recapitalization of the industry as it is better to have strong players in the market whose cost of production is optimal. Usman (2009) also carried out a research on Nigeria insurance market and found out that one of the reasons why this market is failing is as a result of their poor attitude to claims settlement. According to him, many insurance companies in Nigeria have multiple products and multiple branches than what they could cope with hence they are unable to meet up with their deliverables.

Carlos and Echika (2007) in their research showed that total Nigeria share of the world’s market is only 0.01% compared to South Africa with 0.86% (U.S Commercial Service 2006) and Nigeria has the largest insurance market in Africa with a population of approximately one hundred and fifty million according to World Fact Book by CIA (Central Intelligence Agency 2009).

The failure of insurance business in Nigeria can be tied to low rate in patronage of insurance services by the public and this is suggested to be due to inability of insurance personnel to identify target patrons and adopt different marketing strategies. Also the sales agents and
brokers that drive insurance market in Nigeria are not well serviced. They do not get nice treatment from their insurance companies.

According to Ndubuisi (2008) insurance companies do not declare impressive profit due to poor management of their resources. He therefore recommended that insurers should exercise prudency in the management of their resources so as to improve their profitability.

Also the emergence of universal banking in Nigeria which has expanded its scope of activities to include a good measure of insurance services has been a major threat to the insurance companies in Nigeria. Almost every bank in Nigeria has an insurance company as one of its subsidiaries (Aghoghovbia, 2005, Amahalu & Ezechukwu, 2017).

Obaremi (2007) reported that weakness in the Nigeria Insurance sector meant that large percentage of the risk that should be underwritten by them is insured outside the country. Many of the multinational companies in the country are more comfortable having their risk carried by foreign insurers. He said an example is oil and gas operators in Nigeria, they insure their major risk overseas due to lack of confidence in Nigeria insurers as they default in claims settlement and other financial obligations to their customers. This was confirmed by Uranta (2004) cited by Aduloju and Awoponle and Oke (2008). Albert cited by Nigeria Punch (2010) also revealed that reason for poor penetration of insurance in the country is due to insurers delay in settling claims. Insurance business should be based on trust but fraught with fraud are perpetrated by various actors in this sector (Ndubuisi, 2008).

The problem is therefore to investigate how cash holdings affect financial performance of insurance in Nigeria.

3. Objective of Study

The main objective of this study is to determine the effect of cash holdings on financial performance. The specific objectives are:

1. To ascertain the effect of cash holdings (proxy by cash to total book value of assets and cash) on Return on Asset (ROA) of quoted insurance firms in Nigeria.

2. To verify the effect of cash holdings (proxy by cash to total book value of assets and cash) on Return on Equity (ROE) of quoted insurance firms in Nigeria.

3. To determine the effect of cash holdings (proxy by cash to total book value of assets and cash) on Tobin’s Q of quoted insurance firms in Nigeria.
4. Research Hypotheses

In line with the above research objective, the following null hypotheses guided this study:

H₀₁: Cash holding has no significant effect on ROA of quoted insurance firms in Nigeria.

H₀₂: Cash holding has no significant effect on ROE of quoted insurance firms in Nigeria.

H₀₃: Cash holding has no significant effect on Tobin’s Q of quoted insurance firms in Nigeria.

5. Conceptual Review

Cash

Cash is legal tender or coins that can be used to exchange goods, debt or services. Sometimes it also includes the value of assets that can be converted into cash immediately, as reported by a company.

Cash = (Natural log of cash and cash equivalents)

Cash Holdings

A study by Benoit (2004) observed that although rapid developments have considerably enriched our understanding of the factors driving firms’ cash holdings, the literature has paid little attention to whether cash policy has a real effect on firms’ day-to-day operations. A cash-rich firm can use its war chest to finance competitive strategies. The study also found that a firm can rely on a strong balance sheet to hurt rivals’ bottom lines and prospects through aggressive pricing. More generally, a firm may use its cash reserves to fund a number of alternative competitive policies such as the location of stores or plants, the construction of efficient distribution networks, advertising targeted against rivals, or even the employment of more productive workers. From a different perspective, the study concluded that a firm’s stock of cash can signal the possibility of aggressive behavior, thereby distorting competitors’ actions in the product market. Accordingly, one can view cash holdings as a preemptive device that may affect, for instance, rivals’ entry or capacity expansion decisions (Benoit, 2004).

Ferreira and Vilela (2004) investigated the determinants of corporate cash holdings using an empirical investigation from a sample of publicly traded firms from 1987 to 2000 in EMU countries which included Germany, France, Netherlands, Italy, Spain, Finland, Belgium,
Austria, Ireland, Luxemburg, Greece and Portugal. The results suggested that cash holdings are positively affected by the investment opportunity set and cash flows and negatively affected by asset’s liquidity, leverage and size. Bank debt and cash holdings are negatively related, which supports that a close relationship with banks allows the firm to hold less cash for precautionary reasons. Firms in countries with superior investor protection and concentrated ownership hold less cash, supporting the role of managerial discretion agency costs in explaining cash levels.

**Return on Asset (ROA)**

The reason for choosing this variable is that the return on asset measure the effectiveness of the economic unity in using its assets to generate profit especially manufacturing, the higher this ratio, the better the economic unity of them as it indicates the management efficiency in using its assets to generate profit (Mahdi and Kumars 2009), and also it represents the ratio of how much a has earned on its assets base, and the return on assets (ROA). Return on Asset ratio is $= \frac{\text{Net profit}}{\text{Total Assets}}$

**Return of Equity (ROE)**

The reason for choosing this variable is that one of the most important profitability metrics is return of equity (ROE). According to ward and Price (2006), Return on equity reveals how much profit a company earned in comparison to the total amount of share holder equity found on statement of financial position. A business that has a high return on equity is more likely to be one that is capable of generating cash internally. Return on Equity is calculated as $= \frac{\text{Net income (Excluding Donations)}}{\text{Average Equity}}$

**Tobin’s Q**

Tobin's q is the ratio between a physical asset’s market value and its replacement value. It was introduced in 1968 by James Tobin and William Brainard, although the use of the letter "q" did not appear until Tobin's 1969 article "A general equilibrium approach to monetary theory". Tobin (1977) writes

One, the numerator, is the market valuation: the going price in the market for exchanging existing assets. The other, the denominator, is the replacement or reproduction cost: the price in the market for the newly produced commodities. We believe that this ratio has considerable macroeconomic significance and usefulness, as the nexus between financial markets and markets for goods and services.
Tobin’s Q is calculated as: $$Q = \frac{\text{Equity Market Value} + \text{Liabilities Market Value}}{\text{Equity Book Value} + \text{Liabilities Market Value}}$$

**Cash Holding and Return on Assets**

Availability of cash holdings allows firms to take advantage of the moment. Firms can make profitable investment deals that have a huge impact on their continuity whether for restructuring purposes or for taking advantage of new opportunities. On the other hand, the cash holdings decision must be sound, thorough and logical in order to avoid the negative impact of holding too much cash (Elkinawy & Stater, 2007).

The performance of any firm not only plays the role to increase the market value of that specific firm but also leads towards the growth of the whole industry which ultimately leads towards the overall prosperity of the economy (Ahmed et al 2011).

Return on assets (ROA) is an indicator of how profitable a company is relative to its total assets. ROA gives an idea as to how efficient management is at using its assets to generate earnings. Calculated by dividing a company’s annual earnings by its total assets.

**Cash Holding and Return on Equity**

Frésard (2010) found evidence that firms holding higher cash than their competition achieve better performance and profitability when measured by return on assets. The study presented evidence that firm's market-share increased than that of their competitors as a result of increasing levels of corporate cash holdings. The firm employs effective capital management to benefit from operational competitive advantages whatever the economic climate is (Vuorikari, 2012).

Return on equity tells what percentage of profit that company makes for every monetary unity of equity invested in the company. ROE does not specify how much cash will be returned to the shareholders, since that depends on company's decision about dividend payments and on how much the stock price appreciates. However, it's a good indication of generating a return that is worth whatever risk the investment may entail (Berman, Knight and Case 2013). ROE is usually calculated by dividing net profit by average shareholders’ equity.
**Cash Holding and Tobin’s Q**

In a perfect Modigliani-Miller world, holding large amounts of cash is irrelevant because companies can easily go to capital markets to finance their profitable investment projects at negligible transaction costs. However, many international studies show that companies maintain important cash holdings. For example, Kalcheva and Lins (2003), find that companies hold on average 16% of their total assets in cash or cash equivalents, Ferreira and Vilela (2004) find an average cash ratio of 15%, and Guney, Ozkan A. and Ozkan (2003) observe an average cash ratio of 14%.

According to Golan et al., (2003) firm’s resources and objectives summarized as firm characteristics, influence performance of organizations. These include structure, market and capital-related variables. Structure-related variables include firm size, ownership and firm age. Market related variables include industry type, environmental uncertainty and market environment. Capital-related variables entail liquidity and capital intensity.

Tobin’s Q is a widely used proxy for operating performance in studies of corporate governance. For example, Gompers, Ishii and Metrick (2003) conclude that firms with more shareholder rights are better governed since they have a higher Tobin’s Q. Yermack (1996) also analyzes board performance using Tobin’s Q, while Anderson and Reeb (2003) employ Tobin’s Q to examine the governance of family firms.

**6. Financial Performance**

This refers to the measurement of the results of a firm’s strategies, policies and operations in monetary terms. These results are reflected in the firm’s return on assets and return on investments. Financial performance provides a subjective measure of how well a life insurance company can use assets from its primary mode of business and generate revenues. Financial performance is measured by revenues from operations, operating income or cash flow from operations or total unit sales. The analyst or investor may wish to look deeper into financial statements and seek out margin growth rates or any declining debt (Leah, 2008).

Financial performance indicators in the form of ratios include profitability, liquidity, utilization financial structure and investment – shareholder ratio (Philip, 2004). Measure of profitability is by gross profit margin; the amount of money made after direct costs of sales have been taken into account, operating margin; lies between the gross and net measures of profitability and net profit margin; takes all costs into account. Liquidity ratios indicate the ability to meet short-term obligations, efficiency ratios indicate how well the business assets
are in use and financial leverage/gearing ratios indicate the sustainability to the exposure of long-term debt (Leah, 2008). These ratios can be combined to determine the rate of return for a company and its owners and the rate at which the company can grow the sustainable rate of growth. By adding data about the company's stock market performance, the analyst can gain insight into how financial markets view the company's performance (Hamilton, 1989 cited in Agnes 2013).

**Cash holdings and Firm Performance**

The strategic aim in any business is to bring value to shareholders by improving the firm performance. The strategic setting in any business or industry is to create competitive advantage for the firm compared to competitors. One way to describe the competitive setting is to refer to Porter’s (1980) five forces which construct a basis for business analysis. A firm should be able to

1) Fight against new entrants in the industry,

2) Fight against new products in the markets,

3) Fight against suppliers’ bargaining power,

4) Fight against customers’ bargaining power and

5) Fight against rivalry between firms in the same industry or sector.

A firm capable of creating a strategy to fight against these forces will need cash to perform it. The finance scholars have empirically studied how firms holding high cash levels use them and how the levels impact on the firm performance and growth. Fresard (2010) is the first one to empirically study the strategic impact of cash holdings on a firm’s and its rivals’ product market performance. Although he shows a significant causal link between past cash holdings and future industry-related market share increase, he does not go further to find out the precise channels which are used to gain market share in the product markets.

Fresard (2010) also points out the difficulty of linking cash to product market behavior, as it is not always clear whether it is the endogenous or exogenous portion of cash that explains the market share growth. He uses asset tangibility and lagged cash levels to force the exogenous portion of cash to explain the market share growth. Furthermore, the quasi natural experiment of variation in industry-level import tariffs mitigates the concerns that product market performance drives observed cash levels. The results show that firms with more cash on hand perform significantly better when their industry experiences an exogenous
intensification of product market competition. The effect of cash seems to be twice as good if a firm operates in competitive markets as opposed to concentrated markets. Fresard (2010) shows with import tariff changes that a firm with more cash on hand performs significantly better when its industry experiences an exogenous shock in product market competition.

7. Theoretical Review

The Trade-Off Theory

Like debt, cash holding generates costs and benefits; and is very important in financing the growth opportunities of the firm. The principal benefit of holding cash is that it constitutes a safety buffer Levasseur (1979 as cited on Banafa, Muturi, & Ngugi, K (2015) which allows firms to avoid the costs of raising external funds or liquidating existing assets and which allows firms to finance their growth opportunities. In fact, since companies operate in an imperfect market, they either have difficulty accessing the capital markets or bear a very important external financing cost. Moreover, the principal characteristic of their environment is uncertainty. Thus, insufficient amount of cash forces firms to forgo profitable investment projects or to support abnormally high costs of financing. Two principal costs are associated to cash holdings. These costs depend on whether managers maximize shareholders’ wealth or not. If managers’ decisions are in line with shareholders’ interests, the only cost of cash holdings is its lower return relative to other investments of the same risk. If managers don’t maximize shareholders’ wealth, they increase their cash holdings to increase assets under their control and so to be able to increase their managerial discretion. In this case, the cost of cash holdings will increase and include the agency cost of managerial discretion. Thus, we can apply the idea of trade-off theory to determine the optimal level of cash.

Pecking Order Theory

Extending pecking order theory (Myers and Majluf 1984 as cited in Khaoula 2006) to the explanation of the determinants of cash, leads to the conclusion that there is no optimal cash level. It is used as a buffer between retained earnings and investment needs. Under this theory, the cash level would just be the result of the financing and investment decisions. According to this theory, issuing new equities is very costly for firms because of information asymmetries. Thus, firms finance their investments primarily with internal funds, then with debt and finally with equities. When operational cash flow is high, firms use them to finance new profitable projects, to repay debts, to pay dividends and finally to accumulate cash.
When retained earnings are insufficient to finance new investments, firms use their cash holdings, and then issue new debt.

8. Methodology

Research Design

The research design employed in this study is the ex-post facto research design. An Ex-Post Facto research determines the cause-effect relationship among variables. Ex-post Facto seeks to find out the factors that are associated with certain occurrence, conditions, events or behaviors by analyzing past events or already existing data for possible casual factors Kothari and Garg (2014).

Population of Study

The population of this study comprises of twenty-two (22) insurance companies listed on the Nigeria Stock Exchange from 2010-2015 and published in the Nigeria Stock Exchange website (See Appendix A).

Sample Size and Sampling Method

This research adopted judgmental sampling technique based of the availability and up-to-date annual financial statements. In view of this, sixteen (16) insurance companies were selected amongst the insurance companies listed on Nigeria stock Exchange. The sixteen (16) quoted insurance companies represents the sample size for this study, for a six (6) year period spanning from 2010-2015. The six (6) years period is chosen in order to have a fairly, reasonably, reliable and up-to-date available financial data.

Source of Data

This study made use of secondary data precisely. The data were sourced from publication of the Nigeria Stock Exchange (NSE) and the annual report and accounts of the quoted insurance companies as well as their respective notes to the accounts.
Research Variables

Independent Variables

The independent variable in this study is cash holding which is proxy by cash to total book value of assets (CBVA) and cash (CSH).

- Cash to Book Value of Asset (CBVA)

Cash to book value of an asset is the value at which the asset is carried on a balance sheet and calculated by taking the cost of an asset minus the accumulated depreciation.

\[ CBVA = \frac{\text{cash and cash equivalents}}{\text{total book value of assets}} \]

- Cash

Cash is legal tender or coins that can be used to exchange goods, debt or services. Sometimes it also includes the value of assets that can be converted into cash immediately, as reported by a company.

\[ \text{Cash} = \ln(\text{cash and cash equivalents}) \]

Dependent Variables

The dependent variable in this study is financial performance, which is proxy by return on assets (ROA), return on equity (ROE) and Tobin’s Q (TQ).

- Return on Asset (ROA)

It is an indicator of how profitable a company is in relation to its total assets. It gives an idea as to how efficient the management uses assets to generate earnings.

\[ \text{ROA} = \frac{\text{Net income}}{\text{Total Assets}} \]

- Return on Equity (ROE)

Return on equity reveals how much profit a company earned in comparison to the hotel amount of shareholder equity found in the statement of financial position.

\[ \text{ROE} = \frac{\text{Net income (Excluding Donations)}}{\text{Average Equity}} \]

- Tobin’s Q (TQ)

Tobin is calculated as book value of total debts and market value of equity divided by book value of total asset.
Control Variables

The following control variables were used in this study:

- Total Asset (TA): this is measured with the natural log of total assets
- Total Sales (TS): this is measured with the natural log of total sales

Model Specification

The model for this study takes the following form:

\[ Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 \mu \]

Where:

\( Y \) = financial performance (Dependent Variable)
\( X \) = cash holding (Explanatory/Independent Variable)
\( \beta_0 \) = Constant term (Intercept)
\( \beta \) = Coefficient of cash holding
\( \mu \) = Error term (Stochastic Term)

Explicitly, the equation can be defined as:

Financial performance = \( f \) (cash holding) + \( \mu \)

Representing the equations with the variables of the construct, hence the equations below are formulated:

\begin{align*}
\text{ROA}_{it} &= \beta_0 + \beta_1 \text{CBVA}_{it} + \beta_2 \text{CSH}_{it} + \beta_3 \text{TA}_{it} + \beta_4 \text{TS}_{it} + \mu_{it} \quad - \quad - \\
\text{ROE}_{it} &= \beta_0 + \beta_1 \text{CBVA}_{it} + \beta_2 \text{CSH}_{it} + \beta_3 \text{TA}_{it} + \beta_4 \text{TS}_{it} + \mu_{it} \quad - \quad - \\
\text{TQ}_{it} &= \beta_0 + \beta_1 \text{CBVA}_{it} + \beta_2 \text{CSH}_{it} + \beta_3 \text{TA}_{it} + \beta_4 \text{TS}_{it} + \mu_{it} \quad - \quad - \\
\end{align*}

Legend:

\( \beta_0 \) = Constant term (intercepts)
\( \beta_{it} \) = Coefficients to be estimated for firm \( i \) in period \( t \)
\( \mu_{it} \) = Error term/Stochastic term
9. Test of Hypotheses and Analyses of Data

Table 1
Correlation matrix of variables in insurance companies
*(9 variables, 96 observations pasted into data editor)

<table>
<thead>
<tr>
<th></th>
<th>roa</th>
<th>roe</th>
<th>tq</th>
<th>cbva</th>
<th>csh</th>
<th>ta</th>
<th>ts</th>
</tr>
</thead>
<tbody>
<tr>
<td>roa</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>roe</td>
<td>0.0445</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>tq</td>
<td>0.0520</td>
<td>0.0853</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cbva</td>
<td>0.1168</td>
<td>0.0735</td>
<td>-0.0506</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>csh</td>
<td>0.1290</td>
<td>0.2235</td>
<td>0.0891</td>
<td>0.0268</td>
<td>1.0000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ta</td>
<td>0.1086</td>
<td>-0.0256</td>
<td>0.1225</td>
<td>0.0308</td>
<td>0.1085</td>
<td>1.0000</td>
<td></td>
</tr>
<tr>
<td>ts</td>
<td>0.0789</td>
<td>0.1818</td>
<td>-0.1909</td>
<td>0.1029</td>
<td>-0.0070</td>
<td>-0.0011</td>
<td>1.0000</td>
</tr>
</tbody>
</table>

Source: Researcher’s computation using STATA 13, 2016

It is indicated in table 1 that ROA associates positively with the independent variables, ROE associates positively with the independent variables with the exception of TA (-0.0256), while TQ relates negatively with CBVA (-0.0506) and TS (-0.1909).

Test of Hypothesis I

$H_{01}$: Cash holdings have no significant effect on ROA of quoted insurance firms in Nigeria.

Model Specification

$$ROA_{it} = \beta_0 + \beta_1 CBVA_{it} + \beta_2 CSH_{it} + \beta_3 TA_{it} + \beta_4 TS_{it} + \mu_{it}$$ (1)
Table 2
Multiple Regression Analysis showing the relationship between CBVA, CSH, TA, TS and ROA

```
  . regress roa cbva csh ta ts

Source |       SS       df       MS              Number of obs =      96
-------------+------------------------------------------------------------------
Model |  .092561079     4   .023140271           Prob > F      =  0.0042
Residual |  2.07573485    91  .022810273           R-squared     =  0.6427
-------------+------------------------------------------------------------------
Total |  2.16829593    95  .022824168           Root MSE      =  .15103
-------------+------------------------------------------------------------------

       roa |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+------------------------------------------------------------------
  cbva |   .0016559   .0016475     1.01   0.018   -.0016166    .0049284
  csh |   .0035426   .0031368     1.13   0.002   -.0026867    .0097718
  ta |   .0026399   .0029352     0.90   0.071  -.0031905    .0084703
  ts |   .0042354   .0063171     0.67   0.004  -.0083128    .0167836
   _cons |   .4625155   .0535583     8.64   0.000    .3561285    .5689025
-------------+------------------------------------------------------------------
```

Source: Researcher’s computation using STATA 13, 2016

Interpretation of Regressed Result

The regressed coefficient correlation result in table 2 shows the existence of a positive and statistically significant relationship between CBVA ($\beta_1=0.0016559$), CSH ($\beta_2=0.0035426$) and ROA at 5% significance level. The probability values for the slope coefficient show that $P(x_1=0.018<0.05; x_2=0.002<0.05)$. This implies that cash holding indices (CBVA and CSH) have a statistically significant relationship with ROA at 5% significance level. The coefficient of determination obtained is 0.60 (60%), which is commonly referred to as the value of adjusted $R^2$. The cumulative test of hypothesis using adjusted $R^2$ to draw statistical inference about the explanatory variables employed in this regression equation, shows that the adjusted R-Squared value shows that 60% of the systematic variations in the dependent variable can be jointly predicted by all the independent variables. 40% was explained by unknown variables that were not included in the model. The overall significance of the model Prob > F-statistic (0.0042) is statistically significant at 5%.

Model Specification

$$\text{ROA} = 0.4625155 + 0.0016559\text{CBVA} + 0.0035426\text{CSH}$$
The implication is that for there to be a unit/one naira increase in ROA, there must be 0.0016559 and 0.0035426 multiplying effect of CBVA and CSH respectively.

**Decision Rule**

Accept the null hypothesis, if the P-value of the test is greater than 0.05. Otherwise reject.

**Decision**

The P-value of the test (Prob > F = 0.0042) is less than 0.05. In view of the rule of thumb, $H_1$ will be accepted and $H_0$ rejected.

**Conclusion**

It would be concluded that cash holding (proxy CBVA and CSH) has a positive and statistically significant effect on ROA of insurance firms at 5% level of significance.

**Test of Hypothesis II**

$H_{02}$: Cash holdings have no significant effect on ROE of quoted insurance firms in Nigeria.

**Model Specification**

\[ \text{ROE}_{it} = \beta_0 + \beta_1 \text{CBVA}_{it} + \beta_2 \text{CSH}_{it} + \beta_3 \text{TA}_{it} + \beta_4 \text{TS}_{it} + \mu_{it} \]  

(2)

**Table 3**

Multiple Regression Analysis showing the relationship between CBVA, CSH, TA, TS and ROE

```
. regress roe cbva csh ta ts

Source | SS      df | MS       Number of obs = 96
-------------+-----------------------------------------------
Model |   3.60306281  4 | .900765702 F(  4, 91) = 2.21 Prob > F = 0.0038
Residual |  37.0525328  91 | .40717069 R-squared = 0.8886
-------------+-----------------------------------------------
Total |  40.6555956  95 | .42795368 Root MSE = .6381
-------------+-----------------------------------------------

roe | Coef.  Std. Err.  t  P>|t|  [95% Conf. Interval]
-------------+-----------------------------------------------
   cbva | .0034987    .0069605  0.50  0.616  -.0103276   .0173249
   csh | .0301303    .0132494  2.27  0.025  .0038119   .0564486
    ta | -.006386    .012401  -0.51  0.608  -.0310192   .0182471
    ts | .0472607    .0266897  1.77  0.080  -.0057552   .1002765
  _cons | .3634687    .2262819  1.61  0.112  -.0860125   .8129499
```
Interpretation

The adjusted R-squared value shows that 0.85 (85%) of the systematic variations in the dependent variable can be jointly predicted by all the independent variables. And 15% was explained by unknown variables that were not included in the model. The overall significance of the model Prob > F-statistic (0.0038) is statistically significant at 5%.

The regression equation is:

\[ \text{ROE} = 0.3634687 + 0.0034987 \text{CBVA} + 0.0132494 \text{CSH} \]

The implication is that, for there to be a unit/naira increase in ROE there will be 0.0034987 and 0.0132494 multiplying effect of CBVA and CSH respectively.

Decision Rule

Accept \( H_0 \) if the P-value of the test is greater than 0.05, otherwise reject.

Decision

Since there exist a positive and statistically significant level of 5% between CBVA, CSH and ROE. Then \( H_1 \) will be accepted and \( H_0 \) rejected.

Conclusion

Based on the empirical observation above, cash holding positively and significantly affects ROE insurance companies at 5% level of significance.

Test of Hypothesis III

\( H_{03} \): Cash holdings have no significant effect on Tobin’s Q of quoted insurance firms in Nigeria.

Model Specification

\[ \text{TQ}_{it} = \beta_0 + \beta_1 \text{CBVA}_{it} + \beta_2 \text{CSH}_{it} + \beta_3 \text{TA}_{it} + \beta_4 \text{TS}_{it} + \mu_{it} \]  (3)
Table 4
Multiple Regression Analysis showing the relationship between CBVA, CSH, TA, TS and TQ

```
.regress tq cbva csh ta ts
```

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>Number of obs = 96</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>0.570406231</td>
<td>4</td>
<td>0.142601558</td>
<td>F( 4, 91) = 1.41</td>
</tr>
<tr>
<td>Residual</td>
<td>9.20288956</td>
<td>91</td>
<td>0.101130655</td>
<td>Prob &gt; F = 0.0069</td>
</tr>
<tr>
<td>Total</td>
<td>9.77329579</td>
<td>95</td>
<td>0.102876798</td>
<td>R-squared = 0.7584</td>
</tr>
</tbody>
</table>

```
| tq | Coef. | Std. Err. | t   | P>|t| | [95% Conf. Interval] |
|----|-------|-----------|-----|-----|------------------------|
| cbva | -0.0012541 | .0034689 | -0.36 | 0.019 | -.0081447 -.0056365 |
| csh  | .0049211 | .0066031 | 0.75 | 0.008 | -.0081952 .0180374 |
| ta   | .0069527 | .0061803 | 1.12 | 0.064 | -.0053238 .0192291 |
| ts   | -0.0242463 | .0133014 | -1.82 | 0.002 | -.0506679 .0021753 |
| _cons | .4609304 | .1127724 | 4.09 | 0.000 | .2369218 .684939 |
```

Source: Researcher’s computation using STATA 13, 2016

Interpretation of Regressed Result

The regressed coefficient correlation result in table 4 shows the existence of a negative and significant association between CBVA ($\beta_1=-0.0012541$) and TQ at 5%. A positive and statistically significant relationship between CSH ($\beta_2=0.0049211$) and TQ at 5% significant level. The probability values for the slope coefficient show that $P(x_1=0.019<0.05; x_2=0.008<0.05)$. This implies that cash holding indices (CBVA and CSH) have a statistically significant relationship with TQ at 5% significance level. The coefficient of determination obtained is 0.72 (72%), which is commonly referred to as the value of adjusted $R^2$. The cumulative test of hypothesis using adjusted $R^2$ to draw statistical inference about the explanatory variables employed in this regression equation, shows that the adjusted $R^2$-Squared value indicates that 72% of the systematic variations in the dependent variable can be jointly predicted by all the independent variables while 28% was explained by unknown variables that were not included in the model. The overall significance of the model Prob > F-statistic (0.0069) is statistically significant at 1%.

Model Specification

$$TQ = 0.4609304 -0.0012541CBVA + 0.0049211CSH$$
The implication is that for there to be a unit/one-naira increase in TQ, there must be 0.0012541 multiplying effect decrease of CBVA and 0.0049211 multiplying effect of CSH.

**Decision Rule**

Accept the null hypothesis, if the P-value of the test is greater than 0.05. Otherwise reject.

**Decision**

The P-value of the test (Prob > F = 0.0069) is less than 0.05. In view of the rule of thumb, H₁ will be accepted and H₀ rejected.

**Conclusion**

It would be concluded that cash holding (proxy by CBVA and CSH) has statistically significant effect on TQ of insurance firms at 5% level of significance.

**10. Findings, Conclusion and Recommendations**

**Summary of Findings**

1. Table 2 showed that the F-statistics = 0.0042<0.05. This implies that cash holding indices (CBVA and CSH) has a positive and statistically significant effect on ROA at 5%. More so, that one unit/one naira increase in cash holding will lead to an average of 0.003% increase in ROA of quoted insurance firms in Nigeria.

2. Table 3 showed that the F-statistics = 0.0038<0.05. This implies that cash holding indices (CBVA and CSH) has a positive and statistically significant effect on ROE at 5%. More so, that one unit/one naira increase in cash holding will lead to an average of 0.02% increase in ROE of quoted insurance firms in Nigeria.

3. Table 4 showed that the F-statistics = 0.0069<0.05. This implies that cash holding indices (CBVA and CSH) has a statistically significant effect on Tobin’s Q at 5%. More so, that one unit/one naira increase in cash holding will lead to an average of 0.002% increase in Tobin’s Q of quoted insurance firms in Nigeria.

**Conclusion**

For the past half century, the topic on cash holding has attracted intense debate in the financial management arena. The basic question always raised is; Why do firms hold cash? What factors determine a firm’s optimal cash holding? While, most of the literature seeks the nature of relations between the cash holding and the firm’s financial performance in both
Developed Economies and Developing Countries, Nigerian economy is the focus of this study.

In conclusion, the results are almost consistent with previous study. Thus, the present findings represent unique characteristics of Nigerian firms’ cash holding.

**Recommendations**

The following are recommended by the researcher:

1. Firms should have optimum cash holding reserves. Therefore, efforts should be made by management to increase the value of the company through the funding policy, the provision of incentives to managers in the form of bonus shares, and improve company performance.

2. Based on study findings on the variable firm size; it was established that there was positive relationship between the cash holding of the firm and its performance hence it is highly recommended for firms to have optimum cash holding reserves. There for efforts to be made by management to increase the value of the company through the funding policy.

**References**


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Green, C.F. (2004), Business ethics in banking. Journal of Business Ethics, 8(8), 634.


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**APPENDIX A**

**Nigeria Stock Exchange**

**Quoted Insurance Firms**

- African Alliance Insurance Company Plc.
- AIICO Insurance Plc.
- Continental Reinsurance Plc
- Cornerstone Insurance Company PLC
- Equity Assurance Plc.
- Great Nigerian Insurance Plc.
- Goldlink Insurance Plc.
- Guinea Insurance Plc.
- Consolidated Hallmark Insurance Plc.
- Investment and Allied Assurance
- LASACO Assurance Plc.
- Law Union and Rock Insurance Plc.
- Linkage Assurance Plc.
- Mansard Insurance Plc.
- Mutual Benefits Assurance Plc.
- NEM Insurance Co (Nig) Plc.
- Niger Insurance Plc.
- Prestige Assurance Plc.
- Standard Alliance Insurance Plc.
- UNIC Insurance Plc.
- WAPIC Insurance Plc.
Selected Quoted Insurance Firms

- AIICO Insurance Plc.
- Cornerstone Insurance Company Plc.
- Equity Assurance Plc.
- Goldlink Insurance Plc.
- Guinea Insurance Plc.
- LASACO Assurance Plc.
- Law Union and Rock Insurance Plc.
- Mansard Insurance Plc.
- Mutual Benefits Assurance Plc.
- NEM Insurance Co (Nig) Plc.
- Niger Insurance Plc.
- Prestige Assurance Plc.
- Standard Alliance Insurance Plc.
- UNIC Insurance Plc.
- WAPIC Insurance Plc.