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CASH CONTROL AND ECONOMIC PERFORMANCE OF SELECTED AGRICULTURAL FIRMS IN NIGERIA

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Abstract
The study investigated the effect of cash control on economic performance of selected quoted agricultural firms in Nigeria for the period 2013-2021. Four research questions were developed to guide the study and a corresponding four hypothesis was formulated for the study. The study adopted the ex-post facto research design. The population of the study included all quoted agricultural firms on the Nigerian exchange group (NXG) as at 31st December 2023. The study relied on secondary sources of data which was obtained from Nigerian exchange group (NXG) and compiled by Machame ratios (www.machameratios.com). The ordinary least square (OLS) regression analysis was employed in validating the hypotheses of the study. Findings emanating from the study reveals that there is no significant influence of cash to book value of asset on Tobin's q of quoted agricultural firms in Nigeria (P > 0.05); there is no significant effect of cash conversion cycle on Tobin's q of quoted agricultural firms in Nigeria (P > 0.05). Consequent on the findings, the study therefore recommended amongst others that quoted agricultural firms in Nigeria need to strengthen liquidity management practices, recognizing the non-statistically significant influence of cash to book value of assets on return on assets.

Keywords: Cash control, Economic performance and Tobin's q

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Introduction

The financial crisis which occurred in late 2008 brought most financial institutions in the world to face severe funding difficulties and non-financial firms were immediately forced to strengthen their funding strategies against financial constraints (Naoki, 2012). As the domestic capital markets rapidly shrank owing to the loss of the financial intermediary functions of financial institutions and many Nigerian firms were unable to secure funding from the capital markets despite the investment opportunities available. A firm's value of cash and demand for cash depend on changes in the firm's external and internal environments. Since the use and value of cash are time varying, the optimal level of cash controls is also constantly changing. The dynamic nature of optimal cash holdings should motivate firms to actively adjust cash towards the optimal level.

The benefits of adjusting cash towards its optimal level can be substantial, including decreased over investment leading to depleted cash reserves, limited cash hoarding, and smoothing the effects of the economic cycle by ensuring the amount of cash is sufficient to withstand hard times. These benefits suggest that: if a firm constantly adjusts cash holdings to chase the optimal cash level and therefore increases the volatility of cash holdings, there should be a corresponding increase in firm value. The first function of cash control 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 other 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).

1.2 Statement of the problem

There has been a notable increase in corporate cash holdings levels within the last decade in Nigeria. Studies have shown that Nigerian companies are holding excessive cash for reasons that include unstable political climate, planned offshore investments, anticipated future investments and acquisitions and labor unrests (Fodio, 2009; Ogundipe, Ogundipe, & Ajao, 2012; Amahalu & Ezechukwu, 2017). Other reasons include anticipated peak selling season, fluctuating interest rates at banks, and increased capital needed to fund expansion plans into other countries. Hence, the problems tackled in this study are in three folds. Firstly, the relatively lack of empiricism on effect of cash holding on financial performance of Nigerian firms, as existing studies which investigated the link between cash holding and financial performance focuses mostly on developed economies (Ozkan & Ozkan, 2004). There is however, a dearth of research in this area for developing countries like Nigeria. Also, the effect of cash holding varies with firm characteristics; therefore, while it may have positive effect in some instances in others it may have a negative effect (Akinyomi, 2014)

Secondly, Studies by Ferreira and Vilela (2004) gave a theoretical exposition of cash holding; others, such as (Banafa, Muturi & Ngugi, 2015) in Kenya; (Amahalu, & Ezechukwu, 2017) in Nigeria, focused on net profit margin and returns on equity. However, there are more measures of performance such as return on assets, Tobin's q, etc. It is therefore important to investigate the effect of cash control on economic performance while considering other performance indicators.

Thirdly, existing studies; such as, Pinkowitz, Stulz and Williamson (2006); Hofmann (2006), carried out their study in foreign countries focusing on non-financial firms while Fodio (2009) in Nigeria focused randomly on the entire manufacturing firms in Nigeria. Also, Amahalu, and Ezechukwu, (2017) focused only on listed Insurance companies. But there are

no study carried out on specific sub-sectors of the listed manufacturing firms in Nigeria. There is therefore a lacuna of study on cash control and economic performance of firms under the agricultural sector of the Nigerian exchange group. Thus, the study fills an empirical gap from tackling the above specified problems and investigating the effect of cash control on economic performance of quoted agricultural firms in Nigeria.

1.3 Objective of the study

Based on the above research problem, the main objective of this study is to ascertain the effect of cash control on economic performance of agricultural companies in Nigeria. The specific objectives of the study are as follows, to:

i. Ascertain the influence of cash to book value of asset on Tobin's q of quoted agricultural firms in Nigeria.
ii. Investigate the effect of cash conversion cycle on Tobin's q of quoted agricultural firms in Nigeria.

Conceptual Framework

Cash control

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 (Amahalu, & Ezechukwu, 2017). 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).

Economic 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.

Cash control 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

- Fight against new entrants in the industry,
- Fight against new products in the markets,
- Fight against suppliers' bargaining power,
- Fight against customers' bargaining power and
- 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.

This study investigates not only the reasons for cash holdings but also firms' performance and value from the viewpoint of cash holdings. Jensen (1986) notes that firms with large cash holdings are not valued highly by external stakeholders, who can spend cash on investing in less profitable projects; this increases agency costs.

Similarly, Harford (1999) also explains that firms with large cash holdings tend to invest in mergers and acquisitions, which decreases corporate values. On the other hand, if a firm faces a profitable investment opportunity but the asymmetry of information prevents additional capital funding from shareholders, underinvestment problems arise, as Myers and Majluf (1984) point out. Assuming that the firm has a conservative cash, control policy and investment opportunities are also large enough, cash holdings could solve the underinvestment problems. External shareholders do not highly value large cash holdings before investment, but the firm could invest in proper projects using cash and earn profits.

Empirical reviews

Amahalu, and Ezechukwu, (2017) assessed the extent at which cash control 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 hypotheses 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 statistically 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 mange how they re-invest their resource so as to prevent any form of mismanagement of resource that can guarantee their existence in business.

Mohammad, and Ali, (2017) investigated the relationship between cash hold and overinvestment in the listed companies in Tehran Stock Exchange. The special and territory domains include the listed companies in Tehran Stock Exchange between 2010 and 2013, respectively. Also, the final sample of 331 companies and 71 companies were selected using a systematic elimination method and Cochran 74, respectively. The study made use of secondary data source. Pearson coefficient of correlation and multiple regression were applied for the test of the three hypotheses formulated. In this study, the cash control and overinvestment are considered independent and dependent variables, respectively. The results showed the significant relationship between the cash holding and cash investment in the listed companies Tehran Stock Exchange. The study recommended that investors and shareholders should pay attention to the amount of over-and-under-investment of the companies when buying and selling companies' shares in order to reduce their own investment risk.

Kimunduu, Mwangi, Kaijage, and Ochieng, (2017) evaluated the effect of cash control on the relationship between financial performance and dividend policy. The study applied positivism research philosophy and descriptive causal research design. The study was anchored on hypothetical view that the relationship between financial performance and dividend policy of firms listed at the Nairobi securities exchange is not intervened by cash holdings which was tested against a sample size of 31 firms listed at the Nairobi securities exchange selected using purposive sampling technique. Pearson coefficient of correlation and multiple regression were applied for the test of the three hypotheses formulated. The research findings were as follows: There was a significant direct association between operating cash flows and dividend policy which was intervened by cash holdings. In general, it was concluded that the link between financial performance and dividend policy of firms listed at the Nairobi securities exchange was significant.

Ayegbusi, and Akinlo, (2016) examined the effect of cash holdings on the performance of firms in Nigeria over the period 2001-2012. The study adopts the generalized method of moments in analyzing the data. The results of the estimation show that a cash holding has significant positive impact on firm performance. In addition, the results reveal that cash flows, growth opportunities, size, and net working capital exert negative impact on firm's performance, while debt repayment is positively related to firm's performance. The study recommends that firms' managers should maintain a good balance of liquidity cause absence of effective liquidity management will cause cash shortages and will result in difficulties in paying obligations, which negatively affects the firms' profitability.

Shipe, (2015) examined the volatility of Cash Holdings and Firm Value in Florida, USA. Pearson coefficient of correlation and multiple regression were applied for the test of the three hypotheses formulated. The study found that the more volatile a firms' cash holdings, the higher its firm value. Result from the correlation analysis revealed that the correlation is more pronounced in smaller firms, younger firms, and firms in high tech industries. The findings are robust when controlling for the level of cash holdings and cash flow volatility, among other factors. The positive connection between cash holdings volatility and firm value is consistent with the need for active management of cash. Based on the findings, the study

recommends that specialized managers who actively adjust the amount of cash holdings help enhance the firm value more than generalist managers, consistent with the idea that specialized management has a better understanding of the firm's cash needs.

Banafa, Muturi and Ngugi (2015) investigated the causality effect of cash holdings on financial performance of firms. The study used a population of 42 nonfinancial firms in Kenya and adopted causal research design. Data analysis output was presented using descriptive statistics and inferential analysis such as t-test. A simple regression model was used. The research findings revealed that cash holdings was associated to change in financial performance using ROA as the proxy.

Akinyomi (2014) examined the effect of cash management on profitability of 15 manufacturing firms listed in the Nigerian Stock Exchange over the period 2008-2012. The results obtained from regression estimation showed a significant positive relationship between cash conversion cycle and return on equity but a non-significant negative relationship between cash conversion cycle and return on assets.

Abushammala and Sulaiman (2014) examined whether cash holdings influenced firm performance using profitability aspect. The study ignored the intermediating effect of cash holdings. A sample of 65 firms listed at the Amman stock exchange and which were non-financial based were selected for the study for a timeframe of twelve years from 2000 to 2011. Simple regression models were used for data analysis. It was established that there was statistically positive significant influence of cash holdings on profitability of the firms. It was shown that progressive financial performance of a firm is connected to maintenance of cash balances by the management. This positive relationship was supported by Jordanian firm management who believed that lack of effective liquidity management causes cash shortages and this would lead to difficulties in paying obligations as and when they fall due, which negatively affect firm profitability.

Kalami et al., (2013) examined the impact of corporate governance on the management of cash holdings within the listed companies in Tehran Stock Exchange. The results of previous studies show that it can improve firm value by stronger and more effective supervision on the cash holdings by the management. Analyzed results show that there is a significant positive relationship between the non-duty board members, board size and the percentage of institutional investors with the value of cash holding.

Malekian and Adili (2013) examined the relationship between institutional ownership and cash balances in the listed companies in Tehran Stock Exchange. The results indicate that there is a significant negative relationship between institutional investors and cash holdings, at confidence level of 95%. But there is not a significant relationship between the concentration of institutional investors and cash holdings.

Abbasi and Bosra (2012) analyzed the effect of cash conversion cycle components on the operational gross profit to assets ratio of 159 firms listed in the Tehran Stock exchange over the period 1998-2009. The results indicated that when all the cash conversion cycle components were incorporated into the model, net cash conversion cycle and the number of days inventory had no significant effect but number of days receivable accounts and number of days payable accounts had significant negative effect on operational gross profit to assets ratio.

Gile and Shah (2012) assessed the determinants of cash holdings within Canadian listed companies in the stock exchange. In this study, relational and non-empirical models have been used. Using 166 sample companies during the three-year period from 2008 to 2010, the

results show the ratio of market value to book value, cash flow, net capital, financial leverage, firm size, board size and the duality of directors' responsibility which has a significant effect on cash holding in case of Canadian companies. The results have special effects on the decisions of financial managers, investors and financial managers.

Naoki., (2012) analyzed the factors that influence firms' cash holdings and determine whether cash holdings are related to corporate performance and values using panel data from Japanese listed firms during 1980-2010. It was found that firms have increased cash holdings because of the trend of higher cash flow uncertainty since the 1990s, and, especially in the 2000s, due to the continuous availability of low-cost funding. It is also shown that with large investment opportunities, the positive relationship between cash holdings and firms' returns on assets and values has weakened in recent years, although external investors have highly valued firms since 2008. It was hence implied that under a sudden deterioration in the economy, conservative cash holdings could temporarily increase firms' market values, but, in the long run, a highly conservative liquidity management policy would weaken firms' profitability on assets.

Fukuda (2011), using Japanese firm data for the period of 2000-2004, similarly shows that cash holdings of firms with big opportunities for investment are highly valued, although financial constraints such as debt ratios and capital market access have no significant effects on the relationship between cash holdings and corporate values.

Kasnady (2011) examined the impact of corporate governance mechanisms on the cash holding and firm value. The relationship between the corporate governance mechanisms and cash holding has been investigated due to its combined effect on firm value for the listed companies in the Stock Exchange of Singapore and Malaysia. The results show that an increase in agency conflict between managers and shareholders' minority give rise to the managers to save cash more discreetly. The incremental value of cash holdings is negative for firms with individual leadership structure, pyramidal ownership structure and ownership under the control of the family.

Ebben and Johnson (2011) examined the effect of cash conversion cycle on the performance of 879 small U. S. manufacturing firms and 833 small U. S. retail firms. The results of the estimation revealed that firms with more efficient cash conversion cycle were more liquid, required less debt and equity financing, and had higher returns. In addition, the results showed that small firm owners and managers tend to be reactive in managing cash conversion cycle. Essentially, the findings reveal cash conversion cycle as a proactive management strategy could be used by small firm owner.

Bhutto, Abbas, Rehman and Shah (2011) examined the relationship between cash conversion cycle and firm's profitability based on 157 non-financial companies in Pakistan. The results of the analysis showed that length of conversion cycle (a measure of cash management) had negative effect on return on equity. It, however, had positive effect on return on assets.

Lee and Shiv (2010) examined the relationship between investment and cash holding. The firms always confront with great investment opportunities and require optimal investment decisions which are reasonable to make. Hence, the firms to invest in various projects should consider limits and amount of investment due to resource constraints; according to the surveys, the results indicate that there is a negative correlation between the over investments and cash holding.

Methodology

Research Design

The research design is methodological connection between the philosophies and subsequent selection of data collection methods (Denzin & Lincoln, 2011). The research work will adopt the *ex-post facto* research design. *Ex-post facto* means after the event, meaning that the events under investigation had already taken place and data already exist.

Population of the Study

The population of the study comprises of quoted agricultural firms on the Nigerian exchange group (NGX) as at end of 2023 financial year. There are 5 number of firms included in the sectors that constitute the population of the study.

Companies	Countries	Listing Year	Exchange Sector	Primary Business
Ftn Cocoa Processors	Nigeria	2008	Agriculture	Cocoa
New Hope	Nigeria	2013	Agriculture	Livestock feed
Livestock Feeds	Nigeria	1978	Agriculture	Livestock Feed
Okomu Oil Palm	Nigeria	1991	Agriculture	Oil Palm
Presco	Nigeria	2002	Agriculture	Oil Palm

Source: Authors compilation, 2023

Sample Size of the Study

The study was limited to only 4 agricultural firms in Nigeria. The decision was premised on the classification of the firms as agriculture (based on the nature and description of activities) as shown on the Nigerian exchange group (NGX) website. The sample selection criteria are shown in the table below. The full list of the companies is shown in Appendix I.

Table 2: Sample selection

Sector/criteria	Number of firms
No of firms	**05**
Less: Agric firm with unavailable data	01
Total sample size	**04**

Source: NXG (2023)

The exclusion of one firm was due to inconsistency of available financial data. During the data analysis any company whose required data are incomplete or unavailable was eliminated from the sample. The final sample percentage with respect to the population is approximately 80% of the entire quoted agricultural firms on the Nigerian exchange group.

Sources of Data

The data for this study were obtained from secondary sources. Secondary data is information or data that has previously been collected and recorded for other purposes (Blumberg, Cooper, & Schindler, 2008). One major advantage of secondary data is that analysis time can be saved (Blumberg, Cooper, & Schindler, 2008). The data were extracted from the annual reports and accounts of the selected companies. Specifically, the Statement of Financial Position and Statement of Profit or Loss and Comprehensive Income will provide data in computing the selected ratios; and, the Statement of Cash Flows.

Methods of Data Analysis

The study conducted descriptive statistics to provide an understanding of the data in terms of the mean, standard deviation, maximum, and minimum. Correlation analysis will also be

conducted to express the relationship between the independent and dependent variables employed in this study. However, to achieve the objective of the study, the ordinary least square (OLS) regression was employed as captured in the model specification sections with the aid of STATA 14.2

Model Specification

Based on the theoretical literature and earlier empirical studies, the present study adapted the model of Gholami, Sands, and Rahman (2022) to express the econometric form of the model is expressed as:

$$TQ_{it} = \beta_0 + \beta_1 CBVA_{it} + \beta_2 CCC_{it} + \beta_3 FS_{it} + \beta_4 LEV_{it} + +\mu_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots [1]$$

Thus, the apriori expectation based on the literature reviewed and related theories is stated as follows; $\beta_1 X_{1it} < 0$, $\beta_2 X_{2it} < 0$, $\beta_3 X_{3it} > 0$, $\beta_4 X_{4it} > 0$. The basis for this expectation flows from the outcome of the literature review and empirical findings. The operationalization of the above proxies is captured in Table 3 below.

Where:

TQ_{it}	=	Return on asset for company *i* at time *t*
$CBVA_{it}$	=	Cash to book value of asset for company *i* at time *t*
CCC_{it}	=	Cash conversion cycle for company *i* at time *t*
FS	=	Firm size
LEV	=	Leverage
β_0	=	Constant
β_1- β_6	=	Slope Coefficient
μ	=	Stochastic disturbance
i	=	i^{th} company
t	=	period

Decision Rule

The decision rule is based on the sign and significance of the computed *t-statistic* from the regression output. If the p value of the *t statistic* < *0.05* (the chosen alpha level) the null hypothesis is rejected; and, the variable is postulated to have a significant effect. However, where the p-value of the *t-statistic* > *0.05* (the chosen alpha level) the null hypothesis is accepted and the variable is postulated to have no significant effect.

Data Analysis

Descriptive Statistics

Table 3 displays the descriptive statistics for the study where it described the nature of the variables used. It also displays the number of observations of each variable and the description of their mean, standard deviation, maximum, and minimum values.

Table 3: Descriptive Statistics

```
. summarize tobinqx roa cbva ccc lev fsize

    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     tobinqx |         36    1.316667    .4791123        .49       2.79
         roa |         36    3.879722    12.66942     -17.23      29.16
        cbva |         36    .0340657    .0418463  -.0464643       .1305
         ccc |         36    52.75194    132.6673     -182.1     343.16
         lev |         36        5.31     21.7669      -7.08     131.08
-------------+---------------------------------------------------------
       fsize |
```

Source: Author (2024)

Table 3 above provides a general understanding of the central tendency and variability of each variable in the dataset with 36 as the number of observations. Tobin's q returned a mean value of 1.317 and standard deviation of 0.479. The average level of tobin's q is positive, with a moderate variability around the mean.

Return on assets (ROA) also revealed a mean value of 3.880 and a standard deviation of 12.670. The mean value suggests a positive return on asset, with a high variability around the mean. Moreso, cbva recorded a small mean value of 0.03 with a low standard deviation of 0.04, indicating relatively stable values. The range is between -0.05 and 0.13. Furthermore, the average value of "ccc" is 52.75, but with a high standard deviation of 132.67, suggesting significant variability. The values range from -182.1 to 343.16. The descriptive statistics also revealed that lev" has an average of 5.31 with a notable standard deviation of 21.77, indicating a wide range of leverage levels. The values range from -7.08 to 131.08. Finally, the average "fsize" is 7.10, with a relatively low standard deviation of 0.51, suggesting a moderate level of variability. The values range from 6.19 to 7.99.

Correlation Analysis

In examining the association among the variables, this study employed the Spearman Rank Correlation Coefficient (correlation matrix), and the results are presented in Table 4 below.

Correlation Analysis

```
. correlate tobinqx roa cbva ccc lev fsize
(obs=36)
|
             |  tobinqx      roa     cbva      ccc      lev    fsize
-------------+------------------------------------------------------
     tobinqx |   1.0000
         roa |   0.4189   1.0000
        cbva |   0.2830   0.5506   1.0000
         ccc |  -0.0396  -0.0049   0.1159   1.0000
         lev |  -0.0309  -0.2109  -0.1533  -0.3038   1.0000
       fsize |   0.2867   0.6751   0.2847  -0.3477  -0.1384   1.0000
```

Source: Author (2024)

The result of the correlation analysis above between the independent and dependent variables as in Table 4 shows the linear relationships between the respective variables. Positive values indicate a positive correlation, while negative values indicate a negative correlation. However, the magnitudes of these correlations are relatively low. From table 4, the correlation matrix indicates that, for the most part, the variables have weak correlations with each other. The exceptions are the negative correlations between economic performance and cash to book value of asset which have moderate strength. It is also worthy of note that correlation does not imply causation, and further analysis may be needed to understand the relationships between these variables.

Test of Hypotheses

Hypothesis one

H_{01}: There is no significant influence of cash to book value of asset on Tobin's q of quoted agricultural firms in Nigeria.

Table 5: OLS regression result - one

```
. reg tobin_qx cbva lev fsize

      Source |       SS           df       MS      Number of obs   =        36
-------------+----------------------------------   F(3, 32)        =      4.25
       Model |  3.58013209         3  1.19337736   Prob > F        =    0.0123
    Residual |   8.9878318        32  .280869744   R-squared       =    0.2849
-------------+----------------------------------   Adj R-squared   =    0.2178
       Total |  12.5679639        35  .359084683   Root MSE        =    .52997

------------------------------------------------------------------------------
    tobin_qx |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        cbva |   3.371684   2.249415     1.50   0.144    -1.210225    7.953593
         lev |  -.0037742   .0041857    -0.90   0.374    -.0123002    .0047518
       fsize |    .432352   .1830529     2.36   0.024     .0594855    .8052185
       _cons |  -2.364536   1.287637    -1.84   0.076    -4.987366    .2582951
------------------------------------------------------------------------------
```

Source: Author (2024)

The decision rule for F-statistics is to reject the null hypothesis at a significance level of p-value less than 5% (i.e., $p < 0.05$). Consequently, and judging from the records in Table 5 and with regards to cash to book value of asset (cbva), the F-stat figures from the pooled OLS regression have value of 4.25 and a p-value of 0.0123 which is less than 0.05 suggesting that we reject the null hypothesis and conclude that our OLS regression model generally was statistically significant at a 5% significance level. Hence, the regression model is valid and can be used for statistical inference.

However, the results obtained from Table 5 also revealed that the coefficient for cbva is 3.372, with a p-value of 0.144 at 5% significance level. Since the p-value is greater than the commonly used significance level of 0.05, we fail to reject the null hypothesis. Therefore, based on this analysis, we conclude that there is no significant influence of cash to book value of asset on Tobin's q of quoted agricultural firms in Nigeria.

Hypothesis two

H_{02}: There is no significant effect of cash conversion cycle on Tobin's q of quoted agricultural firms in Nigeria.

Table 6: OLS regression result - two

```
. reg tobin_qx ccc lev fsize

      Source |       SS           df       MS      Number of obs   =        36
-------------+----------------------------------   F(3, 32)        =      3.28
       Model |  2.95325632         3  .984418774   Prob > F        =    0.0335
    Residual |  9.61470757        32  .300459611   R-squared       =    0.2350
-------------+----------------------------------   Adj R-squared   =    0.1633
       Total |  12.5679639        35  .359084683   Root MSE        =    .54814

------------------------------------------------------------------------------
    tobin_qx |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         ccc |   .0000948   .0008049     0.12   0.907    -.0015448    .0017344
         lev |  -.0043194   .0046445    -0.93   0.359      -.01378    .0051412
       fsize |   .5159775   .2002203     2.58   0.015     .1081421    .9238128
       _cons |  -2.845904   1.450537    -1.96   0.059    -5.800551    .1087436
------------------------------------------------------------------------------
```

Source: Author (2024)

A big F-statistic (F-stat) with a small probability value (p-value) means that the null hypothesis should be rejected, and we would assert that there is a general relationship between the dependent and independent variable while a small F-stat, with a big p-value, would indicate that there is no relationship. Judging from the records in Table 6 the F-stat figures from the pooled OLS regression have a value of 3.28 and a p-value of 0.0335 which is less than 0.05 suggesting that we reject the null hypothesis and accept the alternate. This says that our OLS regression model generally was statistically significant at a 5% significance level. Hence, the regression model is valid and can be used for statistical inference.

The results obtained from Table 6 revealed that the coefficient for the variable of interest is 0.000 with a p-value of 0.907 which is greater than the significance threshold (5% sig. level). The significant p-value suggests that there is no evidence to reject the null hypothesis. This implies that there is no significant effect of cash conversion cycle on Tobin's q of quoted agricultural firms in Nigeria.

Discussion of Findings

The current study focused on cash control and its effect on economic performance of selected quoted agricultural firms in Nigeria. The findings emanating from the analysis thus revealed that there is no significant influence of cash to book value of assets on Tobin's q for quoted agricultural firms in Nigeria ($P > 0.05$). This finding aligns with the research by Amahalu and Ezechukwu (2017), who observed a positive and statistically significant effect of cash control on financial performance in the insurance sector in Nigeria. It implies that while cash management may impact financial performance in insurance, the same may not hold for agricultural firms in the Nigerian context.

Similarly, the study identified no significant effect of the cash conversion cycle on Tobin's q for quoted agricultural firms in Nigeria ($P > 0.05$). This result is consistent with the study by Kimunduu et al. (2017), where cash control was found to have a direct association with

operating cash flows and dividend policy. It suggests that the impact of cash conversion cycle on Tobin's q may be sector-specific, as observed in the agricultural firms studied.

Conclusion and Recommendation

Conclusion

The investigation into cash control and economic performance in selected quoted agricultural firms in Nigeria has yielded insightful findings. The analysis, guided by the decision rule, revealed several key points; Firstly, the study found that there is no significant influence of cash to book value of assets on Tobin's q in the quoted agricultural firms in Nigeria. This suggests that the relationship between cash and the book value of assets does not significantly impact Tobin's q. Similarly, the research indicated that the cash conversion cycle does not have a significant effect on Tobin's q in the context of quoted agricultural firms in Nigeria. This implies that the efficiency of cash conversion cycle may not be a critical factor influencing Tobin's q in these firms.

In light of these findings, it can be concluded that the relationship between cash control variables and economic performance in the selected quoted agricultural firms in Nigeria is not as straightforward as initially assumed. These results provide valuable insights for both researchers and practitioners in the agricultural sector, suggesting that other factors may be at play in influencing the financial and market performance of these firms.

Recommendations

Based on the above findings and conclusion, the study therefore makes the following recommendations:

i. Optimize resource reinvestment: Agricultural firms in Nigeria should focus on optimizing the reinvestment of resources to prevent mismanagement, considering the non-significant influence of cash to book value of assets on Tobin's q.
ii. Enhance cash holding strategies: Quoted agricultural firms in Nigeria should review and enhance their cash holding strategies, given the non-significant effect of the cash conversion cycle on Tobin's q.

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