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MACRO-ECONOMIC FACTORS AND FIRM ATTRIBUTES ON FINANCING POLICIES OF AGRICULTURAL LISTED FIRMS IN NIGERIA

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Abstract
Agricultural firms operate within a uniquely challenging macroeconomic environment and endogenous resources, yet empirical evidence on how those forces jointly shape their financing policies remains inconclusive. This study examines the effect of macro-economic factors and firm attributes on firms' financing of agriculture firms listed on the Nigerian Exchange Group (NGX) for the period 2012 to 2024. An explanatory research design was adopted in this study. Data was extracted from the entire five agriculture firm on the floor of NGX. Inferential and descriptive analysis was used to analysis the collected data. Results from panel regression analysis reveal several important findings. First, macroeconomic environment exerts a statistically significant and economically material influence on the financial policy of Nigerian agriculture firms. Second, firm attributes are equally consequential determinants of financial policy. Finally, the findings demonstrate that no single theoretical framework fully captures the complexity of financial policy determinants in Nigeria's agricultural sector. The study recommends that management of agriculture firms should develop proactive interest rate risk management strategies because of its negative significant effects, policymakers at the Central Bank of Nigeria (CBN) should also consider sector-specific monetary policy interventions and Securities and Exchange Commission (SEC) and the NGX should develop specialized long-term financing instruments for agriculture firms in Nigeria.

Keywords: Macro-economic factors, firm attributes, short term debt, long term debt, retained earnings.

1. INTRODUCTION

Decisions concerning firm's financial policy represent one of the most consequential strategic decisions in every business organization (Owusu-Ansah, et al. 2023). It involves how firms source capital through the proportionate determination of stock and debt obligations to fund both investment and operational activities of a firm. The decision represents an important strategic, since it determines the risk level and return of the ordinary investors and possibly has an effect on the stock price of the securities. A business may struggle to expand and seize market possibilities when it solely relies on their own resources. As a result, companies can use loans to expand and increase their profitability (Githire & Muturi, 2015). A company may experience monetary problems and ultimately file for liquidation if the proportion of its financial structure is chosen incorrectly. Many companies attempt to maintain their finance mix around an ideal structure, even if actual borrowings and equity ratios may fluctuate periodically. To determine

the proper firm financial policies implementing, factors such as organization resources and macroeconomic factors should be consider (Egbunike & Okerekeoti, 2018).

Businesses employ various types of funding, spending, and operating decisions that are typically influenced by macroeconomic factors (MF) (Owolabi, 2017). MF's are external to the business and beyond the scope of managerial authority (Egbunike & Okerekeoti, 2018). MF's may threaten the firm's decisions or procedure in either a beneficial or detrimental manner. For instant, a business's cost of capital, and possibly consumer appetite for their goods as well as viability are all impacted by fiscal policies (Ibrahimov et al. 2025). Additionally, a nation's monetary policy has a direct effect upon every business via the accessibility of financing that may have an impact on a company's capacity to obtain outside funding. MF's, like devaluation and rising currencies, influence organizational actions in the majority of emerging markets, including Nigeria (Owolabi, 2017).

Internal organization resources such as the assets, knowledge, capabilities and organizational processes, also enable organization to gain competitive advantage (Effiong and Ukpong (2024). These endogenous resources define an organizations positioning, strategic and operational capacity, which firm used to allocate resources and makes financial decision (Kinyua & Ochieng 2022). They consist of ownership structure, profitability, leverage, liquidity, age of firm, and firm size (Kinyua & Ochieng, 2022) that pose a positive or negative threat to the organization decision or policies. As agency theory posit that large firm have greater asset tangibility, lower information asymmetry, and better credit ratings, making them capable of accessing debt markets at lower costs (Jensen & Meckling, 1976). Resource-Based Theory also support that large firms possess substantial tangible resources that are better positioned to leverage these assets as financial instruments, using them to negotiate favorable credit terms and attract institutional investor (Denizel & Özdemir, 2006). In contrary, Institutional theory challenges the notion, affirmed that firm behavior is shaped more by organization norms, pressures and regulatory environments than by firm attributes such as size, liquidity and tangibility (Paseda 2021). Stiglitz and Weiss (1981) study also found that large firms with substantial tangible assets cannot fully overcome information asymmetry in credit markets, practically during economic downturns, when lenders become uniformly risk-averse. Business characteristics such as financial and material resources allow it to develop and execute plans which enhance efficacy and productivity (Barney, 1991). Thus, understanding the effect of macroeconomic environment and firm attribute on business financial structure is significant, since financial choices are critical to a company's existence and worth (Tekin, 2021).

Ensuring appropriate financing which reduces finance expenditure and optimizes the total business worth serves as one of the numerous goals of business finance management. To accomplish this crucial goal, financial managers employ capital structure (CS) as one of their

powerful strategies. Choosing the wrong finance combination could have unanticipated and unfavorable consequences. The choice amongst debt and equity financing presents a significant managerial problem, and finance managers must make extensive use of their knowledge, expertise, and abilities because the decision will have a lasting impact upon the business's liquidity and ability to continue as an operating entity. Businesses' financial choices are mostly influenced by certain characteristics. Variables including company size, growth, leverage, firm age, firm liquidity, and firm asset turnover are all included in the company traits. This factor mainly determines how management operates their businesses (Obeidat, 2016).

The significance of agricultural production for fostering sustained socioeconomic growth cannot be overstated. It's an important area of the Nigerian economy with a lot of possibilities for ensuring the fiscal well-being of the nation. The Nigerian economy has recently benefited from the oil commerce, but the agricultural sector is still viable (Aminu & Abdulrahman, 2012). Prior to the founding of Nigeria in 1960, the agriculture sector was the greatest important component of the economy. During the moment, the country's output of both agricultural and agro-based items required a startling 65% input to its GDP. The industry also benefited greatly from the international trade of agro-cash plants (Idode et al., 2014).

High risk, poor yields, and inadequate level of innovation have lately plagued Nigeria's agriculture industry. The expectation which entrepreneurs, especially teenagers, desire seems to be missing in this sector. In quest of new opportunities, countless youths are relocating from remote regions to big towns as well as metropolitan areas (Kalu & Onwuka, 2019). The sector also operates in a uniquely challenging environment, marked by poor infrastructure, currency volatility and fragmented markets. Hence, study on firm attributes and macroeconomic factors will help them know how these factors can enhance their performance and also helps them make realistic policies.

Although many researches on the impact of Macro-economic factors and firm attribute (Egbunike & Okerekeoti, 2018; Abdulkarim, et al. 2019; Asiedu 2021; Fozap 2021; Paseda 2021; Kinyua and Ochieng, 2022; Ramzan and Qureshi 2022; Wairimu 2023; Owusu-Ansah, et al. 2023; Almustafa, et al. 2023; Nowicki, et al. 2024; Yıldırım and Karabayır, 2024; Yisau, et al. 2024 Ibrahimov, et al. 2025) on firms' financing policies in developed countries, developing countries and Nigeria have been carried out over the years, these studies used variety of variables, and the results of these studies are inconsistent. Even though several researches on macroeconomic factors and firm attribute have produced conflicting results, the majority of the research based their study by focusing on either firm attributes or macroeconomic factors separately (Abdulkarim, et al. 2019; Asiedu 2021; Paseda 2021; Wairimu 2023; Almustafa, et al. 2023; Yisau, et al. 2024; Ibrahimov, et al. 2025). Also, majority of the existing literature focused examined the effect of macroeconomic factors and firm attribute on performance (Egbunike & Okerekeoti, 2018; Ibrahimov, et al. 2025). Finally, some studies used firm leverage to mearsured

the firm financial policy (Almustafa, et al. 2023, Yıldırım and Karabayır, 2024). In contrast, the present research obtained focused on different structure of finance, so as to know the appropriate for agriculture firms in Nigeria.

2. LITERATURE REVIEW

2.1 Macroeconomic Factors

It is a study of changes and patterns within a nation's overall economy. According to Ramzan and Qureshi (2022), MF's are external to the organization and cannot be control by the management. These elements encompass rivals, suppliers, laws and regulations from the government, and social, ecological, and political situations. It examines external factors that could impact a company's operations (Fozap 2021). Variables such as GDP Growth, Interest Rate, Inflation and Exchange Rate were specifically examined in this study.

2.2 Firm Attributes

FA includes the particular characteristics that characterize and set it against its competitors as a result of the assets that it uses in its activities. Company age, size, and leverage are some of these characteristics (Kwaltommai, et al., 2019). According to Effiong and Ukpong (2024), FA is made up of its organizational and socioeconomic variables. Such structural attributes include liquidity, firm size, tangibility and profitability.

2.3 Firm Financial Policy

Financial policy refers to the set of guidelines and strategies adopted by a firm, government, or institution to govern the acquisition, allocation, and management of financial resources. At the corporate level, financial policy encompasses decision relating to capital structure, working capital management, investment financing, dividend distribution and liquidity management (Brigham & Ehrhardt, 2017). In this study, capital structure used to proxy the firm financial policy that discloses each resource of funding a business uses to fund its operations, often consisting of loans, preference stock, and ordinary share equity (Akinsulire, 2011).

2.4 Theoretical Review

2.4.1 Trade-Off Theory

Originally attributed to Modigliani and Miller (1963) and later extended by Bradley et al. (1984), asserts that businesses should weigh the tax advantages of debt against the expenses of financial crisis to identify their ideal capital structure. According to this theory, firms incrementally adjust their debt levels toward a target leverage ratio that maximizes firm value, weighing the interest tax shield of debt against potential bankruptcy costs, agency conflicts, and financial vulnerability.

2.4.2 Pecking Order Theory

Formulated by Myers and Majluf (1984) and rooted in the informational asymmetry framework

of Stiglitz and Weiss (1981), contends that businesses have a sequential choice for financing: external borrowing is favored above equity offering, and internal funds (retained earnings) are preferred over external debt. This preference hierarchy arises because information asymmetry between firm managers and external financiers creates adverse selection costs that make external financing relatively expensive.

2.4.3 Resource-Based View

The emphasis of Barney's (1991) development and its expansion via dynamic features (Teece et al., 1997) is on the manner in which internal resources assist businesses in obtaining and maintaining an edge over their competitors. According to the RBV, businesses with distinct, valuable, rare, inimitable, and non-substitutable (VRIN) resources outperform their competitors in resource allocation and strategic decision-making, including financial policy.

2.5 Review of Empirical Studies

Ibrahimov et al. (2025) examined the impact of macroeconomic volatility on company earnings in 5 significant industries in Turkey from 2016 to 2023. The findings showed a notable sectorial distinction: companies in the manufacturing and chemicals sectors surpassed others in ROA, energy and food sectors underperformed due to expense inflexible and laws. Interest rates, on the other hand, had a significant detrimental impact on profitability.

Effiong and Ukpong (2024) used twelve (12) industrial products companies traded on the NGX between 2013 and 2022 to examine the impact of firm characteristics on financial leverage. The study method used was ex post facto. The research found that while firm profitability and company asset tangibility had a positive and substantial impact on the financial leverage, firm size and market value had a negative and non-significant influence. The study came to the conclusion that firm characteristics have a major impact on financial leverage and suggested that in order to benefit from economies of scale, businesses should expand their operations through increased liquidity and make effective use of these resources.

Wairimu (2023) looked at how FA affected leverage. An explanatory research design was employed. The impact of firm financial features on the financial leverage of construction and related enterprises listed on Nairobi Securities exchanges was shown to be significantly moderated by operating cash flows.

3. METHODOLOGY

The explanatory research design was used during the investigation. The goal of the present study was to both identify and clarify the causal link amongst financial policy, business characteristics, and macroeconomic factors, which informed the selection of research strategy. Over the years 2012 through 2024, information was obtained from the annual reports of agricultural and agro-related companies traded on the Nigerian Exchange Group (NGX). The population of this

research consists of 5 agricultural companies that were listed on the NGX as of April 10, 2024. Ellah Lakes PLC, FTN Cocoa Processors PLC, Livestock Feeds PLC, Okomu Oil Palm PLC, and Presco PLC are among the companies under question. The year 2012 was chosen as base year because it is the year that the commercial agriculture credit scheme provided over $200 million in low interest loans to help promote commercial agriculture. Both descriptive and inferential statistical methods were used to analyze the gathered data. However, the data was first subjected to the Hausman test and the multi-collinearity test. These tests were performed to make sure that the fundamental presumptions for a reliable regression model were taken into account, ensuring that the results generated by the model would not be fictitious and meaningless

3.1 Model Specification

To investigate the impact, the regression model that follows is generated.

$$LTD = \beta_0 + \beta_1 GDP_{it} + \beta_2 INF_{it} + \beta_3 EXC_{it} + \beta_4 INT_{it} + \beta_5 LIQ_{it} + \beta_6 TAN_{it} + \beta_7 FS_{it} + \beta_8 PRO_{it} + \mu_{it} \quad 1$$

$$STD = \beta_0 + \beta_1 GDP_{it} + \beta_2 INF_{it} + \beta_3 EXC_{it} + \beta_4 INT_{it} + \beta_5 LIQ_{it} + \beta_6 TAN_{it} + \beta_7 FS_{it} + \beta_8 PRO_{it} + \mu_{it} \quad 2$$

$$RE = \beta_0 + \beta_1 GDP_{it} + \beta_2 INF_{it} + \beta_3 EXC_{it} + \beta_4 INT_{it} + \beta_5 LIQ_{it} + \beta_6 TAN_{it} + \beta_7 FS_{it} + \beta_8 PRO_{it} + \mu_{it}$$

3.2 Measurement of Variables

Table 1: Measurement of Variables

Variable(S)	Symbols	Variable Description	Source
Dependent Variables			
Financial Policy	Long term debt to assets (LTD)	Long term debt over Total Asset	Wairimu (2023); Abdulkarim, et al. (2019)
	Short Term Debt Ratio (STD)	Short term debt over total assets	Wairimu (2023)
	Retain Earnings (RE)	Retained profits as a percentage of equity	Dahmash, et al.(2023)
Independent Variables			
Macroeconomic Factors	Gross Domestic Product (GDP)	GDP Change from the Current Year to the Previous Year	Yıldırım and Karabayır (2024)
	Inflation Rate (INF)	Annual Variation in the Consumer Price Index	Yıldırım and Karabayır (2024); Ibrahimov
	Exchange Rate (EXC)	exchange rate of naira against U.S. dollar	Egbunike and Okerekeoti, (2018)
	Interest Rate (INT)	Weighted Average Interest Rate for Bank Loans	Yıldırım and Karabayır (2024)
Firm Attributes	Liquidity Ratio (LIQ)	Liquid Assets/Short-Term Liabilities	Yıldırım and Karabayır (2024)
	Tangibility (TAN)	PPE divided by total assets less current	Paseda (2021); Effiong and Ukpong (2024)

		liabilities.	
	Firm Size (FS)	Log of total assets	Paseda (2021); Effiong and Ukpong (2024)
	Profitability (PRF)	Net income divided by total assets	Effiong and Ukpong (2024); Yıldırım and Karabayır (2024)

Source: Author's Compilation (2026)

4. RESULT AND DISCUSSIONS

4.1 Descriptive Statistic

Table 2: Descriptive Statisti

	Mean	Median	Maximum	Minimum	Std. Dev.
STD	0.3021	0.2431	0.8916	0.0000	0.2483
LTD	0.3267	0.2497	1.3209	0.0000	0.3252
RE	0.3671	0.2471	9.6892	-8.1787	2.2097
GDP	2.5308	2.9000	6.3000	-1.8000	2.2866
INF	15.354	13.200	32.500	8.0000	6.7291
INT	14.558	13.500	27.500	11.000	4.3099
EXC	397.96	306.10	1479.0	157.30	341.23
FS	7.4027	7.3242	9.0775	6.3366	0.767
LIQ	1.9420	0.9477	15.508	0.0043	3.0457
PRO	0.0215	0.0411	0.3414	-0.6110	0.1676
TAN	0.9005	0.8736	4.4085	0.2075	0.5779

Source: Eview 12

Table 2 shows the mean values of STD, LTD and RE as 0.3021, 0.3267 and 0.3671. This affirmed that majority of agriculture firms listed in NGX utilized different sources of finance, but their operation are more finance from cumulative net profit. This result affirmed with pecking theory that gives preference to internal source of finance. Also, the minimum of -8.1787 does not mean RE is riskier in the traditional financial risk sense. It means certain firms in the panel accumulated losses exceeding their paid up capital, producing a deficit position. Descriptive analysis also shows that macroeconomics factors such as GDP, INF, INT and EXC all affect the sampling firms. This reveals that the sample firms operate in a dynamic environment. The result also shows that the non-current assets possess a high percentage in total assets of agriculture firms, since the mean value of TAN show 0.9005. Finally, it shows that the ratio of return on investment by stakeholders in the firms is low, since mean value for PRO shows 0.0215. This might be as a result of security insurgent or dynamic of the economic factors.

4.2 Hausman Test

Table 3: Hausman Test

Model	Chi² Statistic	Df	p-value	Decision
Model 1: STD	$\chi^2 = 18.764$	9	0.0271	Reject $H_0 \rightarrow$ Fixed Effects preferred
Model 2: LTD	$\chi^2 = 21.348$	9	0.0112	Reject $H_0 \rightarrow$ Fixed Effects preferred
Model 3: RE	$\chi^2 = 16.213$	9	0.0633	Fail to reject $H_0 \rightarrow$ Random Effects preferred

Source: Eview 12

4.3 Breusch-Pagan Tests

Table 4: Breusch-Pagan Tests

Model	Statistic	Df	p-value	Decision
Model 1 (STD)	$\chi^2 = 19.234$	1	0.0000	Individual effects present; pool OLS rejected
Model 2 (LTD)	$\chi^2 = 17.891$	1	0.0000	Individual effects present; pool OLS rejected
Model 3 (RE)	$\chi^2 = 15.412$	1	0.0001	Individual effects present; pool OLS rejected

Source: Eview 12

4.4 Regression Analysis

Table 5: Regression Analysis

	STD		LTD		RE	
	Coefficient	**t-Statistic**	**Coefficient**	**t-Statistic**	**Coefficient**	**t-Statistic**
GDP	0.0213	2.1522**	-0.0073	-1.7476	0.1194	2.6160**
INF	-0.0318	-1.8280*	0.0075	2.2472*	0.0089	0.2150
INT	-0.2314	-4.0391***	-0.0315	-4.8723***	-0.1947	-4.6896**
EXC	0.0001	2.0182**	0.0002	1.9459*	0.0024	3.2927**
FS	0.0634	2.1780**	0.1270	4.8859***	-0.2553	-1.3024
LIQ	-0.0921	-5.0880***	0.0337	3.4755**	5.83E-06	1.7841*
PRO	0.0412	2.5591**	-0.4338	-3.4121**	1.7996	4.1417**
TAN	0.1823	2.6770**	0.0002	0.0027	-0.3155	-1.8624*
C	0.4312	4.9511**	-0.3889	-1.8150*	3.9428	0.0222**
R-squared		0.7213		0.7263		0.7367
Adjusted R-squared		0.6754		0.6631		0.6760
F-statistic		15.712		11.498		12.126
Prob		0.0000		0.0000		0.0000
Durbin-Watson stat		1.6760		1.5396		1.9034

Source: Eview12

The R^2 and Adjusted R-squared values for long-term debt (LTD) are 0.7263 and 66%, respectively. This indicates that variations in all of the independent factors could account for about 73% of the overall variation in LTD. Consequently, the F-statistic was 11.498, and the p-value was 0.0000, which was below the significance level of 0.05. This indicates that both dependent variables and independent variables have a substantial connection.

Three models' regression analyses are displayed in Table 5. The R^2 value from model one is 0.7213. This indicates that variance in all of the independent variables might account for or explain about 72% of the overall variation in STD. Consequently, the F-statistic was 15.712 with a p-value of 0.0000, which was below the significance level of 0.05. This indicates that the two types of variables have a substantial link.

The third model (Retain earning) has an R^2 value of 0.7367 according to regression analysis. This suggests that variance in all of the independent variables might account for around 74% of the overall variation in RE. Additionally, the F-statistic was 12.126 with a p-value of 0.0000, which was below the significance level of 0.05. This indicates that the independent and dependent variables have a substantial relationship.

4.8 Discussion of Finding

GDP Growth and Financing Policy

Model one result demonstrates the strong and beneficial relationship between growth in GDP and short term debt (STD) with a coefficient of 0.0213. This indicates that as GDP grows, listed agriculture firms experience improved earnings and cash flow stability through short term finance. The finding is in line with the trade-off theory's tat posit that firms optimize short term debt during favorable macroeconomic conditions. Empirically, the finding is in line with Ramzan and Qureshi (2022).

From the result of second model, GDP growth has an adverse and insignificant relationship with LTD with coefficient of -0.0073. This indicates that economic expansion improves the internal cash generation and reducing agriculture firms' dependence on long term external financing with huge interest rate. The finding is in line with pecking order theory that gives preference to internal sources of finance to external one.

Regression result in the third model shows that GDP growth has strong and beneficial relationship with retain earnings (RE) with a coefficient of 0.1194. This indicates as GDP grows, listed agriculture firms experience improved earnings and cash flow stability through that economic expansion improves the internal cash generation through retain earnings. The finding is in line with pecking order theory that gives preference to internal sources of finance. It is also in consistent with the study of Yıldırım & Karabayır, (2024).

Inflation Rate (INF) and Financing Policy

Model one result shows that INF has a negative significant relationship with short term debt (STD) with a coefficient of -0.0318. This indicates that listed agriculture firms in Nigeria avoid short term when macroeconomic price instability so as to escape high financial risk. Trade off theory support this finding and in consistent with the study of Frank and Goyal (2009) and Ramzan and Qureshi (2022).

The second model reveals that INF has a positive significant relationship with LTD with a coefficient of 0.0075. This implies that inflation is driving agriculture firms in Nigeria to locking in long term loans instead of relying on expensive short term debt. This result is consistent with the study of Barclay and Smith (1995) who, argue that firms in high inflation environments prefer long term LTD to minimize refinancing exposure.

Result from the third model shows that INF has a positive and insignificant relationship with RE with a coefficient of 0.0089. This indicates that simultaneously rising cost compresses profit margins and raises operating cost among listed agriculture firms in Nigeria and neutralizing the incentive to retain earnings. This finding is in line with the study of Ramzan and Qureshi (2022).

Interest Rate (INT) and Financing Policy

The first model result shows that INT has a significant relationship with STD with a coefficient of -0.2314. This implies that rising INT enhance the cost of borrowing, making short term debt more expensive to service and rollover frequently. This is in line with the study of Frank and Goyal (2009) and Ramzan and Qureshi (2022) that establish that interest rate escalation significantly constrain firms to use short term debt.

Second model result shows that INT has a significant relationship with LTD with a coefficient of -0.0315. This indicates that listed agriculture firms in Nigeria avoid committing to long term debt at high interest rates to prevent locking in expensive financing over extended repayment horizon. When interest rate is high, firms deliberately defer LTD borrowing, preferring to wait for favorable rate conditions before committing to extended debt obligations. This result is in line with the result of the study of Baker and Wurgler (2002).

Result from the third model demonstrates that INT has a negative significant relationship with long term debt (LTD) with a coefficient of -0.1947. This indicates that increase in interest rate restrict the ability of agriculture firms to have access to internal sources of finance, due to high interest debt service by the firms. This is in line with the study of Ramzan and Qureshi (2022).

Exchange Rate (EXC) and Financing Policy

Model one result shows that EXC has a favorable significant relationship with short term debt (STD) with a coefficient of 0.0001. This demonstrates that as currency weakness escalates input

financing requirements, listed agriculture firms in Nigeria rationally expand short-term debt utilization to sustain production continuity without committing to costly long-term obligations. This in line with study of Ramzan and Qureshi (2022).

The second model result shows that EXC has a strong and beneficial relationship with LTD with a coefficient of 0.0002. This indicates that naira depreciation encourages firms to lock in long-term debt, possibly as a hedge against future currency exposure or because foreign creditors increase financing availability during devaluation episodes. This is consistent with the result of the study of Egbunike and Okerekeoti, (2018).

Result from the third model shows that EXC has a positive and significant relationship with RE with a coefficient of 0.0024. This implies that currency depreciation raises the cost of external financing, motivating firms to prioritize and aggressively retain internal earning as a buffer against currency induced financial vulnerability. This is in line with Pecking order theory that prioritize internal source of finance. The result is consistent with the study Booth et al. (2001) that affirmed that exchange rate volatile emerging markets systematically favor internal financing.

Firm Size (FS) and Financing Policy

Model one result shows that FS has a positive and significant relationship with STD with a coefficient of 0.0634. This indicates that larger firms benefit from enhanced creditworthiness, enabling easier and cheaper access to short term debts market. This is in line with agency theory's that posit that larger firms enjoy better credit access due to lower information asymmetry. This finding is similar to the findings of Wellage and Locke (2012).

Second model result demonstrates that FS has a positive and significant relationship with LTD with a coefficient of 0.1270. This indicates that firm size is important in determinant of long term capital structure of listed agriculture firms in Nigeria, as lager firms can credibly commit to extended repayment obligations and satisfy lender covenants more reliably. This is consistent with the study of Mohammed and Usman (2016).

Result from the third model shows that FS has a negative and insignificant relationship with RE with a coefficient of -0.2553. This implies that as firm grow larger; their enhanced access to external debt markets reduces the urgency of accumulating internal earnings as a primary financing buffer. The finding aligns with Frank and Goyal (2009) that note that the relationship between firm size and internal capital retention weakens when such firm have full access to external capital market.

Liquidity (LIQ) and Financing Policy

Model one result shows that LIQ has a negative significant relationship with short term debt (STD) with a coefficient of -0.0921. This indicates that listed agriculture firms in Nigeria are with sufficient liquid assets to finance working capital needs internally, reducing the necessity of external short term borrowing. The result aligns with Vo (2017), who establishes that liquidity ratio consistently reduces short term debt utilization across emerging market firm samples.

Result from the second model shows that LIQ has a positive significant relationship with LTD with a coefficient of 0.0337. This implies that listed agriculture firms in Nigeria are with sufficient liquid assets for debt servicing capacity to long term creditors, reducing perceived default risk and facilitating access to long term financing. This is consistent with Changelog et al. (2022), who find that liquidity positively determines LTD among Sub-Saharan African listed firms.

Third Model result demonstrates that LIQ has a positive significant relationship with RE with a coefficient of 5.83E-06. This implies that firm with higher liquidity ratios typically generate stronger and more state operating cash flows, creating greater capacity to retain earnings after meeting dividend and debt obligation. The result is in line with the result from the study of Abubakar et al. (2023) which demonstrate a positive relationship between liquidity and retain eanings among Nigerian listed firms.

Profitability (PRO) and Financing Policy

Result of the first model shows that PRO has a positive and significant relationship with STD with a coefficient of 0.0412. The result suggests that highly profitable firms possess enhanced debt servicing capacity and stronger creditworthiness, enabling easier access to short-term debt facilities at competitive rates. This is consistent with the study of Frank and Goyal (2009), who establish that profitability positively influences leverage among firms with strong debt capacity.
Second model result demonstrates that PRO has a negative significant relationship with LTD with a coefficient of -0.4338. This finding implies that highly profitable firms are less compelled to access long-term debt markets, as robust internal cash generation sufficiently funds capital expenditure and long-term investment requirements. This result is in consistent with Pecking order theory that gives preference to internal source of finance. This result corroborates Rajan and Zingales (1995), who establish a robust negative profitability-leverage relationship across international firm samples.

Third model result shows that PRO has a positive significant relationship with RE with a coefficient of 1.7996. This finding confirms that profitability is the most fundamental driver of retained earnings accumulation in listed agriculture firms. This result affirmed with the study of Titman and Wessels (1988), who establish profitability as a primary determinant of internal capital retention.

Tangibility (TAN) and Financing Policy

The first model result shows that TAN has a positive significant relationship with STD with a coefficient of 0.1823. This finding suggests that asset tangibility functions as a critical collateral signal in Nigerian credit markets, where lenders heavily rely on physical asset backing before extending short-term facilities. This result is consistent with Rajan and Zingales (1995), who establish tangibility as a robust positive determinant of leverage.

Second model demonstrates that TAN has a positive insignificant relationship with LTD with a coefficient of 0.0002. Asset tangibility facilitates long-term debt access by providing creditors with durable collateral security, but the insignificant result suggests that tangibility alone does not sufficiently drive long-term borrowing decisions among agriculture firms. This is consistent with Booth et al. (2001), who note that tangibility effects on long-term leverage weaken considerably in developing economy contexts where long-term credit markets remain structurally shallow and risk-averse.

Third model result shows that TAN has a negative significant relationship with RE with a coefficient of -0.3155. This implies that listed agriculture firms require capital intensive tools and firms with higher tangible asset concentrations incur substantial depreciation charges, maintenance expenditures, and capital replacement costs that compress net profitability, directly reducing the quantum of earnings available for retention. This result is consistent with Titman and Wessels (1988), who establish that asset structure negatively influences internal capital retention among manufacturing-oriented firms.

5. CONCLUSION AND RECOMMENDATIONS

This study examines the effect of macro-economic factors and firm attribute on firms' financing policies of agriculture firms listed on the Nigerian Exchange Group (NGX) for the period 2012 to 2024. An explanatory research design was adopts in this study. Data was extracted from the entire five agriculture firm on the floor of NGX. Inferential and descriptive analysis was used to analysis the collected data. Results from regression analysis reveal several important conclusions.

First, macroeconomic environment exerts a statistically significant and economically material influence on the financial policy of Nigerian agriculture firms. GDP growth positively and significantly drives STD and RE, while negatively reducing LTD dependence. Inflation significantly reduces STD utilization while simultaneously driving firms toward LTD. Interest rate escalation exerts the most consistent and strongly significant negative effect on all three financial policy dimensions. Exchange rate depreciation exhibits a positive significant effect on STD, LTD and RE.

Second, firm attributes are equally consequential determinants of financial policy. Firm size positively and significantly drives both STD and LTD. Profitability is the strongest driver of RE accumulation and the most robust negative determinant of LTD. Liquidity significantly reducing STD while facilitating LTD and RE access. Asset tangibility is a critical positive determinant of STD.

Finally, the findings demonstrate that no single theoretical framework fully captures the complexity of financial policy determinants in Nigeria's agricultural sector; rather, an integrated multi-theoretical perspective encompassing Trade-Off Theory, Pecking Order Theory, Resource-Based View, and Agency Theory best explains the observed patterns.

The study recommends as follows:

1. Management of agriculture firms should develop proactive interest rate risk management strategies because of its negative significant effects. This includes establishing formal interest rate hedging programs using financial instruments such as interest rate swaps and forward rate agreements, negotiating fixed-rate long-term financing facilities during periods of monetary policy easing, and diversifying funding sources to reduce over-dependence on bank credit.
2. Policymakers at the Central Bank of Nigeria (CBN) should also consider sector-specific monetary policy interventions. Targeted concessionary lending programs for agriculture, such as extensions of the Anchor Borrowers Programme and the Agricultural Credit Guarantee Scheme Fund (ACGSF) should be expanded and interest rate ceilings established for agriculture-specific credit instruments to mitigate the documented constraining effect of high interest rates on agricultural firms' financing decisions.
3. The positive significant relationship between firm size and long-term debt access, combined with the general structural shallowness of Nigeria's long-term credit markets, underscores the need for the Securities and Exchange Commission (SEC) and the NGX to develop specialized long-term financing instruments for agriculture. This includes promoting agricultural development bonds, green bonds linked to sustainable agricultural practices, and agriculture-specific real estate investment trusts (A-REITs) that can provide long-term capital at competitive rates to NGX-listed agriculture firms.

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