JOURNAL OF AGRICULTURAL ECONOMICS, EXTENSION & SCIENCES
Official Journal of the College of Agricultural Economics and Extension
www.jaees.org
www.uam.edu.ng
Jaees Vol. 13 No.2 2026, Page 216 - 230
ISSN (Print) 2545-5179, ISSN (Online) 2714-5018

ANALYSIS OF EFFECTS OF WORKING CAPITAL MANAGEMENT ON THE EARNINGS BEFORE INTEREST AND TAX AMONG AGRIBUSINESS ENTERPRISES IN NIGERIA:2012 – 2021

[1]**Okpabi**, K. O. **and** [2]**Ogbanje**, E. C.
1 Department of Agribusiness, Joseph Sarwuan Tarka University, Makurdi;
2 Department of Agricultural Marketing and Co-operatives, Joseph Sarwuan Tarka University, Makurdi
Email: ogbanje.christopher@uam.edu.ng; +234803 635 0197

Abstract
The study analysed effects of working capital management on the earnings before interest and tax among agribusiness companies in Nigeria. Panel data for 10 years were extracted from the published financial statements of the selected companies, leading to a sample of 110 firm-years. The analytical tools were descriptive statistics, Levin-Lin-Chu's unit roots test, Pedroni cointegration, random and fixed effects regression, and growth model. Findings of the study revealed that mean investment (N18.6 billion) was more than earnings before interest and tax (N13.3 billion). Mean accounts payable (N30.3 billion) was also greater than mean accounts receivable (N12.9 billion). In terms of growth rate, accounts payable had the highest (8.35%), while earnings before interest and tax decelerated (-17.35). The Hausman's specification test ($p>0.05$) suggested the random effect model as the appropriate model for the estimation. The z-statistic (2.31) of accounts payable was significant ($p<0.05$). The Wald statistic (14.28) of the RE model was statistically significant ($p<0.01$). The study concluded that agribusiness companies in Nigeria are highly dependent on trade credit. Accounts payable significantly increased earnings before interest and tax among agribusiness companies in Nigeria. The study concluded that agribusiness companies in Nigeria are highly dependent on trade credit as the firms indulged in credit sales. The study recommended that companies in the agribusiness industry should raise their earnings before interest and tax above the investment; the boards of agribusiness companies in Nigeria should manage the earnings before interest and tax in a manner to achieve acceleration; and while minimizing the impact of cost of capital, managers of agribusiness companies should cautiously raise accounts payable to achieve greater earnings before interest and tax.

Keywords: *Analysis, Effects, Earnings, Working Capital, Management.*

1.0 Introduction

Sustainability of agro-based firms heavily depends on the ability and efficient utilization of financial management '(Ibeawuchi and Osuala, 2020). As a result, proper

planning and efficient capital management is required in order to handle the outcome pressure from highly competitive agro industry in Nigeria (Igoni et al., 2021). Globally, working capital is the most important tools that an organization must properly manage because it determines organizational survival "(Adetunji and Owolabi, 2016; David, 2011). Working capital is a vital element in any organizational setting that requires maximum attention, proper planning and management (Ali and Ali, 2014; Anene et al., 2023). As resources available to organizations are scarce, it is important that the management of an organization's working capital has a pivotal role to play in the achievement of organizational profitability and overall performance of the organization.

Working capital connotes funds locked up in materials, work in progress, assets, finished goods or inventory, receivables, payables and cash (Takon and Atseye, 2015). In this regard, 'Chesang and Ayuma (2016) defined current assets as those assets that can be converted into cash within a shorter time period, and the cash received is again invested into these assets; hence, it is constantly receiving or circulating. Therefore, working capital is one of the most important measurements of the financial position, which according to Senthilnathan (2020), constitutes the nerve centre of any business entity. Ogbanje (2025) remarked that working capital also represents short-term financing for firms, especially where adequate equity financing and retained earnings are illusive. This submission necessitates the need for the careful management of working capital in every business organization with value maximization objective.

Thus, the need for working capital and its management, which involves financing and controlling the current assets of a firm cannot be overemphasized, especially in production enterprises (John-Akamelu et al., 2017). Production firms due to their function possess large investments in working capital assets, and therefore, the

success of these companies depend largely on proper financing or management of working capital (Enow and Brijlal, 2014). Working capital management involves the ability of a company to manage its current assets and current liabilities in a more efficient manner that provides maximum return on assets and earnings (Vătavu, 2015). Sound working capital management policies improve firms' financial performance and market value; on the other hand, the negligence of working capital management may lead to operational challenges '(Ogbanje and Tor, 2022).

The performance of the Nigeria's agricultural sector has attracted considerable attention since independence because of its potentials for rapid economic growth –(Osabohien et al., 2022). Particularly, a growing downstream agribusiness sector reduces poverty through wealth creation and employment generation (Sadiq and Sani, 2022). According to Israel (2022), agribusiness sector plays a vital role in stabilizing economic activities and also serves as the tool for achieving economic growth and development in terms of employment generation, export, enhance economic performance and sources of foreign exchange earnings. This is done through all the operations involved in the manufacturing and distribution of farm supplies, production operations on the farm and the processing and distribution of commodities (Akpan et al., 2019). Agribusiness divides the structural components of the production process into sub-structures. The substructures of this sector are the input, farm productions, processing/distribution and marketing of processed products. This concept implies the process by which corporate firms supply agricultural inputs or purchase farm outputs and process them for onward distribution in an integrated pattern.

Performance evaluation of a company is usually related to how well a company can use its assets, stake-holder equity and liability, revenue and expenses —(Konak,

2015). Performance is a subjective measure of how well a firm can use assets from its primary mode of business and generate revenues (Vijayakumaran, 2018). The term performance is also used as a general measure of a firm's overall financial health over a given period of time and can be used to compare similar firms across the same industry or to compare industries or sectors in aggression (Adongo et al., 2020).

In the short-run, businesses strive towards adequate gross earnings. Thus, an efficient management of working capital is targeted at gross earnings before interest and taxes are posted. According to –Hong and Thao (2021) submitted that earnings management is one of the most effective information channels when users intend to access the quality of financial statement information. Earnings management occurs because managers participate in activities that generate costs and revenues in order to adjust profits to achieve the goals and business strategies of an enterprise and other business activities and shareholders.

Tight monetary policy measures are strangulating firms in Nigeria (Ogbanje, 2025). In addition, the ineffectiveness of working capital management can translate of corporate bankruptcy '(Mache and Omodero, 2021). From a similar perspective, Mengstie et al. (2024) emphasised that unless firms manage their working capital efficiently, they would be unable to respond to respond timely to unanticipated economic challenges.

A growing agribusiness sector reduces poverty through wealth creation and employment generation. Despite these potentials, the performance of Nigeria's agribusiness sector has been declining over the years exemplified in limited returns on the resources employed (Mengstie et al., 2024). The hindering factors include inefficient working capital management of Nigerian agro companies, which has led to loss of profits owing

to high bad debts, over/under stocking; liquidity problem; inability to expand; financial losses; vulnerability to liquidation and insolvency.

Innocent et al. (2014) found that food and beverages manufacturing firms in Nigeria are facing problems with their collection and payment policies as well as not paying attention to inventory levels. These have negatively affected profitability of the agricultural related firms and in turn have affected the value of the said companies. Neema et al. (2023) reported that food and beverages manufacturing firms in Nigeria have failed to properly plan and control the working capital of their respective firms. Erhijakpor (2021) stated that failure of food and beverages manufacturing firms in Nigeria do not properly plan and control their working capital which was partly connected to the inability of the Nigerian capital and money markets to meet the financial needs of these firms.

Adaramola and Dada (2020) added that the mismanagement of working capital by food and beverages manufacturing firms in Nigeria have led to the failures of these firms and frustrated most of them out of operations. Gambo (2020) indicated that the food and beverages manufacturing firms in Nigeria have lost some of their valuable staff while some employees have refused to work cooperatively with other staff, in other departments or units within the organization due to inefficient working capital management. As a result of these problems, coordination of activities becomes difficult and achievement of the overall organizational goals unattainable.

A number of researchers have carried out various studies on firms' working capital management across the globe. For example, Muis et al. (2021) analyzed the effect of earning, change in account payable, and change in account receivable on predicting future operating cash flows (Case Study on food and beverage companies listed in

Indonesia Stock Exchange). Agegnew (2019) analysed the effect of working capital management on profitability among manufacturing and merchandising companies in Hawassa City administration. Oranefo and Egbunike (2023) ascertained the nexus of accounts payable turnover and firm performance of quoted manufacturing firms in Nigeria. None of these studies examined the nexus between working capital management and earnings before interest and tax as a proxy for performance of agribusiness firms in Nigeria. This presents a research gap that this study seeks to address.

2.0 Objectives of the Study

The specific objectives wre to:

i. determine the mean and coefficient of variation of working capital management and earnings before interest and taxes among agribusiness enterprises in Nigeria
ii. estimate the trend of working capital management and earnings before interest and taxes among agribusiness companies in Nigeria and
iii. estimate the long-run relationship between working capital management and earnings before interest and taxes among agribusiness companies in Nigeria.

It was hypothesised that working capital management has no significant effect on earnings before interest and tax

3.0 Methodology

The study area is Nigeria, Africa's most populous country. It is Africa's largest economy (Ismail and Kabuga, 2016), with an estimated population of 200 million. The country is located between latitudes 4°16' and 13°53' north and between longitudes 2°4' and 14°4' east. It also has a highly diversified agro-ecological climatic condition ""(Hamzat et al., 2006; Ogbanje and Salami, 2022). Agriculture remains the

bedrock of the economy.

Data Collection

Secondary data were used for the study. Precisely, panel data were collected from the financial statements of the selected companies. The companies were listed on the Nigerian Stock Exchange. Working capital management was proxied by accounts receivable, accounts payable, cost of sales and inventory and used as independent variables. The dependent variable was earnings before interest and tax. The data were collected from 11 firms for 10 years, leading to a sample of 110 firm-years.

Variable/Model specification

Variable specification

Variables for the study were specified as follows:

Accounts receivable was measured in naira billions

Accounts payable was measured in naira billions

Cost of sales and inventory was measured in naira billions

Earnings before interest and tax was measured in naira billions

Model specification

Panel data regression

$$lnebit_{it} = \beta_0 + \beta_1 acrcv_{it} + \beta_2 acpay_{it} + \beta_3 cos_{it} + \beta_4 invt_{it} + \varepsilon_{it}$$

where,

lnebit = log of earnings before interest and tax

lnacrcv = log of accounts receivable

lnacpay = log of accounts payable

lncos = log of cost of sales

lninvt = log of inventory

i = panel data notation for longitudinal data

t = denoted time series.

4.0 Results and Discussion

4.1 Levin-Lin-Chu unit-root test

The analysis of the unit roots test using the Levin-Lin-Chu approach is presented in Table 1. The null hypothesis for the LLC panel unit root test is that the variable has unit root (i.e. with individual unit root process). The results show the variables were integrated of order one at first difference, indicating absence of unit roots *cum* desirability for reliable regression results. In other words, the regression results would no longer be spurious or producing misleading estimates.

Table 1: Levin-Lin-Chu unit-root test

	Levels		1st difference	
Series	Adjusted t*	P-value	Adjusted t*	P-value
Lnebit	-0.9153	0.1800	-3.0054	0.0013***
lnacrcv	-2.5690	0.0051	-5.1457	0.0000***
lnacpay	1.0171	0.8455	-10.7988	0.0000***
Lncos	0.1106	0.5440	-9.9985	0.0000***
Lninvt	-0.6689	0.2518	-9.9195	0.0000***

4.2 Pedroni test for cointegration

The results of the Pedroni test for cointegration in Table 2 has three dimensions namely, Modified Phillips-Perron, Phillips-Perron and Augmented Dickey-Fuller tests. The t-statistics (4.2945, -5.9083 and -1.6925) for the three dimensions of Pedroni's test respectively were statistically ($p<0.01$, 0.05). In other words, all panels were cointegrated. Thus, a long-run relationship among the variables can be inferred. In the long-run, working capital would be relevant to earnings before interest and tax of agribusiness companies in Nigeria. Kollie (2020) and Ogbanje (2025) used Pedroni's test for cointegration to establish the truthfulness of a long-run relationship.

Table 2: Pedroni test for Cointegration

Pedroni cointegration test parameters	Statistic	P-value
Modified Phillips-Perron t	4.2945	0.0000
Phillips-Perron t	-5.9083	0.0000
Augmented Dickey-Fuller t	-1.6925	0.0453

Ho: No cointegration
Ha: All panels are cointegrated

4.3 Long-run relationship between working capital management and EBIT (Fixed and Random effects)

The analysis of the fixed and random effects of working capital management on firm performance is presented in Table 3. The Hausman's specification test was conducted to guide the selection of the fixed or random effects model. The null hypothesis is that the random effects is the preferred model. Since the Chi-square statistic (2.03) for the Hausman's specification is not significant, the null hypothesis cannot be rejected. Hence, the estimation of the random effects was considered as more appropriate. This decision is in line with Kalita and India (2013), Janssen (2018) Olaoye and Dada (2021) and Ogbanje (2025). The logic behind the use of random effects model is that, it is different from the fixed effects model in a way that it assumes deviation across individuals randomly and not correlated with the independent variables incorporated in the model (Olaoye and Dada, 2021).

The results of the RE model further showed that the z-statistic (2.31) of accounts payable was statistically significant ($p<0.05$). This implied that accounts payable had significant effect on the earnings before interest and tax of agribusiness companies in Nigeria. The coefficient (0.8749) was positively signed, indicating that a 10 percent increase in accounts payable would increase the probability raising earnings before interest and tax by 8.75 units. Where equity financing is deficient, firms resort to external or debt

financing such collecting goods and services for payment at a future date. Proper management of account payable is of utmost importance to basic financial health and performance of a firm. It is an indication of good credit management in both large and small business organisations.

The finding is in line with Ogbanje (2025) that accounts payable has significant and positive effect on the financial performance (turnover) of agribusiness firms in Nigeria. The finding is also in line with Mburu and Warui (2023) who found a positive, high and statistically significant ($p<0.01$) correlation between financial success and the management of accounts payable of Microfinance Institutions in Kenya. Anorue and Ugwoke (2022) emphasised that trade credit can be an effective technique for growing businesses because account payable terms reduce the liquidity strain which a prompt payment would impose. Short-term financing model reduces a company's capital needs. However, the result is at variance with Ikechukwu and Nwakaego (2015) that accounts payable ratio had negative and significant effect with the profitability ratio of food and beverages manufacturing companies in Nigeria. the finding is also controverted Oranefo and Egbunike (2023) who found a non-significant positive effect of the accounts payable turnover ratio on ROA ($p=0.9729$) and ROE ($p=0.2669$).

Table 3: L ong-run relationship between working capital management and EBIT (Fixed and Random effects)

	Fixed effect			Random effect		
	Coefficient	Standard error	t-ratio	Coefficient	Standard error	t-ratio
Constant	1.1402	13.0983	0.09			
lnacrcv	-0.5335	0.3783	-1.41	-0.4587	0.3441	-1.33
lnacpay	0.7306	0.4010	1.82	0.8749	0.3784	2.31**
Lncos	0.6303	0.7692	0.82	0.5689	0.4460	1.28
Lninvt	-0.0793	0.3768	-0.21	0.0139	0.3578	0.04
R-square	0.2545			0.2698		
F(4,95)	1.35					
Prob>F	0.2564					
Wald chi2(3)				14.28		
Prob>chi2				0.0065		

Hausman (fixed random) specification test
Test: Ho: difference in coefficients not systematic
$Chi^2(4) = (b-B)'[(V_b - V_B)^{(-1)}](b-B) = 2.03$
$Prob>chi^2 =$ 0.7306

Hypothesis

From the results in Table 3, the Hausman's specification test recommended the random effect (RE) model as the most appropriate model. Hence, the test of hypothesis for the study was based on the RE model. In the RE model, the Wald chi-square statistic (14.28) was statistically significant ($p<0.01$). Thus, the study rejected the null hypothesis that working capital management has no significant effect on the earnings before interest and tax of agribusiness companies in Nigeria. Firms in Nigeria have always needed short-term financing such as trade credits. Ogbanje (2025) noted that the inability of agro-firms to rely wholly on equity financing is evidenced in several empirical works on the agriculture that decry inadequate credit.

The coefficient of determination, represented by the R-square for the RE model was 0.2698. This implied that the selected working capital management indicators accounted for 26.98 percent of the variations in earnings before interest and tax of the companies. Variables outside the model would be responsible for the remaining 73.02%. In a rapidly changing or volatile economic environment like Nigeria, there can always be emerging issues that affect the earnings of companies in the agricultural industry.

5.0 Conclusion and Recommendations

5.1 Conclusion

The study concluded that agribusiness companies in Nigeria are highly dependent on trade credit. The companies also indulge credit sales. Accounts payable significantly increased earnings before interest and tax among agribusiness companies in Nigeria.

5.2 Recommendations

Based on the findings of the study, it was recommended that:

i. companies in the agribusiness industry should raise their earnings before interest and tax above the investment;

ii. the boards of agribusiness companies in Nigeria should manage the earnings before interest and tax in a manner to achieve acceleration; and

iii. while minimizing the impact of cost of capital, managers of agribusiness companies should cautiously raise accounts payable to achieve greater earnings before interest and tax.

References

Adaramola, O. A. and Dada, O. (2020). Impact of inflation on economic growth: Evidence from Nigeria. *Investment Management and Financial Innovations*, *17*(2): 1–13. https://doi.org/10.21511/imfi.17(2).2020.01

Adetunji, O. M. and Owolabi, A. A. (2016). Firm Performance and Its Drivers: How Important Are the Industry and Firm-Level Factors? *International Journal of Economics and Finance*, *8*(11): 60. https://doi.org/10.5539/ijef.v8n11p60

Adongo, S. O., John, S. O., Zeph, P. and Muyima, R. N. (2020). Impact of Monetary Policy on the Performance of Agricultural Sector in Kenya. *International Journal of Research and Innovation in Social Science*, *4*(7): 562–568.

Agegnew, A. (2019). The Effect of Working Capital Management on Profitability : The Case of Selected Manufacturing and Merchandising Companies in Hawassa City Administration. *Research Journal of Finance and Accounting*, *10*(1): 51–85. https://doi.org/10.7176/RJFA

Akpan, S. B., Udo, U. J. and Akpan, P. J. (2019). Analysis of the gross margins and commercialization of manure and fertilizer based water leaf (Talintan triangulare) farmers in Nigeria. *Agricultural and Resource Economics-International Scientific E-Journal*, *5*(4): 5–31.

Ali, M. and Ali, S. B. (2014). *The Impact of Working Capital Management on Firm Profitability and Fixed Investment in Pakistan. Munich Personal RePEc Archive Working Paper No. 64520* (Issue 64520). https://mpra.ub.uni-muenchen.de/64520/

Anene, J. I., Edeh, L. S. and Odubuasi, A. C. (2023). Effect of working capital management on the financial performance of firms in Nigeria. *TUJAMSS*, *8*(1): 186–204.

Anorue, H. C. and Ugwoke, E. O. (2022). Management of Account Receivable and Payable for Improved Financial Performance of Small Scale Industries in Imo State , Nigeria. *International Journal of Research and Innovation in Social Science (IJRISS): 6*(4): 100–107. https://doi.org/10.47772/IJRISS.2022.6408

Chesang, D. and Ayuma, C. O. (2016). Effect of financial leverage on profitability of

listed agricultural firms at the Nairobi Securities Exchange. *International Journal of Economics, Commerce and Management*, *IV*(12): 445–493.

David, John-Smith. (2011). *An Analysis of the Capital Structure Determinants and Financing Behaviour of New Zealand Firms. A thesis presented in partial fulfilment of the requirements for the degree of Doctor of Philosophy in Finance at Massey University, Manawatu, New Zealand*.

Enow, S. T. and Brijlal, P. (2014). The effect of working capital management on profitability : The case of Small Medium and Micro Enterprises in South Africa. *Journal of Accounting and Management*, *4*(2): 7–16.

Erhijakpor, A. E. . (2021). Financial Depth Indicators and Agricultural Sector Performance in Nigeria. *International Journal of Intellectual Discourse*, *4*(4): 268–282.

Gambo, M. (2020). Managing Post Harvest Losses for Improved Food Security in Nigeria: a Conceptual Review. *International Journal of Management Studies and Social Science Research*, *2*, 116–123. www.ijmsssr.org

Hamzat, R. A., Olaiya, A. O., Sanusi, R. A. and Adedeji, A. R. (2006). State of Cocoa growing, Quality and research in Nigeria: need for intervention. In *The Biannual Patnership Programme of the World Cocoa Foundation (WCF)* (pp. 2–9).

Hong, N. T. P. and Thao, N. T. V. (2021). Impacts Of Sales Expense and Administrative Cost Stickiness on Earnings Management – Empirical Evidence from Vietnam. *Management*, *25*(2): 0–3. https://doi.org/10.2478/manment-2019-0080

Ibeawuchi, C. I. and Osuala, A. E. (2020). Risk attitude and risk management strategies among agribusiness entrepreneurs: Case study of cocoa farmers in Abia State, Nigeria. *Nigerian Agricultural Journal*, *51*(3): 178–184.

Igoni, S., Egbo, O. P. and Onwumere, J. U. J. (2021). Causal of Financial Deepening and the Agricultural Credit Guarantee Scheme Funding in Nigeria. *International Journal of Innovative Science and Research Technology*, *5*(10): 914–923.

Ikechukwu, O. I. and Nwakaego, D. A. (2015). The Effect of Accounts Payable Ratio on the Financial Performance of Food and Beverages Manufacturing Companies in Nigeria . *Journal of Research in Business and Management*, *3*(9): 15–21.

Innocent, C., Ikechukwu, C. and Nnagbogu, E. K. (2014). The Effect of Financial Leverage on Financial Performance: Evidence of Quoted Pharmaceutical Companies in Nigeria . *Journal of Economics and Finance*, *5*(3): 17–25.

Ismail, A. A. and Kabuga, N. A. (2016). Impact of Agricultural Output on Economic Growth In Nigeria Using ARDL Econometric Approach. *Nigerian Journal of Agricultural and Development Economics (NIJADE): 6*(1): 127–138.

Israel, B. (2022). The Role of Co-operative Societies in Supply Chain of Agricultural Products : A Review of Literature. *Journal of International Trade, Logistics and Law*, *8*(2): 69–77.

Janssen, V. (2018). *The effect of agricultural commercialization on food security: The case of crop producing households in post-reform Vietnam, MSc Thesis Development Economics* (Issue 930624397040). Wageningen University.

John-Akamelu, R. C., Chelichi, I. F. and Ezejiofor, R. A. (2017). Leverage and financial performance: Evidence from Nigerian food production firms. *European Journal of Research and Reflection in Management Sciences*, *5*(4): 1–11.

Kalita, G. and India, R. T. (2013). *Panel Regression in Stata*.

Kollie, G. B. (2020). Retesting the Export-Led Growth Hypothesis: A Panel Data Analysis. *African Journal of Economic Review*, *8*(2): 258–275.

Konak, F. (2015). The Effects of Marketing Expenses on Firm Performance: Empirical Evidence from the BIST Textile, Leather Index. *Journal of Economics, Business and Management*, *3*(11): 1068–1071. https://doi.org/10.7763/joebm.2015.v3.335

Mache, V. O. and Omodero, C. O. (2021). Working Capital Management and Firms ' Profitability (A Study of Selected Consumer Goods Manufacturing Companies in. *Acta Universitatis Danubius*, *17*(5): 182–205.

Mburu, M. P. and Warui, F. (2023). Effect of accounts payables management on financial performance of micro finance institutions in Kenya. *International Journal of Social Science and Humanities Research*, *11*(4): 341–347.

Mengstie, B., Mosisa, T. and Mosisa, T. (2024). Impact of working capital management on profitability of private commercial banks in Ethiopia. *Journal of Innovation and Entrepreneurship*, *13*(23): 1–18. https://doi.org/10.1186/s13731-024-00379-3

Muis, M. A., Wanialisa, M. and Yusdianto, M. (2021). *The Effect of Earning , Change in Account Payable , and Change in Account Receivable on Predicting Future Operating Cash Flows (Case Study on Food and Beverage Companies Listed in Indonesia Stock Exchange)*. *2*(1): 1–8.

Neema, N., Nyakundi, A. and Mulegi, T. (2023). Impact of Accounts Receivable Management on the Financial Performance of SACCOS in Sheema Municipality , Southwestern Uganda. *Idosr Journal of Humanities and Social Sciences*, *8*(2): 1–8.

Ogbanje, E. C. (2025). Effect of Working Capital Management on the Financial Performance of Agribusiness Firms in Nigeria: A Panel Data Approach. *International Journal of Agricultural Economics, Management And Development (IJAEMD): 13*(1): 1–16.

Ogbanje, E. C. and Salami, A. O. (2022). Impact of Foreign Direct Investment on Nigeria's Agricultural Sector (1981 to 2019). *International Journal of Environment, Agriculture and Biotechnology*, *7*(4): 161–171. https://doi.org/10.22161/ijeab

Ogbanje, E. C. and Tor, I. E. (2022). The Agricultural Sector and Nigeria's Economic Growth: A vector error correction model approach. *Journal of Agripreneurship and Sustainable Development*, *5*(2): 61–71.

Olaoye, F. O. and Dada, O. D. (2021). Effect of capital structure on agro-allied companies in Nigeria. *International Journal of Management*, *12*(1): 1536–1553. https://doi.org/10.34218/IJM.12.1.2021.136

Oranefo, P. C. and Egbunike, C. F. (2023). Accounts Payable Turnover and Firm Performance of Quoted Manufacturing Firms in Nigeria. *International Journal of Accounting and Management Information Systems*, *1*(1): 45–65.

Osabohien, R., Mordi, A. and Ogundipe, A. (2022). Access to credit and agricultural sector performance in Nigeria. *African Journal of Science, Technology, Innovation and Development*, *14*(1): 247–255. https://doi.org/10.1080/20421338.2020.1799537

Sadiq, S. M. and Sani, B. S. (2022). Livelihood Status of Paddy Rice Agro-Processors that Benefitted from Microfinance Credit in Jigawa State of Nigeria. *Bozok Journal of Agriculture and Natural Sciences*, *1*(2): 71–94.

Senthilnathan, S. (2020). Working Capital Management. *SSRN*, 1–20. https://doi.org/10.2139/ssrn.3578141

Takon, S. M. and Atseye, F. A. (2015). Effect of working capital management on firm profitability in selected Nigerian quoted companies. *International Journal of Economics, Commerce and Management*, *III*(10): 414–438.

Vătavu, S. (2015). The Impact of Capital Structure on Financial Performance in Romanian Listed Companies. *Procedia Economics and Finance*, *32*(15): 1314–1322. https://doi.org/10.1016/s2212-5671(15)01508-7

Vijayakumaran, R. (2018). Capital Structure Decisions and Corporate Performance: Evidence from Chinese Listed Industrial Firms. *International Journal of Accounting and Financial Reporting*, *7*(2): 562. https://doi.org/10.5296/ijafr.v7i2.12455