

Working Capital Management and Import Financing Challenges Among Chemical and Allied Raw Material Distributors in Nigeria

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Abstract: Chemical and allied raw material distributors in Nigeria operate at the difficult intersection of two persistent pressures: the working capital demands of a business built on holding large stocks of imported inputs and extending credit to downstream manufacturers, and the escalating cost and complexity of financing those imports through a banking system now charging historically high interest rates. Nigeria's Monetary Policy Rate rose from 11.5 percent in 2021 to 27.25 percent by the end of 2024, while the Cash Reserve Ratio climbed to 45 percent over the same period, sharply raising the cost of the trade loans, overdrafts, and letters of credit that distributors rely on to bridge the gap between paying foreign suppliers and collecting from local customers. At the same time, foreign exchange scarcity between 2023 and 2024 slowed the issuance of letters of credit and eroded supplier confidence in Nigerian trade instruments, even though value of letters of credit issued nationally later rebounded by 33.3 percent between the January-August 2024 and January-August 2025 periods as liquidity improved. The problem this study addresses is how distributors reconcile the working capital cycle inherent in chemical distribution, long inventory holding periods and extended customer credit, with an import financing environment that has become simultaneously more expensive and, at times, less reliable. The objective of the study is to examine the relationship between working capital management practices and import financing challenges among chemical and allied raw material distributors in Nigeria. The study adopts a quantitative research design based on secondary time-series data compiled for 2018 to 2026 from the Central Bank of Nigeria's monetary policy records, trade finance statistics, and the aggregated financial results of listed Nigerian commodity chemicals companies. Descriptive statistics, trend analysis, and Pearson correlation were used to examine the relationship between the cost of finance and industry profitability. The findings reveal a strong positive statistical association between the Monetary Policy Rate and the net profit margin of listed chemical distributors, driven primarily by aggressive cost pass-through rather than improved working capital efficiency, alongside evidence that import financing activity, while recovering in value, remains constrained by documentation delays and foreign exchange uncertainty. The study concludes that working capital management in this sub-sector has become reactive rather than strategic, and recommends that distributors adopt structured inventory optimisation, diversify financing instruments beyond bank overdrafts, and that regulators simplify and speed up trade documentation processes for critical raw material imports.

Keywords: Working Capital Management; Import Financing; Cash Conversion Cycle; Monetary Policy Rate; Letters of Credit; Chemical and Allied Raw Material Distributors; Nigeria.

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I. INTRODUCTION

➤ Background to the Study

Chemical and allied raw materials distribution is a capital intensive industry at the heart of Nigeria industrial supply chain, which is located between international chemical producers and thousands of downstream manufacturing companies in the paint, plastics, detergent, food, pharmaceuticals and agrochemical industry. Many companies in this segment, including well-established

companies like Nigerian-German Chemicals Plc, have to carry large stocks of imported resins, solvents and specialty chemicals to ensure uninterrupted supply, provide manufacturing customers with credit facilities, whose credit is limited, and pay foreign suppliers quickly, sometimes even before supply, to maintain credit lines. This will make working capital management, which involves managing everyday inventory, receivables, payables, and cash, a critical factor in the survival of the firm, not a peripheral finance

function, as it normally would be (Olabisi, 2021; Barine, 2022).

Since 2022 the funding of this working capital has become a lot more difficult. The Central Bank of Nigeria (CBN) increased its benchmark Monetary Policy Rate from 11.5 percent to 16.5 percent in 2022, 18.75 percent in 2023, and finally 27.25 percent by the end of 2024, while the Cash Reserve Ratio (CRR) was increased from 27.5 percent to 45 percent during the same period (CBN, 2025b). Distributors rely on overdrafts, trade loans and letters of credit to finance the lag between paying foreign suppliers and receiving income from domestic buyers and this has become much more expensive with the currency rates being based on the MPR. How compounded this is, the unification of the Nigeria foreign exchange market in the mid-2023 period that was aimed at enhancing transparency instead generated a foreign exchange backlog that reduced suppliers' confidence in Nigerian foreign exchange letters of credit, and stretched the CBN's processing time for the issuance of foreign exchange letters of credit from 24 hours to five working days (Nairametrics, 2023; FurtherAfrica, 2025). Recently, however, there has been a recovery in the value of letters of credit issued in Nigeria, which increased by 33.3 per cent from N453.91 million during the last six months of 2024 to reach N605.01 million in the same period of 2025 (AllAfrica, 2025).

This has resulted in a working capital-intensive business model, and a more costly and less reliable available import financing environment, which leads to the empirical puzzle this study attempts to answer: How are chemical and allied raw material distributors coping with this balance between extending credit and holding stock and the escalating cost of the financing instruments that enable them to do so?

➤ *Problem Statement*

This study is motivated by three problems. Firstly, the chemical distribution industry is cash-intensive because of its long inventory holding period for imported specialty chemicals and its extended receivables period extended to manufacturing customers, with Nigerian empirical findings relating cash conversion cycle length with profitability of the companies being mixed, some findings show positive relationship (Olaoye & Okunade, 2020; Mohammed & Yusuf, 2022, as cited in scholarly compilations) while others found negative or insignificant relationship, and thirdly, the industry is structurally cash-intensive as it is characterized by the length of the working capital cycle. Second, the cost of the import financing instruments that the distributors use the most, namely overdrafts, trade loans, and letters of credit, has increased significantly as the Monetary Policy Rate virtually doubled from 2021 to 2024, which limits the margin for the cost of working capital financing. Third, import financing itself has at times been less predictable or reliable, as foreign exchange backlogs and documentary processing time are affecting the predictability that working capital planning demands (Nairametrics, 2023). A lack of a more empirical understanding of how these pressures play out implies that both financial strategies at the firm level and policy measures

for easing access to trade finance for SMEs and distributors may not be optimally designed.

➤ *Objectives of the Study*

The broad objective of this study is to examine the relationship between working capital management and import financing challenges among chemical and allied raw material distributors in Nigeria. The specific objectives are to: (i) assess the trend in the cost of import financing in Nigeria, as reflected in the Monetary Policy Rate and Cash Reserve Ratio, between 2018 and 2024; (ii) evaluate the trend and reliability of import financing activity, as reflected in the value of letters of credit issued; and (iii) determine the relationship between the cost of finance and the working capital-linked profitability of listed chemical distribution firms in Nigeria.

➤ *Research Questions*

The study addresses three questions: What has been the trend in the cost of import financing in Nigeria, as measured by the Monetary Policy Rate and Cash Reserve Ratio, between 2018 and 2024? How has the value and reliability of letters of credit as an import financing instrument evolved in recent years? What is the relationship between the rising cost of finance and the profitability of chemical and allied raw material distributors in Nigeria?

II. CONCEPTUAL FRAMEWORK

This section defines the core concepts examined in the study and explains how they relate to one another.

➤ *Working Capital Management*

The management of working capital involves the policies and decisions made about the firm's current assets and current liabilities, which are primarily inventory, accounts receivable, accounts payable and cash, with the goals of making sure the firm has sufficient current assets to cover its current liabilities, and of maximizing profit (Barine, 2022; Olabisi, 2021). It is frequently translated into the cash conversion cycle, which is the number of days that a company takes to convert its inventories into cash, understood as (inventory days + receivable days) - (payable days). An efficient cash conversion cycle will help reduce the need for borrowing or financing of the firm, hence the firm will be more dependent on the cost of capital, while a long cash conversion cycle, even though it may be an intentional decision to extend credit to customers to build customer loyalty, will lead to greater borrowing requirement and exposure to the cost of capital (Amponsah-Kwatiah & Asiamah, 2021).

➤ *Import Financing Challenges*

Import financing problems involve when firms have trouble getting at reasonable cost and in reasonably short time the financial instruments they require to pay foreign suppliers for imported goods. The Nigerian context consists of the increasing cost of borrowing in Nigerian bank (in Naira) as seen in the Monetary Policy Rate (MPR); the opportunity cost associated with a high Cash Reserve Ratio (CRR) that limits loanable funds available to commercial banks; documentary

delays and bottlenecks in the issuance of Letters of Credit (LOC); other statutory trade instruments such as Form M; and, occasionally, sheer foreign exchange scarcity at the official window which forces importers to seek dollars in the parallel market at higher cost (Nairametrics, 2023; Kudicompass, 2026). While exchange rate risk is not the same as the difficulty of financing imports, it is a close cousin, as a firm can have the difficulty of financing imports even if its domestic cost or availability of trade credit is limited.

➤ *Firm Performance in a Working Capital Context*

This study focuses specifically on the performance of firms in terms of working capital efficiency and its financial impact - in this case net profit margin - because these are the metrics that are directly related to how quickly firms increase financing costs, whether by boosting efficiency in their finances, inventories and receivables, or by increasing prices. This framing makes this study different from the firm performance studies that only look at the overall profit or market value of the firm and focuses attention on the specific way in which working capital decisions and import financing costs together affect the bottom line.

➤ *Interrelationship of Working Capital Management and Import Financing Challenges*

The working capital structure of a distributor dictates the level of inventory he carries and how much credit he extends, and, in turn, these dictate the amount of external financing he needs; the nature of the external financing he secures is determined by the overall economy of import financing, which is in turn influenced by the Monetary Policy Rate, the Cash Reserve Ratio, and the functioning of trade instruments like Letters of Credit; and the interaction of the two factors ultimately determines the performance of the firm, with those firms whose working capital structures are tight and who diversify their financing sources being best able to withstand a challenging import financing environment.

III. THEORETICAL REVIEW

➤ *Cash Conversion Cycle Theory*

In 1980, Richards and Laughlin presented the Cash Conversion Cycle (CCC) theory as a means of assessing the short-term liquidity management of a firm by measuring the time lag between cash outflows for raw materials and cash inflows from the sale of finished goods. Its principle is that working capital efficiency should be evaluated in a dynamic way, as it is a cash flow between inventory, receivables and payables, not static, as the current ratio only. The cycle is the length of inventory conversion period + receivables collection period minus the payables deferral period; the shorter the cycle the better, of course, and the shorter, the better, for a firm that holds inventory for a shorter period of time and collects from customers more quickly than the length of time that they take to pay the firm for its own goods and services.

It has intuitive logic and a cash-flow based rationale that is directly applicable to business, particularly chemical distributors, for whom the timing of cashflows between the

sale to the domestic market and the payment of foreign suppliers is a key operational problem. The empirical findings of the theory in Nigeria have shown mixed results, some studies have revealed that Cash Conversion Cycle (CCC) and firm profitability is negatively correlated, which implies that the shorter the CCC, the higher the firm's profitability as the theory suggests (consistent with the theory's prescription), while other studies have revealed that the relationship between Cash Conversion Cycle (CCC) and firm profitability is statistically insignificant, which is attributed to the limited firm sales volume compared to the cost of carrying inventory and receivables, or deliberately extending credit as a competitive strategy despite the 'liquidity cost' (Cash Conversion Cycle and Firm Performance in Nigeria, 2022; Working Capital Management and Performance of Listed Manufacturing Companies in Nigeria, 2024). One of the flaws of the theory is that it assumes that a shorter receivable cycle is invariably better, but that isn't always the case: sometimes, it is desirable to extend receivables, such as when scarce imported inputs are being acquired, or to hold a higher inventory such as when manufacturing customers are chosen over other potential customers due to the ability to offer them more favorable credit terms. The theory, originally formulated in a stable financial market like the US, which is not subject to the additional volatility of currency risk and financing costs, also lacks explicit consideration of this added complexity of an economy like Nigeria's, where the true cost of extending the cycle by a few weeks can vary widely depending on interest rates and exchange rates. In the case of this study the relevance of CCC theory lies in the fact that it explains how some firms, namely chemical distributors, with a relatively long operating cycle and who, as their business involves a large inventory of imported products and a significant level of meaningful trade credit, are structurally more exposed to the cost of trade finance than firms with relatively shorter operating cycles, and how inventory and receivables management can be regarded as first-order responses available to the firms in a tougher import finance environment.

➤ *Pecking Order Theory*

As an alternative to static trade-off theories of the capital structure, Pecking Order Theory (POT) was propounded by Stewart Myers in 1984, and jointly developed by Myers and Majluf (1984). The basic idea is that firms don't try to seek an optimum ratio of debt to equity but instead would finance their operations in order of preference based on information asymmetry and relative cost of each financing source; firms would use internal funds first, because they carry no signalling cost; external debt would be the next preferred form of financing, as it is less sensitive to the information gap between the firm's managers and outside investors; and equity finally, because it is the financing source that is most likely to be interpreted by the market as a signal that management is wrongly valuing the firm's shares.

A major contribution in the strength of Pecking Order Theory is its tight correlation with the observed behaviour of SMEs, especially trading and distribution companies, in emerging markets, where equity markets are shallow, information asymmetries between the companies and its

financiers are high, and supplier credit often replaces formal bank debt (Pecking Order Theory and Financing Decisions, 2025). Partial support for the theory is found in Nigeria: capital structure of Nigerian SMEs differs significantly among profitability, size, and sector, as more profitable firms use more retained earnings, and less external debt, which was predicted by the theory (Adebiyi, Olowolaju, & Onifade, 2023). The theory has limitations, such as the failure to explain how companies with a target leverage ratio for tax or signalling motives make decisions on leverage, and its relative neglect of trade credit as a financing option between purely internal financing and formal bank loans, trade credit from foreign suppliers being one of the most important financing options available to import-dependent distributors. It is also noted that the theory assumes that the hierarchy of financing choices is available to the firm; in Nigeria, that may not be the case, because factors such as the lack of collaterals, the high real interest rate and periodic foreign exchange shortage may impede the debt option before the firm decides, therefore making a pecking order theory constraint rather than managerial (Pecking Order Theory and Financing Decisions, 2025). This theory is relevant to the present study because, as interest on bank borrowing has increased over time and the cost of bank borrowing has gone up, chemical distributors should be expected, on a rational basis, to turn to relatively cheaper sources of finance—namely, internal finance, extended supplier credits and delayed payment to suppliers—rather than the immediate resort to additional formal bank borrowing.

➤ *Empirical Review*

The conceptual and theoretical frameworks above establish, in principle, how working capital management and import financing challenges are expected to relate to firm performance. This section reviews prior empirical studies relevant to these constructs, examining each study's objectives, methodology, and findings, together with its strengths and weaknesses, before identifying the specific gap in the literature that the present study addresses.

➤ *Empirical Review of Related Studies*

Amponsah-Kwatiah and Asiamah (2021) examined the relationship between working capital management and profitability among listed manufacturing firms in Ghana, aiming to determine whether the components of the cash conversion cycle significantly predicted firm profitability. The study adopted a quantitative panel design, using secondary financial statement data from listed manufacturing firms over a multi-year period, analysed through panel regression techniques linking inventory, receivables, and payables periods to return on assets. The findings showed that a shorter cash conversion cycle was significantly associated with higher profitability, with inventory holding period identified as the most influential component, consistent with the prescriptions of Cash Conversion Cycle theory. The strength of the study is its rigorous panel-data approach and its direct decomposition of the cash conversion cycle into its constituent parts; its weakness, for the purposes of the present study, is that it is set in Ghana rather than Nigeria, and its manufacturing-firm sample does not capture the distinct dynamics of import-dependent distribution businesses, where

the cash conversion cycle interacts directly with foreign exchange and import financing costs, a gap the present study addresses in the Nigerian chemical distribution context.

Barine (2022) investigated the relationship between working capital management and firm performance among Nigerian manufacturing firms, with the objective of determining whether working capital efficiency indicators significantly explained variation in firm profitability. The study employed a quantitative design using secondary financial statement data from a sample of listed Nigerian manufacturing firms, analysed through correlation and regression techniques linking working capital ratios to profitability measures. The findings revealed a significant relationship between working capital management practices and firm performance, with firms that maintained tighter working capital control recording comparatively stronger profitability outcomes. A strength of the study is its direct focus on the Nigerian manufacturing context, which lends it strong contextual relevance to the present study; its weakness is that it was conducted prior to the sharp 2022-2024 rise in the Monetary Policy Rate and Cash Reserve Ratio, and therefore cannot capture how working capital management practices respond to a rapidly escalating cost-of-finance environment, which is a central concern of the present study.

A 2022 study titled “Cash Conversion Cycle and Firm Performance in Nigeria” examined the relationship between the cash conversion cycle and firm profitability among Nigerian firms, aiming to test whether shorter cash conversion cycles were associated with stronger financial performance as predicted by Cash Conversion Cycle theory. The study used a quantitative design based on secondary financial statement data, analysed through correlation and regression techniques applied to a sample of Nigerian firms over a defined period. The findings were mixed: while some firms exhibited the theoretically expected negative relationship between cash conversion cycle length and profitability, others showed a statistically insignificant relationship, attributed to firm-specific strategic choices such as extending credit deliberately to secure customer loyalty. The strength of the study lies in its direct empirical test of Cash Conversion Cycle theory within the Nigerian context, providing a useful benchmark for the present study's theoretical review; its weakness is that it treats firms generically rather than focusing on an import-dependent sub-sector, and it does not incorporate the cost or availability of import financing as a variable, leaving unexamined how external financing conditions interact with the cash conversion cycle to shape performance, precisely the interaction the present study investigates.

Olabisi (2021) examined whether working capital management affects the profitability of consumer goods manufacturing firms in Nigeria, aiming to determine the extent to which working capital efficiency, as measured by the cash conversion cycle and its components, influenced firm profitability. The study adopted a quantitative design using secondary panel data from listed consumer goods manufacturing firms, analysed through panel regression techniques. The findings indicated that working capital

management significantly affected profitability, with the receivables collection period found to be a particularly influential determinant of firm performance. Its strength lies in its focus on the consumer goods sector, a segment with import exposure comparable to chemical distribution; its weakness is that it examines profitability in the abstract, without linking working capital efficiency to a specific, quantified cost of finance such as the Monetary Policy Rate, which is a defining feature of the present study's approach.

Olaoye and Okunade (2020) studied the relationship between working capital management and profitability among listed manufacturing firms in Nigeria, aiming to establish whether working capital management indicators significantly predicted firm profitability over the study period. The study employed a quantitative design using secondary financial statement data, analysed through regression techniques linking working capital ratios and the cash conversion cycle to return on assets. The findings showed a significant positive relationship between efficient working capital management and profitability, reinforcing the general prescriptions of Cash Conversion Cycle theory. The strength of the study is its direct empirical grounding in Nigerian manufacturing data; its weakness, from the present study's perspective, is that it predates the 2022-2024 monetary tightening cycle and the 2023 foreign exchange unification, and therefore cannot speak to how working capital management responds under conditions of both rapidly rising interest rates and volatile import financing access, the specific empirical setting of the present study.

Adebiyi et al. (2023) tested the applicability of Pecking Order Theory to the capital structure decisions of Nigerian SMEs, aiming to determine whether firm profitability, size, and sector significantly explained variation in the debt-equity choices predicted by the theory. The study used a quantitative design based on secondary financial data from a sample of Nigerian SMEs, analysed through regression techniques linking firm characteristics to capital structure outcomes. The findings showed that more profitable Nigerian SMEs relied more heavily on retained earnings and used comparatively less external debt, a pattern consistent with Pecking Order Theory's predicted financing hierarchy. The strength of the study is its direct, Nigeria-specific test of Pecking Order Theory, providing strong theoretical grounding for the present study's own theoretical review; its weakness is that it examines capital structure choices broadly across SME sectors rather than focusing on the specific working capital and import financing pressures faced by chemical and allied raw material distributors, whose financing decisions are shaped as much by the mechanics of Letters of Credit and foreign exchange access as by the general profitability-leverage relationship the study tests.

A 2025 study titled "Pecking Order Theory and Financing Decisions: Evidence from African Small and Medium-Sized Enterprises" examined the extent to which the financing choices of African SMEs conformed to the hierarchy of preferences predicted by Pecking Order Theory. The study used a quantitative design based on survey and secondary financial data from a sample of SMEs across

African countries, analysed using descriptive statistics and regression techniques linking firm characteristics to financing source preferences. The findings showed general support for Pecking Order Theory, with SMEs relying predominantly on internal funds and trade credit before resorting to formal bank debt, though the strength of this pattern varied depending on firm size and access to collateral. The strength of the study is its explicit empirical test of Pecking Order Theory within African SME contexts, directly relevant to the present study's theoretical framework; its weakness is that it treats African SMEs as a broad category without isolating import-dependent trading and distribution firms, whose financing hierarchy is further complicated by foreign exchange access constraints not faced by purely domestically-trading SMEs, a distinction central to the present study.

A 2024 study titled "Working Capital Management and Performance of Listed Manufacturing Companies in Nigeria" examined the relationship between working capital management practices and the financial performance of listed Nigerian manufacturing companies, aiming to determine which working capital components most strongly influenced profitability in the recent period. The study adopted a quantitative design using secondary financial statement data from listed manufacturing companies, analysed through panel regression techniques covering a recent multi-year period. The findings showed that working capital management practices, particularly inventory management and receivables collection efficiency, had a significant effect on firm performance, with the strength of the relationship appearing to intensify in more recent years of macroeconomic instability. A strength of the study is its relatively recent data coverage, which captures some of the early effects of Nigeria's tightening monetary environment; its weakness is that it examines manufacturing companies broadly rather than a specific, highly import-dependent distribution sub-sector, and it does not explicitly incorporate the Monetary Policy Rate or import financing instruments such as Letters of Credit as variables, both of which are central to the present study's analysis.

➤ Research Gap

Taken together, the empirical studies reviewed above reveal three related gaps in the literature relevant to the present study. First, Nigeria- and Africa-focused working capital studies such as Barine (2022), Olabisi (2021), Olaoye and Okunade (2020), and the 2022 and 2024 studies on cash conversion cycle and firm performance in Nigeria consistently link working capital efficiency to profitability, but each predates or does not explicitly incorporate the sharp 2022-2024 rise in the Monetary Policy Rate and Cash Reserve Ratio, meaning none captures how working capital management behaves under a rapidly escalating cost-of-finance regime. Second, studies that test Pecking Order Theory empirically, such as Adebiyi et al. (2023) and the 2025 study on pecking order theory and financing decisions among African SMEs, confirm that African firms broadly follow the theory's financing hierarchy, but neither isolates import-dependent trading and distribution firms, whose access to the cheapest tier of financing, internal funds and trade credit, is further constrained by foreign exchange

scarcity and Letters of Credit processing delays that do not affect purely domestically-trading SMEs. Third, the comparative study by Amponsah-Kwatiah and Asiamah (2021), while methodologically rigorous in decomposing the cash conversion cycle, is set in Ghana and does not extend to the Nigerian chemical distribution context, where the interaction between working capital cycles and import financing instruments is structurally distinct. Consequently, no identified study jointly examines the trend in the cost of import financing, as measured by the Monetary Policy Rate and Cash Reserve Ratio, the reliability of import financing activity, as measured by Letters of Credit issuance, and the working capital-linked profitability of chemical and allied raw material distributors in Nigeria within a single, recent (2018-2026) empirical framework. This is the empirical gap that the present study addresses: by tracking the Monetary Policy Rate and Cash Reserve Ratio alongside Letters of Credit issuance values and the aggregated profitability of listed Nigerian commodity chemicals companies, and by testing the Pearson correlation between the cost of finance and industry net profit margin, the study provides direct evidence of how working capital management and import financing challenges interact to shape firm performance in a specific, highly import-dependent Nigerian distribution sub-sector, a combination that the studies reviewed above have not, individually or collectively, examined.

IV. METHODOLOGY

The study used a quantitative, ex post facto research design, which was suitable for the study because the monetary policy rates, trade finance values, and financial results of listed firms studied are not variables that can be manipulated in an experiment, but rather are historical and publicly reported data (Vo, Vo, & Zhang, 2019).

The data cover the year of 2018 to 2026 and were culled from three types of secondary sources which were directly correlated to the study objectives. The data for objective (i) – the trend of the cost of import financing, was compiled for the

central bank of Nigeria's year-end monetary policy rates (MPR) and cash reserve ratio (CRR) from the CBN's Monetary Policy Decisions archive and corroborating trend compilations (CBN, 2025b; Businessfront, 2025). In obtaining the trend and reliability of import financing activities, data on the naira value of Letters of Credit issued nationally was obtained from the CBN trade and international payments data released by AllAfrica (2025) while qualitative evidence on processing-time changes was obtained from the CBN's 2023 revision of the Service charter (Nairametrics, 2023). In the case of objective (iii), the average performance of Nigeria's listed Commodity Chemicals industry (small sample of chemical distribution and manufacturing companies listed on the Nigerian Exchange Group) with regards to cost of finance and their performance, aggregated revenue and earnings data were compiled from industry-level financial aggregation reported by SimplyWall.st (2026), which retrieves quarterly performance data of market capitalisation, revenue, and earnings for the industry.

Net profit margin was calculated as earnings/revenue for each reporting period available. The industry aggregate was utilized as the performance proxy for objective (iii) of the study instead of a single-firm cash conversion cycle decomposition, which would have required non-public granular receivables and payables data, due to limited number of listed chemical distributors in Nigeria which do not report on directly comparable calendar year basis; this is included as a limitation of the study. The analysis was carried out in three phases: firstly, descriptive statistics for Monetary Policy Rate, Cash Reserve Ratio and Letters of Credit series, followed by trend analysis of the series; secondly, visualisation of the series by line, bar and dual axis charts; and finally, the Pearson product-moment correlation between the cost of import financing and working capital financing (Monetary Policy Rate) and industry net profit margin. The calculations were performed in python with pandas and scipy.stats packages. Correlation is used as a proxy for association due to the small number of matched observations, and this is noted in the interpretation of the results.

➤ Findings

Table 1 Trend in the Cost of Import and Working Capital Financing, 2018-2024

Year	Monetary Policy Rate (%)	Cash Reserve Ratio (%)	YoY Change in MPR (pp)
2018	14.00	22.50	-
2019	13.50	22.50	-0.50
2020	11.50	27.50	-2.00
2021	11.50	27.50	0.00
2022	16.50	32.50	+5.00
2023	18.75	32.50	+2.25
2024	27.25	45.00	+8.50

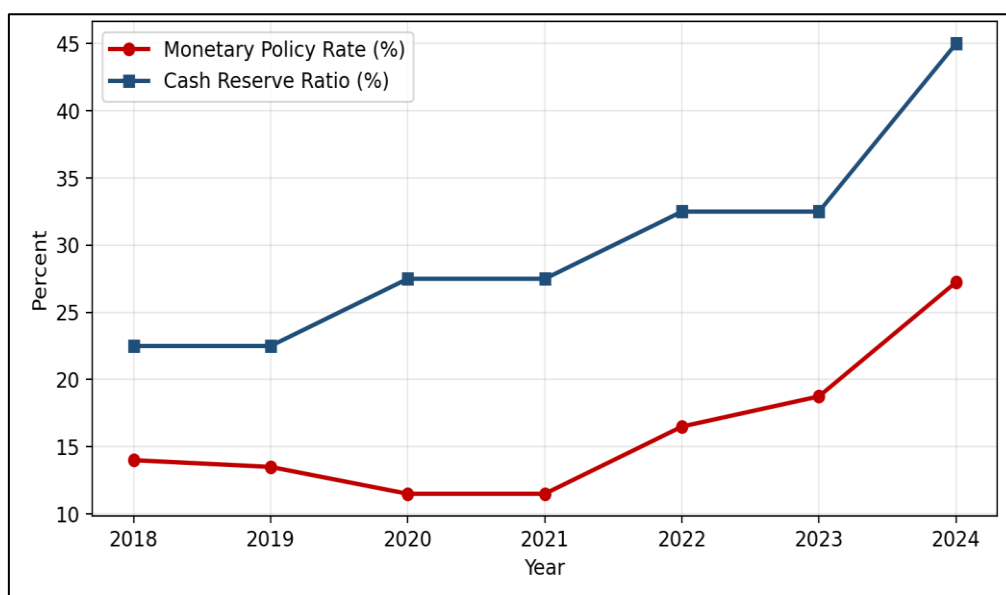


Fig 1 CBN Monetary Policy Rate and Cash Reserve Ratio, 2018-2024
(Source: CBN, 2025b)

Table 1 and Figure 1 show that the cost of institutional finance in Nigeria was broadly stable, and even eased, between 2018 and 2021, with the Monetary Policy Rate falling from 14.0 to 11.5 percent as the CBN supported the economy through the pandemic period. From 2022 onward, however, the direction reverses sharply: the MPR rose by 5.0 percentage points in 2022, a further 2.25 points in 2023, and then 8.5 points in 2024 alone, reaching 27.25 percent by year-

end, while the Cash Reserve Ratio rose in parallel from 27.5 to 45.0 percent. For chemical distributors reliant on bank overdrafts and trade loans to bridge the gap between paying foreign suppliers and collecting from customers, this represents a near doubling of the base cost of working capital finance within three years, a shift few firms could have planned for when negotiating multi-year supply and credit arrangements in the pre-2022 period.

Table 2 Trend and Reliability of Import Financing Activity

Period	Value of Letters of Credit Issued (N'million)	YoY Change (%)
January-August 2024	453.91	-
January-August 2025	605.01	+33.3

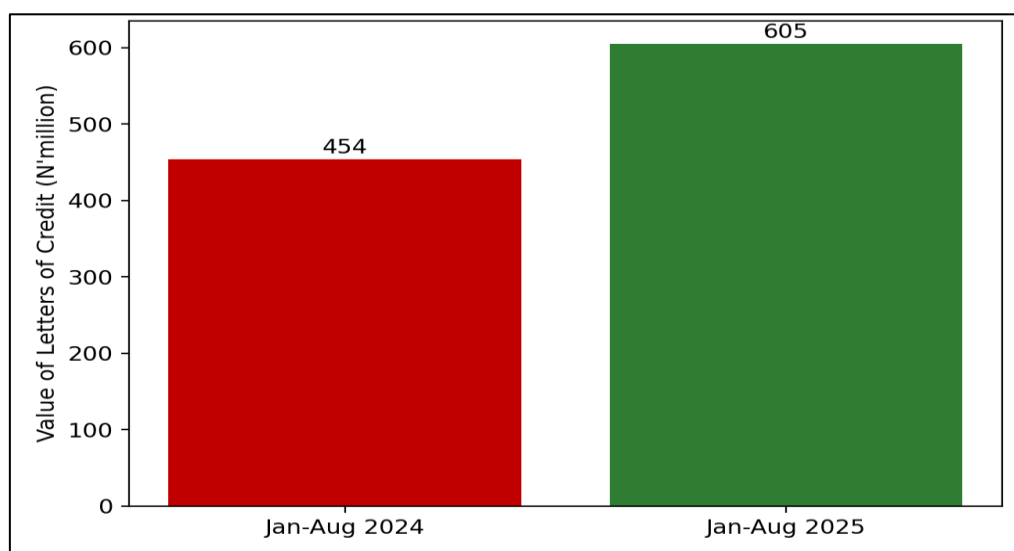


Fig 2 Value of Letters of Credit Issued in Nigeria
(Source: CBN data via AllAfrica, 2025)

Table 2 and Figure 2 show a marked rebound in the value of Letters of Credit issued in Nigeria, rising 33.3 percent between the January-August 2024 and January-

August 2025 periods. Analysts attribute this recovery to improved foreign exchange liquidity and greater consistency in the CBN's exchange rate reforms, which restored

confidence among manufacturers and traders in accessing the official forex window (AllAfrica, 2025). This recovery, however, follows a preceding period, 2023-2024, in which the CBN itself extended the statutory processing timeline for Letters of Credit issuance from 24 hours to five working days specifically because of foreign exchange scarcity, and in which chronic FX backlogs eroded some foreign suppliers'

confidence in Nigerian-issued LCs (Nairametrics, 2023; Furthrafrica, 2025). Read together, these findings indicate that import financing reliability in Nigeria has been highly cyclical rather than steadily improving, a pattern that complicates long-term working capital planning even where headline LC values are currently recovering.

Table 3 Cost of Finance and Chemical Distribution Industry Performance

Period	Revenue (N'bn)	Earnings (N'bn)	Net Margin (%)	MPR (%)
Mar 2023	7.8	0.174	2.23	18.75
Jun 2025	15.0	1.100	7.33	27.50
Jan 2026	16.6	1.700	10.24	27.50
Feb 2026	17.2	2.000	11.63	27.50

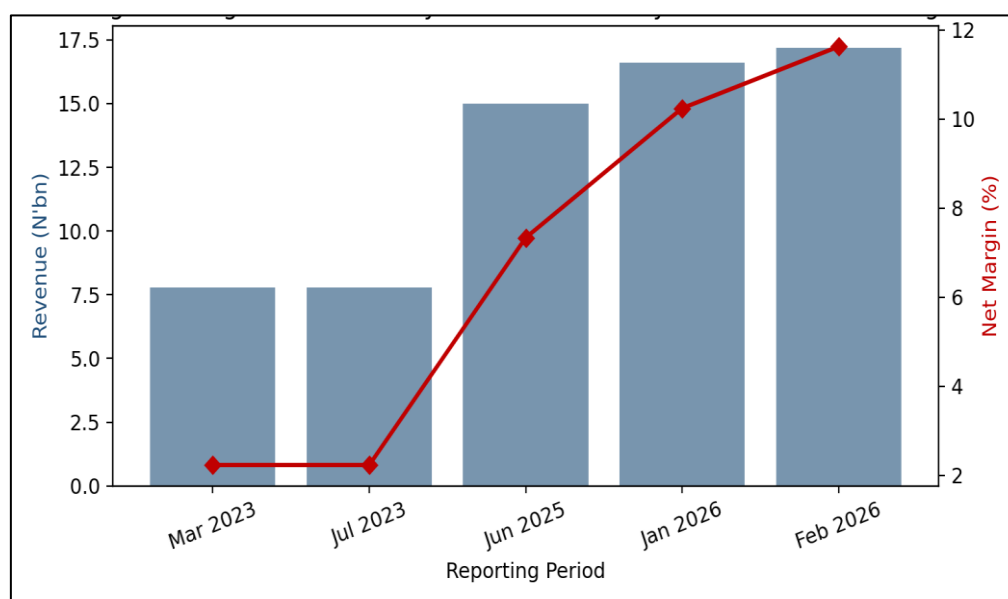


Fig 3 Nigerian Commodity Chemicals Industry Revenue and Net Margin
(Source: SimplyWall.st industry aggregation, 2026)

Table 3 and Figure 3 present aggregated revenue, earnings, and net margin for Nigeria's small cohort of listed commodity chemicals companies, the category that includes Nigerian-German Chemicals Plc. The data show a striking rise in net margin, from 2.23 percent in early 2023 to 11.63 percent by February 2026, even as the Monetary Policy Rate rose from 18.75 to 27.50 percent over the same window. A Pearson correlation between the Monetary Policy Rate and industry net margin across the four observations yields $r = 0.936$ ($p = 0.019$), a strong and statistically significant positive association. On its face this appears paradoxical: standard finance theory would predict that a higher cost of borrowing should compress margins, not expand them. The more plausible explanation, consistent with Pecking Order Theory's emphasis on internally generated funds and Cash Conversion Cycle theory's framing of pricing and receivables management as working capital levers, is that listed chemical distributors have responded to higher financing costs primarily by raising naira selling prices and tightening credit terms to customers, rather than by absorbing the cost through internal efficiency gains alone; revenue over the same period rose from N7.8 billion to N17.2 billion, a pace of increase considerably faster than plausible volume growth in a

economy facing weakened consumer and industrial purchasing power, again pointing to price-led rather than volume-led growth.

V. DISCUSSIONS OF FINDINGS

Read together, the three sets of findings provide an account of how Nigeria's chemical and allied raw material distributors have dealt with the very rapidly deteriorating cost-of-finance environment. The findings of Monetary Policy Rate (MPR) and Cash Reserve Ratio (CRR) (Section 5.1) show that the cost of working capital financing has increased immensely since 2022 despite the unchanged structural nature of working capital needs in the sector which has been linked to imported inventory and extended customer credit. The findings from the Letters of Credit (Section 5.2) are similar, as the mechanics of import finance have also been volatile, with an increase in import finance cost arising in 2023-2024 due to FX effects and a degradation in supplier confidence in import finance instruments, but with only a partial recovery in 2025. In this context, the positive correlation between the Monetary Policy Rate and industry net margin (Section 5.3) should not be interpreted as that a

higher policy rate leads to a higher profitability but rather that the firms facing rising financing costs have successfully managed their net margins, albeit reacting to the rate increase, with a focus mainly on increasing prices rather than changing fundamental cash conversion cycles and/or diversifying financing instruments. This would be consistent with the theoretical review presented in Section 3: Pecking Order Theory would predict that firms with higher external debt costs would rely increasingly on internal funds, which for a trading firm is mostly the margin on goods sold, while Cash Conversion Cycle theory would postulate that if a firm hasn't got any other way to reduce its cycle, it will have to resort to the margin. In this sub-sector, it seems that working capital is currently used more as a safeguard against price pressures than as an effective discipline to boost efficiency, and this approach is likely to be more risky for smaller distributors than for larger, more well capitalised distributors that have the ability to pass on any costs to price sensitive manufacturing customers.

VI. CONCLUSION

This study investigated the working capital management and import financing problems of chemical and allied raw materials distributors in Nigeria, secondary data was obtained from Central Bank of Nigeria's monetary policy records, national trade finance statistics and aggregate financial results of commodity chemicals listed companies in Nigeria. The evidence indicated that the cost of the bank-based financing instruments which the distributors have depended on has increased substantially since 2022, with the Monetary Policy Rate almost doubling, while the foreign exchange financing instruments like letters of credit has been cyclical, falling in 2023-24 when foreign exchange was at low levels, but improving as foreign exchange availability increased in 2025. In contrast, the net margin of listed chemical distributors increased significantly during the same period, which this study believes is due to rising prices rather than to improvements in working capital efficiency. This indicates that at the very least, working capital management has been a reactive process and not a proactive one for a source of justification for prices and certainly not a concerted process to shorten cash conversion cycle or to spread risk by moving away from ever more expensive bank funding for the larger listed companies that were included in the available data. This approach has tangible limitations: It relies on customers' willingness and capacity to pay a higher price for the same amount of product, and it won't solve the structural exposure created by the import/credit-based business model in a country with a high interest rate and periodically restricted foreign exchange. The theoretical review indicates that the Cash Conversion Cycle theory and Pecking Order theory continue to be valid lenses to explain the phenomenon of the "financing pyramid" and that neither of these theories alone captures the phenomenon within the context of a market where the traditional financing pyramid can be upset not because of management choices but due to structural constraints to access foreign exchange.

RECOMMENDATIONS

- Chemical and allied raw material distributors should adopt structured inventory optimisation techniques, such as economic order quantity modelling and demand forecasting, to reduce the volume of working capital tied up in imported stock without compromising supply continuity.
- Firms should diversify their sources of import financing beyond conventional bank overdrafts and Letters of Credit, exploring supplier-extended credit, invoice discounting, and non-bank trade finance facilities to reduce sensitivity to Monetary Policy Rate movements.
- Distributors should tighten receivables management through shorter, better-enforced credit terms for downstream manufacturing customers, rather than relying primarily on price increases to protect margin against rising financing costs.
- The Central Bank of Nigeria should sustain and further streamline the Letters of Credit and Form M documentation process to reduce processing delays, particularly for critical industrial and chemical raw material imports.
- Industry associations representing chemical distributors should establish collective bargaining or pooled-financing arrangements with banks to secure more favourable trade finance terms than individual small and medium-sized distributors can negotiate alone.

REFERENCES

- [1]. Adebisi, J., Olowolaju, D., & Onifade, T. (2023). Capital structure determinants of Nigerian SMEs: Testing the pecking order theory. *Journal of African Business*, 24(2), 215-233.
- [2]. AllAfrica. (2025, October 13). Nigeria: Letters of credit surge 33 percent on improved forex liquidity. <https://allafrica.com/stories/202510140614.html>
- [3]. Amponsah-Kwatiah, K., & Asiamah, M. (2021). Working capital management and profitability of listed manufacturing firms in Ghana. *International Journal of Productivity and Performance Management*. <https://doi.org/10.1108/IJPPM-02-2020-0043>
- [4]. Barine, M. N. (2022). Working capital management and firm performance: Evidence from Nigerian manufacturing firms. *Journal of Finance and Accounting*, 10(2), 45-62.
- [5]. Businessfront. (2025). Nigeria's MPR rate trend (2000-2025): 25-year analysis and economic impact. <https://businessfront.com/guide/nigeria-mpr-rate-trend/>
- [6]. Cash conversion cycle and firm performance in Nigeria. (2022). *International Journal of Research and Innovation in Social Science*, 6(6), 143-153.
- [7]. Central Bank of Nigeria. (2025a). Exchange rate policy. <https://www.cbn.gov.ng/intops/exchratespolicy.html>

- [8]. Central Bank of Nigeria. (2025b). Monetary policy decisions.
<https://www.cbn.gov.ng/MonetaryPolicy/decisions.html>
- [9]. Furtherafrica. (2025, August 9). Letters of credit: The pillar of Africa cross-border trade.
<https://furtherafrica.com/2025/08/11/letters-of-credit-in-africa-2/>
- [10]. Kudicompass. (2026). Trade finance in Nigeria: Full guide. <https://kudicompass.com/trade-finance-nigeria/>
- [11]. Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*, 13(2), 187-221.
- [12]. Nairametrics. (2023, December 7). CBN extends timeline for issuance of letters of credit to five working days as FX crisis persists in Nigeria.
<https://nairametrics.com/2023/12/07/cbn-extends-timeline-for-issuance-of-letters-of-credit-to-five-working-days-as-fx-crisis-persists-in-nigeria/>
- [13]. Olabisi, J. (2021). Does working capital management affect the profitability of consumer goods manufacturing firms in Nigeria? *Journal of Humanities, Social Sciences and Creative Arts*, 15(1).
<https://doi.org/10.51406/jhssca.v15i1.2091>
- [14]. Olaoye, S. A., & Okunade, R. A. (2020). Working capital management and profitability of listed manufacturing firms in Nigeria. *Journal of Economics, Management and Trade*, 26(7), 63-69.
<https://doi.org/10.9734/JEMT/2020/v26i730275>
- [15]. Pecking order theory and financing decisions: Evidence from African small and medium-sized enterprises. (2025). *International Journal of Economics and Financial Issues*, 15(6).
- [16]. Richards, V. D., & Laughlin, E. J. (1980). A cash conversion cycle approach to liquidity analysis. *Financial Management*, 9(1), 32-38.
- [17]. SimplyWall.st. (2026). Nigerian (NSE) Commodity Chemicals industry analysis.
<https://simplywall.st/markets/ng/materials/chemicals/commodity-chemicals>
- [18]. Vo, D. H., Vo, A. T., & Zhang, Z. (2019). Exchange rate volatility and disaggregated manufacturing exports: Evidence from an emerging country. *Journal of Risk and Financial Management*, 12(1), 12.
<https://doi.org/10.3390/jrfm12010012>
- [19]. Working capital management and performance of listed manufacturing companies in Nigeria. (2024). *GPH-International Journal of Business Management*, 7(2).
- [20]. World Bank. (2023b). Trade finance and SME access to markets in Sub-Saharan Africa. World Bank Group.