

# TOTAL INVENTORIES AND LONG-TERM INVESTMENT ON MARKET VALUE OF LISTED CONSUMER AND INDUSTRIAL GOODS FIRMS IN NIGERIA

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**ABSTRACT:** *The Nigerian consumer and industrial goods sector has experienced persistent fluctuations in market value, raising concerns among managers and investors regarding optimal asset allocation. This study examined the effect of total inventories (TINV) and long-term investment (LTINV) on market value of listed consumer and industrial goods firms in Nigeria. The study adopted the Longitudinal panel research design and relied on secondary data from audited annual report of firms listed on the Nigerian Exchange Group (NGX) over the period 2015–2024. A purposive sampling technique was employed to draw 25 sample firms from a population of 33 listed consumer and industrial goods firms in Nigeria. Data were analysed with Driscoll-Kraay fixed-effects regression in STATA (version 19). The findings revealed that total inventories have a positive and insignificant effect on Tobin's Q, suggesting that while inventory holdings support operational continuity, they do not constitute a credible valuation signal to investors. Similarly, long-term investment exhibit a negative but significant relationship with Tobin's Q, indicating that increase in long-term investment leads to a decline in market value of sampled firms. The study concluded that inventories and long-term investment do not significantly shape market valuation and therefore recommended that firms should improve inventory management efficiency and adopt stricter investment techniques that ensure that only value-enhancing long-term investments are undertaken in line with Tobin's Q investment theory.*

**Keywords:** Long-Term Investment, Market Value, Nigerian Consumer and Industrial Goods Firms, Total Inventories and Tobin's Q

## I. INTRODUCTION

In the contemporary global business environment, market value has emerged as one of the most important indicators for assessing corporate performance, financial stability, and long-term sustainability across both developed and emerging economies. It reflects the collective judgment of investors regarding a firm's capacity to generate future cash flows, sustain competitive advantage, and effectively manage risk in an increasingly volatile and information-driven global financial system. According to Damodaran (2016), market value incorporates not only historical financial performance but also forward-looking expectations about growth opportunities, risk exposure, and managerial effectiveness. Similarly, Brealey *et al.* (2017) emphasize that modern valuation frameworks are fundamentally driven by investor expectations of future earnings potential rather than past accounting outcomes. In this regard, market value is dynamic, continuously shaped by internal corporate decisions and external macroeconomic conditions.

In recent empirical literature, market value has increasingly been linked to firm-level investment decisions and resource allocation efficiency. Studies such as Nguyen *et al.* (2020) and Chen *et al.* (2021) argue that firms that effectively deploy their resources tend to achieve higher market valuations due to improved investor confidence and stronger growth signals. Furthermore, Baker and Wurgler (2019) highlight that investor sentiment and perceived future profitability significantly influence firm valuation in capital markets, reinforcing the importance of internal financial decisions in shaping market value. Accordingly, understanding the internal drivers of market value has become a central concern in corporate finance research.

In emerging economies such as Nigeria, the relevance of market value is even more pronounced due to structural and macroeconomic challenges that affect firm performance and investor perception. The Nigerian capital market is characterized by exchange rate volatility, inflationary pressures, inconsistent fiscal and monetary policies,

and underdeveloped financial intermediation systems. These conditions create uncertainty in firm valuation and increase sensitivity to internal financial decisions. According to Olowe (2018), market inefficiencies in emerging economies amplify the impact of firm-specific factors on stock valuation, making internal resource allocation decisions particularly important. Similarly, Oteh (2017) notes that investor confidence in Nigeria is highly influenced by firm-level performance indicators due to macroeconomic instability and limited transparency in financial markets.

The consumer and industrial goods sector in Nigeria plays a critical role in economic development through manufacturing output, infrastructure support, and employment generation. However, firms in this sector continue to experience fluctuating market values driven by rising production costs, foreign exchange constraints, weak consumer demand, and supply chain disruptions. Recent studies such as Adelegan (2020) and Akinyomi (2022) report that firms in the Nigerian manufacturing sector face declining profitability and inconsistent market valuation due to inefficiencies in operational and financial management. These challenges highlight the importance of examining internal determinants of market value, particularly asset composition decisions.

Among these internal determinants, asset structure particularly the allocation between current and non-current assets plays a central role in shaping firm performance and market valuation. Total inventories, as a major component of current assets, are essential for ensuring production continuity, meeting customer demand, and supporting revenue generation. However, excessive inventory levels may increase holding costs, risk obsolescence, and reduce liquidity efficiency. Empirical evidence remains mixed. For instance, Umobong and Agburuga (2019) and Mwaniki and Omagwa (2017) find that efficient inventory management positively influences firm performance and value creation. In contrast, Ibiam *et al.* (2024) and Azali and Newstyle (2022) argue that excessive inventories may negatively affect firm efficiency due to increased operational costs and inefficient resource utilization. This inconsistency suggests that the effect of inventories on market value remains an inconclusive empirical issue. On the other hand, Long-term investment reflects a firm's commitment to capital expenditure in non-current assets is widely recognized as a driver of future growth and competitiveness. According to Chancharat (2022), long-term investment enhances firm value by signaling expansion capacity and sustainable earnings potential. Likewise, Saleh (2018) emphasizes that firms with higher levels of capital investment tend to attract stronger investor confidence due to perceived growth prospects. However, in developing economies such as Nigeria, the effectiveness of long-term investment is often constrained by high cost of capital, infrastructural deficiencies, and policy uncertainty, which may weaken its impact on market valuation. Firm size is also frequently included as a control variable in market value studies due to its influence on financial stability, access to capital markets, and risk diversification. Larger firms are generally perceived as more stable and less risky, which may positively influence investor perception. However, empirical findings in Nigeria remain mixed. Some studies suggest a positive relationship between firm size and market value, while others report insignificant or nonlinear effects, indicating that size alone may not guarantee improved valuation without efficient resource utilization.

Despite the growing body of literature on market value determinants, several gaps remain evident, particularly in the Nigerian context. First, most existing studies have focused on traditional determinants such as capital structure, profitability, and dividend policy, with limited attention to internal asset composition variables such as inventories and long-term investment. Second, many studies rely heavily on accounting-based performance measures such as Return on Assets (ROA) and Return on Equity (ROE), rather than market-based indicators like Tobin's Q, which better capture investor expectations and market perception. Third, empirical studies in Nigeria have largely examined either consumer goods or industrial goods sectors separately, without providing a comprehensive analysis of both sectors within a unified framework. Fourth, most existing studies cover relatively short time periods, often ending before recent economic developments, thereby limiting their ability to capture current structural changes affecting firm market valuation.

It is against this background that this study examines the effect of total inventories and long-term investment on the market value of listed consumer and industrial goods firms in Nigeria over a ten-year period from 2015 to 2024. Market value is proxied by Tobin's Q, while total inventories and long-term investment are measured using their respective ratios to total assets. Firm size is included as a control variable to account for scale effects. By focusing on internal asset allocation decisions, the study contributes to existing literature by providing updated empirical evidence on how resource composition influences market value in an emerging economy context. The findings are expected to provide valuable insights for managers in optimizing asset structure, for investors in making informed valuation decisions, and for policymakers in strengthening financial stability and efficiency in Nigeria's manufacturing sector. In line with the statement of the problem above, the following hypotheses were formulated and tested:

**Ho<sub>1</sub>:** Total inventories to assets ratio have no significant effect on Tobin's Q of listed consumer and industrial goods firms in Nigeria.

**Ho<sub>2</sub>:** Long-term investment to assets ratio have no significant effect on Tobin's Q of listed consumer and industrial goods firms in Nigeria.

## **II. LITERATURE REVIEW**

### **2.1 Total Inventories**

Total inventories (TINV) are a critical component of current assets and represent a key element of working capital for consumer and industrial goods firms. They include raw materials, work-in-progress, and finished goods that are essential for ensuring uninterrupted production and timely delivery of products to customers. Chase and Jacobs (2018) refers inventory as an organization's stock of resources, while Wisner *et al.* (2016) describe it as a range of materials used in manufacturing processes. Jacobs and Chase (2018) further explain that inventory consists of materials needed to meet consumer demand or manufacture products. It is particularly vital for consumer and industrial goods firms in Nigeria, where poor inventory management can severely impact performance and even lead to liquidation. Efficient management of inventories allows firms to maintain operational continuity, meet market demand, and optimise resource utilisation, potentially enhancing market value.

However, excessive inventories can have adverse effects. High inventory holdings increase storage, insurance, and handling costs, tie up capital that could be invested in long-term growth projects, and expose firms to the risk of obsolescence. Conversely, inadequate inventory levels may result in stock-outs, production delays, lost sales, and reduced customer satisfaction, which can negatively affect revenue and investor confidence. Therefore, firms must maintain an optimal balance in inventory levels to support operational efficiency while minimizing costs and risks. In this study, total inventories refer to a subclass of current assets that includes Raw material plus Work-in-progress plus Finished Goods under current asset in financial statement. The financial value of these assets was measured at the end of each accounting year for the sampled firms. For this study, Total inventories to assets ratio (INVAR) was the proxy for total inventories which was calculated by the carrying value of total inventories in the statement of financial position divided by total assets (Habakku *et al.* 2023). Total inventories to total assets measure controls for firm size differences and reflects the proportion of corporate resources committed to inventory holdings which is particularly suitable for inter-firm comparisons and empirical analysis of market value, as it shows how inventory intensity influences investors' valuation decisions.

#### **2.1.1 Total Inventories to Asset Ratio (TINVAR)**

The Total Inventories to Asset Ratio (TINVAR) provides a useful measure for assessing the role of inventory investment in explaining variations in firm performance and market value, particularly in manufacturing-oriented sectors such as consumer and industrial goods. It measures the proportion of a firm's total assets that is invested in inventories. It reflects the inventory intensity of a firm and indicates how corporate resources are allocated between inventory holdings and other asset classes. Prior studies suggest that excessive inventory investment may increase holding costs and negatively affect firm performance and market value, while optimal inventory levels support operational continuity and value creation (Ramadhan & Suryodiningrat, 2024; Fadrul *et al.*, 2023). Research has further shown that ratios capturing inventory relative to total assets and other working capital components can significantly influence profitability and operational efficiency, especially in emerging markets (Liu, Zhou & Xu, 2024). Moreover, contextual factors such as corporate culture have been shown to affect inventory levels and, by extension, the inventory-to-asset relationship, which underscores the broader relevance of TINVAR in assessing firm value. This study measured TINVAR as indicated below:

TINVAR = Total Inventories in the statement of financial position divided by Total Assets.

#### **2.1.2 Long-Term Investment**

Long-term investments, such as non-current assets, capital projects, and portfolio holdings, are central to a firm's value creation strategy. (Sugozu & Verberi 2022). It demonstrate that firms that strategically allocate long-term financial resources experience higher growth and investor confidence, particularly in developing markets. These investments signal to investors that the firm is positioned for sustained growth, which in turn drives market value. Long-term investment refer to assets held by firms for extended periods, usually beyond one accounting year, with the aim of generating future returns rather than supporting daily operations. These investments may include equity in subsidiaries, real estate, financial instruments, and other strategic assets that provide growth opportunities and strengthen a firm's financial position. According to Emeka-Nwokeji and Agubata (2019), referred long-term investment as assets acquired in stocks, bonds, mutual funds or real estate with the intention of generating a return rather than for day to-day operations. Chukwu and Egbuhuzor (2017) noted that long-term investments include assets such as subsidiaries, real estate, and long-term financial instruments. Mawih (2014) notes that long-term

investments are vital for industries such as oil and gas, where technological advancements demand significant resource allocation. Long-term investments are essential for supporting strategic expansion, technological advancement, and competitive positioning. Proper allocation of funds to long-term investments can signal managerial foresight and enhance investor confidence, thereby positively influencing market value. However, inefficient allocation or underutilization of long-term investments can expose firms to financial risk, reduce returns, and negatively affect market perception. Long-term investments were measured using the ratio of long-term investment to total assets (LTINV/TA) to capture the proportion of firm resources committed to strategic holdings (Guo *et al.*, 2025).

For this study Long-term investment to assets ratio (LTINVAR) was used as proxy for long-term investment which was calculated by the carrying value of Longterm investment extracted from the financial statement divided by Total Assets. (Mwaniki & Omagwa, 2017). This approach enables the assessment of the proportion of total resources dedicated to long-term growth initiatives and their potential impact on firm market value.

### **2.1.3 Long-Term Investments to Asset Ratio (LTINVAR)**

The Long-Term Investments to Asset Ratio (LTINVAR) measures the proportion of a firm's total assets financed by long-term investments and deployed into strategic investments. A higher LTINVAR indicates that a firm relies on stable, long-term financing to fund its productive assets, which may enhance operational efficiency and market valuation (Sugozu *et al.*, 2022; Guo *et al.*, 2025). On the contrary, a lower LTINVAR suggests limited deployment of long-term funds, potentially constraining growth opportunities and increasing reliance on short-term financing

The Long-Term Investment to Asset Ratio (LTINVAR), which measures the proportion of total assets financed and deployed through long-term investment, is a key indicator of a firm's strategic investment capacity and is measured in this study as indicated below:

LTINVAR = Long-term investment in the statement of financial position divided by Total Assets.

### **2.1.4 Market Value**

Market value represents the worth of a firm as determined by market participants operating in an open and competitive environment. It reflects the price at which assets or a company could be exchanged between a willing buyer and seller, both acting knowledgeably and without compulsion (International Valuation Standards, 2022). Beyond its transactional definition, market value also captures investors' perceptions of a firm's financial performance, growth potential, and risk profile. According to Gichobi (2019), market value encompasses claims from both secured and unsecured creditors as well as shareholders, highlighting its comprehensive nature in reflecting stakeholder interests. In emerging markets such as Nigeria, scholars have used market value to assess the effects of financing structure, working capital management, and investment decisions on firm performance, emphasizing its role as a key indicator of investor perception and wealth creation (Shen & Ziane, 2024). As such, market value serves as a central metric in both academic research and practical corporate decision-making, providing a snap of the market's assessment of a firm's overall health, strategic positioning, and potential for future growth. Recent studies indicate that internal resource management, particularly the management of total inventories and long-term investment, significantly influences market value. Efficient inventory management enhances liquidity, reduces holding and obsolescence costs, and signals operational efficiency to investors, which can positively affect firm valuation (Shen & Ziane, 2024; Intara, 2024). Similarly, long-term investment and capital expenditures reflect a firm's strategic growth initiatives and its capacity to generate future returns, thereby shaping investor expectations and market assessment. Market value is commonly proxied by market capitalization, calculated as the product of a firm's share price and the number of outstanding shares, capturing the collective assessment of investors regarding the firm's future earnings, risk profile, and growth prospects (Corporate Finance Institute, 2023). Unlike accounting measures such as book value, which are based on historical costs, or intrinsic value, which relies on theoretical discounted cash flows, market value is dynamic and forward-looking, integrating both tangible and intangible factors. The measurement of market value often includes multiple indicators. While market capitalization provides a basic assessment, more sophisticated measures such as the price-to-earnings (P/E) ratio and Tobin's Q ratio are widely used in empirical research. Tobin's Q ratio, which compares the market value of a firm to the replacement cost of its total assets, provides insight into how the market values the firm's current and expected future earnings. Given its ability to capture both market expectations and firm-specific performance, this study adopts Tobin's Q as the proxy for measuring the market value of firms.

### **2.1.5 Tobin's Q**

Tobin's Q ratio is a widely used financial ratio that measures the market valuation of a firm relative to the replacement cost of its assets. It was originally developed by Nobel laureate James Tobin (1969) to capture the relationship between a firm's market value and the cost of replacing its assets, it serves as a measure of a firm's

financial performance by comparing its market value to the replacement cost of its assets, serving as a critical indicator of market expectations and asset efficiency. This model incorporates both accounting book values and market valuations, making it less susceptible to managerial manipulation. In emerging markets, including Nigeria, Tobin's Q has been widely applied to assess the effects of corporate governance, capital structure, and investment strategies on firm value (Shen & Ziane, 2024; Intara, 2024). For instance, firms with efficient working capital management, strategic long-term investments, and sound operational practices often exhibit higher Tobin's Q values, signaling strong market confidence.

A Tobin's Q greater than one indicates that the market values the firm above the replacement cost of its assets, reflecting investor confidence in the firm's growth potential and strategic management. Conversely, a Tobin's Q below one suggests market undervaluation and potential inefficiencies. In empirical research, particularly in emerging markets such as Nigeria, Tobin's Q has been employed to examine how corporate governance, investment strategies, and working capital management influence firm value (Shen & Ziane, 2024; Intara, 2024; Bagh *et al.*, 2025).

Internal resource management, notably total inventories and long-term investment, has a significant impact on Tobin's Q. Efficient inventory management ensures liquidity, reduces holding costs, and signals operational efficiency, which investors interpret as positive indicators of firm performance (Shen & Ziane, 2024; Intara, 2024). Likewise, strategic long-term investments and capital expenditures indicate the firm's commitment to growth, technological advancement, and capacity expansion, enhancing future earnings prospects and investor confidence (Bagh *et al.*, 2025). By incorporating both market perceptions and asset replacement costs, Tobin's Q provides a robust framework for assessing how these operational and strategic resource allocations translate into firm value. In the context of Nigerian consumer and industrial goods firms, where production cycles are capital-intensive and market competition is high, Tobin's Q is particularly relevant for capturing the effect of internal resource management on market valuation and overall wealth creation.

The ratio is typically calculated by adding the market value of equity and the book value of debt, then dividing by the total assets of the firm James Tobin (1969). The ratio is typically calculated as:

$$\text{Tobin's Q} = \frac{\text{Market Value of Equity} + \text{Book Value of Debt}}{\text{Total Assets}}$$

### 2.1.7 Firm Size

Firm size represents the scale, resource capacity, and operational breadth of a business organisation, reflecting both its financial and human capital as well as its market influence (Oladapo *et al.* 2025). It is regarded as a multidimensional construct that shapes strategic behaviour, financing decisions, competitive positioning, and performance outcomes. Firm size is commonly measured using total assets, total sales/revenue, market capitalisation, and number of employees, with each proxy capturing a different aspect of a firm's scale and strategic potential (Ross *et al.* 2019). Specifically, total assets indicate the firm's financial base, sales reflect operational activity and market engagement, market capitalisation captures investor valuation, and employee count measures the scale of human resources supporting organisational operations.

Empirical literature consistently treats firm size as an aggregate measure operationalised through these proxies, highlighting its multidimensional nature and the importance of careful selection for research purposes (Ross *et al.* 2019; Zuhroh, 2019; Oladapo *et al.*, 2025). Measurement of firm size provides valuable insights into a firm's growth potential, operational efficiency, and market influence, making it a key variable in studies of corporate performance and strategic management.

In this study, firm size is measured as the natural logarithm of total assets, which offers a robust representation of the firm's overall scale and resource capacity while minimising the effects of extreme values (Lehenchuk *et al.* 2024 & Ocat & Findik, 2019)

## 2.2 Empirical Review

Danladi *et al.* (2026) examined the effect of non-current assets on value of listed consumer goods firms in Nigeria and utilised Tobin's Q as a measure of firm value. The study adopted ex post facto research design and panel data were sourced from the annual reports and audited financial statements of listed consumer goods firms on the Nigerian Exchange Group covering the period 2014 to 2024. The data were analysed using fixed-effects panel regression. The result of the study revealed that long-term investments had a negative and significant effect on firm value, The study concluded that firm value in Nigeria's consumer goods sector was driven by the strategic alignment and efficient utilisation of non-current assets rather than their mere accumulation. The study provided relevant empirical insight but presented a notable variable gap specifically on other key operational and firm-level determinants such as total inventories and firm size, which may influence market valuation. In addressing this limitation, the current study incorporates total inventories alongside firm-specific factors such as firm size to provide

a more comprehensive assessment of firm value. Furthermore, it extends the scope of analysis to include the industrial goods sector, thereby enhancing the generalisability of findings across manufacturing-oriented firms in Nigeria.

Kim and Kiymaz (2024) did study on inventory investment, firm value, and growth: evidence from Korea and examined the relationship between inventory levels and firm value (Tobin's Q). The study used a sample of non-financial Korean firms from 2010 to 2018 and found that firms with higher inventory holdings to total assets ratio while controlling for growth, leverage, size, age, profitability are more likely to have higher firm values. The study found that there is a positive relationship between inventory and firm value are more pronounced for firms with high growth opportunities than those with low growth opportunities which implied that higher inventory investment in firms with high growth opportunities when efficiently managed and mitigates the problems of information asymmetry and adverse selection, whereby inventory investment sends a more positive signal to the capital market. The study provides insights into Korean non-financial firms, highlighting a geographical gap, as the findings may not be generalised to the Nigerian business environment. It also highlights the need for further research across different contexts and firm characteristics, such as firm size.

Fuspanita and Thamrin (2024) investigated the effect of inventory management on firm value in an empirical study of food and beverage (F&B) sub-sector companies listed on the Indonesia Stock Exchange (IDX). The study specifically analyzed how different aspects of inventory management influence company value. The study used quarterly data from 2020 to 2023 and applied a panel data regression methodology. The study revealed inventory management had a significant effect on firm value and suggested that in the F&B sub-sector, management of raw materials is a key driver of market valuation, whereas other components of inventory management appear less critical in affecting investor perceptions. The study is limited to the Indonesian F&B sub-sector and uses only PBV to measure firm value, overlooking other indicators such as Tobin's Q. It also focuses on a narrow set of inventory components and does not account for total inventories or firm characteristics such as size, which may influence the relationship between inventory and market value. The present study addresses these gaps by examining total inventories and market value in Nigerian consumer and industrial goods firms, using Tobin's Q and incorporating total inventories and firm-level factor like firm size to provide a more comprehensive assessment.

Ibiam *et al.* (2024) investigated the effect of current assets management on the operational performance of firms in the consumer goods Industry in Nigeria and adopted an ex-post-facto research design, covering a ten-year period (2013 to 2022) The study utilised secondary data source to collect data from the annual reports and accounts of sampled FMCGs in Nigeria and analysed data using multiple regression techniques to test the set hypotheses. The findings of the study reveal a negative relationship between inventory turnover and operational performance of FMCG firms in Nigeria. However, the study is limited in scope, focusing only on operational performance and inventory turnover rather than total inventories and market-based firm value and firm characteristics such as firm size, which may influence market value. The present study addresses these gaps by examining the effect of total inventories and long-term investment on market value, measured by Tobin's Q, in Nigerian consumer and industrial goods firms.

Azali and Newstyle (2022) investigated the relationship between current assets investment and financial performance of listed industrial goods manufacturing firms in Nigeria. The study adopted Ex-post facto research design and used purposive sampling technique to select five (5) firms. Secondary data collection method was used to extract data from annual reports and statement of accounts of the selected firms between 2010 and 2020. Data was analysed using multiple regression of Ordinary Least Square with the help of E-view. The empirical findings showed that, there was a negative and significant relationship between inventories and return on assets of listed industrial goods firms in Nigeria. The study is limited in scope, focusing only on operational performance measures or market-based performance indicators such as Tobin's Q. It also does not account for the effect of total inventories and long-term investments on market value. The present study addresses these gaps by evaluating the effect of total inventories and inventories on market value in a larger sample of Nigerian consumer and industrial goods firms.

Nasution (2020) carried out the effect of inventory turnover on the level of profitability in automotive companies listed on Indonesia stock Exchange. Profitability is measured by Return on Assets (ROA). The data was collected from the financial statements of each sample company through ICMD (Indonesia Capital Market Directory) from 2015-2017. The data was analysed using simple linear regression analysis. The sampling method used was purposive sampling. The results of the study presented that inventory turnover does not have a positive effect on Return on Assets. The study is limited in several ways as it focuses only on short-term operational performance, relies on outdated data, and is restricted to the Indonesian automotive sector, limiting generalizability to other industries and contexts. It also does not consider market-based performance measures, broader inventory management components, or firm-specific characteristics that may moderate the relationship between inventory and

market value. The present study addresses these gaps by examining the effect of total inventories and long-term investment on market value, measured by Tobin's Q, in Nigerian consumer and industrial goods firms, providing a more comprehensive and contextually relevant assessment.

Aseinimieyefori (2022) conducted a study on the effect of non-current asset investment on financial performance covering the period of six years from 2015 to 2020 for listed insurance companies in Nigeria. The study adopted ex-post facto research design and secondary data collection method to extract data from the annual accounts and reports of listed insurance companies in Nigeria on NGX covering a period from 2015-2020. Data were analysed utilising descriptive statistics, the unit root test, and ordinary least squares multiple regression. The regression analysis results indicated that investment have a negative insignificant effect on return on capital employed by listed insurance companies in Nigeria. The study is limited in scope, focusing solely on the insurance sector and accounting-based performance measures, which restricts its applicability to other industries and market-based indicators. It also does not consider broader components of long-term investment, firm characteristics, or the effect of long-term investment on market value. The present study addresses these gaps by evaluating the effect of long-term investment on market value, measured by Tobin's Q, in Nigerian consumer and industrial goods firms, offering a more comprehensive and contextually relevant assessment of how total long-term investment contribute to market value.

Cremers *et al.* (2020) examined the relationship between long-term investment orientation and firm value using a large sample of publicly listed firms across multiple industries in the United States. Employing panel data techniques, the study analyzed how sustained investment in long-term assets influences firm performance and market valuation. The results indicated that firms with stronger long-term investment strategies tend to achieve higher firm value, particularly when governance mechanisms are effective. The study highlights that long-term investments enhance value creation when aligned with strategic objectives and monitored efficiently, reinforcing the relevance of long-term asset allocation in firm valuation. The study concludes that long-term investment contribute positively to value creation when they are strategically aligned and supported by strong governance frameworks, underscoring the importance of long-term asset allocation in enhancing firm valuation. the study is limited to U.S. firms and multiple industries, reducing generalizability to emerging markets and specific sectors such as Nigerian consumer and industrial goods firms. It also did not take into account firm-specific characteristics, or contextual factors that may have effect on investment and market value. The present study addresses these gaps by analyzing total inventories and long-term investment, and market-based performance (Tobin's Q) in the Nigerian context.

Umobong and Agburuga (2019) explored the nexus between asset composition and corporate performance of Nigerian firms, focusing on the insurance, banking, and manufacturing sectors. The study employed an ex-post facto research design and analysed cross-sectional secondary data from 2013 to 2017. Data was analysed using regression analysis The findings revealed that long-term investment reduces market valuation and Tobin's Q. The study concluded that asset composition significantly affects both accounting and market performance and recommended that firms balance their asset allocation to optimize performance. However, the study presents a geographical gap, as it spans multiple sectors rather than focusing solely on the manufacturing industry. Additionally, the time scope ending in 2017 suggests the need for more recent data to capture current trends. The present study addresses these gaps by investigating the effect of total inventories and long-term investment on market value (Tobin's Q) in Nigerian consumer and industrial goods firms, providing a more recent and contextually focused assessment of how total inventories and long-term investment influences market value.

Mwaniki and Omagwa (2017) conducted a study to determine the relationship between the asset structure and the financial performance of the firms quoted under the commercial and service sector at the NSE, Kenya. Data was collected using secondary data from the financial statements of the entire firms listed under this sector by the year 2014, for a five-year period, 2010 to 2014. Data was analysed using A multiple regression analysis (standard) with the aid of statistical programs SPSS version 21. The results of the study indicate that long-term investments and funds have a statistically significant effect on financial performance. The study focuses on the commercial and service sectors in Kenya, presenting a geographical gap that may limit generalizability to other contexts such as Nigerian consumer and industrial goods firms. The time scope is also outdated, ending in 2014, which restricts applicability to current market conditions and trends. Methodologically, the study relies exclusively on accounting-based performance measures, without considering market-based indicators such as Tobin's Q, and does not explore the controlling effect of firm characteristics such as firm size or long-term investment and funds on market value. The present study addresses these gaps by examining the effect of Total inventories and long-term investment on market value in Nigerian consumer and industrial goods firms, using more recent data and a market-based performance measure to provide a comprehensive and contextually relevant analysis.

## **2.3 Theoretical Framework**

### **2.3.1 Signaling Theory**

Signaling Theory, originally introduced by Spence (1973) in the field of labour economics, has since been adapted to corporate finance to explain how firms reduce information asymmetry between insiders and outsiders. Miller and Rock (1985) further advanced its application in finance. Signaling Theory asserts that managers communicate private information about a firm's prospects, quality, and strategic intentions to external stakeholders through observable actions and financial decisions (Spence, 1973). In the context of corporate finance, decisions regarding Total Inventories and Long-Term Investments serve as deliberate or implicit signals to investors about the firm's operational efficiency, resource allocation practices, and long-term growth potential. These signals are particularly important in bridging the information asymmetry that often exists between managers, who have full knowledge of the firm's internal operations, and external investors, who must rely on observable indicators to assess firm quality and value.

Total Inventories are key operational signal. Maintaining optimal inventory levels demonstrates that management is efficiently coordinating production, procurement, and sales functions. Efficient inventory management reflects the firm's ability to balance supply and demand, minimize holding costs, and prevent losses due to obsolescence or stockouts. Such practices signal strong control over working capital and operational processes, conveying to investors that the firm is capable of achieving operational excellence while safeguarding liquidity. Conversely, excessive or poorly managed inventories may indicate inefficiency, weak demand forecasting, or potential liquidity strains. These signals can undermine investor confidence, as they suggest potential operational weaknesses that could erode profitability and, ultimately, market value. Therefore, inventory levels are not only operational metrics but also vital indicators of managerial competence and the firm's ability to convert resources into value.

Similarly, Long-Term Investment act as signals of strategic foresight and growth orientation. Allocation of resources to long-term projects, such as technological upgrades, capacity expansion, research and development, or acquisition of strategic assets, communicates managerial confidence in the firm's future performance and value-creation potential. When investors observe sustained and well-targeted long-term investments, they interpret this as evidence that management is forward-looking, capable of making sound strategic decisions, and committed to enhancing shareholder wealth over time. On the other hand, underinvestment, delays in long-term projects, or misallocation of funds may signal risk aversion, lack of strategic vision, or inefficiencies in resource management, potentially reducing investor confidence and dampening the firm's market valuation. From the perspective of Signaling Theory, both Total Inventories and Long-Term Investments extend beyond accounting measurements they are communicative tools that shape investor perception. Strategic management and deployment of these resources send positive signals about operational efficiency, financial prudence, and long-term growth potential. Investors respond to these signals by adjusting their valuation of the firm, which can result in higher market value as measured by stock price, Tobin's Q, or market capitalization. In essence, the way a firm manages its inventories and long-term investments serves as a visible indicator of managerial quality and the firm's potential to generate sustainable value, highlighting the direct link between operational decisions and market outcomes.

### **2.3.2 Resource-Based Theory**

The Resource-Based Theory (RBT) was first articulated by Penrose (1959) in her seminal work on the growth of the firm and later expanded by Barney (1991). Resource-Based Theory (RBT) posits that a firm's sustainable competitive advantage arises from the strategic management of resources that are valuable, rare, inimitable, and non-substitutable (Barney, 1991). Unlike approaches that focus primarily on external market conditions, RBT emphasises the role of internal resources and capabilities in determining a firm's long-term performance and value creation. In the context of this study, Total inventories and Long-Term Investments are considered essential organizational resources that can significantly influence a firm's market valuation.

Total Inventories form a critical part of a firm's current assets, serving as both an operational necessity and a strategic resource. The management of inventories reflects a firm's ability to synchronize production, procurement, and sales, ensuring timely fulfillment of market demand. Maintaining optimal inventory levels minimizes the costs associated with overstocking, stockouts, and obsolescence, while aligning resources with actual operational needs. From the perspective of RBT, well-managed inventories provide a competitive advantage because they enhance operational efficiency, reduce wastage, and allow firms to respond swiftly to market opportunities. By effectively leveraging this resource, a firm demonstrates operational resilience, which is a critical factor influencing investor perception and confidence.

In addition, Long-Term Investment which include capital expenditures, acquisition of strategic assets, and other long-term financial investments represent strategic resources for future growth and value creation. When

allocated prudently to value-generating projects, such as technological upgrades, research and development, or capacity expansion, these funds enhance the firm's productive capacity and ability to generate sustainable returns. Importantly, these long-term investments are often difficult for competitors to replicate, thereby reinforcing the firm's unique resource base and contributing to its enduring competitive advantage. The strategic deployment of these funds signals to investors that management is committed to the firm's growth and long-term value creation, which can directly influence market valuation. Through the lens of RBT, firms that optimize inventory management while strategically deploying long-term investment strengthen both their operational efficiency and strategic positioning. Such effective resource management indicates robust internal controls, managerial competence, and the capacity to create sustained value. Consequently, these resources do more than support daily operations they directly shape investor perceptions and market confidence, which can translate into higher firm valuation, as measured by stock prices, Tobin's Q, or market capitalization. In essence, Total Inventories and Long-Term Investments are not merely accounting items; they are strategic assets that, when managed efficiently, serve as the foundation for sustainable competitive advantage and enhanced market value.

### **2.3.3 Tobin's Q Theory of Investment**

Tobin's Q theory of investment was propounded by James Tobin (1969) and it is the anchored theory of this study and forms one of the major theoretical foundations underpinning this study. The theory provides a strong theoretical foundation for explaining the relationship between a firm's asset structure and its market valuation (Summers, 2018). The theory explains that firm value and investment decisions are determined by the ratio of the market value of a firm to the replacement cost of its assets, commonly referred to as Tobin's Q. This ratio reflects how the financial market values a firm relative to the cost of replacing its asset base, thereby serving as an indicator of investment attractiveness and market efficiency in valuation (Cochrane, 2017).

Tobin's Q is a forward-looking measure that captures investors' expectations about a firm's future profitability, growth opportunities, and performance prospects. When the value of Q exceeds one ( $Q > 1$ ), it implies that the market values the firm above the cost of replacing its assets, suggesting strong growth potential and profitable investment opportunities. In such cases, firms are encouraged to expand investment because additional capital is expected to yield returns higher than its cost of acquisition, thereby enhancing firm value (Cochrane, 2017). Conversely, when Q is less than one ( $Q < 1$ ), it indicates that the firm is undervalued relative to its asset base, reflecting weak market expectations and reduced incentives for further investment (Gomes & Schmid, 2016).

Total inventories and long-term investments are conceptualized as key components of a firm's asset structure that influence market valuation through their impact on expected future cash flows. Total inventories, as part of current assets, are essential for supporting production continuity, meeting customer demand, and maintaining operational efficiency. Efficient inventory management enhances production stability and improves revenue generation capacity, which positively shapes investor expectations and increases market valuation. However, excessive inventory levels may signal inefficiency, weak demand, or poor managerial control, which can negatively affect expected profitability and reduce Tobin's Q (Nguyen & Dong, 2017). Long-term investments represent strategic allocations into fixed assets such as property, plant, equipment, and other productive resources that generate benefits over an extended period. These investments are closely linked to firm growth, capacity expansion, and long-term profitability. Within the Tobin's Q framework, long-term investments are particularly important because they reflect the firm's ability to generate future returns that exceed the replacement cost of assets. When such investments are efficient and value-enhancing, they strengthen investor confidence and increase market valuation, thereby raising Tobin's Q (Baker, Stein, & Wurgler, 2016).

Tobin's Q theory is that market valuation depends not only on the quantity of assets held by a firm but also on the expected productivity and profitability of those assets. This means that firms with similar asset bases may experience different market valuations depending on how efficiently investors expect those assets to generate future returns (Gomes & Schmid, 2016). Accordingly, both total inventories and long-term investments influence Tobin's Q not only through their accounting values but also through the expectations they create about future performance and cash flow generation. Furthermore, Tobin's Q theory emphasizes a dynamic interaction between investment decisions and market valuation. Firms adjust their investment behaviour in response to changes in their Q ratio, while investors continuously update their valuation of firms based on observed asset composition and expected investment outcomes (Summers, 2018). This creates a feedback mechanism in which inventory management and long-term investment decisions play a central role in shaping market perception and firm value.

In the context of listed consumer and industrial goods firms in Nigeria, Tobin's Q theory is particularly relevant due to the importance of efficient asset utilization in determining firm performance and market valuation. Firms in these sectors rely heavily on effective inventory control and strategic long-term investments to sustain production efficiency, meet market demand, and achieve growth. Therefore, variations in total inventories and long-

term investments are expected to significantly influence investors' valuation of firms, as reflected in Tobin's Q. Tobin's Q theory provides a robust theoretical foundation for this study by establishing a clear relationship between asset composition and market valuation. It explains how total inventories and long-term investments influence investor expectations and ultimately determine firm value relative to the replacement cost of assets, making it highly suitable for analyzing their effects on the market value of listed consumer and industrial goods firms in Nigeria.

**III. METHODOLOGY**

The study adopted a longitudinal research design to examine the relationship between total inventories and long-term investment on market value among listed consumer and industrial goods firms in Nigeria. Secondary data were extracted from the annual reports and accounts of sampled firms listed on the Nigerian Exchange Group (NGX) over a ten-year period (2015–2024). The population comprised 33 listed consumer and industrial goods firms, from which 25 firms were purposively selected based on continuous listing and operating within the study period and availability of relevant data. The study was anchored on the positivist research philosophy and employed an inductive approach to facilitate empirical analysis of relationships among variables. Market value was proxied by Tobin's Q, while the independent variables included total inventories and long-term investments. Firm size was introduced as a control variable and measured as the natural logarithm of total assets. Data were analysed using descriptive statistics and inferential techniques, including correlation analysis, diagnostic tests, Hausman specification test, and robust fixed-effects regression, with estimations carried out using STATA 19. The study adapted the econometric model of Saleh (2018) study on the Impact of Tangible and Intangible Assets Investment on Value of Manufacturing Companies Quoted on the Indonesia Stock Exchange as indicated below: Original Model of Saleh (2018):

$$FV = f\{TA, IA, CR\} \dots \dots \dots 3.1$$

From the above function, the derived regression model for this study, is stated as:

$$TQ_{it} = \beta_0 + \beta_1 TINV_{it} + \beta_2 LTINV_{it} + \beta_3 FSIZ_{it} + u_{it} \dots \dots \dots 3.2$$

Where:

- TQ = Tobin's Q proxied for Market value
- TINV = Total inventories
- LTINV = Long-Term Investment
- FSIZ<sub>it</sub> = Firm size
- u<sub>it</sub> = Unobserved firm-specific effect
- t = Time Period
- μ = Idiosyncratic error term
- β<sub>0</sub> = Intercept term
- β<sub>1</sub>–β<sub>3</sub> = Coefficients of explanatory variables
- A priori Expectation

The model predicts that β<sub>1</sub>–β<sub>3</sub> > 0. This implies that all the explanatory (β<sub>1</sub>–β<sub>3</sub>) and control variable are expected to have positive significant effect on market value. Adequate inventories support uninterrupted production and revenue generation, signaling operational strength, while effective management mitigates holding costs. Long-term investment signal growth and competitive strength. Firm size (FSIZ) is also expected to have a positive effect, consistent with larger firms commanding higher market valuation. These expectations are grounded in Tobin's Q Theory of Investment, which highlights that efficient deployment of resources into inventories and long-term assets is expected to enhance market value and signal strong future earnings potential and favorable growth opportunities to investors. Accordingly, firms that optimize inventory levels and pursue strategic long-term investments are more likely to achieve higher market valuation, while increased firm size further strengthens investor confidence through perceived stability, diversification, and resource capacity.

Table 1: Variable Definition and Measurement

S/N	Variables	Description	Abbr.	Measurement	Source	Apriori Expectation
1	Market Value	Dependent Variable	Tobin's Q	Market Value of Equity+Book Value of Total Debt/Book value of total assets	Tahat <i>et al.</i> (2018)	+
2	Total Inventories	Independent variable	TINV	Raw material + Work - in -progress + Finished Goods under current asset in financial statement/Total Assets	Habakku <i>et al.</i> (2023)	+
3	Long-term investment	Independent variable	LTINV	Carrying value in the statement of financial position/Total Assets	Mwaniki and Omagwa (2017)	+
4	Firm Size	Control Variable	FSIZ	Natural logarithm of total assets	Lehenchuk <i>et al.</i> (2024); Ocat & Findik (2019)	+

Source: Researcher’s Compilation, 2026

#### IV. RESULTS AND DISCUSSION

##### Descriptive Statistics

Descriptive statistics shows the summarised form of the variables examined in the study dataset by presenting the measures such as the maximum, mean, medium, standard deviation within the dataset providing the significant features of the data used for the analysis. It is the preliminary analysis for additional statistical investigations. The descriptive statistics of the effect of total inventories and long-term investment on market value of listed consumer and industrial goods firms in Nigeria results are shown in Table 4.1.

Table 4.1: Descriptive Statistics

**TOTAL INVENTORIES AND LONG-TERM INVESTMENT ON MARKET VALUE OF LISTED...**

Variable	N	Mean	SD	Min	Max	p50	Skewness	Kurtosis
tq	250	5.324848	12.96308	.431	106.836	1.263	4.80311	28.99849
tinv	250	.1771	.1497726	0	1.244	.138	2.511872	14.10167
ltinv	250	.00636	.0216617	0	.175	0	5.09512	32.46725
fsiz	250	7.2833	.9867556	4.758	9.056	7.3205	-.2177386	2.261856

Source: Author’s Computation Using STATA version 19 (2026)

The descriptive statistics in Table 4.1 summarizes the descriptive statistics of the study variables: Tobin’s Q (TQ), total inventory (TINV), long-term investment (LTINV), and firm size (FSIZ), highlighting their distribution, central tendencies, and variability. The results reveal substantial variation in market value across firms. TQ has a mean of 5.3248 and a median of 1.263, indicating the presence of extreme values, supported by a high standard deviation of 12.9631 indicating considerable dispersion in TQ across the sampled firms and a wide range market valuation with minimum and maximum values of 0.431 to 106.836. Its high skewness values of 4.8031 and kurtosis of 28.9985 show that TQ is positively skewed and leptokurtic, suggesting outliers and non-normality. TINV records a mean of 0.1771 and a median of 0.138, with standard deviation of 0.1498 suggesting a moderate level of inventory holdings among firms and a reasonable level of variability. The variability ranges from 0 to 1.244, implies that while some firms hold no inventory, others maintain relatively high levels. Its positive skewness 2.5119 and high kurtosis 14.1017 indicate that a few firms hold significantly higher inventories than others. LTINV shows a very low mean of 0.00636 and a median of 0, implying that most firms have minimal long-term investments. Despite a small standard deviation of 0.0217, its high skewness of 5.0951 and kurtosis of 32.467 suggest that only a few firms engage significantly in long-term investments, while the majority record negligible amounts. FSIZ, however, appears more stable, with a mean of 7.2833, median of 7.3205 and a slightly low standard deviation of 0.9868. The minimum and maximum values 4.758 and 9.056, respectively show a reasonable spread in firm sizes. The skewness value of -0.2177 and kurtosis of 2.2619 indicate that FSIZ is approximately normally distributed, with no serious deviation from symmetry. TQ, TINV, and LTINV exhibit positive skewness and leptokurtosis, reflecting outliers and non-normality while FSIZ is fairly normally distributed, providing sufficient cross-sectional diversity for robust empirical analysis.

**Correlation Analysis**

Correlation analysis examines the relationship between the dependent variable (market value proxied by Tobin’s Q and the independent variables proxied by total inventories and long-term investment, and the control variable proxied by firm size). It shows the strength and direction of associations among the variables before regression analysis is conducted. The results of the analysis are shown in Table 4.2

Table 4.2: Correlation Matrix

	tq	tinv	ltinv	fsiz
tq	1.0000			
tinv	-0.2010 0.0014	1.0000		
ltinv	-0.0836 0.1877	0.0464 0.4652	1.0000	
fsiz	-0.2701 0.0000	0.0468 0.4616	-0.1653 0.0088	1.0000

Source: Author’s Computation Using STATA version 19 (2026)

In conducting the correlation analysis between Tobin’s Q (market value) and the explanatory variables total inventory (TINV), long-term investment (LTINV), and firm size (FSIZ). The null hypothesis (H<sub>0</sub>) for each hypotheses posits that there is no significant correlation between Tobin’s Q and the respective variables. The decision rule is based on the associated p-values: if the p-value is less than the 0.05 level of significance, the null hypothesis is rejected; otherwise, it is not rejected. The correlation coefficient between Tobin’s Q and TINV is – 0.2011 with a p-value of 0.0014 (p < 0.05). Since the p-value is less than the 0.05 significance level, the null hypothesis is rejected, indicating a negative and statistically significant relationship between total inventory and market value. This implies that higher inventory holdings are associated with lower market value among listed consumer and industrial goods firms in Nigeria. The finding suggests that excessive inventories may signal inefficiencies, higher holding costs, or slow-moving stock, which could adversely affect investors’ perception of market value. The correlation coefficient between Tobin’s Q and LTINV is –0.0836 with a p-value of 0.1879(p > 0.05). Because the p-value exceeds the 0.05 threshold, the null hypothesis is not rejected, indicating a negative but statistically insignificant relationship. This suggests that long-term investment relative to total assets does not have a meaningful influence on market value within listed consumer and industrial goods firms in Nigeria. Although long-term investments may support future growth, their effect on market value appears weak and not immediately reflected in investors’ valuation.

Furthermore, the correlation coefficient between Tobin’s Q and FSIZ is –0.2701 with a p-value of 0.0000 (p < 0.05). This result leads to the rejection of the null hypothesis and indicates a negative and statistically significant relationship between firm size and market value. This suggests that larger firms, in this sample, tend to exhibit lower Tobin’s Q ratios. A possible explanation is that larger firms may experience slower growth opportunities or diminishing marginal returns to scale, which could reduce their relative market valuation compared to smaller, more growth-oriented firms. Conclusively, the correlation results indicate that among the variables considered, total inventory and firm size show significant associations with market value, while long-term investment does not exhibit a statistically meaningful relationship.

**Multicollinearity Test (VIF)**

The multicollinearity test examines the degree of linear dependence among the explanatory variables. Gujarati and Porter (2006), VIF values below 10 indicate an absence of multicollinearity, whereas values above 10 suggest severe multicollinearity and justify rejection of the null hypothesis of no multicollinearity.

Table 4.3: Multicollinearity Test (VIF)

Variable	VIF	1/VIF
fsiz	1.03	0.969699
ltinv	1.03	0.969733
tinv	1.01	0.994800
Mean VIF	1.02	

Source: Author’s Computation Using STATA version 19 (2026)

Multicollinearity was assessed using the Variance Inflation Factor (VIF), with values below 10 indicating absence of multicollinearity. The reported VIFs of 1.03, 1.03, and 1.00, with a mean of 1.02) confirm the model is free from significant multicollinearity, suggesting that TINV, LTINV, and FSIZ are not highly linearly correlated.

**Heteroskedasticity Test**

The Breusch-Pagan-Godfrey test is employed to examine the presence of heteroskedasticity in the regression model. The null hypothesis posits homoskedasticity (constant variance of residuals). P-value below 0.05 indicates heteroskedasticity, whereas a p-value above 0.05 supports the assumption of constant error variance.

**Hypothesis**

H<sub>0</sub> The Error Variances are all Equal (Homoscedastic).

H<sub>1</sub> The Error Variances are not Equal (Heteroskedasticity)

**Decision Rule**

The decision rule states that if the Breusch-Pagan-Godfrey test yields a p-value  $\geq 0.05$ , the null hypothesis is not rejected, indicating that homoskedasticity is likely present (i.e., no heteroskedasticity). But where the p-value is less than 0.05, the alternate hypothesis is accepted indicating heteroskedasticity.

Table 4.4: Heteroskedasticity Test

**Breusch-Pagan/Cook-Weisberg test for heteroskedasticity**

Assumption: Normal error terms

Variable: Fitted values of tq

H0: Constant variance

chi2(1) = 256.19

Prob > chi2 = 0.0000

Source: Author’s Computation Using STATA Version 19 (2026)

Table 4.4 result shows a p-value of 0.0000 and a significant Chi-square statistic ( $p < 0.05$ ) The null hypothesis of homoskedasticity is rejected indicating heteroskedasticity, confirming that the model’s error variance is not constant. This indicates that OLS standard errors could be biased, potentially affecting inference. To correct for this, subsequent regressions employed robust standard errors to ensure reliable hypothesis testing and valid results.

**Hausman Specification Test**

The Hausman specification test was employed to determine the appropriate model between fixed-effects and random-effects regressions in the panel data analysis (Hausman & Taylor, 1981). This test assesses whether the error term is correlated with the regressors.

Hypotheses:

H<sub>0</sub>: Random effects model is appropriate

H<sub>1</sub>: Fixed effects model is appropriate

Decision Rule:

If  $p < 0.05$ , H<sub>0</sub> is rejected and fixed effects is preferred; if  $p > 0.05$ , H<sub>0</sub> is not rejected and random effects is more appropriate.

Table 4.5: Hausman Test

	Coefficients		(b-B) Difference	sqrt(diag(V b-V_B)) Std. err.
	(b) fixed	(B) random		
tin	3.651563	2.596757	1.054806	.8444889
ltin	-27.91833	-35.27934	7.361019	14.99881
fsiz	-9.798565	-6.638225	-3.16034	1.537861

b = Consistent under H<sub>0</sub> and H<sub>a</sub>; obtained from xtreg.  
B = Inconsistent under H<sub>a</sub>, efficient under H<sub>0</sub>; obtained from xtreg.

Test of H<sub>0</sub>: Difference in coefficients not systematic

chi2(3) = (b-B)'[(V\_b-V\_B)^(-1)](b-B)  
= 12.41

Prob > chi2 = 0.0061

Source: Author’s Computation Using STATA version 19 (2026)

The Hausman test result indicate a p-value of 0.0061, lower than the 0.05 significance level. This leads to the rejection of the null hypothesis, suggesting that the fixed effects model is the more suitable choice for the dataset. Based on the presence of heteroskedasticity, a robust fixed effect regression analysis was carried out to test the set hypotheses.

**Spam Test**

The Spam Test was further used to evaluate the firm specific effects if they are statistically significant.

Decision Rule:

If the p-value is less than 0.05, reject the null hypothesis ( $H_0$ ) and accept the alternate ( $H_1$ ) and if the p-value is greater than 0.05, accept the null hypothesis ( $H_0$ ) and reject the alternate ( $H_1$ ).

Hypothesis:

$H_0$ : No firm specific effects use Pool OLS

$H_1$ : Firm effects exist used Fixed effect model

Table 4.6: Spam Test

```
( 1)  tinv = 0
( 2)  ltinv = 0
( 3)  fsiz = 0

F( 3, 222) = 7.28
Prob > F = 0.0001
```

Source: Author’s Computation Using STATA version 19 (2026)

Table 4.6 shows the Spam test results indicating that TINV, LTINV, and FSIZ jointly affect TQ. The null hypothesis that all three coefficients equal zero was rejected (favouring Fixed effect regression) at 0.05 level of significance. The results indicated an F-statistic of 7.28 with degrees of freedom (3, 222) and a p-value of 0.0001, indicating that these variables collectively have a statistically significant effect on market value. Therefore, the Fixed effect regression model is more appropriate and also align with the Hausman test result. Based on the heteroskedascity problem, a robust Fixed Effect regression analysis was used to interpret the set hypothesis.

Normality Test (Jarque-Bera or Skewness/Kurtosis Test on Residual)

The normality test examines whether the residuals (errors) from the regression model are appropriately normally distributed. This assumption matters mainly for valid hypothesis testing (t-tests, F-tests), not for estimating coefficients.

Decision rule:

$H_0$ : The residuals are normally distributed

$H_1$ : The residuals are not normally distributed

Interpretation

If p-value < 0.05 reject  $H_0$  (Residuals are not normal)

If p-value > 0.05 accept  $H_0$  (Residuals are normal)

Table 4.7: Normality Test

**Skewness and kurtosis tests for normality**

Variable	Obs	Pr(skewness)	Pr(kurtosis)	Joint test	
				Adj chi2(2)	Prob>chi2
tq	250	0.0000	0.0000	197.64	0.0000
tinv	250	0.0000	0.0000	118.71	0.0000
ltinv	250	0.0000	0.0000	206.82	0.0000
fsiz	250	0.1528	0.0002	13.29	0.0013

Source: Author’s Computation Using STATA version 19 (2026)

The normality test result on Table 4.8 showed that TQ adjusted chi-square value of 197.64 with p-value = 0.0000, TINV adjusted chi square of 118.71 with a p-value = 0.00000 and LTINV adjusted chi square value of 206.82 with p-value = 0.0000 significantly deviated from normality, with skewness, kurtosis, and joint chi-square values all below 0.05. For FSIZ adjusted chi square of 13.29 with p-value = 0.0013, skewness p-value of 0.1528 indicated normality, but kurtosis p-value of 0.0002 and the joint test rejected it, implying deviation mainly due to kurtosis. Overall, none of the variables followed a normal distribution. While this does not invalidate regression analysis, it may bias standard errors, supporting the use of robust regression estimation to ensure valid statistical inference. To address this concern and ensure reliable inference, robust standard errors were employed in the fixed effects regression model. Accordingly, a robust fixed effects regression model was employed, and the results are presented in Table 4.8.

Serial Correlation Test (Wooldridge test)

The serial Correlation Test is conducted to examine the correlation of residuals across time within each firm and provides the reliability of the regression estimates. Serial correlation occurs when the error terms of a firm in one year are correlated with its errors in previous years, violating the assumption of independent residuals and potentially biasing standard errors and test statistics. In panel data (firm × time), serial correlation is common because a firm’s performance in one year may depend on its performance in the previous year as a result of economic shocks, management decisions, or market conditions can persist over time. If ignored, serial correlation can underestimate or overestimate the significance of regression coefficients, making your results unreliable.

Decision rule:

H<sub>0</sub>: No serial correlation (residuals are independent)

H<sub>1</sub>: Serial correlation exist (residual are dependent)

Interpretation

If p-value < 0.05 reject H<sub>0</sub> ( Residuals are dependent) - serial correlation exist, correct using Robust Regression model

If p-value > 0.05 accept H<sub>0</sub> ( Residuals are independent)- no serial correction, model assumptions satisfied

Table 4.8: Serial Correlation Test

```

Wooldridge test for autocorrelation in panel data
H0: no first order autocorrelation
      F( 1,      24) =      15.728
      Prob > F =      0.0006
    
```

Source: Author’s Computation Using STATA version 19 (2026)

The Wooldridge test for Serial correlation result indicate an F-statistic of 15.728 with a p-value of 0.0006. Since the p-value is within the 0.05 significance level, indicate there is significant first-order autocorrelation in the study panel data model. This leads to the rejection of the null hypothesis, indicating the presence of first-order serial correlation in the error term, and all subsequent panel regressions are therefore interpreted using any of the robust panel standard errors estimation techniques such as firm-clustered robust standard errors, Driscoll–Kraay standard errors, or feasible generalized least squares (FGLS), is justified to correct for serial correlation and improve the reliability of the regression results.

Test of Research Hypotheses

Driscoll-Kraay Fixed Effects Regression Model

Panel regression analysis was conducted to examine the determinants of firm’s market value. The Hausman test and Spam Test confirmed the appropriateness of the fixed effects model, and the Breusch-Pagan-Godfrey test detected heteroskedasticity, so also the serial correlation test (Wooldridge test) indicated significant autocorrelation in the panel data, normality test showed that none of the variables followed a normal distribution to address these bias standard errors; Driscoll-Kraay Fixed effects regression to ensure robust inference capable of addressing both heteroskedasticity and within-firm serial correlation was applied to test the study hypotheses, as presented in Table 4.7. The Driscoll–Kraay estimator is robust to very general forms of cross-sectional dependence, as well as heteroskedasticity and serial correlation, thereby providing consistent standard errors for statistical inference (Driscoll & Kraay, 1998; Hoechle, 2007). The use of the Driscoll–Kraay fixed effects standard errors estimator ensures reliable and efficient inference. Consequently, no further diagnostic tests for serial correlation will require post estimation.

Table 4.7: Robust Fixed Effect Regression Result



statistically insignificant ( $\text{Prob} > F = 0.0931$ ), indicating that total inventory, long-term investment, and firm size, when considered jointly, do not exert a significant effect on the market value of listed consumer and industrial goods firms in Nigeria. This outcome leads to the acceptance of the null hypotheses that these explanatory variables do not jointly influence Tobin's Q statistically. In conclusion, the findings suggest that internal investment composition alone is insufficient to explain variations in market value among listed consumer and industrial goods firms in Nigeria. Investors appear to place greater weight on factors such as operational efficiency, growth prospects, innovation, corporate governance, and strategic positioning rather than merely the magnitude of inventory or long-term investment levels.

#### Total Inventories and Market Value of Listed Consumer and Industrial Goods Firms in Nigeria

The regression result shows that TINV has a positive coefficient ( $\beta = 3.6516$ ) but is statistically insignificant with a p-value of  $0.323 > 0.05$ . This indicates that total inventory exerts a positive but insignificant effect on market value. This indicates that although inventory accumulation may support continuous production and reduce the risk of stock-outs, it does not significantly enhance investor valuation or market confidence. In practical terms, holding more inventory may contribute to operational stability, but it does not automatically translate into higher market value of the firm unless such inventory is efficiently managed and converted into sales and profits. Consequently, the null hypothesis that total inventories has no significant effect on the market value of listed consumer and industrial goods firms in Nigeria is accepted. This finding is consistent with Devi and Thamrin (2024), that reported that overall inventory management significantly influenced firm value in Indonesian food and beverage firms, only raw material cost had a significant positive effect, while work-in-progress cost, finished goods cost, and inventory turnover cost were insignificant. Their result implies that not all components of inventory equally affect market value, which supports the present study's evidence that aggregate inventory levels may not exert a strong influence on market valuation. Similarly, Ibiam *et al.* (2024) found a negative relationship between inventory turnover and operational performance of FMCG firms in Nigeria, indicating that inefficient inventory management can weaken firm outcomes. Although their study focused on turnover rather than market value, it suggests that inventory-related inefficiencies may undermine performance, thereby limiting the ability of inventory investments to translate into higher market valuation. The present study extends this evidence by demonstrating that total inventories does not significantly affect Tobin's Q, a market-based measure of market value.

The result also aligns with Nasution (2020), who found that inventory turnover does not have a positive effect on profitability among Indonesian automotive firms. This further supports the notion that inventory-related variables do not always enhance firm outcomes, especially where inventories are not optimally managed. However, the finding contrasts the result of Kim and Kiyamaz (2024) with a significant positive relationship between inventory investment and firm value (Tobin's Q) among Korean non-financial firms, particularly for firms with high growth opportunities. The divergence may be attributed to differences in institutional environment, market efficiency, and growth dynamics. In more developed capital markets, inventory investment may serve as a positive signal of growth potential and operational strength. In contrast, within the Nigerian context, investors may be more cautious, viewing high inventory levels as potential indicators of slow-moving goods, high holding costs, or weak demand rather than growth opportunities. The result also differs from Azali and Newstyle (2022), who reported a negative and significant relationship between inventories and return on assets of listed industrial goods firms in Nigeria. This discrepancy may stem from differences in performance measures. While Azali and Newstyle (2022) employed an accounting-based measure (ROA), the present study uses Tobin's Q, which reflects investor expectations and future growth prospects. A firm may appear inefficient in accounting terms yet still maintain stable market valuation if investors anticipate future improvements or strategic repositioning. From the perspective of the Resource-Based Theory (RBT), inventories constitute a valuable resource only when they are effectively deployed to create efficiency, responsiveness, and competitive advantage. Since inventories are neither rare nor inimitable, mere accumulation does not guarantee superior market value. The insignificant effect observed in this study implies that Nigerian consumer and industrial goods firms may not be leveraging inventory investments in a manner that creates distinctive value or strong market signals. In conclusion, the findings suggest that in the Nigerian consumer and industrial goods sector, total inventories provides operational support but does not constitute a major driver of market value. Investors appear to place greater emphasis on how efficiently inventories are managed and converted into sales and growth rather than on the absolute level of inventory holdings.

#### Long-Term Investment (LTINV) on the Market Value of Listed Consumer and Industrial Goods Firms in Nigeria

The results show that long-term investment (LTINV) has a negative and statistically significant effect on market value (Tobin's Q), with a coefficient of  $-27.91833$  ( $p = 0.044$ ). This indicates that increases in long-term investment leads to a decline in the market value of listed consumer and industrial goods firms in Nigeria, leading to the rejection of the null hypothesis. This suggests that in the Nigerian context, long-term investments are perceived

by investors as capital-intensive commitments with uncertain and delayed returns, particularly in an environment marked by macroeconomic instability, weak infrastructure, and investment inefficiencies. Consequently, capital markets tend to discount firms with high long-term investment exposure due to concerns about execution risk, long gestation periods, and uncertain future cash flows.

Empirically, this finding is consistent with the study of Danladi *et al.* (2026) that reported that long-term investments exert a negative and significant effect on firm value among listed consumer goods firms in Nigeria, emphasising that value is driven more by the efficient utilisation and strategic alignment of non-current assets than by their mere accumulation. Similarly, Aseinimieyefori (2022) and Umobong and Agburuga (2019) documented negative effects of long-term investments on firm performance, attributing this to inefficiencies in resource allocation. In contrast, studies such as Cremers *et al.* (2020) and Mwaniki & Omagwa (2017) found positive effects in developed and other emerging markets, where stronger governance systems and better capital market efficiency enhance the value relevance of long-term investment. Similarly, Kim and Kiyamaz (2024) argue that investment improves firm value only when it is efficiently managed and aligned with growth opportunities, as it signals future profitability and reduces information asymmetry. The negative result in this study implies that Nigerian firms may not be effectively translating long-term investments into credible growth signals for investors.

Theoretically, the finding is consistent with the Tobin's Q Investment Theory, which holds that firms invest when market value exceeds replacement cost ( $Q > 1$ ). However, when long-term investments do not generate expected future returns, they may be interpreted as inefficient capital allocation, thereby reducing Tobin's Q.

Overall, the evidence suggests that long-term investment does not enhance market value in the Nigerian consumer and industrial goods sector; instead, it reduces it. This highlights that the value relevance of long-term investment is context-dependent, and its impact on market value depends not on its size, but on efficiency, execution quality, and alignment with credible growth opportunities.

**Firm Size and Market Value of Listed Consumer and Industrial Goods Firms in Nigeria**

Firm size (FSIZ), included as a control variable, has a negative significant effect on market value, with a coefficient of  $-9.798$  and  $p = 0.026 > 0.05$  indicating that increases in firm size are associated with a significant decline in Tobin's Q among listed consumer and industrial goods firms in Nigeria. This implies that larger firms tend to experience lower market valuation, suggesting possible diseconomies of scale, increased bureaucratic complexity, and reduced operational efficiency. From the perspective of the Tobin's Q Investment Theory, market value reflects investors' expectations of future returns relative to asset replacement cost. Therefore, the result indicates that in the Nigerian context, expansion in firm size does not translate into higher expected value creation; instead, it may signal inefficiencies that reduce investor confidence and lower market valuation.

## V. CONCLUSION AND RECOMMENDATION

The study concluded that total inventories and long-term investment do not significantly influence the market value of listed consumer and industrial goods firms in Nigeria. The findings deviate from Tobin's Q investment theory, as long-term investment negatively affects market value, indicating that long-term investment are not consistently value enhancing and may reflect inefficiencies in investment allocation, where resources may be directed toward low-return or suboptimal projects, limiting the effective translation of investment into market value. This also implies that firms may face managerial or institutional inefficiencies in investment decisions, while investors appear to rely more on intangible factors such as profitability, innovation capacity, and corporate governance quality, consistent with signaling and Resource-Based theories. Consequently, market value is driven more by the quality of investment decisions than their scale, highlighting the need for more disciplined, efficient and value-oriented investment practices aligned with Tobin's Q investment theory. In line with these conclusions, the following recommendations are proposed:

1. Listed consumer and industrial goods firms in Nigeria should adopt efficient inventory management practices, including demand forecasting and just-in-time systems, to maintain optimal inventory levels without locking up excess capital.
2. Listed consumer and industrial goods firms in Nigeria should strengthen long-term investment appraisal using tools like NPV and IRR to ensure only value-enhancing projects are undertaken in line with Tobin's Q investment theory.

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