

Inventory Management and Profitability of Listed Real Estate Firms: Evidence from Vietnam

Nguyen Khanh Linh

Independent Researcher, Hanoi, Vietnam

ABSTRACT: This study examines the impact of inventory management on the profitability of listed real estate firms in Vietnam. Using a balanced panel dataset of 70 firms over the period 2021-2025, the study investigates two dimensions of inventory management, namely Inventory-to-Sales Ratio (ISR) and Inventory-to-Total Assets Ratio (ITA). Ordinary Least Squares (OLS) regression is employed to assess their effects on firm profitability measured by Return on Assets (ROA). The results indicate that both ISR and ITA have a negative and statistically significant impact on profitability, suggesting that excessive inventory accumulation reduces firms' financial performance. Among the two proxies, ISR exhibits stronger explanatory power, implying that inventory efficiency relative to sales activities is more closely associated with profitability than inventory intensity within the asset structure. In addition, revenue growth positively influences profitability, whereas financial leverage exerts a negative effect. Firm size is found to be statistically insignificant. The findings support the working capital management framework and highlight the importance of efficient inventory control in capital-intensive industries. This study contributes to the literature by providing evidence from Vietnam's real estate sector and by offering a comparative assessment of alternative inventory management measures within a unified analytical framework.

KEYWORDS: inventory management; profitability; return on assets; real estate firms; working capital management

I. INTRODUCTION

Inventory management is a key component of working capital management because it affects liquidity, operational efficiency, and profitability. While adequate inventory supports business continuity, excessive inventory may increase holding costs, lock up capital, and reduce firm performance (Koumanakos, 2008). According to the cash conversion cycle framework, efficient inventory management shortens the period during which capital remains tied up in operations, thereby improving profitability (Richards & Laughlin, 1980; Shin & Soenen, 1998). Previous studies also show that effective working capital management enhances firm performance through better liquidity and resource utilization (Deloof, 2003; Baños-Caballero et al., 2014). From a supply chain perspective, inventory acts as a buffer against uncertainty, while technological advances associated with Industry 5.0 have improved inventory visibility and decision-making capabilities (Tracey et al., 2005; Panigrahi et al., 2025; Gupta et al., 2025).

Despite extensive research, evidence on the inventory–profitability relationship remains inconclusive. Several studies report that efficient inventory management improves profitability (Atnafu & Balda, 2018; Alnaim & Kouaib, 2023; Yeboah et al., 2024), whereas others find that excessive inventory reduces performance due to higher carrying costs and inefficient asset allocation (Koumanakos, 2008). The relationship may also be non-linear, as both insufficient and excessive inventory can harm firm performance (Eroglu & Hofer, 2010). Moreover, the impact of inventory management varies across industries and market conditions (Kiyamaz et al., 2024; Wanzala & Obokoh, 2024).

The real estate sector provides a particularly relevant context because inventories, including land reserves and properties under development, often account for a large share of total assets. As a result, inventory decisions can substantially influence profitability and asset utilization (Li et al., 2021). However, empirical evidence for real estate firms, especially in emerging economies, remains limited.

Inventory Management and Profitability of Listed Real Estate Firms: Evidence from Vietnam

In Vietnam, existing studies mainly focus on manufacturing and retail firms (Anh Vu Thi & Thanh Hoang, 2025; Ta & Le, 2025), while evidence for listed real estate companies is scarce. Recent findings further suggest that inventory-performance relationships may depend on firm-specific characteristics and operating conditions (Nguyen et al., 2025). To address this gap, this study examines the impact of inventory management on the profitability of 70 listed real estate firms in Vietnam during 2021–2025. Using two inventory measures, ISR and ITA, the study provides comparative evidence on how different dimensions of inventory management affect profitability in a capital-intensive industry.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1. Theoretical background

The relationship between inventory management and firm profitability is primarily explained by the working capital management framework, particularly the cash conversion cycle (CCC) approach. Richards and Laughlin (1980) define the CCC as the period during which corporate funds remain committed to operating activities before being converted into cash. Since inventory represents a major component of working capital, inefficient inventory management prolongs the CCC and increases capital lock-up. Accordingly, firms can improve profitability by reducing inventory-related capital commitments (Shin & Soenen, 1998). Empirical evidence further suggests that efficient working capital management enhances firm performance through improved liquidity and resource utilization (Deloof, 2003; Baños-Caballero et al., 2014).

Inventory management also affects firms' financing requirements. Excessive inventory accumulation increases working capital needs and may create additional financing constraints, thereby reducing profitability (Bendavid et al., 2017). Consequently, firms are expected to maintain inventory levels that support operational needs while minimizing unnecessary capital investment.

From a supply chain perspective, inventory acts as a buffer against uncertainty and operational disruptions. Effective supply chain capabilities improve organizational performance, whereas excessive inventory may generate significant holding costs and reduce financial efficiency (Tracey et al., 2005). Therefore, firms must balance inventory availability with inventory-related costs to achieve optimal performance.

Recent developments in digital transformation and Industry 5.0 have further enhanced inventory management. Advanced technologies, integrated information systems, artificial intelligence, and data analytics improve inventory visibility, forecasting accuracy, and decision-making quality, enabling firms to optimize inventory levels and strengthen profitability (Panigrahi et al., 2025; Gupta et al., 2025).

Overall, both working capital management and supply chain theories suggest that inventory management influences profitability through liquidity, financing efficiency, operational effectiveness, and cost control, particularly in capital-intensive industries where inventory constitutes a substantial share of total assets.

2.2. Inventory management and profitability

Inventory management has attracted considerable attention because of its direct impact on operational efficiency and financial performance. Since inventory represents a significant component of working capital, efficient inventory management can improve resource utilization, reduce capital lock-up, and enhance profitability (Deloof, 2003; Baños-Caballero et al., 2014).

Most empirical studies suggest that effective inventory management improves firm performance. Atnafu and Balda (2018) show that inventory management practices enhance competitiveness and organizational performance, while Alnaim and Kouaib (2023) find a positive relationship between inventory turnover and profitability. Similar evidence is reported by Tocar (2024), Yeboah et al. (2024), and Gara and Adamu (2026), who conclude that firms with greater inventory efficiency tend to achieve superior financial outcomes.

However, excessive inventory may adversely affect profitability. Eroglu and Hofer (2010) argue that the inventory–performance relationship is non-linear, implying the existence of an optimal inventory level. Likewise, Koumanakos (2008) finds that excessive inventory reduces firm performance due to higher holding costs and inefficient resource allocation. Bendavid et al. (2017) further suggest that inventory accumulation increases working capital requirements and financing constraints, thereby weakening profitability.

Recent studies indicate that the impact of inventory management is highly context-dependent. Firm characteristics, financing conditions, and industry environments can influence the effectiveness of inventory decisions (Kiyamaz et al., 2024; Wanzala & Obokoh, 2024). Evidence from emerging economies also shows that inventory management becomes particularly important when firms face limited access to external financing and inventory accounts for a large share of total assets (Mandipa & Sibindi, 2022; Osei et al., 2023). Moreover, efficient working capital management continues to be an important driver of firm performance across different economic conditions (Ahmad et al., 2022; Kiyamaz et al., 2024).

Inventory Management and Profitability of Listed Real Estate Firms: Evidence from Vietnam

The real estate sector represents a particularly relevant context because inventories, including land reserves, projects under development, and completed properties, require substantial capital commitments and long holding periods. Li et al. (2021) emphasize that inventory management is a key determinant of real estate firms' operational and financial performance. Although recent Vietnamese studies confirm the importance of inventory management for firm performance (Anh Vu Thi & Thanh Hoang, 2025; Ta & Le, 2025), evidence remains concentrated in manufacturing and retail industries, leaving listed real estate firms largely unexplored.

2.3. Control variables and profitability

In addition to inventory management, firm profitability may be influenced by several firm-specific characteristics. Therefore, this study incorporates firm size (SIZE), financial leverage (LEV), and revenue growth (GROW) as control variables.

Firm size is commonly associated with economies of scale, stronger market positions, and easier access to financial resources, which may improve profitability (Kiyamaz et al., 2024). Larger firms may also possess superior managerial capabilities and operational efficiencies that contribute to better financial performance.

Financial leverage reflects the extent to which firms rely on debt financing. Although debt can provide additional resources for business expansion, excessive leverage may increase financial risk and interest expenses, thereby reducing profitability (Mandipa & Sibindi, 2022; Wanzala & Obokoh, 2024).

Revenue growth represents a firm's ability to expand its business activities and generate future cash flows. Firms experiencing stronger growth are generally expected to achieve higher profitability because increasing revenues can improve resource utilization and operational efficiency (Osei et al., 2023; Wanzala & Obokoh, 2024).

Given their established relationships with firm performance, these variables are included as control variables in the empirical models.

2.4. Hypothesis development

The theoretical framework and prior empirical evidence suggest that inventory management plays an important role in determining firm profitability. According to the cash conversion cycle framework, excessive inventory holdings prolong the period during which capital remains tied up in operating activities, thereby reducing liquidity and increasing financing requirements (Richards & Laughlin, 1980; Shin & Soenen, 1998). Similarly, inventory management studies indicate that inefficient inventory utilization may generate additional holding costs and weaken asset productivity, ultimately reducing firm performance (Koumanakos, 2008; Bendavid et al., 2017).

In the context of real estate firms, inventory typically consists of land reserves, construction work in progress, and completed properties awaiting sale. These inventory items often require substantial financial commitments and long holding periods. Consequently, excessive inventory accumulation may lock considerable resources into non-income-generating assets and adversely affect profitability (Li et al., 2021).

To capture different dimensions of inventory management, this study employs two alternative measures. ISR reflects the extent to which inventory levels are aligned with sales activities and operational efficiency. A higher ISR indicates that inventory accumulates more rapidly than sales, suggesting lower inventory efficiency. ITA measures inventory intensity within the asset structure. A higher ITA implies that a larger proportion of corporate assets is tied up in inventory, potentially reducing asset utilization efficiency.

Prior empirical studies generally report that excessive inventory holdings are associated with weaker firm performance (Koumanakos, 2008; Alnaim & Kouaib, 2023; Yeboah et al., 2024). Although some studies suggest the existence of non-linear inventory effects (Eroglu & Hofer, 2010), empirical evidence from capital-intensive industries generally indicates that excessive inventory accumulation increases holding costs and reduces asset utilization efficiency. This argument is particularly relevant to real estate firms, where inventory often constitutes a substantial proportion of total assets. Therefore, the following hypotheses are proposed:

H_{1a}: ISR is negatively associated with ROA

H_{1b}: ITA is negatively associated with ROA

3. MATERIALS AND METHOD

3.1. Data and sample selection

This study employs secondary data collected from the audited annual financial statements of real estate companies listed on the Vietnamese stock market. The financial information was obtained from firms trading on the Ho Chi Minh Stock Exchange (HOSE), Hanoi Stock Exchange (HNX), and the Unlisted Public Company Market (UPCoM). To ensure the reliability and comparability of the dataset, several screening procedures were conducted.

Inventory Management and Profitability of Listed Real Estate Firms: Evidence from Vietnam

First, only firms whose primary business activities are related to real estate development, investment, and property operations were retained. Second, companies were required to provide complete and continuous financial statements throughout the study period from 2021 to 2025. Third, observations with substantial missing information or abnormal values that could distort the estimation results were excluded from the final sample.

Following the screening process, the study obtained a balanced panel dataset consisting of 70 listed real estate enterprises over a five-year period, resulting in 350 firm-year observations. The use of a balanced panel enhances the consistency of longitudinal analysis and allows for a more reliable examination of the relationship between inventory management and corporate profitability in the context of Vietnam's real estate industry.

3.2. Variable definition and measurement

To investigate the relationship between inventory management and firm profitability, the study develops a measurement framework comprising one dependent variable, two inventory management proxies, and a set of firm-level control variables.

Dependent variable

Firm profitability is represented by ROA, measured as net income after tax divided by total assets. ROA is widely recognized as an indicator of managerial efficiency in utilizing corporate resources to generate earnings.

Independent variables

Inventory management is captured through two alternative measures. The first is ISR, calculated as total inventory divided by net sales revenue. This indicator reflects the extent to which inventory is accumulated relative to sales activities. The second is ITA, measured as total inventory divided by total assets, representing the proportion of corporate resources invested in inventory holdings.

Control variables

Following prior studies on firm performance, the analysis incorporates several firm-specific control variables. SIZE is measured by the natural logarithm of total assets and is included to account for scale-related advantages. LEV, calculated as total liabilities divided by total assets, controls for the influence of financing decisions and debt burden on profitability. GROW, measured as the annual percentage change in net sales, is used to capture firms' expansion opportunities and business dynamics.

3.3. Empirical model specification

To examine the impact of inventory management on firm profitability, this study employs Ordinary Least Squares (OLS) regression analysis. Since inventory management is represented by two alternative proxies, namely ISR and ITA, two separate regression models are estimated. Estimating the models independently allows the study to assess the influence of different dimensions of inventory management on firm performance while avoiding potential overlap between the inventory measures.

The baseline regression models are specified as follows:

Model 1 (Operational efficiency specification):

$$ROA_{it} = \beta_0 + \beta_1 ISR_{it} + \beta_2 SIZE_{it} + \beta_3 LEV_{it} + \beta_4 GROW_{it} + \epsilon_{it}$$

Model 2 (Asset intensity specification):

$$ROA_{it} = \beta_0 + \beta_1 ITA_{it} + \beta_2 SIZE_{it} + \beta_3 LEV_{it} + \beta_4 GROW_{it} + \epsilon_{it}$$

Where:

i and t denote the individual listed real estate firm ($i = 1, 2, \dots, 70$)

ROA_{it} denotes the return on assets of firm i in year t ;

$SIZE_{it}$, LEV_{it} and $GROW_{it}$ are control variables capturing firm size, financial leverage, and revenue growth, respectively;

β_0 represents the constant intercept, β_1 to β_4 are the parameters to be estimated, ϵ_{it} is the idiosyncratic error term.

The empirical analysis is conducted using SPSS 27. Descriptive statistics are first employed to summarize the characteristics of the dataset, followed by Pearson correlation analysis and Variance Inflation Factor (VIF) tests to assess potential multicollinearity. The regression models are evaluated based on the estimated coefficients, adjusted (R^2), and F-statistics. In addition, diagnostic tests, including the Durbin–Watson statistic and residual analysis, are performed to verify the validity of the regression assumptions and the reliability of the estimated results. The limitations associated with the OLS approach are acknowledged and discussed in the concluding section.

Inventory Management and Profitability of Listed Real Estate Firms: Evidence from Vietnam

4. RESULTS

4.1. Descriptive statistics

Descriptive statistics are reported for all variables based on a balanced panel dataset comprising 350 firm-year observations from 70 listed real estate companies over the 2021-2025 period. The dataset is complete, with no missing observations, providing a consistent basis for the subsequent empirical analyses.

Table 1: Descriptive statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ROA	350	1.000	52.089	4.177	4.482
ISR	350	.010	63.069	2.987	6.007
ITA	350	.010	.904	.248	.205
GROW	350	-87.902	95.000	6.708	48.362
LEV	350	.024	1.110	.520	.181
SIZE	350	2.538	6.050	3.795	.695

Table 1 presents the descriptive statistics of the study variables based on 350 firm-year observations. The average ROA is 4.177%, indicating a relatively modest profitability level among listed real estate firms, although considerable variation exists across companies. For inventory management, the mean values of ISR and ITA are 2.987 and 0.248, respectively, suggesting substantial differences in inventory holdings relative to sales and total assets.

Among the control variables, GROW exhibits the highest variability, reflecting the volatile business conditions of the real estate sector during the study period. The average LEV is 0.520, indicating that liabilities account for approximately 52% of total assets, while SIZE shows moderate variation across firms.

Overall, the descriptive statistics reveal substantial heterogeneity in profitability, inventory management practices, and growth performance, providing sufficient variation for the subsequent regression analysis.

4.2. Correlation matrix

Table 2: Correlation matrix

		ROA	ISR	ITA	GROW	LEV	SIZE
ROA	Pearson Correlation	1	-.224**	-.151**	.225**	-.170**	-.084
	Sig. (2-tailed)		.000	.005	.000	.001	.116
ISR	Pearson Correlation	-.224**	1	.444**	-.166**	.153**	.092
	Sig. (2-tailed)	.000		.000	.002	.004	.084
ITA	Pearson Correlation	-.151**	.444**	1	-.015	.201**	.103
	Sig. (2-tailed)	.005	.000		.778	.000	.054
GROW	Pearson Correlation	.225**	-.166**	-.015	1	.114*	.025
	Sig. (2-tailed)	.000	.002	.778		.033	.639
LEV	Pearson Correlation	-.170**	.153**	.201**	.114*	1	.269**
	Sig. (2-tailed)	.001	.004	.000	.033		.000
SIZE	Pearson Correlation	-.084	.092	.103	.025	.269**	1
	Sig. (2-tailed)	.116	.084	.054	.639	.000	
**. Correlation is significant at the 0.01 level (2-tailed).							
*. Correlation is significant at the 0.05 level (2-tailed).							

Table 2 presents the Pearson correlation coefficients among the study variables. Both inventory management proxies are negatively correlated with profitability, with ROA showing significant negative relationships with ISR ($r = -0.224$, $p < 0.01$) and ITA ($r = -0.151$, $p < 0.01$). These results provide preliminary evidence that higher inventory levels may be associated with lower profitability.

Among the control variables, GROW is positively related to ROA ($r = 0.225$, $p < 0.01$), while LEV exhibits a significant negative correlation ($r = -0.170$, $p < 0.01$). In contrast, SIZE is negatively but insignificantly associated with profitability.

Inventory Management and Profitability of Listed Real Estate Firms: Evidence from Vietnam

Regarding multicollinearity, the highest correlation among the independent variables is observed between ISR and ITA ($r = 0.444$, $p < 0.01$), which is well below the commonly accepted threshold of 0.80. Therefore, the correlation matrix does not indicate any serious multicollinearity concern.

4.3. Regression results

Model summary and overall model fit

Table 3: Model summary

Model	R	R Square	Adjusted R Square	F Change	Sig. F Change	Durbin-Watson
1	.339 ^a	.115	.105	11.232	.000	1.191
2	.320 ^a	.103	.092	9.868	.000	1.188

Table 3 summarizes the regression models examining the impact of inventory management on the profitability of Vietnamese real estate firms. Model 1 (ISR) explains 10.5% of the variation in ROA (Adjusted $R^2 = 0.105$), while Model 2 (ITA) explains 9.2% (Adjusted $R^2 = 0.092$), indicating that ISR provides slightly greater explanatory power.

The F-statistics are significant at the 1% level in both models ($p < 0.001$), confirming the overall significance and suitability of the regression specifications. In addition, the Durbin–Watson statistics (1.191 and 1.188) suggest no serious autocorrelation problem in the residuals.

Overall, the results support the validity of both models and indicate that inventory management is significantly associated with firm profitability, with ISR showing a stronger explanatory role than ITA.

ANOVA test results

Table 4: Anova

Model		Sum of Squares Regression	df	Mean Square	F	Sig.
1	Regression	808.105	4	202.026	11.232	.000 ^b
	Residual	6205.324	345	17.986		
	Total	7013.429	349			
2	Regression	720.043	4	180.011	9.868	.000 ^b
	Residual	6293.386	345	18.242		
	Total	7013.429	349			

Table 4 presents the ANOVA results for the two regression models. For Model 1, the regression sum of squares is 808.105, yielding an F-statistic of 11.232 with a significance level of 0.000 ($p < 0.001$). Similarly, Model 2 reports a regression sum of squares of 720.043 and an F-statistic of 9.868, which is also significant at the 1% level. These findings indicate that the independent variables jointly have a statistically significant effect on ROA, and therefore the null hypothesis that all regression coefficients are equal to zero is rejected in both models.

Comparing the two specifications, Model 1 exhibits a higher F-statistic and a larger regression sum of squares than Model 2, suggesting a stronger overall explanatory capacity. This result is consistent with the higher adjusted R^2 reported in Table 3, implying that ISR provides a better representation of inventory management practices affecting profitability than ITA.

Overall, the ANOVA results confirm that both regression models are statistically valid and suitable for examining the relationship between inventory management and the profitability of Vietnamese real estate firms.

Regression results

Table 5: Regression coefficients

Model	Variable	B	Beta	t	Sig.	VIF
1	Constant	7.243		5.555	.000	
	ISR	-.120	-.160	-3.068	.002	1.064
	GROW	.020	.218	4.204	.000	1.050
	LEV	-3.996	-.162	-3.024	.003	1.119
	SIZE	-.201	-.031	-.592	.554	1.081

Inventory Management and Profitability of Listed Real Estate Firms: Evidence from Vietnam

2	Constant	7.595		5.777	.000	
	ITA	-2.406	-.110	-2.110	.036	1.046
	GROW	.023	.244	4.742	.000	1.015
	LEV	-4.108	-.167	-3.072	.002	1.130
	SIZE	-.220	-.034	-.642	.521	1.081

Table 5 reports the regression coefficients for the two model specifications. In Model 1, ISR has a negative and statistically significant effect on profitability ($\beta = -0.160$, $p = 0.002$), indicating that higher inventory levels relative to sales reduce firms' ROA. Similarly, in Model 2, ITA is also negatively associated with profitability ($\beta = -0.110$, $p = 0.036$). These findings suggest that inefficient inventory management may tie up capital and increase holding costs, thereby reducing firm profitability.

Among the control variables, GROW exhibits a positive and significant relationship with ROA in both models ($\beta = 0.218$, $p < 0.001$ in Model 1; $\beta = 0.244$, $p < 0.001$ in Model 2), implying that firms experiencing higher growth tend to achieve better financial performance. In contrast, LEV has a negative and significant impact on profitability in both models ($\beta = -0.162$, $p = 0.003$; $\beta = -0.167$, $p = 0.002$), suggesting that greater reliance on debt financing reduces returns to assets. SIZE, however, is not statistically significant in either model, indicating that company scale does not appear to have a direct effect on profitability within the sample.

Comparing the two specifications, the negative impact of inventory management is stronger when measured by ISR than by ITA, as reflected in the larger standardized coefficient ($|\beta| = 0.160$ versus 0.110). This result further supports the evidence from Tables 3 and 4 that the operational efficiency specification (Model 1) provides a better explanation of profitability than the asset intensity specification (Model 2).

Finally, the VIF values range from 1.015 to 1.130, which are well below the commonly accepted threshold of 10, indicating that multicollinearity is not a concern in either model and that the estimated coefficients are reliable.

Estimated models

To facilitate the interpretation of the empirical findings, the estimated regression equations are restated by retaining only the variables that are statistically significant at the 5% level.

For Model 1, where inventory management is measured by ISR, the estimated equation is:

$$ROA = 7.243 - 0.120 \text{ ISR} + 0.020 \text{ GROW} - 3.996 \text{ LEV}$$

For Model 2, where inventory management is proxied by ITA, the estimated equation is:

$$ROA = 7.595 - 2.406 \text{ ITA} + 0.023 \text{ GROW} - 4.108 \text{ LEV}$$

These simplified equations indicate that inventory-related variables (ISR and ITA) have a negative and statistically significant impact on firm profitability. Specifically, a higher level of inventory relative to sales or total assets is associated with lower ROA. In contrast, GROW positively affects profitability, suggesting that expanding business activities contribute to improved financial performance. LEV exerts a negative effect in both models, implying that greater reliance on debt financing reduces profitability. The consistency of the signs and significance levels across the two alternative model specifications provides robust evidence that inventory management plays an important role in determining the profitability of Vietnamese real estate firms.

5. DISCUSSION

The findings provide robust evidence that inventory management significantly affects the profitability of listed real estate firms in Vietnam. Both ISR and ITA are negatively and significantly associated with ROA, supporting H_{1a} and H_{1b} . The results suggest that excessive inventory accumulation, whether relative to sales or total assets, reduces firms' ability to generate returns from their asset base.

These findings are consistent with the cash conversion cycle theory (Richards & Laughlin, 1980; Shin & Soenen, 1998), which posits that higher inventory levels prolong capital commitment in operating activities, thereby reducing liquidity and increasing financing requirements. The results also support the working capital management perspective advanced by Deloof (2003) and Baños-Caballero et al. (2014), emphasizing that efficient resource allocation and lower capital lock-up contribute to superior financial performance.

The negative relationship between inventory and profitability is in line with previous empirical studies. Koumanakos (2008) argues that excessive inventory increases carrying costs and weakens asset utilization efficiency, while Bendavid et al. (2017) highlight the additional financing burden associated with large inventory investments. The present findings also corroborate evidence from emerging markets, where effective working capital management is particularly important under financing constraints (Mandipa & Sibindi, 2022; Osei et al., 2023; Wanzala & Obokoh, 2024).

Inventory Management and Profitability of Listed Real Estate Firms: Evidence from Vietnam

A notable contribution of this study is the comparison of two inventory management proxies. ISR exhibits a stronger negative effect and slightly higher explanatory power than ITA, suggesting that inventory efficiency relative to sales is more closely linked to profitability than inventory intensity within the asset structure. This result is consistent with Alnaim and Kouaib (2023), Yeboah et al. (2024), and Tocar (2024), who emphasize the importance of inventory turnover and operational inventory efficiency in enhancing firm performance.

The findings can be further explained by the characteristics of the real estate industry. Real estate inventories, including land banks, projects under development, and completed properties awaiting sale, require substantial capital commitments and long holding periods. Consequently, excessive inventory may significantly increase capital lock-up and financing costs, particularly during periods of weak market demand and tighter credit conditions. This interpretation is consistent with Li et al. (2021), who identify inventory management as a critical determinant of real estate firms' operational and financial performance.

Regarding the control variables, GROW positively affects profitability, indicating that expanding firms are better positioned to generate earnings and utilize resources efficiently, consistent with Osei et al. (2023) and Wanzala and Obokoh (2024). In contrast, LEV negatively influences profitability, suggesting that greater reliance on debt financing increases financial burdens and reduces returns on assets, which supports the findings of Mandipa and Sibindi (2022). Meanwhile, SIZE is statistically insignificant, implying that firm scale alone does not guarantee superior profitability in the Vietnamese real estate sector.

Overall, the results reinforce the view that inventory management is not only an operational concern but also a strategic financial decision. For Vietnamese listed real estate firms, improving inventory efficiency appears to be an important mechanism for enhancing profitability and reducing capital lock-up in a highly capital-intensive business environment.

6. CONCLUSIONS

This study investigates the impact of inventory management on the profitability of listed real estate firms in Vietnam during the period 2021-2025. Using a balanced panel dataset of 70 firms and two alternative inventory management proxies, namely ISR and ITA, the study applies OLS regression models to examine how inventory-related decisions affect firm performance measured by ROA.

The empirical results reveal that both inventory management indicators have a negative and statistically significant impact on profitability. Specifically, higher inventory levels relative to sales (ISR) and total assets (ITA) are associated with lower ROA. Moreover, the results indicate that ISR exhibits stronger explanatory power than ITA, suggesting that inventory efficiency in relation to sales activities is more closely linked to profitability than inventory intensity within the asset structure. In addition, revenue growth positively affects profitability, whereas financial leverage exerts a negative influence. Firm size is found to have no significant effect on profitability.

These findings contribute to the literature on inventory management and working capital management by providing evidence from the real estate sector, an industry characterized by high inventory intensity and substantial capital commitments. The study also extends the limited empirical evidence from emerging markets, particularly Vietnam, where research on inventory management in listed real estate firms remains scarce. Furthermore, by comparing two alternative inventory management measures within a unified analytical framework, the study offers a more comprehensive understanding of how different dimensions of inventory management influence firm profitability.

From a managerial perspective, the findings suggest that real estate firms should pay greater attention to inventory control and inventory turnover efficiency. Excessive inventory accumulation may lock substantial financial resources into non-productive assets, increase financing costs, and reduce profitability. Managers should therefore focus on improving project planning, accelerating sales activities, and enhancing inventory monitoring systems to optimize inventory levels. In addition, firms should carefully manage debt financing because excessive leverage may further weaken financial performance.

Despite its contributions, this study has several limitations. First, the analysis is limited to listed real estate firms in Vietnam, which may restrict the generalizability of the findings to other industries or countries. Second, the study employs only two inventory management proxies and focuses exclusively on accounting-based profitability measures. Third, the use of pooled OLS regression may not fully capture potential endogeneity issues and dynamic relationships between inventory management and firm performance.

Future research may extend the analysis by incorporating additional inventory-related indicators, examining alternative measures of firm performance, and applying more advanced econometric techniques such as fixed-effects models, generalized method of moments (GMM), or dynamic panel estimators. Comparative studies across industries and countries would also provide deeper insights into how institutional and market conditions influence the inventory–profitability relationship.

REFERENCES

- 1) Ahmad, M., Bashir, R., & Waqas, H. (2022). Working capital management and firm performance: Are their effects same in COVID-19 compared to financial crisis 2008? *Cogent Economics & Finance*, 10(1), 2101224. <https://doi.org/10.1080/23322039.2022.2101224>
- 2) Alnaim, M., & Kouaib, A. (2023). Inventory turnover and firm profitability: A Saudi Arabian investigation. *Processes*, 11(3), 716. <https://doi.org/10.3390/pr11030716>
- 3) Anh Vu Thi, H., & Thanh Hoang, T. (2025). The impact of inventory management on Vietnam's industrial firm performance: A double-threshold regression approach. *Investment Management and Financial Innovations*, 22(4), 57–69. [https://doi.org/10.21511/imfi.22\(4\).2025.05](https://doi.org/10.21511/imfi.22(4).2025.05)
- 4) Atnafu, D., & Balda, A. (2018). The impact of inventory management practice on firms' competitiveness and organizational performance: Empirical evidence from micro and small enterprises in Ethiopia. *Cogent Business & Management*, 5(1), 1503219. <https://doi.org/10.1080/23311975.2018.1503219>
- 5) Baños-Caballero, S., García-Teruel, P. J., & Martínez-Solano, P. (2014). Working capital management, corporate performance, and financial constraints. *Journal of Business Research*, 67(3), 332–338. <https://doi.org/10.1016/j.jbusres.2013.01.016>
- 6) Bay Nguyen Van, Hai Phan Thanh and Cuong Nguyen Thanh (2025). Business growth and management costs as moderators of the inventory-performance link: Evidence from Vietnamese manufacturing firms. *Investment Management and Financial Innovations*, 22(3), 108-125. [http://dx.doi.org/10.21511/imfi.22\(3\).2025.09](http://dx.doi.org/10.21511/imfi.22(3).2025.09)
- 7) Bendavid, I., Herer, Y. T., & Yücesan, E. (2017). Inventory management under working capital constraints. *Journal of Simulation*, 11(1), 62–74. <https://doi.org/10.1057/s41273-016-0030-0>
- 8) Deloof, M. (2003). Does working capital management affect profitability of Belgian firms? *Journal of Business Finance & Accounting*, 30(3–4), 573–588. <https://doi.org/10.1111/1468-5957.00008>
- 9) Eroglu, C., & Hofer, C. (2010). Lean, leaner, too lean? The inventory–performance link revisited. *Journal of Operations Management*, 28(4), 356–369. <https://doi.org/10.1016/j.jom.2009.10.002>
- 10) Eroglu, C., & Hofer, C. (2011). Inventory types and firm performance: Vector autoregressive and vector error correction models. *Journal of Business Logistics*, 32(3), 227–239. <https://doi.org/10.1111/j.0000-0000.2011.01019.x>
- 11) Gara, J. G., & Adamu, A. (2026). Inventory management and profitability: Evidence from listed industrial goods companies in Nigeria (2020–2024). *African Journal of Management and Business Research*, 22(1), 144–164. <https://doi.org/10.62154/ajmbr.2026.022.01017>
- 12) Gupta, S., Guha, S., & Kumar, S. (2025). Advancements in Inventory Management: Insights From INFORMS Franz Edelman Award Finalists. *Production and Operations Management*, 34(8), 2063-2082. <https://doi.org/10.1177/10591478241310225>
- 13) Isaksson, O. H. D., & Seifert, R. W. (2014). Inventory leanness and the financial performance of firms. *Production Planning & Control*, 25(12), 999–1014. <https://doi.org/10.1080/09537287.2013.798088>
- 14) Kiyamaz, H., Haque, S., & Choudhury, A. A. (2024). Working capital management and firm performance: A comparative analysis of developed and emerging economies. *Borsa Istanbul Review*, 24(3), 613–624. <https://doi.org/10.1016/j.bir.2024.03.004>
- 15) Koumanakos, D. P. (2008). The effect of inventory management on firm performance. *International Journal of Productivity and Performance Management*, 57(5), 355–369. <https://doi.org/10.1108/17410400810881827>
- 16) Li, W., Weng, L., Zhao, K., Zhao, S., & Zhang, P. (2021). Research on the evaluation of real estate inventory management in China. *Land*, 10(12), 1283. <https://doi.org/10.3390/land10121283>
- 17) Mandipa, G., & Sibindi, A. (2022). Financial performance and working capital management practices in the retail sector: Empirical evidence from South Africa. *Risks*, 10(3), 63. <https://doi.org/10.3390/risks10030063>
- 18) Osei, A., Osei Agyemang, A., Amoah, J., & Sulemana, I. (2023). Empirical study on the impact of working capital management on going concern of manufacturing firms in Ghana. *Cogent Business & Management*, 10(2), 2218177. <https://doi.org/10.1080/23311975.2023.2218177>
- 19) Panigrahi, R. R., Shrivastava, A. K., Sarkar, B. D., & Kaliyan, M. (2025). Inventory knowledge, Industry 5.0 and performances: Review and future research agenda. *Business Strategy and the Environment*, 34(6). <https://doi.org/10.1002/bse.70002>
- 20) Richards, V. D., & Laughlin, E. J. (1980). A cash conversion cycle approach to liquidity analysis. *Financial Management*, 9(1), 32–38. <https://www.jstor.org/stable/3665310>

Inventory Management and Profitability of Listed Real Estate Firms: Evidence from Vietnam

- 21) Shin, H. H., & Soenen, L. (1998). Efficiency of working capital management and corporate profitability. *Financial Practice and Education*, 8(2), 37–45.
- 22) Ta, H. T. T., & Le, O. T. T. (2025). The impact of inventory management on the profits of retail enterprises listed on the Vietnamese stock markets. *Journal of Governance & Regulation*, 14(2), 353–362. <https://doi.org/10.22495/jgrv14i2siart14>
- 23) Tocar, S. (2024). Inventory management and firm performance in wholesale and retail trade. *SEA – Practical Application of Science*, 12(35), 73–81. <https://doi.org/10.70147/s357381>
- 24) Tracey, M., Lim, J. S., & Vonderembse, M. A. (2005). The impact of supply-chain management capabilities on business performance. *Supply Chain Management: An International Journal*, 10(3), 179–191. <https://doi.org/10.1108/13598540510606232>
- 25) Wanzala, R. W., & Obokoh, L. O. (2024). The effects of working capital management on the financial performance of commercial and service firms listed on the Nairobi Securities Exchange in Kenya. *Risks*, 12(8), 119. <https://doi.org/10.3390/risks12080119>
- 26) Yeboah, S., Kjærland, F., & Kustec, I. (2024). Resilience in cyclicity: Impact of inventory management efficiency on operational profitability. *Managerial and Decision Economics*, 46(2), 832–842. <https://doi.org/10.1002/mde.4406>



There is an Open Access article, distributed under the term of the Creative Commons Attribution – Non Commercial 4.0 International (CC BY-NC 4.0) (<https://creativecommons.org/licenses/by-nc/4.0/>), which permits remixing, adapting and building upon the work for non-commercial use, provided the original work is properly cited.