

The Impact of Working Capital Management on the Performance of Manufacturing Firms: Empirical Evidence from Vietnam

Thi Hoai Tho Truong¹, Thi Van Thanh Nguyen², Le Quynh Anh Nguyen³, Thi My Tam Nguyen⁴, Minh Thu Thao Phan⁵, Ngoc Huyen Trang Tran⁶, Bao Yen Nguyen⁷

^{1,3,4,5,6,7}Industrial University of Ho Chi Minh City

²Academy of Finance – Hung Yen Campus

*Corresponding Author: Thi Hoai Tho Truong¹

Abstract: *This study evaluates the impact of working capital management (WCM) on the return on assets (ROA) of 154 listed manufacturing firms in Vietnam during the 2019–2024 period. By employing the System Generalized Method of Moments (System GMM) estimator to robustly address endogeneity issues, the results indicate that the cash conversion cycle and the average collection period negatively impact ROA, whereas the average payment period exerts a positive effect. The inventory conversion period is found to be statistically insignificant. The novelty of this research lies in the independent disaggregation of individual WCM components and the application of SGMM within the volatile post-COVID-19 macroeconomic environment. These findings provide an empirical basis for managers to optimize capital strategies and simultaneously enhance corporate competitiveness.*

Keywords: Working capital management, operational performance, CCC, manufacturing firms, System GMM

I. INTRODUCTION

In the context of global integration and economic volatility, working capital management (WCM) has become a vital factor determining the cash flow stability and operational performance of enterprises, particularly in the manufacturing sector, which is characterized by substantial inventory and high levels of trade credit. Empirically, the cash conversion cycle (CCC) of Vietnamese enterprises is approximately 9 days longer than the Asian regional average [1]. This disparity reflects prolonged capital tie-up, low asset utilization efficiency, and elevated liquidity risks, especially as the economy has navigated the 2019–2024 period marked by multiple macroeconomic shocks such as the COVID-19 pandemic, supply chain disruptions, and inflationary pressures.

Although WCM directly influences profitability, global empirical evidence lacks complete consensus. In Vietnam, in-depth studies disaggregating individual WCM components within the manufacturing sector during the volatile post-COVID-19 period remain relatively limited. In particular, the application of modern dynamic econometric models, such as the System GMM, to robustly address endogeneity constitutes a significant research gap that needs to be filled.

Consequently, this study poses the following research questions: (i) How do the cash conversion cycle and its components affect the operational performance of manufacturing firms? (ii) Which WCM component is the most critical for Vietnamese enterprises? (iii) In the context of an emerging economy, do micro- and macroeconomic factors alter this relationship? (iv) Does the impact of WCM in Vietnam differ from that in developed markets?

To address these questions, the study investigates the impact of the CCC on operational performance (ROA). Simultaneously, it isolates the role of individual WCM components (DIO, DSO, DPO) on ROA. Consequently, the research analyzes the magnitude and direction of the impact of WCM on financial performance within the Vietnamese context, identifying which WCM variable exerts the strongest influence on firm performance. Furthermore, firm-specific micro variables (including firm size, financial leverage, and sales growth) and macroeconomic factors (including GDP and inflation) are also incorporated into the study to provide a more comprehensive picture.

This research is expected to contribute robust empirical evidence to corporate finance literature. Concurrently, the findings will provide a solid scientific foundation to help managers design working capital optimization strategies, as well as support regulatory bodies in formulating policies that promote sustainable competitiveness for the manufacturing sector.

The remainder of this paper is structured as follows: (i) introduces the research context, the importance of working capital management, research gaps, and study objectives; (ii) reviews the relevant literature; (iii) develops the research hypotheses; (iv) presents the data, methodology, and empirical models; (v) reports and discusses the empirical results; and finally, (vi) concludes the study, summarizing its contributions, managerial implications, limitations, and directions for future research.

II. LITERATURE REVIEWS

Working capital management (WCM) plays a central role in corporate finance, especially for manufacturing firms due to their characteristic of allocating substantial resources to inventory and accounts receivable. According to financial theory, WCM directly affects liquidity, the cost of capital, and overall operational performance. Core metrics such as CCC, DIO, DSO, and DPO are frequently utilized to evaluate the relationship between WCM and financial performance (through indicators like ROA, ROE, or Tobin's Q). Although this topic has garnered widespread attention in both developed and developing economies, empirical results lack complete consensus and are typically categorized into four main research strands.

The first strand of research, which is also the predominant traditional view, largely documents a negative impact of WCM on operational performance. Scholars argue that an increase in the CCC, DIO, or DSO reflects prolonged capital tie-up, incurring opportunity costs and deteriorating cash flows. This perspective is reinforced by a series of empirical studies, including [2], [3], [4], [5], and [6]. These studies uniformly agree that shortening the working capital cycle accelerates asset turnover and reduces the cost of capital, thereby improving profitability. However, there is a certain degree of divergence within this group, as some authors, such as [7] and [8], document a positive impact for certain individual components like the CCC or DPO.

Contrary to the traditional view, the second strand of research demonstrates a positive impact of WCM on financial performance when situated in specific contexts. Accordingly, maintaining a relaxed trade credit policy can act as a lever to expand market share, or accumulating inventory can help firms hedge against the risk of production disruptions. This argument is evidenced by the empirical results of [9], [10] and [11]. This research group emphasizes that there is no universal optimal formula for WCM; rather, it depends heavily on industry characteristics, competitive strategies, and the macroeconomic risk context.

The lack of consensus in the overall results has prompted the third strand of research to delve into analyzing the independent impacts of the individual components constituting the CCC. Regarding DIO, while Huynh & Su (2010) [12] confirm a negative impact, Jakpar et al. (2017) [13] find positive evidence. Similarly, for DSO, Le Hoang Vinh & Nguyen The Phuoc (2018) [14] demonstrate that prolonging the collection period reduces profitability, but Sharma & Kumar (2011) [9] evaluate this as an effective tool for enhancing revenue. As for DPO, the results are also divergent, ranging from positive [2] and negative impacts to statistically insignificant effects [15].

To address this complexity and the mixed results, a recent fourth strand of research has focused on expanding empirical models by incorporating both internal firm-specific factors and macroeconomic variables. Modern models not only assess WCM capacity but also consider its interaction with decisive micro characteristics such as financial leverage, firm size, and sales growth [16]. Simultaneously, at the macro level, variables such as GDP growth and the inflation rate are integrated to evaluate their heterogeneous impacts on WCM across different economies [17]. This multidimensional approach provides a comprehensive analytical framework, asserting that working capital management efficiency is jointly governed by both the firm's internal financial structure and the fluctuations of the global economic cycle.

III. HYPOTHESI DEVELOPMENT

The study proposes the following hypotheses:

3.1 The overall impact of the cash conversion cycle (CCC) on ROA

Previous studies have indicated that a prolonged CCC tends to reduce corporate profitability, while shortening the CCC helps enhance capital utilization efficiency and increase the return on assets [2], [4], [8]. This suggests that working capital management, particularly the control of the CCC, plays an essential role in enhancing asset utilization efficiency as well as the overall financial performance of the enterprise. Based on theoretical foundations and empirical evidence, the study proposes the following hypothesis:

H1: The cash conversion cycle is negatively related to the operational performance of the firm.

3.2. The impact of DIO (Days Inventory Outstanding) on ROA

DIO is a crucial component of working capital management, reflecting the firm's efficiency in managing and utilizing its inventory. A shorter inventory conversion period indicates superior inventory management, which reduces holding costs, enhances responsiveness to market demand, and boosts profitability [2], [12]. Consequently, the study proposes the following hypothesis:

H2: The inventory conversion period has a negative impact on the operational performance of the firm.

3.3. The impact of DSO (Days Sales Outstanding) on ROA

According to Wafula et al. (2019), DSO reflects the payment speed of customers, where delayed payments can exacerbate bad debt risk and negatively affect the firm's financial position. Therefore, a shorter DSO generally helps firms reduce debt administration and collection costs while rapidly converting accounts receivable into cash, thereby enhancing operational performance [14], [18].

However, the study by Sharma & Kumar (2011) [9] finds a positive relationship between DSO and profitability. The authors explain that extending the credit period can help firms expand customer relationships, thereby boosting sales revenue. Consequently, this study expects a negative relationship between DSO and ROA and proposes the following hypothesis:

H3: The average collection period is negatively related to the operational performance of the firm.

3.4. The impact of DPO (Days Payable Outstanding) on ROA

DPO reflects the average number of days from the time of a credit purchase until the firm needs to pay its suppliers. Extending the payment period allows firms to utilize temporary capital to replenish inventory, invest, or expand operations, thereby improving operational performance [2], [12], [14]. However, if the payment period is excessively prolonged, firms may face the risk of reputational damage, higher purchasing costs, or credit rationing from suppliers, exerting a negative impact on overall financial performance [19]. Thus, this study proposes the following hypothesis:

H4: The average payment period is positively related to the operational performance of the firm.

3.5. Micro and macroeconomic factors and ROA

Besides WCM components, ROA is also influenced by firm-level factors and the broader economic environment. This study incorporates micro variables such as firm size, financial leverage, and sales growth [20], [21], [22] into the model to control for the impact of internal characteristics on operational performance.

At the macro level, variables such as GDP growth and inflation are considered to reflect the overall economic context in which the enterprises operate. Economic growth tends to enhance working capital management efficiency and profitability by stimulating cash flows and sales revenue [16], [21]. Meanwhile, inflation can escalate costs, diminish liquidity, and pose challenges to optimizing asset utilization efficiency [23].

IV. RESEARCH METHODOLOGY

4.1. Data and Sample

The study utilizes secondary data collected from the audited financial statements and annual reports of manufacturing firms listed on the Ho Chi Minh City Stock Exchange (HOSE) during the 2019–2024 period. The data were extracted through the VietStock and CafeF financial databases.

From an initial population of 158 enterprises in the manufacturing sector, the study screened and excluded 4 cases that did not meet the criteria for data continuity. The final observational sample included in the analysis consists of 154 firms, forming a balanced panel dataset. This sample refinement aims to ensure the integrity of the cross-sectional and time-series data, thereby enhancing the reliability and precision of the econometric tests.

4.2. Research Model

The Impact of Working Capital Management on the Performance of Manufacturing Firms.....

This study aims to examine the relationship between working capital management and corporate financial performance. Factors including the CCC, DSO, DPO, and DIO are predicted to exert significant impacts on the firm's financial performance.

To test the research hypotheses, this paper employs a multivariate linear regression model on panel data, with the specific regression equations as follows:

Model 1:

$$ROA_{it} = \beta_0 + \beta_1 CCC_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 SALES_{i,t} + \beta_4 LEV_{i,t} + \beta_5 INF_{i,t} + \beta_9 GDP_{i,t} + \epsilon_{i,t}$$

Model 2:

$$ROA_{it} = \beta_0 + \beta_1 DIO_{i,t} + \beta_2 DSO_{i,t} + \beta_3 DPO_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 SALES_{i,t} + \beta_6 LEV_{i,t} + \beta_7 INF_{i,t} + \beta_9 GDP_{i,t} + \epsilon_{i,t}$$

In which:

β : estimated coefficients.

ϵ : random error term.

Model 1 utilizes the aggregate CCC variable to evaluate the overall impact of working capital management, whereas Model 2 disaggregates the CCC into its three components (DIO, DSO, and DPO) to analyze each stage of the working capital cycle in detail.

Table 1: Variable Definitions and Measurement

Variables	Symbol	Measurement	Data Source
<i>Dependent Variables</i>			
Return on Assets	ROA	Net profit after tax divided by total assets	Calculations are based on annual financial statements
<i>Independent Variables</i>			
Days Inventory Outstanding	DIO	Average inventory / Cost of Goods Sold \times 365	Calculations are based on annual financial statements
Days Sales Outstanding	DSO	Average Account Receivables / Net Sales \times 365	Calculations are based on annual financial statements
Days Payables Outstanding	DPO	Average Accounts Payables / Cost of Goods Sold \times 365	Calculations are based on annual financial statements
Cash Conversion Cycle	CCC	DSO + DIO - DPO	Calculations are based on annual financial statements
<i>Control Variables</i>			
Firm size	SIZE	Logarithm of total assets	Calculations are based on annual financial statements
Financial leverage	LEV	Total debt divided by total assets	Calculations are based on annual financial statements
Sales growth	SALES	(Net sales year n - Net sales year (n - 1)) / Net sales year (n - 1)	Calculations are based on annual financial statements
GDP Growth	GDP	GDP Growth Rate (%)	World Bank, IMF
Inflation	INF	Consumer price index (CPI, %)	World Bank, IMF

V. EMPIRICAL RESULTS AND DISCUSSION

A conclusion section must be included and should indicate clearly the advantages, limitations, and possible applications of the paper. Although a conclusion may review the main points of the paper, do not replicate the abstract as the conclusion. A conclusion might elaborate on the importance of the work or suggest applications and extensions.

5.1. Descriptive Statistics

The Impact of Working Capital Management on the Performance of Manufacturing Firms.....

Table 2 presents the descriptive statistics for the variables used in the models. The dataset reveals a distinct divergence in operational performance and financial strategies among the firms. Specifically:

The operational performance of the enterprises, measured by ROA, has a mean value of 5.97%, ranging from -9.74% to 40.60%, with a standard deviation of 7.63%. This result indicates that while the majority of the firms maintain profitability, there remains a substantial gap in managerial capacity and asset utilization efficiency.

The average cash conversion cycle is 122.62 days with a very high dispersion (a standard deviation of 194 days, ranging from -370.95 to 1,251.37 days). Examining its components, DSO accounts for the longest duration at 106.52 days, followed by DIO at 91.88 days and DPO at 86.60 days. The high volatility of these metrics reflects the considerable diversity in trade credit policies and inventory management across the enterprises.

Regarding the control variables, the average firm size (SIZE) is 28.33; financial leverage (LEV) stands at 45.08%, ranging from 1.53% to 86.02%; and sales growth (SALES) averages 9.88% with a very broad margin from -68.50% to 174.09%. These parameters demonstrate significant variations in firm size, capital structure, and growth rates among the sample.

Finally, the macroeconomic variables include inflation (INF) with an average of 2.98% and GDP growth averaging 5.58%, with standard deviations of 0.57 and 2.27, respectively. These indicators suggest that the study period occurred within a relatively stable Vietnamese macroeconomic environment, which contributed to supporting the operations of listed manufacturing firms in maintaining business performance and stabilizing cash flows.

Table 2: Descriptive Statistics

Variable	Obs	Mean	Std.Dev	Min	Max
ROA	924	0.0596934	0.0762735	-0.0973693	0.4059571
CCC	924	122.6221	194.001	-370.9534	1251.366
DIO	924	91.87605	141.578	-141.6239	1016.523
DSO	924	106.5206	135.9884	3.36766	891.701
DPO	924	86.60154	164.6272	-160.2772	1130.043
SIZE	924	28.33371	1.431739	25.7918	32.04432
SALES	924	0.0987701	0.3916905	-0.6849583	1.740943
LEV	924	0.4508013	0.2218716	0.0152972	0.860164
INF	924	2.980328	0.5660318	1.834716	3.621093
GDP	924	5.578686	2.273849	2.553729	8.5375

5.2. Correlation Analysis

Both models in Tables 3 and 4 indicate that ROA is primarily negatively correlated with the working capital metrics (CCC, DIO, DSO, and DPO) and LEV, while exhibiting a positive relationship with SALES. INF, along with SIZE and the macroeconomic factor GDP, exerts a weak impact. The working capital indicators are closely interconnected with one another, reflecting synchronization in capital management.

Table 3: Correlation analysis in model 1

Variables	ROA	CCC	SIZE	SALES	LEV	INF	GDP
ROA	1.000						
CCC	-0.190***	1.000					
SIZE	-0.097***	-0.079**	1.000				
SALES	0.135***	-0.205***	0.060*	1.000			
LEV	-0.419***	-0.033	0.383***	0.086***	1.000		
INF	-0.092***	0.046	0.041	-0.064	-0.033	1.000	
GDP	-0.017	0.009	0.026	0.119***	-0.023	0.497***	1.000

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 4: Correlation analysis in model 2

Variables	ROA	DIO	DSO	DPO	SIZE	SALES	LEV	INF	GDP
ROA	1.000								
DIO	-0.208***	1.000							
DSO	-0.273***	0.478***	1.000						
DPO	-0.207***	0.629***	0.604***	1.000					
SIZE	-0.097***	0.057*	0.003	0.179***	1.000				
SALES	0.135***	-0.099***	-0.236***	-0.090***	0.060*	1.000			
LEV	-0.419***	0.158***	0.123***	0.296***	0.383***	0.086***	1.000		
INF	-0.092	0.008	0.047	-0.003	0.041	-0.064*	-0.033	1.000	
GDP	-0.017	0.004	-0.007	-0.026	0.026	0.119***	-0.023	0.497***	1.000

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

The Variance Inflation Factor (VIF) test was conducted to assess the degree of multicollinearity among the independent variables in both models. The results indicate that in Model 1, the VIF values range from 1.051 to 1.371, with a mean VIF of 1.206, suggesting that the correlation among the independent variables is low and negligible. In Model 2, the VIF values range between 1.112 and 2.259; although the DPO variable exhibits the highest VIF at 2.259, it remains well below the conventional warning threshold (5–10), with a mean VIF of 1.501. Consequently, neither model suffers from severe multicollinearity issues, thereby ensuring the stability and reliability of the regression estimates.

5.3. Regression Analysis

In this study, the author employs three regression models, including Pooled OLS, FEM, and REM, and simultaneously conducts tests to select the most appropriate model. The test results indicate that the Fixed Effects Model (FEM) is more suitable compared to Pooled OLS and REM. However, model diagnostic tests further reveal that the FEM still suffers simultaneously from heteroskedasticity and autocorrelation. Therefore, to overcome the aforementioned limitations and ensure the reliability of the estimation results, the author employs the System GMM (SGMM) model in the subsequent analytical step and only reports the results of this final model. This approach is also considered highly appropriate for a dataset characterized by a large cross-sectional dimension and a short time series (154 firms × 6 years).

The aggregated results from Tables 5 and 6 show that, in Model 1 and Model 2, the three estimation methods (Pooled OLS, FEM, and REM) all demonstrate consistency in the signs and statistical significance of the main variables, implying that the impact of working capital management components on corporate operational performance is robust across different estimation conditions. Furthermore, when utilizing the SGMM model to address endogeneity issues, the results retain the significance of the key variables, including CCC, DSO, and DPO, thereby affirming the robustness of the model's findings. The consistency of the results across these methods indicates that the SGMM is the most appropriate and highly reliable method for explaining the relationship between working capital management and firm operational performance.

Table 5: Results of OLS, FEM, REM, and GMM-Robust regression (Model 1)

Variables	OLS	REM	FEM	SGMM
CCC	-0.00006***	-0.00004***	-0.00002	-0.00004**
SIZE	0.00339**	-0.00213	-0.01538***	0.00209
SALES	0.02532***	0.02544***	0.02528***	0.03560***
LEV	-0.15938***	-0.10977***	-0.05791***	-0.11286***
INF	-0.01297***	-0.01243***	-0.01097***	-0.00920***
GDP	0.00158	0.00027	0.00041	-0.00111
R-squared	0.247	0.231	0.101	
P-value	0.000	0.000	0.000	0.000

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 6: Results of OLS, FEM, REM, and GMM-Robust regression (Model 2)

Variables	OLS	REM	FEM	SGMM
-----------	-----	-----	-----	------

DIO	-0.00006***	-0.00005**	-0.00003	-0.00004
DSO	-0.00012***	-0.00006***	-0.00003	-0.00008***
DPO	0.00005***	0.00003*	0.00003	0.00004*
SALES	0.02240***	0.02342***	0.02509***	0.03304***
LEV	-0.15341***	-0.10929***	-0.05882***	-0.11225***
INF	-0.01268***	-0.01243***	-0.01099***	-0.00933***
GDP	0.00022	0.00033	0.00044	-0.00090
SIZE	0.00304*	-0.002	-0.01499**	0.00184
R-squared	0.260	0.246	0.102	
P-value	0.000	0.000	0.000	0.000

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Tables 7 and 8 present the estimation results and diagnostic tests for the SGMM models (Model 1 and Model 2). The diagnostic tests satisfy all the required conditions: the AR(1) test yields a p-value < 0.05 (indicating the presence of first-order autocorrelation), the AR(2) test yields a p-value > 0.10 (indicating the absence of second-order autocorrelation), and the Hansen test yields a p-value between 0.10 and 0.90 (confirming valid instrumental variables and the absence of overfitting).

The regression results for Model 1 in Table 7 demonstrate that the CCC variable exerts a negative impact on ROA at the 5% significance level ($\beta = -0.00004$, $p = 0.013$). In economic terms, an increase in the CCC reflects capital stagnation tied up in inventory and accounts receivable, which incurs opportunity costs, elevates liquidity risk, and deteriorates reinvestment cash flows. Conversely, shortening the CCC accelerates capital turnover, reduces costs, and enhances the return on assets.

This finding fully supports hypothesis H1 and is consistent with the research by Makori & Jagongo (2013) [8], thereby affirming that optimizing the cash conversion cycle is a crucial key for enterprises to improve their financial performance and competitiveness.

Table 8: Results of GMM-Robust regression of Model 1

ROA	Coefficient	Sig.
CCC	-0.00004	**
SALES	0.03560	***
LEV	-0.11286	***
INF	-0.00920	***
GDP	-0.00111	
SIZE	0.00209	
Constant	0.06671	
p-value		0.000

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 9: Results of GMM-Robust regression of Model 2

ROA	Coefficient	Sig.
DIO	-0.00004	
DSO	-0.00008	***
DPO	0.00004	*
SALES	0.03304	***
LEV	-0.11225	***
INF	-0.00933	***
GDP	-0.00090	
SIZE	0.00184	
Constant	0.07768	
P-value		0.000

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

The regression results for Model 2 (MH2) in Table 9 indicate that the DSO variable has a negative impact on ROA at the 1% significance level ($\beta = -0.00008$, $p = 0.007$). In economic terms, a prolonged DSO causes capital stagnation, increasing opportunity costs and credit risk, which subsequently diminishes reinvestment capacity and profitability. This finding supports hypothesis H2 and is consistent with Le Hoang Vinh & Nguyen The Phuoc (2018) [14] and Nguyen Thi Nhu Quynh & Tran Nhu Quynh (2024) [18].

The Impact of Working Capital Management on the Performance of Manufacturing Firms.....

Regarding the DPO variable, the regression coefficient is positive and statistically significant at the 10% level ($\beta = 0.00004$, $p = 0.077$), reflecting a positive relationship, albeit with a limited magnitude of impact. Negotiating an extended payment period allows firms to utilize risk-free short-term capital, minimizing external borrowing costs and improving operational efficiency, which aligns with the arguments of Deloof (2003) [2] and Dong & Su (2010) [12].

Meanwhile, the DIO variable has a p-value of 0.111, failing to reach statistical significance, indicating that the inventory conversion period does not exert a discernible impact on ROA within the study sample. Contrary to the findings of Dong & Su (2010) [12], this reflects the specific characteristics of the manufacturing sector in Vietnam: enterprises often must maintain high inventory levels to ensure the continuity of the production chain, rendering DIO fluctuations unable to create a substantial difference in profitability.

The regression results reveal a distinct divergence in the magnitude of the impact of control and macroeconomic variables on ROA. Specifically, the SALES variable has a positive impact at the 1% significance level ($\beta = 0.033$, p-value = 0.000). Conversely, the LEV variable exerts a negative impact at the 1% significance level ($\beta = -1.112$, p-value = 0.000). Similarly, the INF variable exhibits a negative impact at the 1% significance level ($\beta = -0.009$, p-value = 0.006).

Conversely, the SIZE and GDP variables are not statistically significant. This reflects the reality that the enterprises within the study sample have not yet effectively exploited economies of scale, and concurrently, their profitability has not responded synchronously to the overall growth of the economy.

The divergence in the regression model results may stem from the specific characteristics of the study sample, as manufacturing firms in Vietnam during the 2019 – 2024 period might have maintained operational performance without depending excessively on DIO, SIZE, or GDP fluctuations. Furthermore, the asset structure, the degree of competition among sub-sectors, and working capital management capabilities may also attenuate the pronounced impact of these variables on operational performance.

VI. CONCLUSION AND IMPLICATION

Based on the empirical analysis results from 154 listed manufacturing firms during the 2019–2024 period, the study affirms the crucial role of working capital management in profitability. Specifically, the CCC and DSO exert a statistically significant negative impact on ROA. Delayed debt collection deteriorates stable cash flows, thereby constraining resources for profitable investment activities. DPO has a positive impact on ROA, indicating that enterprises are effectively leveraging trade credit from suppliers as a short-term financing channel with a low cost of capital. DIO, however, lacks statistical significance, implying a divergence in inventory policies or that inventory management has not yet created a discernible difference in financial performance within the surveyed sample.

Although control variables (firm size, financial leverage, sales growth) and macroeconomic factors (inflation, GDP) exert certain impacts, WCM continues to play a leading role in determining corporate financial performance and profitability. In a developing economy like Vietnam, where the capital market remains limited and credit costs are high, optimizing WCM acts as an essential internal self-financing mechanism, assisting enterprises in maintaining liquidity and enhancing competitive advantage.

Based on the empirical findings, the study proposes the following key managerial implications:

- Optimizing working capital strategies: Prioritize shortening the cash conversion cycle. It is imperative to adopt technology for demand forecasting and inventory management; tighten customer credit policies to accelerate debt recovery; and concurrently, proactively negotiate reasonable extensions of payment terms with suppliers.

- Sustainable financial restructuring: Reduce reliance on short-term bank credit by diversifying capital-raising channels (such as equity and bond issuances). Balance debt maturities to effectively control the cost of capital and mitigate liquidity risks.

- Growth coupled with risk control: Stimulate sales revenue through quality improvements and market expansion, in tandem with developing flexible pricing scenarios and hedging against the risks of raw material price volatility within the global supply chain.

REFERENCES

- [1] PwC Vietnam, 'Cash for growth or growth for cash? 2019 Vietnam Working Capital Study', 2019. [Online]. Available: <https://www.pwc.com/vn/en/deals/assets/pwc-vietnam-cash-for-growth-2019.pdf>
- [2] M. Deloof, 'Does Working Capital Management Affect Profitability of Belgian Firms?', *Business Fin & Account*, vol. 30, no. 3-4, pp. 573-588, Apr. 2003, doi: 10.1111/1468-5957.00008.
- [3] K. Padachi, 'Trends in Working Capital Management and Its Impact on Firms' Performance: An Analysis of Mauritian Small Manufacturing Firms', *International Review of Business Research Papers*, vol. 2, pp. 45-58, 2006.
- [4] N. E. A. Binti Mohamad and N. B. Mohd Saad, 'Working Capital Management: The Effect of Market Valuation and Profitability in Malaysia', *IJBM*, vol. 5, no. 11, p. p140, Oct. 2010, doi: 10.5539/ijbm.v5n11p140.
- [5] M. A. Pais and P. M. Gama, 'Working capital management and SMEs profitability: Portuguese evidence', *International Journal of Managerial Finance*, vol. 11, no. 3, pp. 341-358, Jun. 2015, doi: 10.1108/IJMF-11-2014-0170.
- [6] S. S. Kumar, K. S. Sawarni, S. Roy, and N. G., 'Influence of working capital efficiency on firm's composite financial performance: evidence from India', *IJPPM*, vol. 73, no. 9, pp. 2787-2806, Nov. 2024, doi: 10.1108/IJPPM-07-2023-0374.
- [7] A. Gill, N. Biger, and N. A. Mathur, 'The Relationship between Working Capital Management and Profitability: Evidence from the United States', *Business and Economics Journal*, pp. 1-9, 2010.
- [8] D. M. Makori and A. J. Jagongo, 'Working Capital Management and Firm Profitability: Empirical Evidence from Manufacturing and Construction Firms Listed on Nairobi Securities Exchange, Kenya', *International Journal of Accounting and Taxation*, vol. 1, no. 1, 2013.
- [9] A. K. Sharma and S. Kumar, 'Effect of Working Capital Management on Firm Profitability: Empirical Evidence from India', *Global Business Review*, vol. 12, no. 1, pp. 159-173, Feb. 2011, doi: 10.1177/097215091001200110.
- [10] B. Abuzayed, 'Working capital management and firms' performance in emerging markets: the case of Jordan', *Int J of Managerial Finance*, vol. 8, no. 2, pp. 155-179, Mar. 2012, doi: 10.1108/17439131211216620.
- [11] G. Rompotis, 'Cash flow management, performance and risk: evidence from Greece', *EuroMed Journal of Business*, vol. 20, no. 3, pp. 595-627, Nov. 2025, doi: 10.1108/EMJB-09-2023-0245.
- [12] H. P. Dong and J.-T. Su, 'The Relationship between Working Capital Management and Profitability: A Vietnam Case', *International Research Journal of Finance and Economics*, vol. 49, pp. 59-67, 2010.
- [13] J. S. T. M. S. Tk, J. A. M. Kt, and S. Ms, 'Working Capital Management and Profitability: Evidence from Manufacturing Sector in Malaysia', *J Bus Fin Aff*, vol. 06, no. 02, 2017, doi: 10.4172/2167-0234.1000255.
- [14] H. V. Le and T. P. Nguyen, 'The impact of working capital management on operating cash flows of listed companies on the Ho Chi Minh Stock Exchange', *Van Lang University Journal of Science*, 2018.
- [15] K. Akoto, 'Working capital management and profitability: Evidence from Ghanaian listed manufacturing firms', *J. Econ. Int. Finance*, vol. 5, no. 9, pp. 373-379, Dec. 2013, doi: 10.5897/JEIF2013.0539.
- [16] H. Seth, S. Chadha, S. K. Sharma, and N. Ruparel, 'Exploring predictors of working capital management efficiency and their influence on firm performance: an integrated DEA-SEM approach', *BIJ*, vol. 28, no. 4, pp. 1120-1145, Apr. 2021, doi: 10.1108/BIJ-05-2020-0251.
- [17] H. Seth, S. Chadha, and S. Sharma, 'Redesigning the efficiency process analysis for working capital models: Evidences from the determinants', *JGOSS*, vol. 13, no. 1, pp. 38-55, Jul. 2019, doi: 10.1108/JGOSS-04-2019-0029.
- [18] N. T. N. Quỳnh and T. N. Quỳnh, 'Tác động của quản trị vốn lưu động đến hiệu quả kinh doanh: Bằng chứng thực nghiệm từ các công ty thực phẩm và đồ uống niêm yết trên thị trường chứng khoán Việt Nam', *HCMCOUJS - KINH TẾ VÀ QUẢN TRỊ KINH DOANH*, vol. 20, no. 1, pp. 82-97, Oct. 2024, doi: 10.46223/HCMCOUJS.econ.vi.20.1.3423.2025.
- [19] T. X. T. Huynh, T. T. H. Nguyen, and C. V. Nguyen, 'The impact of working capital management on the financial performance of listed enterprises: an empirical evidence from Vietnam', *Cogent Business & Management*, vol. 12, no. 1, p. 2473033, Dec. 2025, doi: 10.1080/23311975.2025.2473033.
- [20] R. G. Rajan and L. Zingales, 'What Do We Know about Capital Structure? Some Evidence from International Data', *The Journal of Finance*, vol. 50, no. 5, pp. 1421-1460, Dec. 1995, doi: 10.1111/j.1540-6261.1995.tb05184.x.
- [21] P. Juan García-Teruel and P. Martínez-Solano, 'Effects of working capital management on SME profitability', *International Journal of Managerial Finance*, vol. 3, no. 2, pp. 164-177, Apr. 2007, doi: 10.1108/17439130710738718.
- [22] K. X. PHAM, Q. N. NGUYEN, and C. V. NGUYEN, 'Effect of Working Capital Management on the Profitability of Steel Companies on Vietnam Stock Exchanges', *The Journal of Asian Finance, Economics and Business*, vol. 7, no. 10, pp. 741-750, Oct. 2020, doi: 10.13106/JAFEB.2020.VOL7.N10.741.
- [23] A. T. T. Tran, B. Q. Nguyen, C. T. Nguyen, N. V. Nguyen, and A. T. P. Nguyen, 'The determinants affecting performance of the oil and gas industry in Vietnam', *JDI*, no. 71, pp. 12-22, Aug. 2023, doi: 10.61602/jdi.2023.71.02.