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WORKING CAPITAL MANAGEMENT AND FIRM PROFITABILITY: IMPLICATIONS FOR FINANCIAL SUSTAINABILITY IN VIETNAM

GESTIÓN DEL CAPITAL CIRCULANTE Y RENTABILIDAD EMPRESARIAL: IMPLICACIONES PARA LA SOSTENIBILIDAD FINANCIERA EN VIETNAM

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Abstract
This study examines the impact of working capital management (WCM) on firm profitability with a particular focus on financial sustainability in an emerging market context. Utilizing panel data from 649 non-financial enterprises registered on Vietnamese stock markets from 2019 to 2023, company profitability is represented by return on assets (ROA), while working capital management is assessed through the cash conversion cycle (CCC) and the current ratio (CR). To account for any nonlinear effects, squared terms of CCC and CR are included in the regression models. The empirical study uses pooled ordinary least squares (OLS), fixed-effects (FEM), and random-effects (REM) estimators. The results provide strong evidence of nonlinear relationships between working capital management and corporate profitability. The CCC has a U-shaped relationship with ROA. This means that both extremely aggressive and unduly relaxed working capital practices can hurt profits. On the other hand, the CR shows an inverted U-shaped relationship with profitability. The study contributes to the field of sustainable finance by demonstrating that effective management of working capital enhances the resilience of firms in Vietnam and fosters long-term economic success.

Resumen
Este estudio examina el impacto de la gestión del capital circulante (WCM) en la rentabilidad de las empresas, con especial atención a la sostenibilidad financiera en el contexto de los mercados emergentes. Utilizando datos de panel de 649 empresas no financieras registradas en los mercados bursátiles vietnamitas entre 2019 y 2023, la rentabilidad de las empresas se representa mediante el rendimiento de los activos (ROA), mientras que la gestión del capital circulante se evalúa a través del ciclo de conversión de efectivo (CCC) y el ratio de liquidez (CR). Para tener en cuenta cualquier efecto no lineal, se incluyen en los modelos de regresión los términos al cuadrado del CCC y el CR. El estudio empírico utiliza estimadores de mínimos cuadrados ordinarios (OLS), efectos fijos (FEM) y efectos aleatorios (REM). Los resultados proporcionan pruebas sólidas de la existencia de relaciones no lineales entre la gestión del capital circulante y la rentabilidad empresarial. El CCC tiene una relación en forma de U con el ROA. Esto significa que tanto las prácticas de capital circulante extremadamente agresivas como las excesivamente relajadas pueden perjudicar los beneficios. Por otro lado, el CR muestra una relación en forma de U invertida con la

Keywords: Nonlinear Effects. Working Capital Management. Firm Profitability. Financial Sustainability. Emerging Market.

rentabilidad. El estudio contribuye al campo de las finanzas sostenibles al demostrar que la gestión eficaz del capital circulante mejora la resiliencia de las empresas en Vietnam y fomenta el éxito económico a largo plazo.

Palabras clave: *Efectos no lineales. Gestión del capital circulante. Rentabilidad empresarial. Sostenibilidad financiera. Mercado emergente.*

1 INTRODUCTION

In the context of sustainable development, corporate financial sustainability has become a central concern for firms operating in emerging markets. Financial sustainability not only reflects a firm's ability to remain profitable but also its capacity to maintain liquidity, withstand shocks, and support long-term economic growth.

Within this framework, working capital management plays a critical role in corporate financial decision-making, particularly in emerging economies where access to external financing is often constrained (Nguyen, Pham, & Nguyen, 2020; Phuong & Hung, 2020). By efficiently managing short-term assets and liabilities, firms can enhance liquidity, reduce financing costs, and improve profitability (Pham, Nguyen, & Nguyen, 2020). However, ineffective working capital policies may expose firms to liquidity shortages, operational disruptions, and declining performance (Tran, Abbott, & Yap, 2017).

Theoretically, working capital management involves a trade-off between liquidity and profitability. On the one hand, maintaining sufficient liquidity helps firms absorb short-term shocks and ensures smooth operations. On the other hand, excessive investment in current assets may lead to idle resources and opportunity costs, thereby reducing profitability (Aktas, Croci, & Petmezas, 2015; García-Teruel & Martínez-Solano, 2007). Recent studies increasingly suggest that this trade-off is nonlinear, implying the existence of optimal working capital levels that maximize firm performance (Deloof, 2003; Baños-Caballero, García-Teruel, & Martínez-Solano, 2014). Such nonlinear dynamics are particularly relevant in emerging markets, where firms face volatile demand conditions and imperfect financial markets.

In Vietnam, empirical evidence regarding the correlation between working capital management and corporate performance is scarce and disjointed. Current research

predominantly illustrates a linear correlation, indicating that reduced cash conversion cycles and enhanced liquidity management lead to increased profitability (Nguyen, Pham, & Nguyen, 2020; Phuong & Hung, 2020; Pham, Nguyen, & Nguyen, 2020). Nonetheless, these studies infrequently examine nonlinear impacts or the overarching consequences for financial sustainability. As firms face increasing pressure to pursue sustainable growth and build long-term resilience, it is important to look at working capital management from a sustainability point of view (Santis, Albuquerque, & Lizarelli, 2016; López Vázquez, Gómez-Olmedo, Martinez-Gonzalo, & Guevara Riera, 2025).

This study seeks to address the existing gap by analyzing the nonlinear impacts of working capital management on the profitability of Vietnamese listed enterprises and contextualizing the results within the paradigm of financial sustainability. By including sustainability factors into corporate finance research, the study enhances the expanding body of literature on sustainable financial management in emerging countries. The results give managers and policymakers useful information about how to encourage sustainable company growth by using working capital efficiently (Dewangan & Kannadhasan, 2025).

2 LITERATURE REVIEW

2.1 Working capital management and profitability

A substantial body of literature investigates the relationship between working capital management and firm profitability. Early studies, such as Deloof (2003) and García-Teruel and Martínez-Solano (2007), indicates an inverse correlation between the cash conversion cycle and profitability, implying that companies might improve performance by minimizing the duration of capital engagement in operations. Subsequent studies across countries and industries largely support this finding (Baños-Caballero *et al.*, 2014; Enqvist, Graham, & Nikkinen, 2014).

More recent research, however, shows that this association is not always linear. Anton and Afloarei Nucu (2021) document a U-shaped relationship between the cash conversion cycle and profitability for Polish firms, suggesting that overly short cash cycles may adversely affect performance. Kukeli *et al*. (2023) likewise find that firms maximize profitability at an optimal level of working capital, beyond which the marginal

benefits diminish. Taken together, these findings indicate that both overly aggressive and overly conservative working capital policies can reduce profitability.

Liquidity, often assessed through the current ratio, has demonstrated a nonlinear impact on business performance. While sufficient liquidity promotes operational stability, excessive liquidity may indicate inefficient asset utilization (Anton & Afloarei Nucu, 2021; Kukeli *et al*., 2023). There is an inverted U-shaped link between liquidity and profitability in different situations, according to real-world data (Anton & Afloarei Nucu, 2021; Kukeli *et al*., 2023).

2.2 Working Capital Management and Financial Sustainability

Recent study underscores the significance of working capital management in fostering financial sustainability, extending beyond just short-term profitability. Financial sustainability is the ability of a business to make steady profits while also having enough cash on hand to satisfy future obligations and invest in long-term growth (Wu, Zhao, Musah, Ma, & Zhang, 2023; Zabolotnyy & Wasilewski, 2019). Managing working capital well can free up money inside the company, make it less dependent on outside finance, and make the company more resilient (Wetzel & Hofmann, 2019; Barros, Falcão, & Sarmento, 2021).

Research on sustainability-oriented finance shows that companies that manage their cash flow better likely to do better in the long run and be more resistant to economic shocks (Habib, Anwar, Hussain, & Fenyves, 2024; Court & Ogbolo, 2024). Barros *et al*. (2021) ascertain that more sustainable enterprises can function with reduced working capital needs without sacrificing performance. Wu *et al*. similarly show that liquidity and capital structure are important factors in determining a company's long-term financial health.

Despite these advancements, empirical studies linking working capital management, profitability, and financial sustainability in emerging economies remain limited (Wu *et al*., 2023; Zabolotnyy & Wasilewski, 2019; Nastiti *et al*., 2019). This research fills the void by analyzing nonlinear working capital impacts and their significance for sustainable financial growth in Vietnam.

3 MATERIALS AND METHODS

3.1. Sample selection and variable measurement

This study uses a quantitative research approach to look at the effects and find out how different things affect the financial performance of publicly traded companies in Vietnam from 2019 to 2023. The data encompass all non-financial enterprises registered on the Vietnam stock exchange from 2019 to 2023. There are 359 firms on the Ho Chi Minh Stock Exchange (HOSE) and 290 enterprises on the Hanoi Stock Exchange (HNX). All of the financial statements of companies that are listed on HOSE and HNX were checked. Two companies were left out of the data collection since they didn't have their 2019 financial reports (they were new to the market). This left a final sample of 649 companies with 3,243 firm-year observations from 2019 to 2023.

Table 1 shows how the sample is spread out per industry category. The official stock exchange websites and financial data portals (HOSE, HNX, Vietstock.vn, Cafef.vn) were used to g*et al*l of the data from the financial statements of the listed firms. The Industrials industry has the most observations (750, or 23.13%), followed by the Materials industry (654, or 20.17%). The Real Estate industry has 430 observations (13.26%), while Consumer Discretionary is third with 535 observations (16.50%). The Information Technology industry has the fewest observations, with only 35 (1.08%).

Table 1

Industry distribution of sample

Order	Industry	The number of companies	Freq	Percent
1	Industrials	150	750	23.13%
2	Materials	131	654	20.17%
3	Consumer Discretionary	107	535	16.50%
4	Real Estate	86	430	13.26%
5	Consumer Staples	58	290	8.94%
6	Utilities	46	229	7.06%
7	Communication Services	30	150	4.63%
8	Health Care	22	110	3.39%
9	Energy	12	60	1.85%
10	Information Technology	7	35	1.08%
Total		**649**	**3,243**	**100.00%**

Source(s): Authors' compilation

3.2 Research models

In this study, Return on assets (ROA) is used to measure a company's performance (profitability). The cash conversion cycle (CCC) and the current ratio (CR) show how well a company manages its operating liquidity. These two measures are used to proxy net working capital management. The baseline empirical model includes the squared terms of CCC and CR to account for possible nonlinear connections between managing working capital and making money. Firm size (SIZ), leverage (LEV), and revenue growth (GRO) are also included as control variables. The basic empirical specification is shown like this:

$$\mathrm{ROA}_{it} = \alpha_0 + \alpha_1 \mathrm{CCC}_{it} + \alpha_2 \mathrm{CCC}_{it}^2 + \alpha_3 \mathrm{CR} + \alpha_4 \mathrm{CR}_{it}^2 + \alpha_5 \mathrm{SIZE}_{it} + \alpha_6 \mathrm{LEV}_{it} + \alpha_7 \mathrm{GRO}_{it} + \varepsilon_{it} \quad (1)$$

Notes: where *i* denotes firm and *t* denotes year, $\alpha_0$is the constant term, α_1–α_7 are estimated coefficients, and $\varepsilon_{it}$is the idiosyncratic error term.

The definitions, measurements, and expected signs of all variables are summarized in **Table 2**, based on prior empirical studies (García-Teruel & Martínez-Solano, 2007; Deloof, 2003; Anton & Afloarei Nucu, 2021; Boisjoly *et al*., 2020).

Table 2

The variable definitions, explanations, expected signs and supporting

Categories	Variables	Symbol	Expected sign	Measure
Dependent variables	Return on asset	ROA	NA	Net Income/Average total asset
Independent variable	Cash conversion cycle	CCC	-	Days Inventory Outstanding (DIO)+Days Sales Outstanding (DSO)-Days Payable Outstanding (DPO)
	Cash conversion cycle Squared	CCC^2	+	CCC^2
	Current Ratio	CR	+	Current Assets/Current Liabilities
	Current Ratio Squared	CR^2	-	CR^2
Control variables	Firm size	SIZ	+	Natural logarithm of Total Assets
	Leverage Ratio	LEV	-	Total Debt/Total Equity
	Revenue growth rate	GRO	+	(Revenue (i) - Revenue (i-1))/Revenue (i-1)

Source: Authors' construction based on prior literature

4 RESULTS AND DISCUSSION

4.1 Descriptive statistics and correlations

Table 3 reports descriptive statistics for the sample of Vietnamese listed non-financial firms during 2019–2023. The mean ROA is approximately 5.7%, with a standard deviation of 7.2%, indicating substantial variation in profitability across firms and over time. The cash conversion cycle (CCC) averages 329 days and exhibits considerable dispersion (standard deviation = 1,115.6 days; range = −542.1 to 9,345.5 days), suggesting large heterogeneity in working capital practices. The mean current ratio (CR) is 2.75, implying that, on average, firms maintain adequate short-term liquidity; however, the maximum value indicates that some firms hold exceptionally high levels of current assets relative to current liabilities. Firm size (SIZ) averages 12.0278 (log of total assets), leverage (LEV) averages 1.2318, and revenue growth (GRO) averages 15.96%, with wide dispersion across the sample.

Table 3

Descriptive statistics

Variable	Obs	Mean	Std. dev.	Min	Max
ROA	3.243	0.0570726	0.0717641	-0.1450038	0.3497223
CCC	3.243	329.39	1,115.599	-542.081	9,345.54
CCC^2	3.243	1,352,676	9,276,299	0	8.73e+07
CR	3.243	2.7498	3.6501	0.2917	25.134
CR^2	3.243	20.881	79.335	0.0851	631.73
SIZ	3.243	12.0278	0.7432	10.2593	14.0356
LEV	3.243	1.2318	1.4655	0.0221	9.3377
GRO	3.243	0.1596	0.8134	-0.89	5.8678

Source: Authors' calculations using STATA 17

Table 4 presents the correlation matrix of the variables included in our analysis. As expected, we observe a negative association between ROA and CCC (–0.1097), CCC^2 (–0.0655), and LEV (–0.2743), while ROA is positively correlated with CR (0.1456), CR^2 (0.0537), and sales growth (0.0781). There is almost no relationship between firm size and ROA (correlation ~0.0020). The correlations between the regressors are usually modest when looked at in pairs. This suggests that multicollinearity is unlikely to pose a serious concern in this dataset. Notably, because CCC^2 is a quadratic transformation, it is quite similar to CCC. CR and CR^2 are also very closely related as intended. There are

only weak relationships between other independent variables, such as SIZ and LEV or SIZ and CR.

Table 4

Correlation Matrix

	ROA	CCC	CCC^2	CR	CR^2	SIZ	LEV	GRO
ROA	1.000							
CCC	-0.1097	1.000						
CCC^2	-0.0655	0.9443	1.000					
CR	0.1456	0.0433	0.0580	1.000				
CR^2	0.0537	0.0467	0.0659	0.9390	1.000			
SIZ	0.0020	0.0504	0.0076	-0.2629	-0.1957	1.000		
LEV	-0.2743	0.0276	0.0080	-0.2778	-0.1653	0.2404	1.000	
GRO	0.0781	-0.0401	-0.0194	0.0095	0.0326	0.0148	0.0644	1.000

Source: Authors' calculations using STATA 17

4.2 Baseline regression results and model diagnostics

The baseline pooled OLS regression, including only linear terms (CCC, CR, SIZ, LEV, and GRO), yields an R^2 of 0.1084 and indicates that CCC and LEV exert statistically significant negative effects on ROA, while CR, firm size, and sales growth are positive and significant at the 1% level. This suggests that, on average, longer cash conversion cycles and higher leverage reduce firm profitability, whereas stronger liquidity positions, larger firm size, and faster sales growth enhance ROA.

To identify potential nonlinear relationships, the model is extended to include the squared terms CCC^2 and CR^2. The expanded OLS specification increases the R^2 to 0.1601, indicating an improvement in the model's explanatory power. The coefficient on CCC remains negative, while CCC^2 is positive, suggesting a U-shaped relationship between CCC and ROA. Similarly, CR retains a positive coefficient, whereas CR^2 is negative, implying an inverted U-shaped relationship between liquidity and profitability.

However, diagnostic tests, including the Breusch–Pagan test and the Wooldridge test, reveal the presence of heteroskedasticity and first-order autocorrelation in the pooled OLS residuals. Although the OLS coefficient estimates remain unbiased, their standard errors are inconsistent, violating the classical OLS assumptions.

To account for unobserved firm-specific heterogeneity, panel regression models are subsequently estimated. Both the fixed-effects model (FEM) and the random-effects model (REM) produce coefficient signs and significance patterns for CCC, CCC^2, CR,

CR^2, SIZ, LEV, and GRO that are consistent with the OLS results. The Hausman test strongly favors the fixed-effects specification (p-value < 0.01), indicating that unobserved firm-specific effects are correlated with the regressors and that FEM is preferable to REM. Nevertheless, the Modified Wald test and the Wooldridge test again detect groupwise heteroskedasticity and serial correlation in the FEM residuals.

To address these econometric issues, two corrective approaches are employed: (i) fixed-effects estimation with cluster-robust standard errors, and (ii) feasible generalized least squares (FGLS) allowing for panel-specific heteroskedasticity and a common AR(1) error structure. The results obtained from both methods are qualitatively similar, confirming the robustness of the findings. The subsequent discussion therefore focuses on the FGLS estimates, as this method explicitly accounts for both heteroskedasticity and serial correlation in panel data.

Using pooled OLS, fixed-effects, and random-effects estimators, we estimate a series of panel regression models to examine the impact of working capital management on firm profitability and long-term financial performance. Table 5 reports the estimation results, illustrating how the cash conversion cycle (CCC), the current ratio (CR), their quadratic terms, and other firm-specific control variables affect return on assets. These findings allow us to identify nonlinear effects and optimal working capital thresholds consistent with sustainable financial performance.

Table 5

Regression Results for ROA Using OLS. FEM and REM

Variable	OLS (ROA)	FEM (ROA)	REM (ROA)
CCC	-0.0000291*** [-9.11]	-0.0000158*** [-4.21]	-0.0000205*** [-6.24]
CCC^2	2.82e-09*** [7.35]	1.53e-09*** [3.77]	1.98e-09*** [5.37]
CR	0.0138*** [13.75]	0.00480*** [3.70]	0.00892*** [8.18]
CR^2	-0.000563*** [-12.57]	-0.000198*** [-3.85]	-0.000352*** [-7.87]
SIZ	0.0130*** [7.82]	0.0157*** [3.79]	0.0113*** [4.69]
LEV	-0.0103*** [-11.84]	-0.00407*** [-3.67]	-0.00692*** [-7.29]
GRO	0.00183*** [5.68]	0.00197*** [8.12]	0.00193*** [8.23]
_cons	-0.109*** [-5.33]	-0.134*** [-2.69]	-0.0846*** [-2.89]
N	3.243	3.243	3243
R-sq	0.160	0.052	0.120

F-test	Prob > F = 0.0000	Prob > F = 0.0000	Prob > F = 0.0000
Hausman		Prob > chi2 = 0.0000	
Wald test		Prob>chi2 = 0.0000	
Wooldridge test	Prob > F = 0.0000	Prob > F = 0.0000	

Note: * p<0.1. ** p<0.05. *** p<0.01
Source: Authors' calculations using STATA 17

4.3 Effect of working capital management on profitability

Table 6 reports the FGLS regression results for ROA, which we treat as our preferred specification because it explicitly accounts for both heteroskedasticity and autocorrelation. Consistent with the preceding models, all explanatory variables are statistically significant at the 1% level. The estimated coefficient for CCC is negative (–0.0000154), whereas the coefficient on CCC^2 is positive (1.39×10^{-9}).

This combination indicates that the relationship between the cash conversion cycle and profitability exhibits a U-shaped pattern. Specifically, as CCC increases, ROA initially declines, but only up to a certain threshold. Beyond this point, the marginal effect of CCC becomes less negative and may eventually turn positive. However, considering the observed range of CCC in the sample, most firms operate on the downward-sloping segment of the curve, where a longer cash conversion cycle is associated with lower profitability.

In practice, for firms with low to moderate CCC levels, reducing the cash conversion cycle—through faster receivables collection, improved inventory management, or more efficient use of trade credit—tends to release capital and enhance ROA. This result is consistent with prior empirical evidence from the Vietnamese context, which shows that improvements in working capital management lead to better firm performance (Nguyen, Pham, & Nguyen, 2020; Pham, Nguyen, & Nguyen, 2020; Tran *et al.*, 2017).

When CCC reaches relatively high levels, the positive coefficient on the squared term suggests that very conservative working capital policies may partially mitigate the adverse effects of an excessively long CCC. Nevertheless, such cases appear to be uncommon and are typically associated with structural or sector-specific constraints rather than optimal working capital practices.

Table 6

FGLS Regression Results for ROA

Variable	FGLS (ROA)
CCC	-0.0000154*** [-10.59]
CCC^2	1.39e-09*** [7.94]
CR	0.0080421*** [12.76]
CR^2	-0.0003074*** [-10.34]
SIZ	0.0089185*** [9.81]
LEV	-0.0063728*** [-20.31]
GRO	0.0068441*** [12.67]
_cons	-0.0107728*** [-5.93]
N	3243
AR(1)	0.5842
Wald chi^2 test	1083.69
Prob > chi^2	0.0000

Note: * p<0.1. ** p<0.05. *** p<0.01
Source: Authors' calculations using STATA 17

Regarding liquidity, the FGLS estimates show a positive linear term for CR (0.0080421) and a negative squared term for CR^2 (–0.0003074), confirming an inverted U-shaped relationship between liquidity and profitability. This implies that increasing CR from low levels is associated with higher ROA, reflecting the benefits of sufficient operating liquidity to meet short-term obligations and support operations. However, beyond a certain threshold, further increases in CR are linked to lower ROA, suggesting that excess current assets may remain underutilized and impose opportunity costs.

The findings indicate a statistically significant U-shaped correlation between the cash conversion cycle and profitability. The negative coefficient of CCC and the positive coefficient of CCC^2 show that lowering the cash conversion cycle at first increases profitability, but too much of a drop could hurt performance. This conclusion corroborates recent evidence of nonlinear effects in working capital (Anton & Afloarei Nucu, 2021; Kukeli *et al*., 2023).

The current ratio, on the other hand, has an inverted U-shaped connection with ROA. Better liquidity can make a business more profitable, but too much liquidity might hurt profits since assets aren't being used efficiently. This conclusion is in line with earlier research that stressed the importance of managing liquidity well (Barros *et al*., 2021;

Kukeli *et al*., 2023).

When it comes to control variables, the size of a business and its sales growth both have a favorable effect on profitability, whereas leverage has a big negative effect. These results align with accepted corporate finance theory and empirical evidence (Wetzel & Hofmann, 2019; Zeidan & Shapir, 2017). The findings indicate that balanced working capital strategies enhance both short-term profitability and long-term financial stability from a sustainability standpoint.

The approximate turning point for CR is 13, that means in the sample. As companies go from having very low liquidity to having a current ratio that is moderately high but not too high, their profits tend to go up. Extra liquid assets are likely to be put to bad use. Most of the companies in the study, however, had CR values that are far lower than this criterion (mean 2.75). The non-linear relationship shows the trade-off between risk and return: not enough liquidity raises the danger of financial trouble. Too much liquidity, on the other hand, lowers profits by putting money into low-yielding assets. This conclusion backs up the usual trade-off approach and adds to what other Vietnamese investigations have found. It often looked at the linear effects of working capital variables. In Vietnam, where not all businesses can get short-term bank loans, it is very important to keep the right amount of working capital.

4.4 Effect of control variables

The control variables in the model mostly act as we thought they would. The coefficient for firm size (SIZ) is positive and significant (0.0089185 in the FGLS model) showing that bigger companies usually have a higher ROA. This is because of economies of scale. better ability to negotiate with customers and suppliers. stronger access to the finance markets. and more advanced ways to manage money that come with bigger companies.

Leverage (LEV) is very low (–0.0063728 in FGLS) indicating that organizations with a lot of debt have poorer profits. perhaps because of the stress of paying interest and the higher financial risk. This is in line with old financial ideas like the pecking order hypothesis and the trade-off theory. Having too much debt can hurt shareholder profits if the expense of the debt is higher than the extra return on the assets that the loan pays for.

Growth in revenue (GRO) is very good (0.0068441) confirming that higher ROA is linked to more sales. As companies grow, they can spread their fixed expenses over a bigger revenue base and take advantage of new investment opportunities. This helps make more money, as long as growth is controlled well and is long-lasting.

All of these things combined. The results demonstrate that working capital management exerts a statistically and economically substantial influence on the financial performance of non-financial enterprises in Vietnam (Nguyen, Pham, & Nguyen, 2020; Phuong & Hung, 2020; Pham, Nguyen, & Nguyen, 2020; Anton & Afloarei Nucu, 2021; Kukeli *et al*., 2023) and that this effect is not linear. Companies gain by making their cash conversion cycle shorter and keeping their liquidity at a "normal" level (not too low or too high). while still keeping an eye on leverage and encouraging long-term growth. These results align with previous empirical studies concerning Vietnamese publicly traded companies. Our research contributes to the existing literature by clearly delineating non-linear correlations between working capital variables and profitability.

5 CONCLUSION

For long-term economic growth, secure employment, and continued investment, businesses need to be financially stable (Wu *et al*., 2023; Zabolotnyy & Wasilewski, 2019). In emerging countries, the capacity of enterprises to sustain profitability while ensuring enough liquidity and resilience is widely regarded as a crucial prerequisite for sustainable development outcomes (López Vázquez *et al*., 2025).

This study looks at how managing working capital influences the profitability of businesses in Vietnam and what this means for their long-term financial health. Our results demonstrate strong evidence of nonlinear linkages between working capital management and profitability: a U-shaped correlation between the cash conversion cycle and ROA, and an inverted U-shaped correlation between the current ratio and ROA. These trends corroborate the "optimal working capital" perspective established in previous international research (Anton & Afloarei Nucu, 2021; Kukeli *et al*., 2023). They also add to the Vietnamese research, which is frequently looked at in a linear way, by showing that both highly aggressive and overly cautious working capital practices can hurt profits (Nguyen, Pham, & Nguyen, 2020; Phuong & Hung, 2020; Pham, Nguyen, & Nguyen, 2020). When companies have too much or too little working capital, their profits

go down, which can make it harder for them to keep their business going and deal with shocks (Wu *et al*., 2023; Zabolotnyy & Wasilewski, 2019).

From a management point of view, the results show that managing working capital should be seen as a strategic tool for long-term financial success rather than just an operational issue. Vietnamese businesses would want to rethink their credit rules, how they handle their inventory, and their payment terms in order to shorten the cash conversion cycle to a range that works well without hurting supply chains or relationships with customers (Deloof, 2003; Panigrahi, 2025). At the same time, it's important to keep enough liquidity—neither too much nor too little. Too little liquidity raises the danger of distress, while too much liquidity can mean that resources are sitting unused and opportunity costs are high (Anton & Afloarei Nucu, 2021; Kukeli *et al*., 2023). Optimizing operating liquidity can free up internal funds, lower financing costs, and help profitability, which is in line with value-enhancing views on working capital (Wetzel & Hofmann, 2019; Aktas *et al*., 2015).

The results also have effects for investors, creditors, and politicians. Working capital indicators can provide valuable insights into a company's financial health and long-term viability, and as a result, they may be included in assessments of corporate performance that focus on sustainability (Wu *et al*., 2023; López Vázquez *et al*., 2025). Creditors may advocate for enhancements in receivables, inventory, and cash management to mitigate default risk and bolster resilience (Wetzel & Hofmann, 2019). From a policy perspective, enhancing financial management proficiency and ensuring openness in liquidity-related disclosures can bolster a more resilient business sector, facilitating steady growth and advancing broader sustainable development goals (Wu *et al*., 2023; Zabolotnyy & Wasilewski, 2019; López Vázquez *et al*., 2025).

In general, this research shows that good working capital management is a critical factor in both profitability and financial stability in Vietnam. The study connects corporate finance management and the conversation about sustainable development by finding nonlinear effects and the right amounts of working capital. This gives useful information for creating long-term value in emerging countries (Anton & Afloarei Nucu, 2021; Kukeli *et al*., 2023; López Vázquez *et al*., 2025)

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DISCLOSURE OF AI USE

AI tools, namely ChatGPT (GPT-5, OpenAI, 2025) and Gemini (Google, 2025), were used solely for language enhancement during manuscript preparation. All AI-assisted content was reviewed and edited by the authors, who bear full responsibility for the final manuscript.

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Authors' Contribution

All authors contributed equally to the development of this article.

Data availability

All datasets relevant to this study's findings are fully available within the article.

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