

## The relationship between supply chain finance and firm performance: Evidence from Thai listed firms



Wanlapa Thomya<sup>1</sup>

Grid

Rangsungnoen<sup>2+</sup>

Uma Ritsri<sup>3</sup>

Sakkarin

Nonthapot<sup>4</sup>

Krittapha

Saenchaiyathon<sup>5</sup>

<sup>1,2,3,4</sup>Faculty of Interdisciplinary Studies, Nong Khai Campus, Khon Kaen University, Thailand.

<sup>1</sup>Email: [wanth@kku.ac.th](mailto:wanth@kku.ac.th)

<sup>2</sup>Email: [gridra@kku.ac.th](mailto:gridra@kku.ac.th)

<sup>3</sup>Email: [umari@kku.ac.th](mailto:umari@kku.ac.th)

<sup>4</sup>Email: [sakkno@kku.ac.th](mailto:sakkno@kku.ac.th)

<sup>5</sup>Faculty of Business Administration and Accountancy, Khon Kaen University, Khon Kaen, Thailand.

<sup>5</sup>Email: [krisae@kku.ac.th](mailto:krisae@kku.ac.th)



(+ Corresponding author)

### ABSTRACT

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The idea of supply chain finance (SCF), often called "working capital management", is to optimize the flow of funds across the entire supply chain in businesses, theoretically enhancing supply chain participants' efficiency. This study aims to investigate if the relationship between supply chain finance and firm performance is consistent across industry sectors. The sample includes businesses that were listed on the Stock Exchange of Thailand (SET) between 2016 and 2020. The study compared 64 firms in the agro-industry with 668 firms from all SET industries. The annual financial report (Form 56-1) and data from the SETSMART database were mined for source data. Though the multiple regression study found a substantial positive relationship between SCF and firm performance for the agro-industry, it was not consistent across all other industries. The results revealed a significant positive relationship between SCF and firm performance. This research thus assists in understanding how companies listed on the SET manage their financial supply chains. The listed companies may apply the findings to improve their performance through effective working capital management. In addition, governmental agencies can use the results to develop policies that support effective financial supply chain management for all supply chain participants.

**Contribution/Originality:** This study provides valuable insights for practitioners and researchers alike, contributing to the understanding of financial supply chain management and its effects on how firms listed on the SET manage their financial supply chains, which can assist in identifying best practices for improving supply chain efficiency and financial performance.

### 1. INTRODUCTION

Supply chain finance (SCF) is an evolution of supply chain management (SCM), which involves logistics, warehousing, and inventories (Randall & Theodore, 2009). The goal of supply chain management is to direct the production process to efficiently deliver products to customers at a low cost and with optimum customer satisfaction (Marak & Pillai, 2018). Bui et al. (2022) assert that improving operational and strategic performance is essential in achieving these goals. They propose the following supply chain quality performance measures based on the balanced scorecard model: (1) supplier performance, (2) innovation and learning, (3) product and service quality, (4) customer

satisfaction, and (5) finance. Under the "finance" metric, key indicators, such as market share growth, return on investments (ROI), return on sales (ROS), operating income, sales, cash flow, cash-to-cash cycle time, and shareholder value, are crucial. Thus, integrating supply chain management with finance allows businesses to plan, guide, and regulate the flow of financial resources across organizations, resulting in the generation of shared value.

Caniato, Gelsomino, Perego, and Ronchi (2016) state that one of the primary goals of adopting SCF is to enhance the financial performance of an organization. The process involves integrating the finance process with consumers, suppliers, and service providers to create value for all parties involved (Dello Iacono, Reindorp, & Dellaert, 2015). SCF, commonly referred to as "optimizing intercompany financing" (Pfohl & Gomm, 2009) aims to facilitate efficient flows of working capital between businesses to enhance the value of all participating organizations. Working capital management is defined as the process of managing a company's short-term assets and liabilities to ensure its operational efficiency and financial stability. Measuring the efficacy of working capital allocations may not provide a comprehensive view of the financial performance of a company. Therefore, there may be additional significant factors to consider when evaluating the working capital management of a company that are not necessarily captured by efficiency measures alone (Pant, Dutta, & Sarmah, 2022).

Past research examining SCF notes varying perspectives (Caniato et al., 2016; Silvestro & Lustrato, 2014). For example, Rajaguru, Matanda, and Zhang (2022) conducted a study and found that implementing SCF could lead to improved firm performance for supply chain partners. The improved performance was measured in terms of increased profits, sales volume, market share, and return on investment. Bi, Yang, and Beka Be Nguema (2022) conducted a study to analyze the impact of SCF adoption on organizational performance. Their findings indicate that SCF is not solely dependent on financial aspects but is also influenced by external factors. These factors include collaboration among supply chain partners, access to financial institutions and their services, and the degree of digitization within the supply chain. The authors suggest that companies must consider these external factors to fully realize the potential benefits of SCF in terms of improved financial performance and supply chain efficiency. Thus, well-managed supply chain financing can impact financial success (Carnovale & Yenyurt, 2015).

For small and medium-sized businesses (SMEs) that are short on cash, the adoption of SCF is highly recommended as it provides a means of accessing financing and improving supply chain operations (Beka et al., 2021). According to Song, Lu, Yu, and Qian (2019), financing has always been a significant obstacle for SMEs; thus, the strength of an SME supply chain network has a beneficial influence on its credit quality. Buyers, suppliers, and financial service providers would benefit from SCF in resolving the fund flow (Ma, Wang, & Chan, 2020). Other scholars, such as Carnovale and Yenyurt (2015) and Wang, Ma, and Zhan (2012), also suggest that SCF improves supply chain participants' financial success. In summary, SCF is an area of logistics that involves the use of financial instruments to enhance the cash flow and liquidity of buyers in the supply chain. It aims to optimize the flow of financial resources within the supply chain by providing financing options to suppliers and buyers, enabling them to manage their cash flow better and improve their working capital (Hofmann, 2005).

Although numerous global studies on SCF and firm performance exist, they are scant in the Thai context. Moreover, COVID-19 has had a significant negative influence on company performance across all industries since 2019. Thai data reveals that net profit growth for businesses listed on the SET in 2020 declined by 53.0% compared to 2019 (Bangkokbiznews, 2021). Such falls threaten corporate goals of creating wealth for investors and encourage corporate executives to seek "new" business-building strategies to ensure company continuation. Tangsomworapon (2020) suggests that SET company executives must alter their strategic planning, financial management, and cost reduction strategy. In addition, an investment strategy would focus on reducing foreign investment while increasing local investment through forming partnerships to establish a domestic supply chain. Marketeer (2018) revealed that Thailand's supply chain is growing, with an estimated value of eight trillion baht (USD 215 billion) in 2018, and financial institutions are encouraging commercial organizations to adopt SCF. According to Liu, Liu, Elahi, and Liu

(2022), the adoption of supply chain finance initiatives at a high level will ultimately contribute to economic development and will have a positive impact on sustainable growth.

However, waste, residues, and effluents from the agro-industry, though widely produced on a global scale, have negative consequences on the environment and sustainability (Agathos, 2011). Sustainable development is critical to businesses' survival and competitive action, which intimately links to the influence of trade credit financing. The agro-industry has a significant impact on the nation's economy for both domestic consumption and exports. Thus, to fully comprehend the role of SCF, this study aims to investigate the relationship between SCF management and firm performance in the SET-listed agro-industry. Further, it examines the relationship in all industries to investigate the effects of SCF. The primary aim is to answer the following research questions:

RQ1. Does SCF have an impact on SET-listed agro-industry firm performance?

RQ2. Does the relationship between SCF management and firm performance differ between the agro-industry listed on the SET and all other industries?

Consequently, the findings of this study will benefit companies in the agro-industry and all listed companies on the SET by providing guidance for managing SCF to create value for shareholders while also boosting the national economy.

## 2. LITERATURE REVIEW

A growing body of literature suggests that firm performance may be significantly enhanced when firms leverage their SCF. Noted activity levers include supply chain risk information sharing (Bi et al., 2022; Yuan & Li, 2022), social networking (Pant et al., 2022), financial network structures (Blackman, Holland, & Westcott, 2013), and market response and innovation capabilities (Qiang Lu, Liu, & Song, 2020), who illustrated financial accounting perspectives on the growing list of SCF for the different players in the industry.

### 2.1. Measurement of SCF

SCF is a concept that has gained importance in recent times. It refers to the management and optimization of working capital in the supply chain (Marak & Pillai, 2018). The literature on SCF typically focuses on working capital, measuring how well the financial management works (Bui, 2020; Bui & Doan, 2020; Hofmann & Kotzab, 2010; Randall & Theodore, 2009) and reflecting a company's ongoing liquidity management (Jose, Lancaster, & Stevens, 1996). Working capital is a monetary-based calculation determined as current assets minus current liabilities (Hofmann & Kotzab, 2010). Businesses generally aim to maintain a low but sufficient amount of working capital, signaling that they have enough current assets to satisfy their liabilities (Jose et al., 1996). Zubairu, Dinwoodie, Govindan, Hunter, and Roh (2021) and highlight financial performance driven by supply chain strategies, namely revenue growth, cost reduction, and asset efficiency. Working capital efficiency was the least significant element when measuring supply chain strategies. However, after the 2008 financial crisis, several authors (Caniato et al., 2016; Ma et al., 2020) asserted that SCF is an essential strategy to maximize working capital in many firms. SCF then became more prominent to optimize business capital flows (Ma et al., 2020; Tate, Bals, & Ellram, 2018).

However, several studies in the field of SCF suggest that another technique – cash conversion cycle (CCC) – should be utilized. Evidence of the effectiveness of SCF is seen through active CCC management, shorter cash cycles as a result of extending creditor payback terms, and quicker receivables collection and product sales. These will lead to a company's operational liquidity, minimal finance expenses, and reduced inventory costs. Eventually, effective CCC benefits all stakeholders and increases the financial success of a business (Beka, Bi, Akenroye, & El Baz, 2022; Dello Iacono et al., 2015; Ma et al., 2020; Marak & Pillai, 2018; Nobanee, Abdullatif, & AlHajjar, 2011).

To capture the essence of the CCC into a research framework, it is first necessary to identify the theoretical concept. The CCC demonstrates how supply chain financial management pivots on the period (time interval) between when a firm spends cash on raw materials or finished goods and when it receives cash from selling goods (Bui & Doan,

2020; Hofmann & Kotzab, 2010). At the same time, SFC (working capital management) is crucial to maintaining the supply chain's flow and optimizing the chain's working capital (Marak & Pillai, 2018). The goal of CCC management is to reduce the time required to collect cash from accounts receivable while also lengthening the time needed to pay off a debt to reduce the potential financing cost or opportunity cost (Tan & Tuluca, 2019). The CCC approach encourages managers to consider end-to-end supply chain costs to optimize firm value. To lower carrying and capital costs, the supply chain's overall cost may be decreased by properly managing key cash-to-cash factors, including inventory, receivable terms, and payment terms (Randall & Theodore, 2009).

To calculate the CCC, we use the formula of Randall and Theodore (2009).

$CCC = \text{Days of receivables} + \text{Days of inventory} - \text{Days of payables}$ .

Where:

$\text{Days of receivables} = (\text{Accounts receivable} / \text{Net sales}) \times 365$

$\text{Days of inventory} = (\text{Inventory} / \text{Cost of goods sold}) \times 365$

$\text{Days of payables} = (\text{Accounts payable} / \text{Cost of goods sold}) \times 365$

The calculation uses financial data generated from the income statements and the statements of financial position. For example, when a business purchases its goods, it is granted a payment period of 40 days (see Figure 1). Product sales take 35 days, the period for collecting is 15 days, and as a result, the CCC is 10 days.

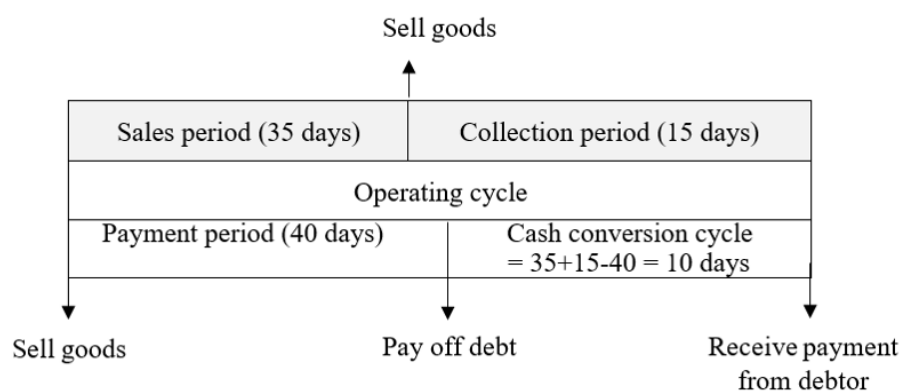


Figure 1. The cash conversion cycle.

Note: Hofmann and Kotzab (2010).

The CCC monitors and regulates linked accounting transactions between a company's inflows and outflows (Drissi, Lamzaouek, Amellal, & Mialed, 2022; Jose et al., 1996). The value can be either positive or negative. Positive refers to the days the business waits for a customer's payment, while negative relates to the days the company receives cash from sales before paying its suppliers (Randall & Theodore, 2009; Yilmaz & Nobanee, 2022). In addition, a business with a lower CCC suggests a quicker turnaround and demonstrates a strong SCF performance (Bui & Doan, 2020). It also illustrates how the company's financial operations impact suppliers and customers.

## 2.2. SCF and Firm Performance

Several scholars have affirmed the importance of SCF in enhancing firm performance. Previous research shows a correlation between SCF and firm performance in various aspects. Ali, Gongbing, and Mehreen (2018) claim that trade digitalization improves the association between SCF and SME performance. Wang et al. (2012) suggest that SCF leads to a more beneficial supply chain. Moreover, Carnovale, Rogers, and Yenyurt (2019) advocate for network cohesion and network power in the financial supply chain to positively associate with financial performance and earnings performance. In addition, Lam, Zhan, Zhang, Wang, and Lyons (2019) investigate the influence of supply chain finance initiatives on the market value of service providers and conclude that it has a positive effect. It is essential to note, however, that the relationship between supply chain finance and firm performance can be influenced by a number of factors and can vary depending on the context.

For example, when investigating the impacts of SCF adoption on organizational performance, the research emphasizes how important it is to take into consideration environmental dynamism and supply chain risk as contingent variables (Bi et al., 2022). According to Lu, Deng, Liu, and Chen (2022), SCF adoption improves organizational performance, particularly operational performance and cost savings. Moreover, Wang, Yu, and Wei (2023) utilized an empirical research design to examine the effect of SCF on corporate sustainability performance (CSP), including financial performance and environmental, social and governance performance from the perspective of the core firm. The purpose of their research is to investigate the impact of SCF on CSP and to identify SCF-related strategies for CSP. The research found that supply chain management, operations management, company sustainability, strategic management, and marketing all have applications for achieving CSP.

In a study of Chinese companies, Beka et al. (2022) suggest that SCF offers significant potential for key supply chain participants to positively impact operational performance through the reduction of overall business risks. Managers or executives would be better able to reduce risk within their organizations by employing mitigation strategies, particularly SCF, to increase liquidity and working capital. According to Rajaguru et al. (2022), supply-oriented performance positively impacts Australian retailing firms' performance. They identify that the SCF dimensions of accounts payable, accounts receivable, and inventory finance on firm performance are mediated serially by supply-oriented performance and then demand-oriented performance. It's worth noting that the paper focuses specifically on the relationship between SCF and supply-oriented performance, rather than overall firm performance. Rajaguru et al. (2022) suggest testing the framework in emerging Asian economies where personal and business associations likely influence supply chain processes.

Therefore, based on Rajaguru et al. (2022), the hypothesis below is proposed to answer  $RQ1$  and  $RQ2$  in the Thai context:

*H1: SCF is positively correlated with firm performance.*

From the above assumption, the following hypothesis testing framework is proposed:

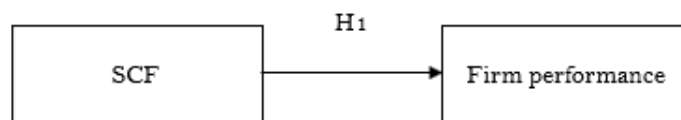


Figure 2. Hypothesis testing framework.

### 3. METHODS

#### 3.1. Sample Selection and Data Collection

The SET established a securities and futures exchange information system called SETSMART, which provides online information on funds. This empirical study is based on secondary observations using data from the SETSMART website, specifically "Form 56-1", and an annual report based on the SETSMART database from 2016 to 2020 (The Stock Exchange of Thailand, 2021). The firm-year observations for this study consist of all 64 SET-listed firms in the agro-industry, which resulted in 320 observations. A total of 53 firm-year observations were removed from the dataset due to insufficient financial information and outlier data availability in a particular year. Finally, a complete sample selection of 267 observations was obtained for  $RQ1$ . The study further collected data with the same procedure in response to  $RQ2$ . A total of 2,628 firm-year observations were selected, representing 668 listed firms from all SET industries, excluding firms in the finance and insurance industry due to their specific regulatory standards.

#### 3.2. Regression Model

To test the study hypotheses, the following equation was developed to analyze the relationship between SCF and firm performance based on research assumptions:



$$PERF_{it} = \beta_0 + \beta_1 SCF_{i,t} + \beta_2 RMC_{i,t} + \beta_3 SIZE_{i,t} + \beta_4 LEV_{i,t} + \beta_5 SALEG_{i,t} + \beta_6 \sum YEAR_{i,t} + \varepsilon_{i,t}$$

Where:

PERF<sub>it</sub> is the firm performance of company i in year t.

SCF<sub>i,t</sub> is the supply chain finance of company i in year t.

RMC<sub>i,t</sub> is the risk management committee of company i in year t.

SIZE<sub>i,t</sub> is the firm size of company i in year t.

LEV<sub>i,t</sub> is the financial leverage of company i in year t.

SALEG<sub>i,t</sub> is the sales growth of company i in year t.

YEAR<sub>i,t</sub> is the business year of company i in year t.

ε<sub>i,t</sub> is the estimation error of company i in year t.

### 3.3. Measuring Variables

#### 3.3.1. Dependent Variable

Firm performance (PERF) is measured by return on assets (ROA).

#### 3.3.2. Independent Variable

Supply chain finance (SCF) is measured by the cash conversion cycle (CCC).

#### 3.3.3. Control Variables

The study is informed by five control variables (Chang, 2018; Deloof, 2003; Malik, Zaman, & Buckby, 2020; Ng, Chong, & Ismail, 2012) that have the potential to affect firm performance, as displayed through the research model. The five variables are (1) risk management committee (RMC), (2) company size (SIZE), (3) financial leverage (LEV), (4) sales growth (SALEG), and (5) firm year (YEAR) with each further described below:

1) RMC is measured by 1 = there is an RMC, 0 = other. The establishment of a risk management committee in an organization indicates that risks exist in all aspects of the operation and must be controlled and continuously monitored under the committee's supervision to accomplish strategic objectives and add long-term value to shareholders (Committee of Sponsoring Organizations of the Treadway Commission, 2017). Dellana, Kros, Falasca, and Rowe (2020) demonstrate that the integration of supply chain risk management positively mediates between logistics performance and supply chain performance assessments in the International Organization for Standardization (ISO) 9001-certified firms in the United States. In the European context, Ghazieh and Chebana (2021) illustrate a significant positive association between the efficacy of the management and performance of the risk management system. Previous research recommends the establishment of a risk management committee to enhance firm performance (Malik et al., 2020; Thomya, 2016), whose research discovered an association between the risk management committee and firm performance.

2) SIZE is determined by the natural logarithm of total assets. Businesses with abundant resources always have the potential to gain competitive advantages and superior performance (Jakpar et al., 2017). Previous research demonstrates a favorable relationship between business size and corporate success (Chang, 2018; Deloof, 2003; Jakpar et al., 2017; Lin, Horng, & Chou, 2016; Musah & Kong, 2019). As a result, in this study, a firm's size is estimated to correlate positively with its performance.

3) LEV is calculated by dividing total liabilities by total assets. Companies with high debt ratios have large interest payments, which reduce the company's earnings. Previous research shows that the debt ratio negatively affects firm performance (Chang, 2018; Jakpar et al., 2017; Lin et al., 2016). Therefore, this study assumes that the debt ratio negatively affects firm performance.

4) SALEG is measured by the percentage of the difference between the current and prior periods' sales divided by the previous period's sales. Sales are a crucial factor in determining a company's profit. When a company's sales

increase, its business performance improves. According to Deloof (2003) and Ghozali, Handriani, and Hersugondo (2018), sales growth is favorably associated with business performance. Similarly, Baños-Caballero, García-Teruel, and Martínez-Solano (2012) confirm that sales growth corresponds to the success of the agriculture and mining sectors. As a result, in this study, sales growth is expected to correlate positively with firm performance.

5) YEAR is included in the research model considering the global COVID-19 pandemic and its impact on businesses in Thailand. The firm year is measured from the year of research interest, 1 = base year (2020) and 0 = other (Ng et al., 2012).

## 4. RESULTS

A multivariate analysis was used to test the hypothesis for both research questions. Before running the analysis, the observations were checked for reliability. The data did not suggest issues of multicollinearity, outliers, or missing variables. Overall, the results reveal that SCF positively correlates with firm performance for the agro-industry, though not across all industries. The specific test results are detailed below.

### 4.1. Test Results for RQ1

#### 4.1.1. Descriptive Statistics

The results of the descriptive statistical analysis of 267 observations are shown in Table 1. The average ROA is 7.04%, with the lowest value being -33.44%, the best value being 33.42%, and the CCC being an average of 54.04 days. SIZE averaged 8.55, LEV averaged 0.405, and SALEG averaged 4.97 for the control variables. It could therefore be argued that SCF management is inefficient. In addition, 166 companies (62.2%) were found to have risk management committees, showing that these firms focus on risk management.

Table 1. Descriptive statistics.

Continuous variables (N = 267)	Mean	Std. dev.	Min.	Max.
ROA	7.040	8.987	-33.44	33.42
CCC	54.035	62.732	-199.96	219.49
SIZE	8.549	1.262	6.28	13.29
LEV	0.405	0.210	0.07	0.96
SALEG	4.972	40.134	-52.99	464.87
Binary variable (N = 267)	Coding	Observations	% of sample	
RMC	1	166	62.2	

The findings for the correlation between variables are presented in Table 2. A low correlation exists between the independent variables. The highest Pearson correlation coefficient between SIZE and LEV is 0.237 ( $p < 0.01$ ), indicating that correlation among the independent variables is not a problem.

Table 2. Pearson statistical correlations between variables.

Variable	ROA	CCC	SIZE	LEV	SALEG	RMC
ROA	1					
CCC	-0.073	1				
SIZE	0.154*	-0.011	1			
LEV	-0.477**	-0.060	0.237**	1		
SALEG	0.153*	0.009	-0.052	-0.126*	1	
RMC	0.075	0.056	0.156*	0.118	-0.003	1

Note: \* Correlation is significant at the 0.05 level.

\*\* Correlation is significant at the 0.01 level.

## 4.1.2. Multivariate Analysis

Table 3 displays the results of the Hausman testing for *RQ1*. The random effects estimation method is deemed acceptable. The adjusted  $R^2$  score is 0.33, indicating that the model is 33% predictive. The regression analysis of 267 observations in the agro-industry revealed that SCF is positively associated with firm performance (CCC is negatively correlated with ROA), with a regression coefficient of -0.031 and a p-value of less than 0.01. Consequently, Hypothesis 1 is supported. This means that when firms effectively manage SCF, their firm performance improves. As a consequence, firms can pay off loans gradually, sell products and collect money from clients swiftly, have high liquidity, high present values of cash flows, low financial expenses, and minimum inventory costs (Beka et al., 2022; Dello Iacono et al., 2015; Ma et al., 2020; Marak & Pillai, 2018; Nobanee et al., 2011). Our findings are consistent with those of Ali et al. (2018), who demonstrated that supply chain finance is positively related to the performance of SMEs. This is also similar to the point made by Carnovale et al. (2019) and Wang et al. (2012), who confirmed that SCF positively correlates with profitability and financial performance.

Table 3. Regression analysis between the CCC and ROA of the agro-industry.

Variable	Exp. sign	Random effects		Fixed effects	
		Coefficient	P-value	Coefficient	P-value
Constant		-0.872	0.853	2.383	0.763
CCC	-	-0.031**	0.003	-0.074**	0.000
RMC	+	1.812	0.128	1.560	0.295
SIZE	+	2.407**	0.000	3.021**	0.001
LEV	-	-30.768**	0.000	-45.201**	0.000
SALEG	+	0.039**	0.000	0.041**	0.000
Year dummies		-0.340	0.633	-0.189	0.785
Adjusted $R^2$		0.33		0.30	
Hausman test		0.0541			
Firms-year observations		267			

Note: \*\* Correlation is significant at the 0.01 level.

The analysis of the control variables revealed that SIZE and SALEG had a substantial positive correlation with firm performance ( $p < 0.01$ ), with regression coefficients of 2.407 and 0.039, respectively. This demonstrates that larger companies with higher sales growth perform better. The study also found that LEV was significantly negatively associated with firm performance ( $p < 0.01$ ), with a regression coefficient of -30.768. This demonstrates that when a corporation has a larger debt ratio, its firm performance decreases. It was also found that RMCs had no significant relationship with firm performance ( $p > 0.05$ ). This demonstrates that the existence of an RMC does not affect firm performance. Lastly, the study indicates that YEAR was not substantially related to firm performance ( $p > 0.05$ ). This may be because the COVID-19 pandemic was still in its early stages and had not yet affected firm performance.

4.2. Test Results for *RQ2*

The relationship between CCC and ROA was further tested with 2,628 observations to answer *RQ2*. The findings of the Hausman test are presented in Table 4. The fixed effects estimation method is deemed acceptable. The adjusted  $R^2$  score was 0.12, indicating that the model is 12% predictive. A regression study of data from the selected industries found no significant association between SCF and firm performance ( $p > 0.05$ ), indicating that SCF management does not affect firm performance. This study's results differ from previous research by Ali et al. (2018); Carnovale et al. (2019); and Wang et al. (2012). Unsurprisingly, the nature of the industry may have an impact on the relationship.

When analyzing the control variables to answer *RQ2*, the results were similar to those of the agro-industry. It was found that firm size and sales growth positively correlated with firm performance ( $p < 0.01$ ), with regression coefficients of 1.459 and 0.033, respectively. This demonstrates that a large corporation with sales growth is likely to have better firm performance. The study also found that LEV was strongly negatively correlated with corporate



performance ( $p < 0.01$ ), with a regression coefficient of  $-16.702$ , showing that when a business has a high debt ratio, its performance decreases. It was also found that RMC had no significant relationship with firm performance ( $p > 0.05$ ), demonstrating that the existence of an RMC does not affect firm performance. Lastly, the results indicated that YEAR was not substantially related to firm performance ( $p > 0.05$ ). This may also be because the COVID-19 pandemic was still in its initial stages and had therefore had not yet affected firm performance.

**Table 4.** Regression analysis between the CCC and ROA of all industries.

Variable	Exp. sign	Random effects		Fixed effects	
		Coefficient	P-value	Coefficient	P-value
Constant		-0.562	0.601	0.249	0.878
CCC	-	-0.0002	0.355	0.0002	0.443
RMC	+	0.262	0.463	-0.269	0.566
SIZE	+	1.426**	0.000	1.459**	0.000
LEV	-	-14.825**	0.000	-16.702**	0.000
SALEG	+	0.031**	0.000	0.033**	0.000
Year dummies		0.216	0.487	0.056	0.858
Adjusted R <sup>2</sup>		0.13		0.12	
Hausman test		0.000			
Firms-year observations		2,628			

Note: \*\* Correlation is significant at the 0.01 level.

## 5. CONCLUSIONS AND RECOMMENDATIONS

This research investigated the relationship between SCF and the performance of 64 SET-listed firms in the agro-industry from 2016–2020. The results revealed a significant positive relationship between SCF and firm performance. However, additional testing of 2,628 firm-year observations from all industries revealed no correlation between SCF and firm performance. The results demonstrate the importance of SCF management for the agro-industry, enabling businesses in these industries to manage their working capital more effectively. Consequently, even if these businesses become impacted by the COVID-19 pandemic, firm performance can improve. These results contribute novel knowledge by revealing that, while SCF may enhance the performance of SET-listed firms in the agro-industry, it does not necessarily conflate to improved firm performance across other industries.

In practice, this study's significant contribution lies in adopting SCF in business management to enhance success by adequately managing working capital and a short cash conversion cycle. Thus, businesses must extend the payment terms to their creditors while rapidly accelerating the collection of debts and selling goods. Second, financial service providers should consider a company's ability to repay debt. The impact of the CCC on company performance is significant when considering loans. They can support businesses with more flexible conditions when SCF is relatively effective. Finally, government agencies may use the research findings to amend or introduce new policies encouraging successful SCF management for related supply chain participants.

## 6. LIMITATIONS AND FUTURE RESEARCH

While this study is restricted to the Thai context and thus not generalizable, the findings reveal some alternative SCF management perspectives. Therefore, future studies could investigate SCF in other regions that may give different results. Analyzing the difference in firm size (small and medium vs large enterprises) may also bring new insights around the ability of SCF to improve performance. Last, this study used a multivariate analysis to consider a particular regression model. The mediating roles of control variables, such as the size of the RMC or company, may, if conducted in a path analysis, further contribute to the area of SCF.

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