

# The Impacts of Three Sub-Policies and Sub-Strategies of Working Capital Management on Firm's Performance in Thailand

Sareeya WICHITSATHIAN<sup>1</sup>

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## Abstract

The objective of this study was to investigate the impacts of working capital policy and strategy on a firm's performance including profitability and market value. By applying One-Sample *T*-Test, working capital investment and financing policies were classified into the three sub-policies and strategies: aggressive, moderate, and conservative, unlike previous studies using two sub-policies and strategies. The results showed that the SET-listed companies in all seven industry sectors primarily adopted an aggressive working capital investment policy and a conservative working capital financing policy, so-called as moderate working capital management strategy (MWS), at 49.40%. While the firms adopted and conservative working capital management strategy (CWS), 45.70%, followed by the aggressive working capital management strategy (AWS), at 4.90%. When examining the impacts among three-sub policies and strategies on a firm's performance, it was found that the conservative working capital financing policy led to the highest profitability and market value in all industry sectors. The findings also revealed that the aggressive strategy has no impact on a firm's performance in terms of profitability and market value.

**Keywords:** Sub-Policies, Sub-Strategies, Working Capital Management, Firm Performance

**JEL Classification Code:** G30, G32, M40, L25

## 1. Introduction

Corporate finance and financial strategy involve determining capital structure, capital budgeting, and short-term financial decisions. As the short-term financial strategy crucially affects a firm's liquidity and value, it is a vital decision to make (Bandara, 2015). Among the short-term financial strategies, working capital management is essential in generating more significant profitability and shareholder value (Co, 2020; Kien, Quang, & Cogn, 2020; Tareq, Mohammad, & Mohammed, 2021). The strategy chosen by a firm determines the relationship between working capital management and profitability (Garcia-Teruel & Martinez-Solano, 2007; Nazir & Afza, 2009; Weinraub & Visscher, 1998).

Although working capital management strategies can be diverse, current assets and current liabilities strategies are the cardinal components (Hassani & Tavosi, 2014). Highly effective working capital management is crucially linked to increased market value (Jayaratne, 2014) and sets a decent foundation for a firm's strategy planning in general. Thorough scrutiny is necessary for managing short-term assets and liabilities as working capital is regarded as the vital factor influencing profitability, liquidity, risk, and the ultimate objective of market value (Smith, 1980). A firm must strive to maintain a proper level of working capital to maximize its market value (Deloof, 2003).

In working capital management, risks can be reciprocated by profitability. The theory of risk and return states that a high level of uncertainty or risk reduces the probability of a higher return. A firm with high liquidity is considered to have a modest possibility of overpassing its financial obligations and simultaneously encountering a low profitability situation (Zariyawati et al., 2009). As for risk and return tradeoffs, the working capital management strategy can be alternatively established in various aspects (Maswadeh, 2015). According to Hassani and Tavosi (2014) and Maswadeh (2015), working capital management strategy can be classified into aggressive, moderate, and conservative approaches.

<sup>1</sup>First Author and Corresponding Author. Assistant Professor, Institute of Social Technology, Suranaree University of Technology, Thailand. ORCID ID: 0000-0002-9544-7109. [Postal Address: 111 University Avenue, Suranaree Sub-District, Muang District, Nakhon Ratchasima 30000, Thailand] Email: sareeya@sut.ac.th

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Maswadeh (2015) explained that the three sub-strategies are determined based on the risk and profitability tradeoff level in working capital investment and financing policies. An aggressive approach is typically adopted in the firm that embraces the high-risk and high-return policy, the moderate approach involves lower-risk and lower-return policy, and the conservative approach deals with the lowest-risk and the lowest-return policy. Working capital management strategy is a joint consideration between working capital investment and working capital financing policy (Jedrzejczak-Gas, 2017). Working capital policy refers to a firm's decision regarding its current assets, as in working capital investment policy, and the short-term liabilities, as in working capital financing policy, to meet its financial obligation. A firm can technically employ different working capital management strategies based on its investment and financing policies; however, each approach causes various effects in terms of profitability, liquidity, risk, and value of the firm (Bandara, 2015).

Previous literature has emphasized the relationship between working capital policy and profitability by using the relationship direction as the indicator to divide the sub-policies into aggressive and conservative (Javid & Zita, 2014; Mohamad & Saad, 2010; Nazir & Afza, 2009; Shubiri, 2011; Sudiyatno, Puspitasari, & Sudarsi, S., 2017). Unlike previous studies, Jedrzejczak-Gas (2017) suggested three sub-strategies and three sub-policies, including aggressive, moderate, and conservative. Hassani and Tavosi (2014) noted that the strategies of working capital management could be varied on the approach of integrating working capital investment sub-policies and working capital financing sub-policies. Salawu (2007) suggested that a firm should make a clear decision on how an industry operates to embark on specific working capital policies. Hence, it is crucial to identify which approach leads to greater performance for the firms.

However, it has yet been explored how the three sub-strategies and three sub-policies would affect the market value and subsequent working capital management. Unlike the previous studies focusing on two-sub strategies and policies, the three-sub working capital management strategies and three-sub working capital policies will be addressed in this research. Moreover, the impacts of the selected working capital strategy on the performance (i.e., profitability and market value) of firms from various industry sectors listed in the Stock Exchange of Thailand (SET) will be discussed using inferential statistics. As a result, the profound understanding of three-sub working capital management strategies and three-sub working capital policies would allow practitioners to acquire more effective working capital investment and working capital financing policies.

## 2. Literature Review

Working capital policy is divided into two major categories, working capital investment policy, and working capital financing policy (Brigham & Houston, 1998; Koh et al., 2014). The former category determines the amounts of investment in current assets which should be sufficient for the operation, whereas the latter is the amount of funding of current assets that should be used for working capital (Bandara, 2015; Brigham & Houston, 1998). These two categories are the critical components that financial managers adopt to construct working capital management strategies. The current assets and current liability strategies should be considered to adopt a suitable approach for a firm.

According to Table 1, it is evident that the previous studies regarding the effect of working capital investment policy and working capital financing policy on a firm's performance in profitability and market value only focus on two sub-policies, including aggressive and conservative. Although both approaches of policies affect profitability and market value, it is found that conservative working capital policy has more significant effect on a firm's performance.

Working capital management strategy involves the determination of current assets along with financing current assets by contemplating working capital investment policy and working capital financing policy. A suitable strategy is expected to increase profitability and market value for a firm (Jedrzejczak-Gas, 2017; Koh et al., 2014).

Hassani and Tavosi (2014) indicated that the mixed strategies are determined based on the combination of working capital investment policy and working capital financing policy. Consequently, the moderate working capital management strategy can be sub-divided into three mixed strategies, including 1) Moderate Working Capital Investment Policy (MIP) and Moderate Working Capital Financing Policy (MFP), 2) Aggressive Working Capital Investment Policy (AIP) and Conservative Working Capital Financing Policy (CFP), and 3) Conservative Working Capital Investment Policy (CIP) and Aggressive Working Capital Financing Policy (AFP).

Likewise, there are three mixed strategies of Aggressive Working Capital Management Strategies (AWS), including 1) Aggressive Working Capital Investment Policy (AIP) and Aggressive Working Capital Financing Policy (AFP), 2) Aggressive Working Capital Investment Policy (AIP) and Moderate Working Capital Financing Policy (MFP), and 3) Moderate Working Capital Investment Policy (MIP) and Aggressive Working Capital Financing Policy (AFP).

Similarly, there are three mixed Conservative Working Capital Management Strategies (CWS): 1) Conservative Working Capital Investment Policy (CIP)

**Table 1:** The Impacts of Working Capital Policy on the Firm's Performance

Researchers	Performance Measure	Investment Policy		Financing Policy		Industry	Country
		Aggressive	Conservative	Aggressive	Conservative		
Afza and Nazir (2007)	ROA, ROE	/	/	/	/	All industries (except financials)	Pakistan
Nazir and Afza (2009)	ROA	/	/	/	/	All industries (except financials)	Pakistan
Mohamad and Saad (2010)	ROA, ROIC	/	/	/	/	All industries	Malaysia
Raheman et al. (2010)	ROA	/	/	/	/	Manufacturing	Pakistan
Shubirji (2011)	ROA, ROE	/	/	/	/	All industries	Jordan
Niresh (2012)	ROA	/	/	/	/	Manufacturing	Pakistan
	ROE	/	/	/	/		
Javid and Zita (2014)	ROA, ROE	/	/	/	/	Cement	Pakistan
Mwangi et al. (2014)	ROA	/	/	/	/	All industries (except financials)	Kenya
Sudiyatno et al. (2017)	ROA	/	/	/	/	Manufacturing	Indonesia
Nazir and Afza (2009)	Tobin's Q	/	/	/	/	All industries (except financials)	Pakistan
Mohamad and Saad (2010)	Tobin's Q	/	/	/	/	All industries	Malaysia
Shubirji (2011)	Tobin's Q	/	/	/	/	All industries	Jordan
Sabri (2012)	Tobin's Q	/	/	/	/	Manufacturing	Jordan
Javid and Zita (2014)	Tobin's Q	/	/	/	/	Cement	Pakistan

and Conservative Working Capital Financing Policy (CFP), 2) Moderate Working Capital Investment Policy (MIP) and Conservative Working Capital Financing Policy (CFP), and 3) Conservative Working Capital Investment Policy (CIP) and Moderate Working Capital Financing Policy (MFP).

Jedrzejczak-Gas (2017) studied the working capital management strategy in Poland's construction industry and classified working capital management into different mixed strategies. The results of Jedrzejczak-Gas (2017)'s study showed that the mixed strategies of moderate working capital investment policy and aggressive working capital financing policy (MA) and aggressive working capital investment policy and aggressive working capital financing policy (AA) were widely adopted in the construction industry in Poland.

However, in the previous studies, there was no evidence of conservative working capital investment policy and moderate working capital financing policy (CM), or moderate working capital investment policy and moderate working capital financing policy (MM) adoption. Although types of working capital management strategies were identified, the impacts on profitability and market value had not yet been discussed. Thus, the impacts of working capital management strategies should be further examined by using inferential statistics in this study.

According to the review of related studies, the conceptual framework was established as shown in Figure 1.

The hypotheses of the study are as follow:

**H1:** *The adoption of different working capital investment policies has an impact on the profitability of all industries listed in SET.*

**H2:** *The adoption of different working capital investment policies has an impact on the market value of all industries listed in SET.*

**H3:** *The adoption of different working capital financing policies has an impact on the profitability of all industries in listed SET.*

**H4:** *The adoption of different working capital financing policies has an impact on the market value of all industries listed in SET.*

**H5:** *The adoption of different working capital management strategies has an impact on profitability of all industries listed in SET.*

**H6:** *The adoption of different working capital management strategies has an impact on the market value of all industries listed in SET.*

### 3. Research Methodology

#### 3.1. Data and Samples

Based on the information accessed on 15 January 2020, the population included in this research were 629 listed companies in the Stock Exchange of Thailand from 8 different sectors, namely agro and food, consumer products, financials, industrials, property and construction, resources, services, and technology (the Stock Exchange of Thailand, 2020). The sample size was calculated based on Taro Yamane's formula with 95% confidence level and at least 286 samples (1973).

Subjects chosen for this research were the companies listed on the Stock Exchange of Thailand (SET) operating for five years at least, starting from 2015 to 2019. In addition, the companies in the financial sector were excluded from the study as they complied with different accounting regulations and operated under the supervision of the central bank and government agencies due to the suggestion of the previous empirical studies (e.g., Afrifa, 2016; Azam & Haider, 2011; Bandara, 2015; Deloof, 2003; Mansoori & Muhammad, 2012; Talonpoika et al., 2016). As a result, there were 381 samples of the firms from 7 industries included in the study.

#### 3.2. Statistical Method and Variables

In the study, One-Sample *T*-Test was used to identify the working capital investment and financing policy adoption

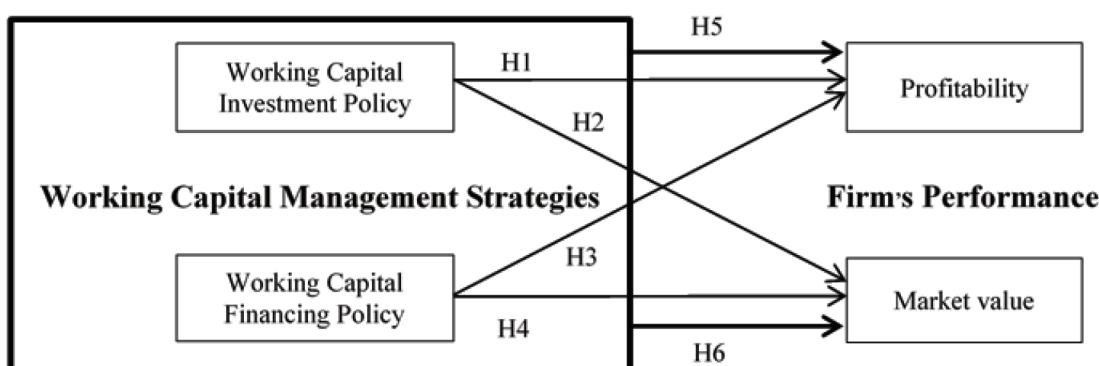


Figure 1: Conceptual Framework

of the firm. The ratio of two policies was between 0.00–1.00, and the standard ratio was 0.05, considered as moderate working capital policy according to Adam et al (2017). The results with significant difference to the standard ratio were further used to identify the two sub-policies, namely aggressive and conservative. The ratio between 0.00–0.45 indicated AIP/CFP, 0.46–0.54 indicated MIP/MFP, and 0.55–1.00 indicated CIP/AFP.

By classifying the working capital policy and strategy, the values obtained from the test were used as variables to test the hypotheses by the one-way ANOVA method. A multiple comparison procedure was introduced to determine the performance values from each policy or strategy with statistical significance. By examining the selected industries individually, Sheffie's method was used to analyze the equal variances, while Dunnett T3 was used to analyze unequal variances, according to Laerd Statistics (2017). As a result, the variables used in the study are shown in Table 2.

## 4. Analysis and Results

### 4.1. Classification of Working Capital Policy

Based on the previous studies' findings, working capital investment policy, and working capital financing policy can be divided into three sub-policies, including aggressive, moderate, and conservative, as presented in Table 3.

According to the classification criteria of working capital policy shown in Table 3, it can be concluded that the sub-policies adopted by all industries can be determined by using the same interval. The policy values ranged between 0.00–0.40 were considered to be significantly different from the moderate policy values (0.50) and consequently fell into the category of aggressive working capital investment and conservative working capital financing policy. In contrast, the value ranged between 0.60–1.00 with adequate statistical difference from the standard ratio indicated conservative working capital investment policy and aggressive working capital financing policy. Finally, the value ranged between 0.41–0.59 without statistical difference were identified as moderate working capital investment and financing policies.

### 4.2. Working Capital Investment Policies and Working Capital Financing Policies

The majority of the listed companies in the following industry sectors adopted aggressive working capital investment policy: resources (70.97%), services (68.18%), followed by agro and food (46.34%), while those listed companies in technology (57.58), and property and construction (43.59%) industries adopted conservative working capital investment policy.

For the working capital financing policy, the listed companies in all industry sectors adopted a conservative financing policy with higher than 81% on average, whereas all industry sectors selected an aggressive financing policy with only 6.30% on average.

From the results shown in Table 4, it was found that adopting different working capital investment policies has no effect on profitability ( $p = 0.794$ ) or market value ( $p = 0.379$ ). Therefore, Hypothesis 1 and Hypothesis 2 were rejected. However, adopting different working capital financing policies affects profitability ( $p = 0.019$ ) and market value ( $p = 0.001$ ). As a result, Hypothesis 3 and Hypothesis 4 were confirmed.

Although adopting different working capital investment policies showed no significant effect on firm's performance, the significant effects were found when examining each industry separately. The results indicated that the adoption of different working capital investment policies had a significant effect on profitability, particularly in industrials and agro and food sectors and on market value, particularly in technology and property and construction sectors. The study was further examined by using post hoc test as shown in Table 5.

Despite the rejection of Hypothesis 1 and Hypothesis 2, the significant impacts of working capital investment policy on a firm's performance were found when considering each industry individually.

According to the post hoc test results, adopting aggressive and moderate working capital investment policies had a significant effect on profitability at  $p < 0.01$ , and the employment of moderate working capital investment policy led to the highest profitability in the agro and food industry. For the industrial sector, adopting aggressive and conservative working capital investment policies had a significant effect on profitability at  $p < 0.05$ , and adopting a conservative working capital investment policy led to the highest profitability.

As in the market value aspect, it was suggested that the adoption of all three sub-policies had an impact on market value in the property and construction industry. Adopting the moderate working capital investment policy with an aggressive working capital policy led to the highest market value. Furthermore, it was indicated that the adoption of aggressive and conservative working capital investment policies in the technology industry had a significant effect on the market value at  $p < 0.05$ . The empirical evidence suggested that the companies in this sector should adopt aggressive working capital policy investment as it contributed to the highest market value.

From the results presented in Table 5, it can be concluded that the working capital financing policy affected a firm's performance in all industry sectors. When examining the

**Table 2:** Variables Criteria

Name of Variables	Criteria	Variable Label	References
<b>Independent Variables – Working Capital Policy and Strategy</b>			
Working Capital Investment policy	CATA = total current assets/total assets	CATA	Bandara, 2015; Nabi et al., 2016; Nazir & Afza, 2009 Sudiyatno et al., 2017; Weinraub & Visscher, 1998
	<ul style="list-style-type: none"> <li>The lower ratio (with a statistically significant difference) implies a relatively aggressive investment policy.</li> </ul>	AIP	
	<ul style="list-style-type: none"> <li>The ratio with non-statistically significant difference with 0.5</li> </ul>	MIP	
	<ul style="list-style-type: none"> <li>The higher ratio (with a statistically significant difference) implies a relatively conservative investment policy.</li> </ul>	CIP	
Working Capital Financing policy	CLTA = total current liabilities/total asset	CLTA	Bandara, 2015; Nabi et al., 2016; Nazir & Afza, 2009; Sudiyatno et al., 2017; Weinraub & Visscher, 1998
	<ul style="list-style-type: none"> <li>The lower ratio (with a statistically significant difference) implies a relatively conservative financing policy.</li> </ul>	CFP	
	<ul style="list-style-type: none"> <li>The ratio with non-statistically significant difference with 0.5</li> </ul>	MFP	
	<ul style="list-style-type: none"> <li>The higher ratio (with a statistically significant difference) implies a relatively aggressive financing policy.</li> </ul>	AFP	
Conservative Working Capital Management Strategies	Mixed strategy of CIP and CFP (CC), or mixed strategy of CIP and MFP (CM), or mixed strategy of MIP and CFP (MC)	CWS	Jedrzejczak-Gas (2017) Hassani & Tavosi (2014)
Moderate Working Capital Management Strategies	Mixed strategy of CIP and AFP (CA), or mixed strategy of MIP and MFP (MM), or mixed strategy of AIP and CFP (AC)	MWS	
Aggressive Working Capital Management Strategies	Mixed strategy of AIP and MFP (AM), or mixed strategy of AIP and AFP (AA), or mixed strategy of MIP and AFP (MA)	AWS	
<b>Mediator Variable – Profitability</b>			
Return to Total Assets	ROA = (Net income/Total Assets) x 100	ROA	Afza & Nazir, 2007; Hassani & Tavosi, 2014; Javid & Zita, 2014; Nazir & Afza, 2009; Sudiyatno et al., 2017;
<b>Dependent Variable – Market Value</b>			
TobinQ	TobinQ = Market value of firm / book value of assets (The higher ratio, more than 1, means a firm's stock is overvalued, and the stock is more expensive than the replacement cost of assets. On the other hand, lower ratio, less than 1, means firm's stock is undervalued.)	TobinQ	Javid and Zita, 2014; Nazir & Afza, 2009

**Table 3:** Classification Criteria of Working Capital Investment Policy and Working Capital Financing Policy by Industry

Sector	Policy Value ( <i>p</i> -value)					
	Working Capital Investment Policy			Working Capital Financing Policy		
	0.00–0.40 (AIP)	0.41–0.59 (MIP)	0.60–1.00 (CIP)	0.00–0.40 (CFP)	0.41–0.59 (MFP)	0.60–1.00 (AFP)
Agro and Food Industry	0.000**	0.357	0.013*	0.000**	0.661	0.022*
Consumer Products	0.000**	0.784	0.000**	0.000**	0.918	–
Industrials	0.000**	0.971	0.000**	0.000**	0.663	0.000**
Property and Construction	0.000**	0.223	0.000**	0.000**	0.770	0.031*
Resources	0.000**	0.583	0.035*	0.000**	0.811	–
Technology	0.000**	0.791	0.000**	0.000**	0.453	0.001**
Services	0.000**	0.501	0.000**	0.000**	0.229	0.030*
All Industries	0.000**	0.574	0.000**	0.000**	0.317	0.000**

Note: Test Value = 0.50, Between 0.55–1.00, none of the companies in consumer product and resources sector adopted working capital financing policy, \*\*Significant at  $p < 0.01$ , \* Significant at  $p < 0.05$ .

**Table 4:** The Impacts of Working Capital Policy on Profitability and Market Value

Industry Sector	Working Capital Investment Policy				Working Capital Financing Policy			
	Profitability		Market Value		Profitability		Market Value	
	F	p-value	F	p-value	F	p-value	F	p-value
Agro and Food Industry	5.121	0.011*	1.988	0.151	1.682	0.200	3.396	0.044*
Consumer Products	0.017	0.983	2.822	0.073	0.529 (t)	0.600	0.323 (t)	0.748
Industrials	4.919	0.010*	1.442	0.243	1.311	0.276	4.988	0.009**
Property and Construction	0.952	0.319	4.887	0.010*	0.004	0.996	3.337	0.040*
Resources	2.109	0.140	1.650	0.210	2.512 (t)	0.018*	1.210 (t)	0.236
Technology	0.007	0.993	4.042	0.028*	0.038	0.962	8.034	0.002**
Services	0.362	0.697	0.446	0.642	3.971	0.002**	0.283	0.754
All Industries	0.230	0.794	0.992	0.372	3.981	0.019*	7.589	0.001**

Note: Test Value = 0.50, Between 0.55–1.00, none of the companies in consumer product and resources sector adopted working capital financing policy, \*\*Significant at  $p < 0.01$ , \* Significant at  $p < 0.05$ .

**Table 5:** Post hoc Test of the Impacts of Working Capital Policy on Profitability and Market Value

Industry Group	Mean			Working Capital Investment Policy		
	AIP	MIP	CIP	AIP, MIP	AIP, CIP	MIP, CIP
<b>Working Capital Investment Policy</b>						
<b>Profitability (%)</b>						
Agro and Food Industry	5.39	11.73	9.45	0.018*	0.225	0.509
Industrials	3.71	7.17	9.68	0.073	0.003**	0.198
All Industries	6.94	7.41	7.62	-	-	-
<b>Market value (ratio)</b>						
Property and Construction	1.24	1.07	1.00	0.044*	0.307	0.003**
Technology	1.52	1.50	0.86	0.781	0.017*	0.076
All Industries	1.33	1.14	1.30	-	-	-
<b>Working Capital Financing Policy</b>						
<b>Profitability (%)</b>						
Resources	-	2.48	7.84	-	-	0.018*
Services	6.99	5.86	8.63	0.873	0.098	0.020*
All Industries	5.22	4.64	7.77	0.786	0.051	0.027*
<b>Market value (ratio)</b>						
Agro and Food Industry	0.47	1.03	1.62	0.194	0.023*	0.206
Industrials	0.50	0.51	0.92	0.855	0.017*	0.031*
Property and Construction	1.89	0.99	1.05	0.020*	0.014*	0.786

Note: \*\*Significant at  $p < 0.01$ , \*Significant at  $p < 0.05$ .

effect of the three-sub working capital financing policies on profitability and market value, it was found that the adoption of moderate and conservative financing policies had a significant effect on profitability at  $p < 0.05$ , with its conservative financing policy, led to the highest profitability. Moreover, the adoption of all three sub-policies had a significant effect on the market value at  $p < 0.01$ , with its conservative financing policy leading to the highest market value in all industry sectors.

#### 4.3. Working Capital Management Strategy

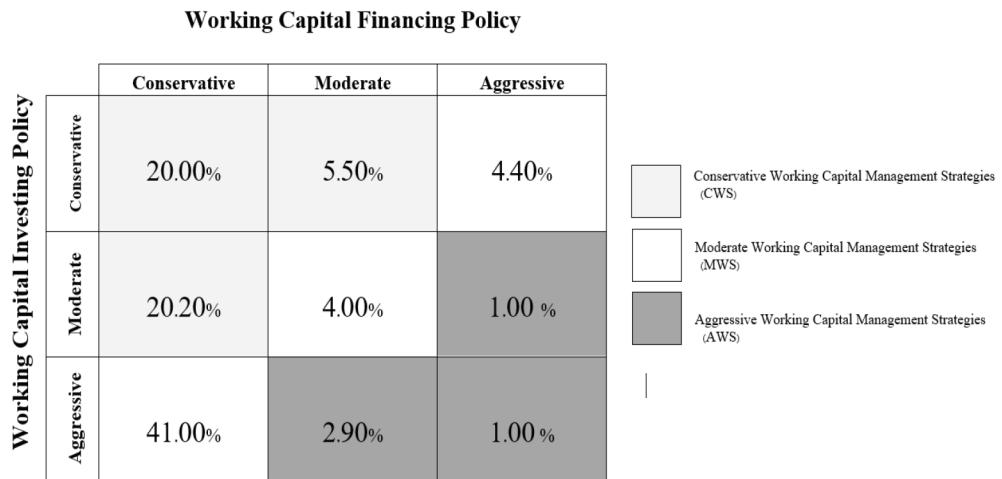
The working capital management strategy mainly involves the integration of working capital investment policy and working capital financing policy. By categorizing all nine sub-strategies matrix as illustrated in Figure 2, three main mixed strategies are adopted by the SET-listed companies at different degree.

Considering the adoption of mixed strategies, combining between three-sub working capital investment policies together with working capital financing policies, it was found that the SET-listed companies in all seven industry

sectors primarily adopted moderate working capital management strategy (MWS), at 49.40% as shaded in white, and conservative working capital management strategy (CWS), shaded in dark grey and 45.70%. On the other hand, the aggressive working capital management strategy (AWS) was the least adopted, at 4.90%.

With the further investigation, it was found that the mixed moderate strategy of AC was extensively adopted by the firms (41.00%). In addition, when examining each industry group, the results showed that the industry sectors that predominantly adopted mixed moderate strategies of AC were agro and food, resources, and services industry. On the other hand, the consumer product industry predominantly adopted conservative mixed strategies of MC, whereas the industrial and property and construction industries predominantly adopted conservative working capital management strategy. However, it was found that the moderate mixed strategy of AC was most adopted among all three-sub strategies.

From the result shown in Table 6, the adoption of different working capital management strategies had a significant effect on profitability of all SET-listed industries ( $p = 0.014$ ).

**Figure 2:** Nine-Sub Working Capital Management Policies and Strategies**Table 6:** One-Sample T-Test of the Impact of Working Capital Management Strategy

Industry Group	Profitability		Market Value	
	F	p-value	F	p-value
Agro and Food Industry	3.645	0.036*	5.088	0.011*
Consumer Products	0.380 (t)	0.706	2.753 (t)	0.009*
Industrials	5.112	0.009**	5.545	0.006**
Property and Construction	0.024	0.977	10.681	0.000**
Resources	2.345	0.114	0.559	0.556
Technology	0.238	0.790	0.142	0.868
Services	5.979	0.004**	0.835	0.437
All Industries	4.292	0.014*	0.525	0.592

Note: (t) = Is an independent T test because there are 2 sub-policies, \*\*Significant at  $p < 0.01$ , \*Significant at  $p < 0.05$ .

However, the impact of working capital management strategy on the market value were not found. Therefore, the results supported Hypothesis 5, while Hypothesis 6 was rejected.

The results from one-sample T-Test were further examined by using the post hoc test to identify the impacts of three sub-strategies on their performance as presented in Table 7.

Although working capital management strategy had a significant effect on profitability, it showed no significant effect on market value. According to Table 7, the statistical significance was found when considering the industries individually. The results from Table 6 revealed that the adoption of all three main sub-strategies significantly affected profitability, particularly the conservative strategy that led to the highest profitability. On the other hand, the result showed that there was no statistical significance between working

capital management strategy market value. In summary, the Hypothesis testing results are presented in Figure 3.

## 5. Discussion and Conclusion

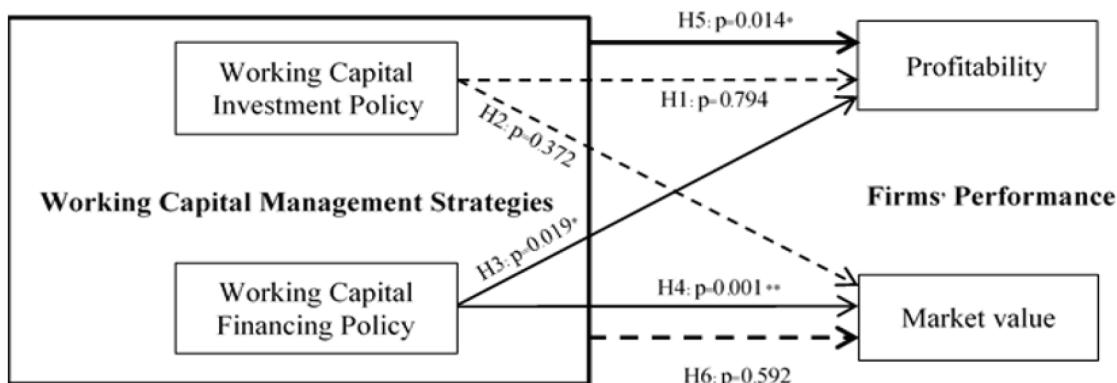
This study emphasized the impact of working capital management policies (i.e., investment and financing) that can be classified into three-sub policies: aggressive, moderate, and conservative, unlike the previous studies focusing on only two-sub policies. In this study, the research tools, including the one-sample T-Test and Post hoc test, were used to confirm the result reliability.

Moreover, the classification criteria were set based on the ratio of current assets to current liabilities: 1) 0.00–0.40 = aggressive working capital investment policy and

**Table 7:** Post hoc test of impact of working capital management strategy

Industry Group	Mean			Working Capital Management Strategies		
	AWS	MWS	CWS	AWS, MWS	AWS, CWS	MWS, CWS
<b>Profitability (%)</b>						
Agro and Food Industry	5.65	5.41	11.96	0.487	0.062	0.024*
Industrials	3.82	2.98	9.52	0.638	0.098	0.004**
Services	0.31	7.84	10.27	0.001**	0.001**	0.708
All Industries	4.09	6.57	8.35	0.170	0.020*	0.026*
<b>Market value (Ratio)</b>						
Agro and Food Industry	0.81	1.07	2.07	0.392	0.009**	0.027*
Consumer Products	-	0.55	1.38	-	-	0.009**
Industrials	0.34	0.74	0.98	0.047*	0.003**	0.035*
Property and Construction	3.22	1.07	1.02	0.000**	0.000**	0.762
All Industries	1.24	1.21	1.34	-	-	-

Note: \*\*Significant at  $p < 0.01$ , \*Significant at  $p < 0.05$ .



Note: \*\* Significant at  $P < 0.01$ , \* Significant at  $P < 0.05$

**Figure 3:** Summary of Hypotheses Testing

conservative working capital financing policy, 2) 0.41–0.59 = moderate working capital investment policy and moderate working capital financing policy, and 3) 0.60–1.00 = conservative working capital investment policy and aggressive working capital financing policy.

From the results, the majority of SET-listed companies were likely to balance risks and returns by adopting an aggressive working capital investment policy and a conservative working capital financing policy. Regarding the impacts of the policies on a firm's performance, it was indicated that the working capital investment policy had no impacts on profitability and market value, whereas the

working capital financing policy had impacts on profitability and market value.

In this study, it was found that the conservative working capital financing policy led to the highest profitability and market value. This notion contradicted the findings of other studies related to working capital management. Hassani and Tavosi (2014), Nazir and Afza (2009), and Weinraub and Visscher (1998) posited that an aggressive working capital financing policy focuses on short-term debt for current assets creates lower financial costs than long-term debt sources, which in turn assists the firm to gain higher profitability.

However, the results in this study were in accordance with the research of Afza and Nazir (2007), Nazir and Afza (2009), and Shubiri (2011), indicating that a conservative working capital financing policy has an effect on a firm's profitability in all industries. Moreover, the results were advocated by the study of Mohamad and Saad (2010), highlighting that a conservative working capital financing policy has an impact on a firm's profitability and market value in all sectors.

According to the findings on working capital management strategy, it was found that the percentage of the SET-listed companies adopting a moderate working capital management strategy and conservative working capital management strategy was similar, 49.40% and 45.70%, respectively. The results showed that 41% of the mixed moderate strategy adoption consisted of aggressive working capital investment and conservative working capital financing policy. The mixed strategy and policy were selected from the nine sub-strategies to maintain the balance of risk and return. Among the impacts of different strategies, conservative working capital management strategy as in CC or MC led to the highest profitability. The moderate strategy of AC was mainly adopted among the SET-listed companies; nevertheless, it led to the second-highest profitability.

Although the impacts of working capital management policy were not detected on market value, it cannot be assumed that a firm should freely adopt a particular working capital management strategy to increase its market value. By integrating working capital investment policies, a conservative working capital financing policy led to the highest market value. Two sub-strategies were congruent with conservative working capital financing policy: conservative working capital investment strategy and moderate working capital investment strategy. Overall, it can be concluded that an aggressive working capital investment strategy was unfavorable to the majority of SET-listed companies.

There were two conservative working capital management strategies recommended to a firm to achieve the highest profitability and maximize its market value: to adopt the mixed strategy of conservative working capital investment policy and conservative working capital financing policy (CC) or the mixed strategy of moderate working capital investment policy and conservative working capital financing policy (MC). Simultaneously, a firm must maintain high current assets to ensure sufficient cash available for day-to-day operations and to prevent the lack of liquidity situations, including the inability to collect receivable accounts, obsolete or expired inventory, excessive cash holding, and losing investment opportunities. In addition, a conservative working capital investment policy requires long-term financing liabilities for working capital investment. Thus, this mixed strategy increases flexibility in

working capital and reduces the risk of failing to meet the financial obligation.

In contrast with the previous research suggested that an aggressive working capital policy involves low liquidity, high risk, and high profit (Hassani & Tavosi, 2014; Nazir & Afza, 2009; Weinraub & Visscher, 1998), this study revealed that the aggressive strategy has no impact on a firm's performance in terms of profitability and market value. The inconsistent results could be explained by the ground that the political and economic uncertainty in Thailand occurred during the data collection period between 2013–2017. From August 2013 to May 2014, the country faced a political crisis due to protests the government. After the military coup, Thailand had been under the rule of the National Council for Peace and Order (NCPO) until 2017, the final year when the data were collected. Since the data collection was conducted during unstable economic and political circumstances, the results might be inconsistent with the previous working capital management theories.

Moreover, adopting an excessively aggressive working capital management strategy may mitigate a firm's performance as it creates a higher risk of insufficient cash and equivalents, the lack of sale and trade credits, and even delays in product delivery due to the firm's product inventory shortage (Deloof, 2003; Garcia-Teruel & Martinez-Solano, 2007; Hassan et al., 2017; Nazir & Afza, 2009). In summary, the results of this study suggested that a conservative working capital investment strategy is suitable for SET-listed companies in all industry sectors, even during the country's unrest. Therefore, this study contributed to the literature gap emphasizing three sub-policies and sub-strategies of working capital management on firm's performance.

## References

- Adam, A. M., Quansah, E., & Kawor, S. (2017). Working capital management policy and return of listed manufacturing firms in Ghana. *Scientific Annals of Economics and Business*, 64(2), 255–269.
- Afrifa, G. A. (2016). Net working capital, cash flow and performance of UK SMEs. *Review of Accounting and Finance*, 15(1), 21–44. <https://doi.org/10.1108/RAF-02-2015-0031>
- Azam, M., & Haider, S. I. (2011). Impact of working capital management on firms' performance: Evidence from non-financial institutions of KSE-30 index. *Interdisciplinary Journal of Contemporary Research in Business*, 3(5), 48–492.
- Bandara, R. M. S. (2015). Impact of working capital management policy on market value addition. *Global Journal of Contemporary Research in Accounting, Auditing and Business Ethics*, 1(2), 354–373.
- Brigham, E. F., & Houston, J. F. (1998). *Fundamentals of financial management* (8<sup>th</sup> ed.). Boston, MA: Harcourt Inc.

- Co, T. N. (2020). Impact of working capital management on firm performance in different business cycles: Evidence from Vietnam. *Journal of Asian, Finance, Economics and Business*, 7(12), 863–867. <https://doi.org/10.13106/jafeb.2020.vol7.no12.863>
- Deloof, M. (2003). Does working capital management affect profitability of Belgian firms?. *Journal of Business Finance & Accounting*, 30(3–4), 573–588. <https://doi.org/10.1111/1468-5957.00008>
- Garcia-Teruel, P. J., & Martinez-Solano, P. (2007). Effects of working capital Management on SME Profitability. *International Journal of Managerial Finance*, 3(2), 164–177. <https://doi.org/10.1108/17439130710738718>
- Hassani, M., & Tavosi, A. R. (2014). To survey the effect of working capital policies (Investing & Financing) on profitability risk (Evidence from Tehran Stock Exchange). *Journal of Investment and Management*, 3(1), 30–36. <https://doi.org/10.11648/j.jim.20140301.14>
- Javid, S., & Zita, V. P. M. (2014). Impact of working capital policy and firm's profitability: A case of Pakistan cement industry. *Research Journal of Finance and Accounting*, 5(5), 182–191.
- Jayaratne, T. (2014). Impact of working capital management on profitability: Evidence from listed companies in Sri Lanka. *Paper Presented at the International Conference on Management and Economics*, 3, 269–274.
- Jedrzejczak-Gas, J. (2017). Net working capital management strategies in the construction enterprises listed on the new connect market. *Paper Presented at the International Conference on Engineering, Project, and Production Management, Poland*.
- Kien, X.P., Quang, N. N., & Cogn, V.N. (2020). Effect of working capital management on the profitability of stell companies on Vietnam stock exchanges. *Journal of Asian, Finance, Economics and Business*, 7(10), 741–750. <https://doi.org/10.13106/jafeb.2020.vol7.n10.741>
- Koh, A., Ang, S. K., Brigham, E. F., & Ehrhardt, M. C. (2014). *Financial management: Theory & practice*. Singapore: Cengage Learning Asia Pte Ltd.
- Laerd Statistics. (2017). *One-way ANOVA* [Online]. Retrieved from: <https://statistics.laerd.com/statisticalguides/one-way-anova-statistical-guide-3.php>
- Mansoori, E., & Muhammad, J. (2012). The effect of working capital management and firm's profitability: Evidence from Singapore. *Interdisciplinary Journal of Contemporary Research in Business*, 4(5), 472–486.
- Maswadeh, S. N. (2015). Association between working capital management strategies and profitability. *International Journal of Accounting and Financial Reporting*, 5(1), 91–98.
- Mohamad, N. E. A. B., & Saad, N. B. M. (2010). Working capital management: The effect of market valuation and profitability in Malaysia. *International Journal of Business and Management*, 5(11), 140–147.
- Nabi, G., Yousaf, M. S., Ali, I., & Najaf, R. (2016). Impact of working capital management approaches (aggressive/conservative) on the profitability and shareholder's worth: Comparative analysis of cement and sugar Industry. *Research Journal of Finance and Accounting*, 7(5), 60–65. <https://core.ac.uk/download/pdf/234631292.pdf>
- Nazir, M. S., & Afza, T. (2009). Working capital requirements and the determining factors in Pakistan. *IUP Journal of Applied Finance*, 15(4), 28–38.
- Nires, A. (2012). Working capital management and financial performance of manufacturing sector in Sri Lanka. *European Journal of Business and Management*, 4(15), 23–30.
- Raheman, A., Afza, T., Qayyum, A., & Bodla, M. A. (2010). Working capital management and corporate performance of manufacturing sector in Pakistan. *International Research Journal of Finance and Economics*, 47, 157–169.
- Salawu, R. O. (2007). Capital industry practice and aggressive conservative working capital policies in Nigeria. *Global Journal of Business Research*, 1(2), 109–118.
- Shin, H. H., & Soenen, L. (1998). Efficiency of working capital management and corporate profitability. *Financial Practice and Education*, 8(2), 37–45.
- Shubiri, F. N. (2011). Determinants of changes eividend behavior policy: Evidence from the Amman stock exchange. *Far East Journal of Psychology and Business*, 4(2), 1–15.
- Smith, K. V. (1980). *Profitability versus liquidity tradeoffs in working capital management*. St. Paul, MN: West Publishing Firm.
- Sudiyatno, B., Puspitasari, E., & Sudarsi, S. (2017). Working capital, firm performance, and firm value: An empirical study in manufacturing industry on Indonesia stock exchange. *Economics World*, 5(5), 444–450.
- Talonpoika, A. M., Karri, T., Pirttila, M., & Monto, S. (2016). Defined strategies for financial working capital management. *International Journal of Managerial Finance*, 12(3), 277–294.
- Tareq, M. A., Mohammad, A. A., & Mohammed, I.O. (2021). The Relationship between Working Capital Management and Financial Performance: Evidence from Jordan. *Journal of Asian, Finance, Economics and Business*, 8(6), 713–720. <https://doi.org/10.13106/jafeb.2021.vol8.no6.0713>
- Tauringana, V., & Afrifa, G. A. (2013). The relative importance of working capital management and its components to SME's profitability. *Journal of Small Business and Enterprise Development*, 20(3), 453–469. <https://doi.org/10.1108/JSBED-12-2011-0029>
- The Stock Exchange of Thailand. (2019). *Industry Quotation* [Online]. Retrieved from: <http://marketdata.set.or.th/mkt/sectorquotation.do?language=th&country=TH&sector>.
- Weinraub, H. J., & Visscher, S. (1998). Industry practice relating to aggressive conservative working capital policies. *Journal of Financial and Strategic Decision*, 11(2), 11–18.
- Yamane, T. (1973). *Statistics: An Introductory Analysis*. New York: Harper & Row.
- Zariyawati, M., Annuar, M., Taufiq, H., & Abdul Rahim, A. (2009). working capital management and corporate performance: Case of Malaysia. *Journal of Modern Accounting and Auditing*, 5(11), 47–54.