
**HOW WORKING CAPITAL MANAGEMENT AFFECTS THE PROFITABILITY OF
SMALL AND MEDIUM SIZE ENTERPRISES (SMES) IN MALAYSIA?**

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ABSTRACT

The purpose of this study is to investigate the effect of working capital management on the profitability of small and medium enterprises (SMEs). Balanced panel data analysis is used to achieve the purpose. The research sample consists of 722 firm-year of SMEs operated in Malaysia from 2011 to 2013. Finding reveals net working capital is positively associated with the return on assets. Besides, the component of net working capital also has positively related with return on asset. This suggests that SMEs can increase their profit when they increase the investment in working capital management. SMEs should invest more in inventories to avoid inventories shortage especially when having immediate demand from the customer. The longer of a length to pay creditor also provide SMEs more cash to use to buy inventories to accomplish demand of customers, which consequently increase the profit of the SMEs.

Keywords: Working Capital Management, Current assets, Current liabilities, Return On Asset, Small and Medium Enterprises (SMEs).

INTRODUCTION

Working capital in simple terms is the amount of funds which a company needs to finance day-to-day operations. Good management of working capital is very important to business because the investment of firm's current assets in working capital account for half of the firm's total assets. Hence, the effectiveness or ineffectiveness of working capital management by a firm will have a different impact on the firm financial performance. Firms that able to manage their working capital efficiently will lead to profitability. For instance, firms that carrying a large amount of inventories can avoid run out of stock when they get a sudden demand from customers. As a result, their sale and profitability will increase. However, Vishnani and Shah (2007) said that ineffectiveness of high investment in current assets would reduce the profitability. As an example, a firm that carries large amount inventories during low season will decrease their profitability because the cost of carrying of inventories might higher than the return from the sale. Therefore, the decision on how much investment in current assets in working capital management are one of the factors that affect firm's profitability.

Further, the way of working capital is managed will affect liquidity and profitability of the firm. However, the liquidity and profitability goals are contradictory to each other in most decisions which the finance manager takes (Niresh, 2012). Basically, it involves the trade-off between risk and returns in managing working capital. For example, the firms that give longer trade credit to its customers may be in a position to increase its sales, but its liquidity may tend to worsen. This situation shows that longer trade credit can increase the risk of the firm in getting back their money from a customer. As a trade-off of having high risk, firm increase their sale which leads to higher profit. Conversely, firms with high liquidity might have low risk and consequently with low profitability. For example, firms that held too much investment incurrent assets such as inventories have higher liquidity level and low risk. However, this will cause firms lose their opportunity to invest in higher return investment and too many inventories also will increase cost due to obsolesce inventories and storage coast. This will further reduce firm's profit. Hence, firms included small medium and enterprises (SMEs) need to manage their working capital efficiently in order to achieve a trade-off between profitability and liquidity.

In general, firms' performance mainly depends on the way its working capital has been managed (Usama, 2012). Small business like SMEs always reliance on the short-term fund. They have limited access to long-term capital market compared with large firms. Therefore, they will rely more on own financing and a short-term bank loan to finance their investment in current assets. Rely on short-term loan can reduce cost but too much reliance on it can affect firm profit if unable to pay the loan in required period. Hence, SMEs should manage its working capital effectively because a large number of SMEs business fail due to the inability of financial manager to manage current assets and current liabilities properly. Management of working capital is particularly important for the survival and growth of them (Grablowsky, 1984).

This matter will affect the country's economy. Most of SMEs are believed to provide an impetus to the economic progress of developing countries (Padachi, 2006). As an example, SMEs in Malaysia contributed a share of 33 % to GDP and expected to increase to 41% in the year 2020. Hence, working capital of SMEs needs to be manage and effectively in order to increase their profitability and continue to contribute more to the economic development of Malaysia. Therefore, it is necessary to investigate the impact of working capital to the profitability of SMEs in Malaysia. Although there are researches have been carrying out in Malaysia context, but they are lack of empirical evidence on SMEs because most of the study focus on large firms like public listed firms. SMEs characteristics are different with the listed firm. Thus, the ways they manage working capital may be different due to SMEs have limited of source funding. Hence, the objective of the study is to examine the impact of working capital management on the profitability of SMEs in Malaysia.

2. LITERATURE REVIEW

Block and Hirt (2000) defined working capital management as the financing and management of the current assets of the firm and they change in nature thus, possibly hourly, as a result managerial decisions must be made with respect to how much inventories is to be carried and how to get the funds to pay for it. The firm's performance depends on the ways the working capital has been managed (Usama, 2012). The study explained that working capital should be managed effectively otherwise it may result in a reduction of profitability and financial crisis of the firm. This is because the component of working capital likes cash always considered as the source of firms working asset and liability.

Furthermore, Eljelly (2004) define that efficient working capital management as managing current assets and current liabilities in a way that can eliminate the risk of inability to meet the short-term obligation and avoid excessive investment in current assets. Managers spend as much of their time on the day to day problem that involved working capital management (Raheman & Nasr, 2007). This shows that working capital management is crucial importance to the survival of firms as working capital will be used to support daily operation.

Recent studies outlined by Vahid, Elham, Mohsen& Mohammadreza(2012) also emphasize the importance of working capital by described working capital as the blood current in the vessels of a business entity in order to save the survival of the business entity and management of working capital imagines as beating heart of a business entity which pump up the blood into the vessels of the organization. This study also further explains that one of the main reasons for bankruptcies for most of the companies is a misstatement of working capital. This is due to inefficient management of working capital, firms always failed to generate enough cash to pay their creditors.

Current assets are a short-live investment that can convert to cash in a short time basis while current liabilities refer to the short-term obligation of firms. The current assets should able to cover the current liabilities to make sure the liquidity of firms otherwise it will lead to financial distress and bankruptcy (Sharma & Kumar, 2010). Raheman & Nasr (2007) argue that liquidity of firms in not depend on the value of that asset, but is depending on the cash flow generated by those assets Taken together, the decision on the level of assets becomes challenging and time-consuming.

Excessive liquidity indicates accumulation of idle funds, which do not earn any profit for firms, while inadequate liquidity will affect the creditworthiness of the firms (Vishnani & Shah, 2007). Moreover, a very poor liquidity position in firms will create a problem in maintaining the smooth

running of the business and directly affect the profitability of the firms.

Profitability and liquidity are the most prominent issues that the management of each organization should take as the liquidity and profitability goals are contradictory to each other in most decisions which the finance (Niresh, 2012). Raheman and Nasr (2007) studied the working capital management and firm profitability in case of Pakistan firms. They conclude that there is a negative relationship between liquidity and profitability of the firm and found that in Pakistan current ratio is the most important liquidity measure that affects profitability. The study was consistent with the result of Eljelly (2004) who reveals that there is a strong and negative relationship between profitability and liquidity of firms in a sample of 29 joint stock companies that represent the major economic sectors in the kingdom over the period 2000-2009 in her study “liquidity – profitability trade-off: an empirical investigation in an emerging market”.

2.1 Working Capital Management and Profitability of SMEs

Martínez-Solano and García-Teruel (2006) take the first attempt to investigate the effects of working capital management on SMEs profitability. They tested the effects of working capital management on SMEs profitability using the panel data methodology. The results, which are robust to the presence of endogeneity, demonstrated that managers could create value by reducing their inventories and the number of days for which their accounts are outstanding.

Later, Yazdanfar and Öhman (2014) examined the impact of working capital management on firm profitability by using a sample of 13,797 SMEs operating in four industries from Swedish data and found that working capital management has a negative relationship firm's profitability. However, Afeef (2011) has a different finding compare with other researchers (Martínez-Solano and García-Teruel, 2006). The author concluded that Cash Conversion Cycle, which uses as a measurement of working capital management had no significant link with the profitability variable in his study on SME's in Pakistan. However, he emphasizes that efficient management of working capital management has a substantial impact on the profitability of corporation listed on Karachi Stock Exchange because there is a significant negative relationship was found between receivable collection period and operating profit to sale. The result was supported by Tauringana and Afrifa (2013). Where, Tauringana and Afrifa (2013) conclude that account payable management is more important than account receivable management while inventories management and working capital management is not important for SMEs profitability.

2.2 Relationship between Components of Working Capital and Profitability

Not only do higher levels of receivables and inventories potentially require higher levels of

costly capital, but long receivables cycles also increase the risk of uncollectible accounts, and a higher level of inventories also increases storage and inventories management costs and increase the risk of inventories obsolescence (Ebben & Johnson, 2011). It demonstrates that the management the working capital components are extremely important to the overall performance of firms.

Raheman and Nasr (2007) examined the impact of working capital management on profitability on Pakistan firms. They also found a significant negative relationship between net operating profitability and the average collection period, inventories turnover in the day, average payment period and cash conversion cycle. The negative relationship between account payable and profitability is consistent with the view that less profitable firms wait longer to pay their bills. The conclusion is in confirmation with (Deloof, 2003).

To extend the finding of Raheman and Nasr (2007), Usama (2012) examined the working capital management and its effect on firm's profitability and liquidity in other food sectors of (KSE) Karachi Stock Exchange. By using pooled least square regression and common effect regression, the author found that there is a negative relationship between net operating profitability and inventories turnover in days, average collection period and cash conversion cycle while the effect of the average payment period is considered minor compared to other variables. The author also found that there is a negative relationship between average collection period and liquidity so as the firm's collection period minimize, liquidity capacity will increase.

However, difference research finding has been attributed by Mathuva (2010) on the study of "The influence of working capital management components on co-operating profitability: A survey of Kenyan listed firms." A sample of 30 firms listed on the Nairobi Stock Exchange (NSE) for the periods was used and analyzed with pooled OLS and the fixed effects regression models. The positive relationship between inventories conversion period and profitability was identified in this study. Besides, the result of the relationship between the average payment and profitability also contrary with Raheman and Nasr (2007) in which this finding holds that more profitable firms wait longer to pay their bill.

Ukaegbu (2014) also examined the significance of working capital management in determining the firm profitability in the evidence from developing economies in Africa and have a similar finding as Mathuva (2010). The paper adopts a quantitative approach using balance panel data of manufacturing firms in Egypt, Kenya, Nigeria and South Africa and obtains the financial statements of manufacturing firms from Orbis database for the period 2005-2009. Using the multiple regression analysis, he found that positive association between firm profitability and company account payable with regard to firms in Egypt. The result is an inconsistency with the

finding of Usama (2012) and Deloof (2003) due to the different business environment in Africa. In addition, the author indicates that they are a positive relation between firm's profitability and inventories turnover.

On the other hand, Tauringana and Afrifa (2013) insist that the effect of inventories to the profitability of SMEs is not important compared with account receivable and account payable. The author concluded this is due to SMEs with limited resources need to prioritize their WCM by focusing on AR and AP to improve profitability. The conclusion is consistent with the assumption that generous trade credit policy will lead to higher sale because it enables customers to pay after they assess product quality (Raheman & Nasr, 2007). However, the finding is contracted with the finding of Afeef (2011) who said found that inventories conversion period and receivable collection period is more important than payable deferral period to the profitability.

3. METHODOLOGY

For this study, secondary data has been collected from financial statement of the SMEs in the manufacturing sector. The data are gathered from the financial statement of the manufacturing firms which have been submitted to Companies Commission of Malaysia (SSM). The sample was drawn from the directory of SSM which each selected firm must have available financial statement data for the 3-year period, covering 2011-2013. This had given panel data of 732 firm-year observations for a sample of 244 firms. The primary aim of this study is to investigate the impact of working capital management on SMEs' profitability in Malaysia. The results of this study were derived from panel data analysis, which was conducted using the STATA12 software. Therefore, a model of working capital management in this study can be expressed as follows:

$$ROA_{it} = \beta_0 + \beta_1 (NWC) + \beta_2(DR_{it}) + \beta_3 (FS_{it}) + \varepsilon \quad (1.0)$$

$$ROA_{it} = \beta_0 + \beta_1 (CA_{it}) + \beta_2 (DR_{it}) + \beta_3(FS_{it}) + \varepsilon \quad (1.1)$$

$$ROA_{it} = \beta_0 + \beta_1(CL_{it}) + \beta_2(DR_{it}) + \beta_3(FS_{it}) + \varepsilon \quad (1.2)$$

Where, dependent variable represents by return on assets (ROA) which suggest by previous researchers like Martínez-Solano and García-Teruel (2007), Padachi (2006) Sharma and Kumar (2010) as a proxy of profitability in their studies. Net working capital (NWC) is used as a proxy of working capital managements an independent variable in this study. NWC calculated by current assets (CA) minus current liabilities (CL). Other variables theoretically postulated as to influence firms' profitability performance were also considered as control variables in the model (Filipa, Garcia, and Vitorino, 2011). Hence, debt ratio (DR) and firm size (FS) are used as a

control variable in this study. DR measure by total debts over total assets and FS is the natural logarithm of total assets. This study also estimates Equation 1.1 and 1.2, to study the effect of the two components of net working capital on the profitability.

4. RESULT AND DISCUSSION

Descriptive Statistics

Table 1 shows that the minimum value for ROA is -0.82 and the maximum value is 5.40. The mean value for ROA is 0.04 with a standard deviation of 0.41, which shows that ROA can diverge from mean to both sizes by 0.41.

Table 1: Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
ROA	0.3985	0.4111	-0.8200	5.4000
NWC	13.7528	2.0476	4.7600	18.0400
CA	5.9071	1.4621	0.3000	8.1700
CL	6.1573	0.8173	3.1500	8.0200
DR	14.7990	1.2740	-0.0100	13.5500
FS	14.7990	1.6991	8.8200	18.8200

While, the minimum value for NWC is 4.76 and the maximum value of 18.04. The average number for NWC is 13.75, which indicates the strong financial position of the firm. The mean value for CA and CL are 5.91 and 6.16 with a standard deviation of 1.46 and 0.82 respectively. The lower value for CA is 0.30 while the lower value for CL is 3.15. The higher value of current assets is 8.17 and for current liabilities are 8.02.

The average of DR is 1.08 with standard deviation 1.27, which indicates that almost the entire asset of SMEs is financed by debt. Meanwhile, the mean value of the FS is 14.80 with a standard deviation of 1.70. This indicates that size of the firm in this study is almost similar.

Regression Analysis

Table 2 presents the Pooled OLS, fixed effects and random effects estimation of the effect of working capital management with all explanatory variables in this study. Referring to the p-value(0.000) of the Breusch-Pagan Lagrange Multiplier test (LM test) of homogeneity, it rejected the null hypothesis that the slopes and intercepts are similar across firms. Hence, Random/Fixed effects model better estimates the effect of working capital management than Pooled OLS.

Therefore, the Hausman specification test conducted to compare fixed effects and random effects estimations in selecting the most appropriate model estimation. The value 0.47 of the Hausman test, which is more than 0.05, indicates that the random effects estimation is a better estimate than the fixed effects estimation. Therefore, the individual effects and the regressors have no relationship, and exogeneity between the individual effects and regressors is assumed. Hence, the clarification of results is based on random effects model.

Table 2: Regression analysis

Dependent Variable : Return On Asset			
	Pooled OLS	Random Effect	Fixed Effect
NWC	0.0040*** (0.0010)	0.0034*** (0.0070)	0.0026 (0.160)
DR	-0.0270** (0.0230)	-0.2137* (0.0790)	-0.0122 (0.4660)
FS	0.0186** (0.0500)	0.0238* (0.0550)	0.0650* (0.0840)
Constant	-0.2345 (0.1020)	-0.3180* (0.0890)	-0.9356* (0.0940)
LM Test	0.0000		
Hausman Test	0.4700		

Notes: ***Significant at 1 percent, **Significant at 5 percent, *Significant at 10 percent. Parentheses are *p*-values.

Net working capital is positively associate with SMEs’ profitability at significant level 1%. It indicates that the firm with highly liquid tends to generate higher profit. This result is contra to the previous studies that also use NWC as a measurement of working capital management. For example, Vieira (2010) found a negative relationship between NWC and firm profit. The different of industry sectors, which has been used as a sample this study may explain the difference of finding. SMEs should ensure NWC always high, which then reflects on SMEs liquidity to fulfil the demand of the customer, especially for immediate demand. SMEs also need to have high NWC to finance their short-term debt and daily operation because the limitation in getting external financing. Firm size also found positively associate with ROA at 10% significant level, which reveals that larger firm tends to get higher profitability. However, consistent with a previous study, debt ratio negative associate with ROA at significant level 10%. It can be concluding that, the higher the leverage of a particular firm, the lower is their profitability. Profitability may decline due to the increment in expenses cost of debt.

Table 3 shows random effect estimation for working capital management model, which also exhibits the effect of the two components of net working capital on the profitability in model 1.1 and model 1.2. Model 1.1 shows a positive relationship between CA and ROA at 1% significant level. This indicates that a firm with high current assets will generate higher profit.

Table 3: Regression Analysis of ROA

<i>Dependent Variable : Return On Asset</i>			
Explanatory Variable	Random Effect		
Model	Model 1.0	Model 1.1	Model 1.2
Debt Ratio	-0.2137* (0.0790)	0.0194* (0.0980)	-0.0188** (0.0260)
Firm Size	0.0238* (0.0550)	0.0123** (0.0140)	0.0006 (0.8210)
NWC	0.0040*** (0.0010)		
CA		0.0338*** (0.0000)	
CL			0.06773*** (0.0010)
Constant	-0.3180* (0.0890)	-0.3669*** (0.0010)	-0.3296** (0.0010)

Notes: ***Significant at 1 percent, **Significant at 5 percent, *Significant at 10 percent. Parentheses are *p*-values.

For each value of current assets increase, it will make SMEs' profit increase by 3.38%. This reveals that SMEs are able to increase profit from current assets by retaining sufficient amount of inventories. This action can prevent interruption to the production of good and prevent loss of business. This is consistent with the view of Alavinasab & Davoudi (2013) who suggest that the increment of firm's current assets can be interpreted as a symbol for an increase in trade activities or leads to increase in asset turnover and return on assets.

Meanwhile, Model 1.2 exhibit the relationship of current liabilities as a component of working capital management with SMEs profitability. Results show a significant positive relationship was found between ROA and CL at 1%. level. The coefficient of 0.06773 suggests for each increment in current liabilities, ROA will increase by 6.773 %. This suggests that SMEs profitability can boost growth by increasing the level of current liabilities. This is because the low cost of short-term debt can reduce expenses of SMEs which consequently increase the profitability. In

addition, longer trade credit by suppliers also affects the value of current liabilities increase. The late payment to trade creditor will make SMEs have enough cash to buy inventories for sale, which further increase their profitability (Mathuva, 2010).

5. CONCLUSION

Generally, small and medium enterprises have limited access to external financing. Hence, they need to manage working capital efficiently to ensure its business operation sustain in a longer period. Therefore, SMEs need to gain profit so they can bear the cost of day-to-day operation. Results of this study found a positive relationship between net working capital and return on asset. This finding encourages managers to increase investment in working capital management because it will increase SMEs profitability. SMEs should consider rising certain portions of current assets and current liabilities in action to enhance its investment in working capital management. The higher amount of inventories and longer trade credit may prevent SMEs from lost due cannot accomplish demand from the customer. Besides, it would increase the profit of the SMEs.

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