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An Analysis of Working Capital Management with Reference on Listed Companies in Bursa Malaysia

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Abstract This study investigates the relationships between working capital management policy with firm's risk and return particularly in Malaysian public listed companies. As for this purpose, a study of 350 public listed companies from 6 different sectors that were listed in Bursa Malaysia Main Market covering the period of 2001-2011 was undertaken. The regression analysis was used to identify the effect of working capital policy towards the firm's risk and return and the key independent variables for this research are working capital policy represent by Financing Policy (FP) and Investment Policy (IP). This study is not trying to identify the optimum level of current asset and current liability that a firm should have since the issues is unresolved in the financial literature however it's expected to enhance the knowledge on working capital to shareholders, potential investors as well as the other stakeholders of a firm with the information on the management of short term financial decisions among securities listed in Bursa Malaysia.

Keywords Working Capital Management, Financing Policy and Investment Policy

1. Introduction

Working capital management gained less attention in corporate finance literature which traditionally focused more on the study of long-term financial decisions. However looking at the current economic ambiance, this short-term assets and liabilities managements necessitate vital consideration. Conclusively, one of the most important areas of finance is monitoring the firm's working capital and its significance is due to the sensitivity of firm's performance to the efficient management of working capital[1] as it's represent the main share of items on a firm's balance sheet[2]. It's facts that the vital objective of a firms is to maximize the shareholders value and at the same time preserving the liquidity of the firms hence working capital is said to effect on liquidity as well as the firm's performance[3] Referring towards the importance of working capital, the argument on the tradeoffs between risk and return instinctive in alternative working capital management usually become the starting point of working capital fragment in finance textbooks (see[4] and[5]). A part from that, the firm's choices in working capital policies is said to have an influence on the firm's liquidity and consequently on firms' profitability[6].

The policy of working capital is divided into two alternative namely aggressive and conservative strategies practiced by the firms. The aggressive strategies refer to high risk, high return working capital investment and financing strategies by financing part of its permanent asset base with short term debt thus is said to hold high level of current liabilities relative to total liabilities. In contrary, the conservative strategies refers to lower risk and return strategies where the firm's non-current assets, permanent current assets and a part of the fluctuating current assets are financed with equity and long term debt. Extensive empirical research on working capital was carried out worldwide by the academia in order to hypothesize the firm performance (see example,[7];[3];[8];[9];[2] and[10]. Even so, the impact of various working capital mechanisms on firm's performance from Malaysia perspective might be vaguely difference due to the divergence in business environment between other countries. Since recent study was built on western data and specific research studies exclusively from Malaysia perspective predominantly focus on risk and return for working capital policy are not available, thus this study was conducted with an attempt to bridge the gap in the literature by offering empirical evidence to the extent of which the result in Malaysia would be parallel to past studies. Considering the potential contribution of working capital policy to firm performance which eventually related to the economy of Malaysia, therefore, the objective of this study is to discover the relationships between working capital management policy with firm's risk and return in a sample of Malaysian listed companies. This study is not try to identify the optimum level of current asset and current liability that a firm should have since the issues is unresolved in the financial literature

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2. Literature Review

The importance of management in short term financing decisions also known as the management of working capital is not new to the finance literature. However, there are are no robust and widely accepted theories about working capital management[11] and as indicate by[12] the Pecking Order Theory[13] is the nearest pertinent theory which explain company's optimal capital structure. This theory highlights the firm's preference in financing their business using retained earnings as compared to debt, short-term debt over long-term debt and debt over equity. According to[11], the Agency Theory[14] is also one of the factor that has a significant influence towards firm's decision making on working capital level considering conflict of interest between managers and shareholders.

[15] analyze the working capital management efficiency of firms from telecommunication equipment industry. The variables used to represent the working capital are day's sales outstanding, days inventory outstanding, days payable outstanding, days working capital, and current ratio while profitability and liquidity represent by cash conversion efficiency, income to total assets and income to sales. This study found evidence that even though "day's working capital" is negatively related to the profitability, it is not significantly impacting the profitability of firms in telecommunication equipment industry. While,[16] found positive correlations between WCM with financial performance of the Pharmaceutical industry in Bangladesh. Whereas,[17] in his empirical study on Indian National Fertilizer Limited, for 1990-91 to 1999-2000 signify that working capital management and profitability of the company disclosed both negative and positive association. He also found evidence that increase in the profitability of a company was less than the proportion to decrease in working capital.[18] founds that high investment in inventories and receivables is associated with lower profitability. He used return on total assets as a measure of profitability for a sample of 58 small manufacturing firms in Mauritius for the period 1998–2003. The findings also reveal an increasing trend in the short-term component of working capital financing. Similar to study by[19] which focus on 14 corporate hospitals in India for the period 1996-97 to 2005-06. Their correlations and regression analysis signifying that working capital component namely current ratio, cash turnover ratio, current assets to operating income and leverage negatively influence profitability.[20] analyzed the effect of working capital management practices on the financial performance of Small scale enterprises (SSEs) in Kisii South District, Kenya using stratified random sampling technique on a sample of 113 SSEs comprising 72 trading and 41 manufacturing enterprises. Their study that employ both descriptive and inferential statistics revealed SSE financial performance was positively related to efficiency of cash management (ECM), efficiency of receivables management (ERM) and efficiency of inventory management (EIM) .

As far as the working capital management policy is concerned, there is a limited literature discussed the working capital policies in specific. Earlier study was done by[21] which depicted the working capital management policies and practices of the private sector manufacturing companies in Sri Lanka. They used questionnaires and interviews with chief financial officers of a sample of manufacturing companies listed on the Colombo Stock Exchange. Their study revealed that most companies in Sri Lanka have informal working capital policy and company size has an influence on the overall working capital policy (formal or informal) and approach (conservative, moderate or aggressive). Moreover, company profitability has an influence on the methods of working capital planning and control.[7] which analyzed on the relationship between aggressive and conservative working capital practices for ten diverse industry groups of US firms indicates a significantly different current asset management policies practices across industry. Moreover, there is a stable relative industry ranking of the aggressive/conservative asset policies across industry over time. Their study also shows evident of high and significant negative correlation between industry asset and liability policies. Whilst,[8] through cross-sectional regression models on working capital policies and firms profitability based on sample of listed companies at Karachi Stock Exchange found a negative relationship between the profitability measures of firms and degree of aggressiveness on working capital investment and financing policies. Their result indicates that the firms yield negative profits if they follow an aggressive working capital policy .Recent study by[9] analyzed the working capital policy in on firms' profitability and value for a sample of 57 industrial firms listed in Amman Stocks Market for the period of 2001 to 2009. The results show that conservative investment policy has a positive impact on a firm's profitability and value whilst the aggressive financing policy has a negative impact. [10] examined the relationship between working capital aggressiveness and financial performance of manufacturing firms in Nigeria for 10 listed-manufacturing firms from the period 2006 to 2010. Their results indicate an increase in firm's performance when total assets are financed by aggressive current assets but diminishing performance when financed by aggressive current liabilities.

Turning to the empirical literature on working capital policy, we found no published study on the risks return tradeoff for working capital management policy from Malaysia perspectives. However there is a study on working capital concepts done by[22]. They explore the prevailing working capital management practices of some well-performed Malaysian public firms listed on Bursa Malaysia. They examine the correlation between

profitability and the level of working capital of the sample firms and founds that profitability and working capital are linearly related positively to a certain extent.[23] investigate the relationship between working capital management and firm profitability using cash conversion cycle as measure of working capital management for panel data of 1628 firm-year for the period of 1996-2006 for six different economic sectors that listed in Bursa Malaysia . Their Pooled OLS regression analysis provide a strong negative significant relationship between cash conversion cycle and firm profitability.[2] on the other hand used Partial Least Square method to examine the validity of factors that determine the WC among 285 E50 firms in Malaysia based on accounting data of three years from 2006 to 2008.Their study used working capital as dependent variable, and growth of the firm, profitability, debt, size and industry as independent variables and validate that the convergent and discriminates validity of the constructs which the developed model represent the data adequately. They concluded that their identified latent variables are valid for testing.

All the above studies provide a solid base in initiating the idea regarding working capital management and its components. They also provide the results and conclusions of those researches already conducted on the same area for different countries and environment from different aspect. However there are no reported studies on working capital management policy measures with reference to listed companies in Malaysia. Therefore on the basis of researches done in different countries, the established review of the literature had provides an ideal reference source of materials and research writings concerning return, risk and working capital profile of Malaysian listed firms in developing the hypotheses of research.

H1: There is a significance relationship between firm return with working capital policy

H2: There is a significance relationship between firm risk with working capital policy

3. Data and Methodology

Table 1. The proxies for dependent and explanatory variables

Variables	Proxies
Dependent	● Return on Asset(ROA) ● Operating profit margin(OPM). ● Financial Risk (R)
Explanatory (Working Capital Policy)	● Financing Policy (FP) ● Investment Policy (IP)

This study focus on listed securities in Bursa Malaysia ranging from year 2001 to 2011 based on availability of the data (11 years basis). As at September 2012, 818 companies listed in Bursa Malaysia Main Market and 370 sample was selected randomly from different sectors with 4070 observations. The data was gathered from www.bursamalaysia.com, Bloomberg and Thompson Data Stream. This study utilized data (dependant variables) as Return On asset (ROA) and Operating Profit margin (OPM), to represent return and Financial Risk (FR) to represent risk effect. The key independent variables for this research are working capital policy represent by Financing Policy (FP) and Investment Policy (IP).

The firm's performance is represents by Return on Asset (ROA) which explains how the firms maximizing their profits by efficient utilization of existing resources. An increase in ROA normally shows an increase in profitability [5] It is used by many researchers as dependent variable for the measurement of profitability such as[24] (2009),[25] and[10]

$$ROA_i = \frac{EarningtoShareholders}{TotalAsset} \quad (1)$$

The second variable used is Operating Profit margin (OPM) that was used to measure a company's pricing strategy and operating efficiency. The higher the OPM reflects a profitable business with efficient cost management. Operating profit margin is materialized by dividing operating incomes with sales.

$$OPM_i = \frac{OperatingIncome}{NetSales} \quad (2)$$

Following[26],[27] this study utilized degree of financial leverage to represent the financial risk (R) as interpretation of systematic risk faced by firms. According to[28] financial risk is a measurement for risk hold by common stockholders in consequence of investment and financing decision with leverage. The financial risk model in this was calculated as the difference in Earnings Per Share of listed company (*EPSt*) and previous Earnings Per Share of listed company (*EPSt-1*) over the changes in with changes in earnings before interest and taxes (EBIT).

$$Financial\ Risk\ (R) = (EPS_t - EPS_{t-1}) / (EBIT_t - EBIT_{t-1}) \quad (3)$$

The working capital policy is represent by aggressive investment policy (IP) and aggressive financing policy(FP) followed the study done by [7];[8][24];[9];and[10].The IP results in the level of investment in current assets versus fixed assets. The conservative policy is representing by the increase in the level of investment in the current assets. Conversely, investing less amounts in current assets indicates an aggressive policy. In measuring the degree of aggressiveness, following ratio will be use where a lower ratio indicates a relatively aggressive policy:

$$Investment\ Policy\ (IP) = Total\ Current\ Assets\ /\ The\ Total\ Assets, \quad (4)$$

In term of the firms financing policies, the current or long term debt can be used to finance its operations. The firms is said to follow conservative financing policy by financing its operation using long term debt, whereas for aggressive financing policy is concerned, the firms depends more on current liabilities to finance its operations, the following ratio is used as proxy to measure the Financing Policy (FP)

where the higher ratio means a relatively aggressive policy:

Financing Policy (FP)
= Total Current Liabilities / Total Assets. (5)

Next, the relationship between the market performance and market indicators will be estimated using the following regression equations:

$$ROA. = \alpha + \beta_1 IP_1 + \beta_2 FP_2 + e \quad (6)$$

$$OPM = \alpha + \beta_1 IP_1 + \beta_2 FP_2 + e \quad (7)$$

$$R = \alpha + \beta_1 IP_1 + \beta_2 FP_2 + e \quad (8)$$

Where α = the constant term,
ß = the slope or coefficient estimates of the explanatory variables
e = the standard error of the ith company.

4. Results and Discussion

The correlations between the variables were reported in Table 2. Results indicated no multicollinearity problems as the correlations were relatively low. According to[29], multicollinearity problems exist when the correlations value exceeded 0.80. The correlations results for ROA indicated a negative coefficient with FINP (-0.372) while positive significant with INVP(0.039) 1% and 5% significant level respectively. The result for OPM indicating also a negative significant correlations with FINP (-0.139) at 1% significant level. While the result for DFL both showing insignificant relations with INVP and FINP. Although results of the estimated correlation coefficient indicate negatively and positively correlated however it still considers low; therefore, it is not large enough to cause any concern in the regression model.

Table 2. Correlations Analysis

	ROA	OPM	DFL	INVP	FINP
ROA	1	.359**	-.006	.039*	-.372**
OPM	.359**	1	-.013	.015	-.139**
FR	-.006	-.013	1	.015	-.002
INVP	.039*	.015	.015	1	.187**
FINP	-.372**	-.139**	-.002	.187**	1

**. Correlation is significant at the 0.01 level (2-tailed)
*. Correlation is significant at the 0.05 level (2-tailed)

To test the hypothesis that firm's level of ROA, OPM and R is a function of two tested variables which are Investment policy and Financing Policy, the multiple regression analysis was performed using 4070 firm-years observations and the results is presented in Table 3. To quantifies the severity of multicollinearity for this study, the variance inflation factor (VIF) test was performed , and results indicate a very low level of multicollinearity was present for all the two model since all the VIF value for all variable tested is less than 10. Even though there is no formal VIF value, however, values of VIF that exceed 10 are often regarded as indicating multicollinearity (e.g.,[30] and[31])

Table 3. Regression analysis of ROA, OPM and R with Financing and Investment Policy

	ROA			
	Beta	t	Tolerance	VIF
INVP	.113	7.65**	.965	1.036
FINP	-.393	-26.68**	.965	1.036
F	359.57**			
D-W	1.881			
	OPM			
	Beta	t	Tolerance	VIF
INVP	0.042	2.666**	0.965	1.036
FINP	-0.147	-9.32**	0.965	1.036
F	43.832**			
D-W	1.943			
	FR			
	Beta	t	Tolerance	VIF
INVP	-0.029	-1.41	0.965	1.036
FINP	0.011	0.55	0.965	1.036
F	0.493			
D-W	2.004			

**. Correlation is significant at the 0.01 level (2-tailed)

Results of the regression analysis in Table 3 provided partial confirmation for the research hypothesis. The results for ROA and OPM depicted a significant positive coefficient with INVP(+7.65)(+2.66) respectively, both at 1% significant level. The positive coefficients of ROA and OPM with INVP signifying a negative relationship between the degrees of aggressiveness in firm's investment policy with both performance measurements. An increase in INVP indicating a conservative's management of investment policy which emphasise more investment in liquid assets. The results evidence the implementation of conservative investment policy among listed firm's in Malaysia is concerned which contributed towards a significants improvements in firm's performance. This study is similar towards the study done by[10] and[24] which also indicating a positive relationships between ROA and conservative investment policy.

In term of financing policy of listed firm's in Malaysia is concerned the results indicates a negative coefficients with ROA (-26.68) and OPM (-9.32) both a 1% significants level. This results evidence the negative relationships between financing policy with firm's performance. The negative coefficients of ROA and OPM with FINP signifying a negative relationship between the degrees of aggressiveness in firm's financing policy with both performance measurements. A decrease in FINP indicating a conservative's management of financing policy where firm's focus more on long-term financing as compared to current liability financing. The results of the current study is corroborate with the study done by[24]. Concerning the second hypothesis for FR depict insignificant relationships

for both INVP and FINP indicating that any changes in INVP and FINP cannot explain the changes in risk. Thus, result does not support hypotheses 2 for RISK in concerns with the listed firms in Bursa Malaysia

The regression results support hypotheses 1 as depicted in table 2, the F statistics is substantiated at the 1% significant level for ROA(359.57) and OPM(43.832), implying the null hypotheses that the regressions coefficients are all zeros can be rejected at 1% level of significant. Thus implying that the estimated regressions for hypotheses 1 is efficient for predictions, and the hypotheses can be accepted implying that there are an associations between selected working capital management policy with Return of listed companies in Bursa Malaysia is concern.

5. Conclusions

This paper tries to find the influences of working capital management policy towards firm's risk and return from Malaysian perspective. The study employed three model specifications in order to test the postulated hypotheses, using ROA and OPM, to represent return and FR to represent risk effect along with the working capital policy for 370 selected listed companies in Bursa Malaysian main Board for the period of 2001 until 2011. On the basis of findings of the research, it can be conclude that there are significant relations between Return factors with firm's working capital management policy as our results suggest disclose both positive association with conservatives investment policy while negative association with conservative investment policy. In conclusions, applying correlations and multiple regression analysis, the result shows that there are significant associations between working capital policy towards firm's returns performance. Nevertheless, it was hope that the result can contribute to the body of knowledge by identifying the conservatives and aggressive working capital management from Malaysia perspective. Although all the alternate hypotheses are support by the analysis, however the results of present study are in contradiction to some earlier studies on the issues which could compose an area of future research. It was recommended that the study is further improved with more sample size, different variables for risk and return performance and also other external variable which could confer with a strong relationship between the variables and help to uncover the efficient working capital management in Malaysia perspectives. Thus this study is left for future to be further explored.

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