Impact of Working Capital Management on Firms Profit: A case study of Non-Financial Firms listed on the Pakistan Stock Exchange

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Abstract

The aim of the study is to investigate the impact of working capital management (WCM) on firms profit in the context of non-financial firms listed on Pakistan Stock Exchange PSX. To achieve the purpose, a sample of 73 non-financial firms listed on Pakistan Stock Exchange (PSX) was examined over the period from 2011 to 2016. Cash conversion cycle (CCC) is used to measure the working capital management, while return on assets (ROA) and return on equity (ROE) are used to measure the firms profit. Results reported significant negative relationship between cash conversion cycle and firms profit but diverse results for working capital management components. Such as only account conversion period and account payable period is found significantly negative associated with the returns on asset. Overall results imply significant increase in firms profit by reducing cash conversion cycle to a minimum level. Moreover, results demonstrate negative association between liquidity and firm profitability in line with the pecking order theory.

Key words: Working capital management; Cash conversion cycle; Firms profit

Introduction

The management of working capital is significant for the firm daily operation due to its impact on the firm liquidity and performance (Raheman & Nasr, 2007). Management employ substantial time on the routine decisions related to working capital management (to be written as WCM onward) due to its significance in daily business operation (Mengesha, 2014). On one hand rise in working capital level decline the return on investment used as an indicator of profit but on the other hand decline in the level of working capital results in shortage of stock and decrease in debt trade. The primary purpose of WCM is to ensure the liquidity position of the firms'

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through meeting its short-term obligation on time such as payment of interest plus installment of principal borrowed amount, account payable, overhead expense. At the same time WCM importance increase in the backdrop of the increase in the cost of borrowing and scarcity of finance availability (Horne & Wachowicz, 2000). Therefore, for firms there is a need to sustain stability between Profit and liquidity in order to ensure their survival (Horne & Wachowicz, 2000). The survival issue stem from the fact that increase in profit at the cost of liquidity causes serious issues for the firms. Such as, if a firm ignore about profit, its survivability would be at stake. While if a firm ignore liquidity, it may encounter insolvency problem. Therefore, the management must maintain trade-off amongst the profitability of firms and its liquidity through effective WCM. As suggested by Afza and Nazir (2008) that shareholder value yield due to effective WCM. While inefficient working capital management may result in low generation of firms' profit (Gebrehiwot & Wolday, 2006).

WCM refers to the sustaining of liquidity among current assets to meet the scurrent liabilities. Though, liquidity carry significance above or below certain benchmark, as high liquidity results in piling of resources with no return, whereas very low level of liquidity results in firm failure to meet current financial liabilities. Firms' working capital policy is segregated into three categories that are aggressive, defensive and conservative (Arnold, 2008). Under these approaches, the assets potential life is matched against the financing source (Paramasivan & Subramanian, 2009). An approach where long term debt and equity is used by the firm to finance its long-term assets and much of the short-term assets is called defensive approach. Although, this approach lessens the liquidity risk but at the same it increases the cost of financing and result in negatively affecting the profit (Arnold, 2008). Under aggressive policy of working capital, short term assets and portion of fixed assets are financed through short term debts due to low level of interest rate on short term loans. Aggressive policy results in more profit due to low interest charges, but it is riskier due to the constant fluctuation in the short-term interest rate and financing of portion of long-term assets may push working capital on negative side. Such policy is adopted in the stable economies and firms' who anticipate confirms future cash flow. In contrast, conservative policy stress on firms for maintaining the working capital at

modest level under modest risk and return; therefore is also called an approach that hold low profit with low risk (Paramasivan & Subramanian, 2009). Therefore, the firms should adopt the working capital policy considering the market condition and its cash conversion cycle. As advocated by Horne and Wachowicz (2008) that disproportionate venture in short term assets may reduce the firm value and its profit. Thus, the study emphasizes on earning higher gain on short term assets than the needed gain on the investment to meet the claims due on firm.

Previous studies (such as Eljelly, 2004; Raheman & Nasr, 2007) suggest the preference for liquidity over yield because firms with low or no yield can assist the economy, but the firms with zero liquidity may not serve the economy. As advocated by Deloof (2003) that if a company fails to manage the WC constituent (AP, AR, and ICP) as per the requirements of the company, it may face insolvency or difficulties in meeting financial obligations. Therefore, effective WCM has immense contribution in increasing the profit by maintaining the cash conversion cycle (CCC) to minimum level (Deloof, 2003). Thus, it is obvious from the above discussion that the purpose of financial gain and liquidity need to be aligned.

The above discussions on the WCM significance, its constituents, significance and effects on the firms' profitability guide this study in the development of the main objective. Hence, the aim of current study is to empirically evaluate the impact of the WCM and its component, namely ACP, ICP, APP and CCC, on the firms' profit. In-fact this research will inform the firms' managers that how they can improve their firms' profit through the better handling of WC. The significance of current paper is stem from the dearth of research in this area in Pakistan particularly in the recent period. To achieve the purpose, the current paper is organized into five sections; where the first section is comprised of introduction, second section reviews the previous literature followed by the methodology, results analysis and conclusion.

Literature Review

Numerous studies (such as Rahman & Nasr, 2007; Afza & Nazir, 2007; Lazaridis & Tryfonidis, 2005) reported substantial association among WCM and firms' profit. However, their results differ on the nature of association exist among WCM and firms' profit. Shubita (2013) stated negative relation between the working capital components and profit for Jordanian listed firms. Net Trade Credit (NTC) was used as

an indicator for WCM in Shubita study. Likewise, Lyroudi et al. (1999) reported substantial negative relation among the WCM and the firms' profit for London based companies. They measure the profitability through return on equity, net income ratio and assets-return ratio while variables were the cash conversion cycle (CCC), current ratio (CR) and quick ratio (QR). The CCC, CR and QR were used as the indicators of liquidity which were negatively associated with the profitability. These studies show similar results to that of Napompech (2012) who also revealed that the CCC is in negative relation with the firms' profit.

In case of Belgium listed firm, Svensson (1997) reported positive association of firms' profit with the CCC, despite that seventy-five per cent of firms offered three percent off on early payment. Thus, suggest that firms prefer not to avail the discount on payment. However, Deloof (2003) reported signification negative relation amongst working capital components (ARP, ICP and APP) and firms' profitability for the Belgium listed firms. Thus, suggest that managers in Belgian firms can enhance shareholder gain by minimizing the ACP and ICP. It also suggests that long account payable period reflect negative information about the firms' profit as the firms' is taking long to pay its dues.

In case of Saudi Arabia listed firms, Eljelly (2004) demonstrated that cash is a good predictor of liquidity than current ratio because of later sensitivity to firms' profit. The study findings also exhibited that size of the firm is in significant positive association with the firm profit. Teruel and Solano (2007) examine the data of 8,872 small and medium enterprises in Spain for a period of six years. The study employed panel regression technique to examine the impacts of WCM on the profit of the SME. Their findings reveal that manager can improve the firms' profit by keeping the inventory level and the APP to the minimum level. Furthermore, the results reported that SME firms' in Spain can gain more profit by lessening the CCC in consistent with the findings of Shubita (2013) and Deloof (2003). Similarly, Afza and Nazir (2007) reported that firms profit is in significant negative association with management aggressiveness in working capital investment for the Pakistani listed firms in line with the outcomes of Shah and Sana (2006). They suggested that Pakistani firm should maintain conservative policy toward working capital investment as high investment in short term assets restrict firms' ability to sustain operation.

Likewise, Sagher et al. (2011) reported that CCC is in negative relation with the firms' yield. In another study, Hoang (2015) used the CCC as an indicator of WCM and ROA as an indicator of company profit. The outcome of Hoang research also demonstrated significant negative relation among CCC and the ROA for the companies listed in Vietnam. In addition, Hoang used net trading cycle as another proxy for the measurement of WCM, but it also reported significant negative association with ROA. However, in case of US listed firm, Shin and Soenen (1998) verified significant positive relation amongst the net trading cycle and the firms' yield. In a nutshell, above studies implied that the country business culture has an effect on the nature of association among WCM and firm profit.

Overall, the review of the above studies provides us a better understanding on the WCM, its elements and its influence on the firms profit. Moreover, after critically evaluating the above literature review, it is clear that the WCM is significantly negatively allied to the firms' Performance. In light of that the following hypothesis is derived from the above literature review which will be tested with respect to non-financial firms listed on the Pakistani stock exchange;

H_1: WCM is significantly negatively associated with the firms' profit

Methodology

The purpose of current research is to examine the association amongst the WCM, and firms profit registered on the stock exchange of Pakistan over the year from 2011 to 2016. The study is quantitative in nature as it will evaluate the secondary data obtained from the financial statements of companies. The study employed pooled regression model to analyze the data which is collected across the companies and over the time period of six years. However, to achieve the robustness in the results, the study also uses Pearson correlation matrix. The study used E-view to run the statistical test and to estimate the regression parameters. Afterwards this section discusses the Data and sample, model specification and the variable construction.

Data and Sample

This research shortlisted only non-financial firms registered on the Pakistan stock exchange whose data is available over the year from 2011 to 2016. The motive for choosing the registered firms' on PSX is the provision of access to registered firms' financial statements. Second reason is that listed firms disclose all information and are

audited by independent external auditors as per the Pakistani stock exchange listing requirements. But in case of non-listed firms', un-verified financial information may be made part of financial reports and may exaggerate their financial position (Lazaridis & Tryfonidis, 2007). The study is extracted from the audited annual financial statements of the firms' over the period from 2011 to 2016. The reason for selecting the mention period is to analyze the latest data available. In addition, the study removes those firms from the sample whose data were not available for the selected time period; firms with negative net income and negative equity; firms' that merge or delisted during the study time period (Afza & Nazir, 2008). As a result, the sample size reduced to 73 from the initial 100 non-financial firms listed on the PSX. The shortlisted sample generate 438 observations over the period from 2011 to 2016. Furthermore, the sample is restricted to the manufacturing firms' due to similarity in the nature of their activities such as their current assets consist of receivables, raw stock, work in process and finished goods. Thus, ensuring the homogeneity in the type of data required for pooled regression.

Model Specification

The study employed Pearson correlation matric and pooled regression method to gauge the level of association and causal association among the firms' profit and the WCM. The model employed firms' profit as explained variable, working capital management as explanatory variable and firm size and firm leverage as controlling variables. WCM is selected as explanatory variable because of its power to effect the firm profit. While firm size and firm leverage are controlled due to their influence over the firms' working capital policies. The study employed pooled regression model due to the time series and cross-sectional dimension of the data. Due to use of two proxies for firm profit (ROA & ROE), the models are numerically expressed as below;

Model No. 1: In the firs model, return on asset (ROA) is employed as a measurement of firms' profit. WCM is estimated through the cash conversion cycle which is comprised of ACP, ICP and APP. All three constituents of CCC are used separately as explanatory variable to examine its association with ROA in individual capacity as mentioned below. The purpose is to inform the firms' management about

the component they should focus more to accomplish optimum state of working capital and profit (Hoang, 2015). Numerically the models are expressed as below;

$$1a.\ ROA_{i,t} = \beta_0 + \beta_1 ACP_{i,t} + \beta_2 Size_{i,t} + \beta_3 Lev_{i,t} + \epsilon \quad (1)$$

$$1b.\ ROA_{i,t} = \beta_0 + \beta_1 ICP_{i,t} + \beta_2 Size_{i,t} + \beta_3 Lev_{i,t} + \epsilon \quad (2)$$

$$1c.\ ROA_{i,t} = \beta_0 + \beta_1 APP_{i,t} + \beta_2 Size_{i,t} + \beta_3 Lev_{i,t} + \epsilon \quad (3)$$

$$1d.\ ROA_{i,t} = \beta_0 + \beta_1 CCC_{i,t} + \beta_2 Size_{i,t} + \beta_3 Lev_{i,t} + \epsilon \quad (4)$$

Model No. 2: In the second model, return on equity is employed as a proxy of firms' profit. The numeric description is as below;

$$2a.\ ROE_{i,t} = \beta_0 + \beta_1 ACP_{i,t} + \beta_2 Size_{i,t} + \beta_3 Lev_{i,t} + \epsilon \quad (5)$$

$$2b.\ ROE_{i,t} = \beta_0 + \beta_1 ICP_{i,t} + \beta_2 Size_{i,t} + \beta_3 Lev_{i,t} + \epsilon \quad (6)$$

$$2c.\ ROE_{i,t} = \beta_0 + \beta_1 APP_{i,t} + \beta_2 Size_{i,t} + \beta_3 Lev_{i,t} + \epsilon \quad (7)$$

$$1d.\ ROE_{i,t} = \beta_0 + \beta_1 CCC_{i,t} + \beta_2 Size_{i,t} + \beta_3 Lev_{i,t} + \epsilon \quad (8)$$

Construction of Variables

This study has employed number of variables to test the hypothesis. Firms' performance is employed as explained variable and is calculated through two proxies which are return on assets (ROA) and return on equity (ROE). Numerically it is expressed as below (Ross et al., 2001);

$$Return\ on\ Equity = Net\ Income/Total\ Equity \quad (9)$$

$$Return\ on\ Assets = Earning\ before\ intrest\ tax/Total\ asset \quad (10)$$

WCM is selected as explanatory variable and is estimated through four different proxies which are ACP, APP, CCC and ICP. ACP, ICP, APP are estimated in line with the study of Haider and Azam (2011) and CCC is estimated as per the method of Deloof (2003) and are numerically expressed as follow;

$$Average\ collection\ period = (Average\ account\ receivable * 365)/(Net\ sales) \quad (11)$$

$$Inventory\ collection\ period = (Average\ Investnory * 365)/(Net\ sales) \quad (12)$$

$$Average\ Payment\ Period = (Average\ account\ Payable * 365)/(Net\ sales) \quad (13)$$

$$Cash\ Conversion\ Cycle = ARP + ICP - APP \quad (14)$$

Firms' size and firms' leverage are used as controlling variables because working capital requirements get significantly affected by firms' size (Chiou et al., 2006). The smaller is the size of firms' the lesser will be the accounts receivables and inventories and greater access to suppliers' credit. This will result in lower cost of short-term financing and generation of high profit for the firms. Thus, it can be concluded that firms' size may affect the firms' performance and is therefore treated as control variable (Hassan et al., 2014). The size of the firm is estimated as the natural logarithm of sales (as measured by Deloof, 2003) and is numerically expressed as below;

$$Firm\ Size = Natural\ logarithm\ of\ Net\ Sales \quad (15)$$

To neutralize the effect of debt utilization, this study used the leverage as control variable. It is reported in literature that the firms working capital management increase the leverage (Chiou et al., 2006) and firms' using loan may face bankruptcy risk compared to those with no debt financing (Hassan et al., 2014). It is numerically expressed as below (Ross et al., 2001);

$$Leverage = Debt / Asset \quad (16)$$

Empirical Results

This section is comprised of the statistical description of the variables and the detail analysis of the results estimated through the Pearson correlation matrix and the regression.

Descriptive Statistics

Below Table 1 depicts the statistical description of variables employed in the regression estimates. As visible in the below table that the statistics of observations are same across the variables which is 438 in number; therefore, the data is declared as balance panel data. The statistics mentioned in the table 1 shows that the ROA mean is 7.15 and std. deviation is 2.11. It indicates that on average ROA can deviate from mean value by 2.11. The value of skewness is 0.48 which suggest that the data is symmetrical, while kurtosis is recorded as 0.12 indicating that the distribution is meso-kurtic. Research suggest that kurtosis in the range of +3 to -3 is considered as symmetric distribution (George & Mallery, 2010). Similarly, the ROE average value

is reported as 2.64 with a std. deviation of 3.86 implied that the sample firms generate diverse return on equity. The value of skewness is -3.24 which indicate that the observations are skewed to right and value of kurtosis is 4.08 indicating that the data is less spread. Moreover, it can be seen in the table 1 that on average Pakistani firms' take 23 days to collect their receivables from the costumers. The shortest period taken by the firm in converting their receivable in cash is 13 days and the highest days taken by the firm is 118. It should be noted that firms having problem in converting their receivable into cash often get into liquidity problem due to non-availability of funds. The value of skewness is 8.79 indicate that the observations are skewed to right and kurtosis has value 4.40 which means the observations are spread less.

Moreover, interestingly on average Pakistani firms get 117 days to transform inventory into sales with the shortest ICP of 109 days for a firm. This is alarming as greater is the days required to transform the inventory into cash the greater is the chances of liquidity risk. However, low inventory conversion period reflects good sign of business. Skewness of ICP is reported as 7.95 indicating that the data is skewed to the left and kurtosis value is 4.53 suggesting that the data is leptokurtic. It can be seen in the table 1 that on average firms take 62.47 days to make payments for their purchases. The results also indicate that majority of the APP values lies above and below the mean value of 3.3, thus pointing to moderate spread of data from the mean. The skewness recorded a value of 6.31 suggesting that the data is skewed to left and kurtosis value is 4.02 indicating that the data is less spread.

Table 1 Descriptive Statistics

Variables	N	Minimum	Maximum	Mean	Std. Dev	Skewness	Kurtosis
ROA	438	-18.48	1.49	7.15	2.13	0.48	0.12
ROE	438	-14.58	0.38	2.64	3.86	-3.24	4.08
ACP	438	13	118.1	23.20	4.65	8.79	4.40
ICP	438	109	1798	117.72	4.81	7.95	4.53
APP	438	58	924.5	62.47	3.31	6.31	4.01
CCC	438	34	935.8	78.46	4.59	4.28	3.22
Size	438	11.90	18.77	15.65	1.30	-0.14	-0.16
Lev	438	0	88.9	1.64	2.03	7.39	4.92

Note: Descriptive statistics of 438 observations

Also, the table 1 represents that on average Pakistani firms' take 78 days to transform cash into inventory and account payable then into account receivable and back to cash, suggesting weak effectiveness of a company management. Interestingly,

the study sample reported a standard deviation of 4.59 days for CCC, suggesting that most of CCC values are clustered around the mean. The skewness for the CCC is 4.28 suggesting that the data is skewed to left and kurtosis value is 3.22 indicating that the data is meso-kurtic. Likewise, the descriptive statistics for firms' size suggest that on average the size of the Pakistani firms' is 15.65 and have std. dev of 1.30. Thus, suggest that the sample firms are of same size. The value of skewness is -0.14 indicates that the distribution is skewed to right and the kurtosis value is -0.16 which refers to the distribution as platy-kurtic. The value of the leverage on average is reported as 1.64 with a std. dev of 2.03. It means that most of the sample firms carry similar liquidity risk. The skewness value is 7.39 indicates that the distribution is skewed to left. While the kurtosis value is 4.92 which indicate that the distribution is lepto-kurtic.

Multicollinearity Test

Correlation among two or more explanatory variables in the regression is referred as multicollinearity (Gujarati and Portel, 2009). When the explanatory variables are correlated, it exaggerated standard errors, reduces the P-values for estimated coefficients and leads to the conclusion that both slope and coefficients are statistically insignificant despite having high R-square (Gujarati & Portel, 2009). The study employed Variance Inflation Factor (VIF) and tolerance test to spot the multicollinearity among explanatory variables. Researcher suggest that a VIF value of greater than 10 and less than 0.10 indicates the presence of multicollinearity. Likewise, the tolerance value should be greater than 0.2 as tolerance value of less 0.2 will reflect collinearity in the data (Baltagi, 2008). Therefore, considering the VIF value in below table 2, multicollinearity is rejected for the model explanatory variables and the coefficient estimates of the regression model will be considered free of biasness.

Table 2 VIF Test

Variables	**Collinearity Statistics**	
	Tolerance (1/VIF)	**VIF**
ACP (a)	0.982	1.02
ICP (b)	0.95	1.1

APP (c)	0.9	1.12
CCC (d)	0.96	1.04
Size (a)	0.97	1.01
(b)	0.94	1
(c)	0.8	1.1
(d)	0.97	1.034
Lev (a)	1	1
(b)	0.99	1.001
(c)	1	0.9
(d)	0.9	1.01

Note: Size and Lev (a), (b), (c) and (d) represent collinearity value of those variable with respect to change in component of working capital management of ACP (a), ICP (b), APP (c) and CCC (d).

Multivariate analysis

Two multivariate distribution techniques are employed to empirically examine the association of the WCM with the firms' performance which are explained as below;

Pearson Correlation Matrix

A Pearson correlation matrix is employed to analyze the correlation among the WCM components and the firms' profit. Table 3 present the results of Pearson's correlation of coefficient matrix. As can be seen in the below table that the ACP, ICP and APP are inversely related to the ROA in a significant manner. It means that any upsurge in the component of WCM will significantly lessen the firms' profit. Also, CCC, (a proxy for WCM), is significantly negatively associated with the ROA. Thus, confirming the main hypothesis of the study that WCM is in significant relation with the firms' profit. Furthermore, the controlling variables of firm size generate significant positive coefficient and financial leverage reported significant negative coefficient. Thus, suggest that large the size of firms' the higher is the return on assets and lower is the firms' leverage the higher is the return on assets. The reason for such findings is that less income will be utilized against the payment of interest, hence will result in high net profit.

However, in case of ROE, among WCM components only ICP reported significant negative correlation at the P-value of 0.04. Thus, agree with the results of return on

assets that high profit attainment is possible through the decrease of inventory conversion period. Moreover, CCC reported significant negative correlation with ROE; confirming the main hypothesis of current research. In simple words, firms' profit can be improved by reducing the CCC period. In case of controlling variables, firms' size reported significant positive correlation with ROE. But leverage reported insignificant negative correlation with return on equity in contrary to the significant coefficient reported in case of return on assets. Also, it can be concluded from the results, that the correlation amongst the WCM proxies and firms' profit doesn't reciprocate each other to the full extent. As coefficient of correlation in table 3 demonstrate that none of the explanatory variables reported strong correlation as no value of correlation coefficient is found near 1 or -1. Thus, confirms' that each variable can be measured in isolation and there is no problem of multi-collinearity among explanatory variables in line with the VIF test (Baltagi, 2008).

Table 3 Correlation Matrix

		ROA	ROE	ACP	ICP	APP	CCC	Size	Lev
ROA	Pearson Correlation	1							
ROE	Pearson Correlation	0.40**	1						
ACP	Pearson Correlation	-0.14**	-0.05	1					
ICP	Pearson Correlation	-0.14**	-0.09*	-0.08	1				
APP	Pearson *++Correlation	-0.17**	-0.06	0.48**	0.67**	1			
CCC	Pearson Correlation	-0.2**	-0.12**	0.60**	0.65**	0.58**	1		
Size	Pearson Correlation	0.3**	0.14**	-0.13**	-0.23**	-0.32**	-0.18**	1	
Lev	Pearson Correlation	-0.13**	-0.06	0.01	0.02	0.01	0.03	0.01	1

Note: Double steric ** and Single steric represent correlation significant at P-value of 0.01 level and 0.05 (2-tailed)

Regression Estimates

In this part, the study regresses the constituents of WCM (which are ACP, ICP, APP and CCC) one by one against the firms' profit (which are ROA and ROE) along with the controlling variables of firms' size and leverage (as used by Chiou et al., 2006). Among the components of WCM, CCC represents most inclusive measure of WCM. Therefore, the main hypothesis of this study will be tested on the predictive power of CCC for firms' profit. The need for regression estimated arise to answer the shortcomings of Pearson correlation matrix which only measure the nature of

relationship among variables but not the predictive ability of determinants. The results from the two regression models are presented in below table 4.

Table 4 Results from the Regression

D.V	C	ACP (I.V)	ICP (I.V)	APP (I.V)	CCC (I.V)	Size (C.V)	Lev (C.V)	F-Stat	R2
1a. ROA	-20.5***	-0.008**				1.12*	-0.14**	18.9***	0.11
1b. ROA	-19.8***		-0.005			1.03	-0.09**	17.7***	0.17
1c. ROA	-18.7***			-0.01**		0.9**	-0.31**	18.04***	0.13
1d. ROA	-18.5***				-0.014**	1.2***	-0.5*	20.6**	0.09
2a. ROE	-25.4**	-0.015				0.9**	0.09	6.9*	0.11
2b. ROE	-16.6*		-0.03			1.5*	-0.18	5.8*	0.06
2c. ROE	-13.7**			-0.013		0.4	-0.07	5.4*	0.057
2d. ROE	-24.4*				-0.05*	0.09*	-0.14*	8.4*	0.16
Observations		438	438	438	438	438	438		

Note: Coefficient are declared significant at P value of 0.05*, 0.025** and 0.000***.

While referring to the results of model 1 in table 4, it can be observed that ACP, APP and CCC reported significant negative coefficient which confirms' their significant power to predict the firms' profit in case of non-financial firms listed on PSX. It means that for every additional unit to the ACP, APP and CCC will result in decrease of 0.008, 0.01 and 0.0144 units in ROA. The CCC denotes the measure of the management of working capital is most comprehensive manner. Therefore, considering the coefficient of CCC, the study accepts the main hypothesis that is WCM is in significant negative relation with the firms' profit as per the outcomes of Mengesha (2014). Thus, suggest that lower CCC is related with high profit. However, the results might be affected due to negative coefficient of either ARP or APP. Furthermore, the results also maintain that firms with low ACP and APP have more efficient WCM in agreement to the previous findings (such as Raheman & Nasr, 2007; Mengesha, 2014). In short, any increase or decrease in ARP and APP will result in significant decrease or increase in the firms' profit.

Besides, the coefficient of firm size is reported significant negative in each regression estimates of model 1 such as in case of ACP, APP and CCC a coefficient of 1.12, 0.9 and 1.2 is reported significant at P-value of 0.05 and 0.025. Thus, suggest that larger is the firms' size the lower will be its ACP, APP and CCC. On the other hand, Leverage, which is also used as controlling variable, reported significant positive coefficient in relation to ROE in all regression estimates and reported a coefficient of 0.14, 0.09, 0.31 and 0.5 in case of ACP, ICP, APP and CCC. It means that firms with low debt to equity ratio are likely to have more cash available for productive activity due to less expenses in the form of interest payments. Furthermore, table 4 exhibit that F-statistic is significant for all the regression runs in case of model 1. It means that all the coefficient in the respective regression sub-models (such as a, b, c and d) are different than zero which confirms' the explanatory power of the explanatory variables (ACP, APP and CCC). Likewise, adjusted R-square reported a value of 0.11, 0.17, 0.13 and 0.09 in case of sub-model 1a, 1b, 1c and 1d. It means that 11%, 17%, 13% and 9% of the variance of ROA are determined by the ACP, ICP, APP and CCC.

In the second regression, ROE is again individually regress against the ACP, ICP, APP and CCC while maintaining the firms' size and leverage variables as constant. On contrary to the sub-model 1, results reported insignificant coefficient for ACP, ICP and APP. However, in line with model 1d, CCC reported significant negative coefficient of 0.05 in model 2d. Hence concluded three findings; first it suggests that CCC has significant power to predict the firms' profit, therefore accept the main hypothesis. Second it can be ascertained that results in model 1d didn't get effect on account of the findings of WCM component in model 1a and 1c. Third, it also suggests that model 2d confirms' the findings of model 1d and considered the results as robust. Like model 1, the controlling variable of size reported significant positive association with ROE in case of model 2a, 2b and 2c. However, in contrary to model 1, leverage provide significant negative coefficient only in case of sub-model 2d; thus, confirming the result of model 1d

Conclusion

The purpose of this paper is to provide a conceptual understanding to the academia and the firms' management that working capital has serious implication for the firm;

thus, required appropriate attention to realize high profit. To take account of this, the study examined the predictive power of the constituents of the WCM against the firms' profit. After analyzing the data through two multivariate techniques, which are Pearson correlation matrix and pooled regression, this study documented number of findings. First, the results reported significant negative relation amongst the constituents of WCM and the return on assets. Such as both Pearson correlation matric and regression models reported significant negative association of ACP, APP and CCC with return on assets. However, in case of ROE proxy only CCC reported significant negative coefficient in both techniques of Pearson correlation matric and regression model. Second, diverse findings are reported for the two proxies of firms' profit (ROA and ROE) in terms of their association with the components of WCM. Despite, the outcomes reported substantial negative association of CCC with both ROA and ROE. Thus, suggest robustness in results as similar results are achieved through Pearson correlation matrix and regression model 1d, 2d. It also means that the CCC is the most inclusive measure of WCM and has substantial ability to determine the firms' profit. Third, the null hypothesis state rejected on the basis of the results which shows that CCC is substantially related with the firms' profit. It means that non-financial Pakistani listed firms' can boost their profit by maintaining the minimum CCC. Fourth, significant positive association is reported between firms' size and its profit; thus, implied more profit for big firms than small firms for Pakistan based firms. Fifth, the results reported substantial negative relation amongst the firms' profit and its leverage in accord with the claim of pecking order theory. This theory implies that high level of debt results in low profit, thus suggest negative association among the debt level and firms' profit. It does make sense as firms with high level of debts may end up paying most of their income in paying the interest expense and leaving less net income for dividend.

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