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Working Capital Management and Financial Performance: Evidence from Non - Financial Firms Listed in Nepal Stock Exchange Limited

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ABSTRACT

Purpose: *This study examines the impact of working capital management on the financial performance of the non-financial firms listed on the Nepal Stock Exchange (NEPSE).*

Design/Methodology/Approach*: The study is based on panel data analysis of 23 non - financial firms listed in NEPSE from 2001 to 2018 with 194 firm-year observations. When the return on assets (ROA) is used as a dependent variable, the Hausman Test and Wald Test suggest that a Fixed Effect Model (FEM) is acceptable, whereas Random Effect Model (REM) is appropriate when the return on equity is used as a dependent variable.*

Findings: *The results reveal that longer receivable conversion period and inventory conversion period negatively affect the financial performance of non-financial firms. In addition, a longer payable deferral period negatively affects the return on equity of non-financial firms in Nepal, indicating that firms can reap profit by reducing the deferral period. Finally, the study shows a statistically significant relationship between the cash conversion cycle and return on assets.*

Research Limitations/Implications*: The research is based solely on secondary data. As a result, the study contains all of the drawbacks that come with financial statements in annual reports.*

Practical Implications*: The findings of the study will help owners and financial managers in better understanding the relationships between working capital management and financial performance of the firms, as well as formulating firm-specific working capital policies. Moreover, research scholars will benefit from this study as it aims to add to the existing literature by enhancing knowledge of the impact of working capital management on financial performance.*

Originality/Value: *This is an original research study and examines the relationship between working capital management and financial performance of non-financial firms listed in NEPSE.*

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Introduction

Working capital (WC) is the amount of funds available to the business organization for managing the day-to-day cash requirements for smooth business operations (Singh & Pandey, 2008). In other words, working capital refers to the firm's holding of current assets which can be converted into cash within a year. The current assets include items such as cash and marketable securities, accounts receivables, inventory, prepaid expenses, and short-term investments. Essentially, a firm's ability to manage the amount resulting from the difference between short-term assets (current assets) and short-term liabilities (current liabilities) is called working capital management (WCM). The difference between the two is referred to as networking capital (NWC). NWC capital measures a firm's capacity to finance its short-term obligations and ensures the liquidity of firms and the availability of capital required for daily business operations.

WCM is one of the most decisive factors for maintaining a firm's liquidity, solvency, and profitability (Mukhopadhyay, 2004). Since, poor management of WC negatively affects a firm's liquidity, profitability, and growth, WCM is a major financial issue for financial managers. It is, thus, a crucial part of financial management and contributes to a firm's wealth management (Raheman & Nasr, 2007). The WC is the major component of a firm's balance sheet that provides insights into a firm's financial performance. Hence, it is also an important tool for investors for making financing decisions.

WCM is equally important for all business firms, regardless of their nature or sizes. Firms need to maintain an optimal level of WC as effective WCM significantly affects the firm's liquidity and profitability (Shin & Soenen, 1998; Deloof, 2003).

The empirical shreds of evidence indicate that the optimum level of working capital maximizes the returns or profitability of the firms. However, many small businesses fail to have adequate WC (Rafuse, 1996). The underinvestment in short-term resources could lead to liquidity crunches, and stock out the problem which eventually, results in the firm's insolvency. Conversely, excessive WC negatively affects a firm's profitability due to the increased cost of maintaining current assets. Hence, the study of working capital management is part and parcel of the overall management of business organizations (Paramasivan & Subramanian, 2009).

A plethora of studies on WCM has been carried out in both developed and underdeveloped countries like the United States of America (USA), United Kingdom, Canada, Belgium, India, Pakistan, Turkey, Taiwan, Thailand, Nigeria, and Nepal, etc. The findings of the majority of these studies show that WCM has a significant impact on a firm's profitability. However few studies also show different results in regard to their relationship based on country and market.

Asaduzzaman & Chowdhury (2014) found a significant relationship between WCM and profitability of Bangladeshi Textiles firms. A significant negative association between payable deferral period (PDP) and profitability was found, while other components indicated a positive correlation with firms' profitability. Additionally, Rheman and Nasr (2007) observed a negative relationship between the cash conversion cycle (CCC) and its components. The study also showed a significant inverse relationship between corporate debt and liquidity with profitability. Finally, the study showed a significant relationship between firm size and profitability.

Nobanee et al. (2011) demonstrated a negative relationship between the cash conversion cycle (CCC) and the return on equity (ROE), except for the consumer goods and service sector. Likewise, Mohamad & Saad (2010) found a negative relationship between WCM components and profitability. However, they concluded a significant positive relationship between the current assets to total assets ratio and firms' profitability.

Sharma and Kumar (2011) found a negative relationship between the number of days of account payable (PDP) and profitability. The negative relationship indicated that highly profitable firms tend to pay their bills early as compared to less profitable firms. Similarly, the study found a negative correlation between return on assets (ROA) and the number of days in inventory (ICP). However, ROA was positively correlated with the cash conversion cycle (CCC) and the number of days accounts receivable (RCP). Furthermore, the study showed that ROA was negatively associated with a firm's size, growth, and leverage, whereas a positive correlation was found between ROE and the current ratio.

WCM issue is pervasive among non-financial firms around the world. In Nepal, researchers have analyzed WCM in different ways. While some studied the impact of cash and inventory management, others analyzed the management

of accounts receivables and working capital practices by Nepalese firms. In Nepal, major studies available are a) the demand for working capital by Nepalese corporations (Pradhan, 1986) cash management in Nepalese manufacturing enterprises (Sharma, 2015), and c) cash management in Nepalese enterprises (Poudel, 2012).

The major objective of the study is to examine the impact of WCM on the financial performance of non-financial firms listed on the Nepal Stock Exchange. Particularly, it investigates the impact of inventory conversion period (ICP), receivable conversion period (RCP), payable deferral period (PDP), cash conversion cycle (CCC) on the financial performance of non-financial firms measured by return on assets (ROA), and return on equity (ROE). The study also investigates the relationship between control variables such as firms' size (SIZE), leverage (LEV), and liquidity (LIQ) on the financial performance of the non-financial firms in Nepal.

The remainder of this study is organized as follows; section two discusses the research methodology followed by the presentation of empirical results in section three. Section four discusses the findings of the study, while the fifth section draws conclusions and presents implications of the study.

Research Methodology

The study employs a causal-comparative research design using the purposive sampling technique to gather secondary data of 23 non-financial firms listed in the Nepal Stock Exchange (NEPSE) for the period between 2001 and 2018. Non-financial firms in this study comprise manufacturing and processing, hydropower, trading, and other industries. The data are gathered from annual reports of selected firms. This study examines panel data of 194 firm-year observations from 23 firms shown in table 1.

Therefore, this study examines panel data from 23 firms with a total 194 firm- year observations.

The Model: The study examines the impact of fundamental variables such as ICP, RCP, PDP, and CCC on performance variables such as ROA, and ROE. SIZE, LEV, and (LIQ) are control variables. The following regression equations are estimated using FEM and REM based on Hausman Test and Wald Test.

Fixed Effect Models

$$ROA = \alpha i + \beta 1\ ICPit + \beta 2\ RCPit + \beta 3\ PDPit + \beta 4\ SIZE\ it + \beta 5\ LEVit + \beta 6\ LIQit + \varepsilon i$$

$$ROE = \alpha i + \beta 1\ ICPit + \beta 2\ RCPit + \beta 3\ PDPit + \beta 4\ SIZE\ it + \beta 5\ LEVit + \beta 6\ LIQit + \varepsilon i$$

Random Effect Models

$$ROA = \alpha + \beta 1\ ICPit + \beta 2\ RCPit + \beta 3\ PDPit + \beta 4\ SIZE\ it + \beta 5\ LEVit + \beta 6\ LIQit + Wit$$

$$ROE = \alpha + \beta 1\ ICPit + \beta 2\ RCPit + \beta 3\ PDPit + \beta 4\ SIZE\ it + \beta 5\ LEVit + \beta 6\ LIQit + Wit$$

Where ROA is return on assets; ROE is return on equity; ICP is inventory conversion period; RCP is receivable conversion period; PDP is payable deferral period; CCC is cash conversion cycle; SIZE is log of total assets; LEV is leverage, LIQ is liquidity and εi represents error term; "i" is the number of companies and "t" is the time period for the variables. The cash conversion cycle is represented by CCC (RCP + ICP - PDP) which is used as a comprehensive measure of WCM (Deloof, 2003; Sharma & Kumar, 2011). W_{it} = composite error term $= \varepsilon_i + U_{it}$. The composite error term W_{it} consists of two components i.e. εi which is the cross section or companies specific error component, and U_{it} is the combined time series and cross section error components (Gujrati *et al*., 2009).

Analysis

Descriptive Analysis

The descriptive statistics of dependent variables, independent variables, and control variables are presented in table 2.

Table 2 shows the minimum and maximum values of the distribution of ROA range from -43.83 percent to 40.54 percent of total assets. The mean value and median value of ROA is 7.05 percent and 6.23 percent respectively with a standard deviation of 10.60 percent. ROE has a minimum and maximum values range from -97.97 percent to 65.96 percent of total equity. The mean value and median value of return on equity are 12.29 percent and 11.42 percent respectively with a standard deviation of 21.65 percent. ICP ranges from 0.00 to 454.01 days. Firms have a mean ICP of 70.11 days meaning that it takes on average 70 days to convert inventories into finished goods and sell it. The median value is 51.62 days. The variable has standard deviation of 78.25 percent. The average RCP of firms is 63.22 days which indicates that firms receive payment on sales after an average of 63.22 days (the median is 48.63 days). The firms have a minimum RCP is

0.42 days and maximum value is 435 days. The standard deviation of the variable is 59.85 percent. The minimum and maximum value of PDP range from 0.00 days to 779.40 days. The

Table No. 1: Non- Financial enterprises selected for the study

S.N.	Industry	Name of the Company	Period	Observations
1	Hotel	Soaltee Hotal Ltd.	2009- 2018	10
		Taragaon Regency Hotel Ltd.	2010- 2018	9
		Oriental Hotels Ltd.	2010- 2018	9
		Yak and Yeti Hotel Ltd.	2009- 2017	9
2	Manufacturing and Processing	Bottlers Nepal (Terai) Ltd.	2011- 2018	8
		Unilever Nepal Ltd.	2010- 2017	8
		Himalayan Brewery Ltd.	2012-2016	5
		Himalayan Distillery Ltd.	2001- 2018	18
		Nepal Lube Oil Ltd.	2011- 2018	8
		SHIVAM CEMENTS Ltd.	2014- 2018	5
		ShreeRam Sugar Mills Ltd.	2010- 2016	6
		Nepal Bitumen and Barrel Udyog Ltd.	2011- 2014	3
3	Trading	Salt Trading Corporation Ltd.	2010- 2017	8
4	Hydro Power	Arun Hydro Power Ltd.	2009- 2018	10
		Butwal Power Company Ltd.	2007- 2018	12
		Chilime Hydro Power Company Ltd.	2006- 2018	13
		National Hydropower Company Ltd.	2008- 2017	10
		Ridi Hydropower Ltd.	2011- 2018	8
		Sanima Mai Hydro Power Company Ltd.	2014- 2018	5
		United Modi Hydro Power Ltd.	2014- 2017	4
		Synergy Hydro Power Ltd.	2012- 2016	5
		Nepal Hydro Developer Ltd	2013- 2016	4
5.	Telecom	Nepal Telecom Ltd.	2002- 2018	17
		Total number of observations		194

mean value of the variable is 84.22 days which means that it takes the firms on an average 84.22 days to pay its bills of purchase (the media is 47.40 days). The standard deviation of payable deferral period is 117.78 percent. The CCC variable has minimum and maximum values range from -710.91 days to 505.25 days. The mean value of the CCC is 49.10 which imply that the firms need approximately 49 days to collect it cash back once it is paid for the purchase of raw materials. The average liquidity ratio of firms is 2.49 times indicates that current assets are approximately 2.5 times higher than current liabilities. The median is 1.00. The variable has minimum and maximum values of 0.18 times and 44.40 times respectively. The standard deviation is 5.15 percent. The mean value of leverage is 0.97 times which indicates that firms have used maximum debt. The proportion of total debt is approximately near to total assets of the firms (The median is 0.66 time). Hence, the firms are highly leveraged. The variable has minimum and maximum value of 0.02and 7.03 times respectively and standard deviation of 1.09 percent. The mean value of size which is the proxy of total assets of the firms is 9.39 (the median is 9.29) with standard deviation of 0.61 percent. The minimum and maximum values range from 8.31 to11.13 respectively.

Correlation Analysis:

The results of Pearson correlation coefficients are presented in table 3.

The table 3 presents Pearson correlation coefficients values which. The table shows negative relation between receivable conversion period (RCP) and dependent variables (ROA and ROE). This negative relationship between profitability (ROA, ROE) and RCP indicates that the shorter average collection time, higher the profitability whereas longer the RCP, lower the profitability of the non-financial firms in Nepal. Likewise, negative relationship has been found between ROA and ICP but the relationship is not statistically significant, and it can be inferred as the organizations with low inventory level will have higher level of profitability. Whereas the positive association between ROE and ICP

can be interpreted as firms with higher inventory levels have more profitability which contradicts general assumptions that lower the ICP, higher will be the profitability. Similarly, the table demonstrates that the profitability is negatively related with PDP. The statistically significant negative relationship between profitability and PDP can be explained as

Table No. 2: Descriptive statistics

Variables	N	Mean	Median	Maximum	Minimum	Std. Deviation
ROA	194	7.05	6.23	40.54	-43.83	10.60
ROE	194	12.29	11.42	65.96	-97.97	21.65
ICP	194	70.11	51.62	454.01	0.00	78.25
RCP	194	63.22	48.63	434.99	0.42	59.85
PDP	194	84.22	47.40	779.40	0.00	117.78
CCC	194	49.10	50.31	505.25	-710.91	158.80
LIQ	194	2.49	1.00	44.50	0.18	5.15
LEV	194	0.97	0.66	7.03	0.02	1.09
SIZE	194	9.39	9.29	11.13	8.31	0.61

Notes: *The table presents the descriptive statistics of the variables used in this study. The data are collected from companies' annual report and NEPSE. The sample contains 23 Nepalese non - financial firms for the periods between the years 2001 and 2018. ROA is the ratio of Net income after tax to total assets, ROE is the ratio of Net income after tax to total equity, RCP is the ratio of total receivable to sales multiplied by number of days in a year, ICP is the ratio of total inventory to cost of goods sold multiplied by number of days in a year, PDP is the ratio of total account payable to cost of goods sold multiplied by number of days in a year, CCC is calculated as RCP + ICP – PDP, Size is the logarithm of total assets, LIQ is the ratio of total current assets to total current liabilities, LEV is the ratio of total debt to total assets.*

Table No. 3: Pearson Correlation Coefficient

Variables	ROA	ROE	RCP	ICP	PDP	CCC	SIZE	LIQ	LEV
ROA	1	0.839	-0.149**	-0.001	-0.290***	0.158**	0.248***	0.133*	-0.308***
		0.000	0.038	0.987	0.000	0.028	0.000	0.065	0.000
ROE		1	-0.096	0.012	-0.345***	0.225***	0.163**	0.038	-0.233***
			0.183	0.871	0.000	0.002	0.023	0.604	0.001
RCP			1	0.081	0.089	0.350***	-0.077	0.025	-0.063
				0.264	0.217	0.000	0.285	0.734	0.382
ICP				1	-0.116	0.609***	0.088	0.299***	-0.009
					0.106	0.000	0.221	0.000	0.904
PDP					1	-0.765***	0.013	-0.168*	0.198***
						0.000	0.859	0.019	0.006
CCC						1	0.005	0.281***	-0.175**
							0.946	0.000	0.015
SIZE							1	.233***	-.215***
								0.001	0.003
LIQ								1	-.232***
									0.001
LEV									1

Notes: *The table presents the Pearson Correlation Coefficient among the variables used in this study. The data are collected from companies' annual reports and NEPSE. The sample contains 23 Nepalese non - financial firms for periods between 2001and 2018. ROA is the ratio of net income after tax to total assets, ROE is the ratio of net income after tax to total equity, RCP is the ratio of total receivable to sales multiplied by number of days in a year, ICP is the ratio of total inventory to cost of goods sold multiplied by number of days in a year, PDP is the ratio of total account payable to cost of goods sold multiplied by number of days in a year, CCC is calculated as RCP + ICP – PDP, Size is the logarithm of total assets, LIQ is the ratio of total current assets to total current liabilities, LEV is the ratio of total debt to total assets. *** Correlation is significant at the 0.01 level (2-tailed). ** Correlation is significant at the 0.05 level (2-tailed), * Correlation is*

significant at the 0.1 level (2-tailed).

Table No. 4: Regression result - Fixed Effect Model					
Dependent Variable:	**Return on Assets**				
Explanatory Variables/ Regression Models:	**Fixed effect with Company Dummy**				
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**
Intercept	88.343 (0.003)	71.082 (0.016)	60.084 (0.040)	67.288 (0.022)	96.463 (0.001)
Size (log total assets)	-6.755** (0.012)	-5.316 ** (0.049)	-4.352* (0.100)	-5.091* (0.059)	-7.419** (0.006)
Liquidity	-0.051 (0.656)	-0.040 (0.733)	-0.063 (0.600)	-0.055 (0.641)	-0.034 (0.769)
Leverage	-1.025 (0.133)	-1.527** (0.029)	-1.271* (0.079)	-1.604** (0.024)	-1.112 (0.117)
Receivable conversion period	-0.033*** (0.000)	-	-	-	-0.031*** (0.001)
Inventory conversion Period	-	-0.030** (0.027)	-	-	-0.023* (0.078)
Payable deferral period	-	-	-0.003 (0.598)	-	-0.002(0.715)
Cash conversion cycle	-	-	-	-0.001* (0.057)	-
Adjusted R^2	0.718	0.705	0.697	0.703	0.703
F Statistics	19.915*** (0.000)	18.753*** (0.000)	18.066*** (0.000)	18.561*** (0.000)	18.785*** (0.000)

Notes: *The table presents the regression results using fixed effect model. The data are collected from companies' annual report and NEPSE. The sample contains 23 Nepalese non - financial firms from 2001 to 2018. ROA is the ratio of Net income after tax to total assets, RCP is the ratio of total receivable to sales multiplied by number of days in a year, ICP is the ratio of total inventory to cost of goods sold multiplied by number of days in a year, PDP is the ratio of total account payable to cost of goods sold multiplied by number of days in a year, CCC is calculated as RCP + ICP – PDP, Size is the logarithm of total assets, LIQ is the ratio of total current assets to total current liabilities, LEV is the ratio of total debt to total assets., *** indicates statistical significance at 0.01(2-tailed), ** indicates statistical significance at 0.05 (2-tailed), * indicates statistical significance at 0.1 (2-tailed). The value in the parenthesis represents "P" value.*

Table No.5: Regression result - Random Effect Model					
Dependent Variable:	**Return on Equity**				
Explanatory Variables/ Regression Models:	**Random Effect Model**				
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**
Intercept	51.341 (0.267)	30.255 (0.506)	19.103 (0.655)	12.154 (0.784)	54.176 (0.222)
Size (log total assets)	-3.665 (0.458)	-1.442 (0.767)	-0.315 (0.945)	0.128 (0.978)	-3.567 (0.451)
Liquidity	-0.173 (0.525)	-0.148 (0.591)	-0.201 (0.461)	-0.204 (0.463)	-0.157 (0.556)
Leverage	-2.804* (0.063)	-3.346** 0.029)	-2.217 (0.146)	-3.023* (0.051)	-2.008 (0. 186)
Receivable conversion period	-0.054** (0.012)	-	-	-	-0.051** (0.017)

Table No.5: Regression result - Random Effect Model					
Dependent Variable:	**Return on Equity**				
Explanatory Variables/ Regression Models:	**Random Effect Model**				
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**
Inventory conversion Period	-	-0.038 (0.147)	-	-	-0.023*** (0.004)
Payable deferral period	-	-	-0.036*** (0.003)	-	-0.034*** (0.004)
Cash conversion cycle	-	-	-	0.007 (0.456)	-
Adjusted R^2	0.035	0.014	0.049	0.007	0.072
F Statistics	2.773 (0.029)	1.685 (0.155)	3.525 (0.008)	1.344 (0.255)	3.511 (0.002)

Notes: *The table presents the regression results using random effect model. The data are collected from companies' annual report and NEPSE. The sample contains 23 Nepalese non - financial firms from 2001 to 2018. ROA is the ratio of Net income after tax to total assets, RCP is the ratio of total receivable to sales multiplied by number of days in a year, ICP is the ratio of total inventory to cost of goods sold multiplied by number of days in a year, PDP is the ratio of total account payable to cost of goods sold multiplied by number of days in a year, CCC is calculated as RCP + ICP – PDP, Size is the logarithm of total assets, LIQ is the ratio of total current assets to total current liabilities, LEV is the ratio of total debt to total assets, *** indicates statistical significance at 0.01 (2-tailed), ** indicates statistical significance at 0.05 (2-tailed), * indicates statistical significance at 0.1 (2-tailed). The value in the parenthesis represents "P" value.*

profitable firms tend to speed up their payment in the expectation of receiving a higher trade discount.

There is statistically significant negative relationship between profitability and leverage. The negative relationship can be interpreted as increased debt resulting in decreased firms' profitability. The results show that the CCC is positively related to the profitability and coefficient values are statistically significant. Furthermore, there is statistically significant positive relation between firm size and profitability which indicates that big companies tend to earn high amount of profit. Finally, there is positive relationship between profitability and liquidity. This implies that profitability and liquidity are positively related.

Regression Results

The study analyzed unbalanced panel data. When the ROA is used as a dependent variable, the Hausman Test and Wald Test suggest that a Fixed Effect Model (FEM) is acceptable, whereas Random Effect Model (REM) is appropriate when the ROE is used as a dependent variable. The regression of working capital components (ICP, RCP, PDP, and CCC) and control variables (SIZE, LEV, LIQ) on financial performance of non-financial firms has been analyzed, and results are presented in table no. 4 and table no. 5.

The table 4 presents the regression results using fixed effect model. The components of WCM in relation to return on assets of 23 non-financial companies have been analyzed for all 194 firm year observations. The coefficient value of RCP is found to be negative and statistically significant at 0.01 level of significance. The coefficients of ICP and size are negative and statistically significant. Additionally, the coefficient value of CCC is negative and statistically significant at 0.10 level of significance. However, the coefficients of PDP, liquidity, and leverage are found to be negative.

In the table 5, it is seen that the beta coefficients of RCP and PDP are statistically significant at 0.05level of significance and 0.01 level of significance respectively, and these variables have negative relationship with ROE. Additionally, the beta coefficients of ICP and CCC are negative. The beta coefficients of size and liquidity are statistically insignificant. Likewise, the coefficient value of leverage is statistically significant at 0.05 level of significance in model 2. However, in model 1 and model 4 the coefficients of variable leverage are statistically significant at 0.10 level of significance. In model 5, the coefficient value of leverage is statistically insignificant.

Results and Discussions

Relationship between Receivable Collection Period and Profitability

The regression results show that there is a statistically significant negative relationship between RCP and profitability measured by ROA and ROE. It can be interpreted as shorter the receivable collection period, higher the profitability of the firms. In contrast, firms taking longer time to collect receivables will yield lower profit. In other words, the results suggest that an increase in account receivable may increase the cost of fund tied up with credit sales and high risk of bad debt. This may ultimately negatively affect the profitability of non-financial firms. The results are in line with the general principle of WCM, which states that firms should aim to collect amount from the customers as quickly as possible while maintaining strong business relationships among customers. Hence, it can be deduced that longer collection period may increase the risk of bad debt and affects the profitability of the firms negatively. However, if firms collect receivables sooner, it will increase the profit of the firms by exploiting the opportunity cost and reducing the risk of bad debt. The result is consistent with the findings of previous studies by Mabandla & Makoni (2019), Rheman and Nasr (2007), Deloof (2003). All these studies have reported a negative relationship between RCP and profitability of the firms.

Relationship between Inventory Conversion Period and Profitability

The coefficient of ICP is negative in case of both dependent variables (ROA and ROE). This statistically significant inverse relationship between ICP and profitability indicates that longer ICP decreases firm's profitability. In other words, in context of Nepal, firms can increase their profit by converting the raw materials into finished goods and selling finished products as soon as possible. In contrast, profit will be decreased if firms take longer time to convert raw material into finished good and sell it. This can be interpreted as firms hold inventory for longer time, the cost of holding inventory goes up and ultimately reducing the firm's overall profit. The result supports the basic theory of WCM that if firms reduce ICP, firms earn higher profit and vice versa. The significant negative relationship between ICP and profitability of the non- financial firms is consistent with the result of the studies previously carried out by Deloof (2003), Rheman and Nasr (2007).

Relationship between Payable Deferral Period and Profitability

The regress results using Random Effect Model suggest that profitability is negatively associated with PDP and the relationship is statistically significant only with ROE at 0.01 level of significance. In other words, longer PDP negatively affects ROE of the firms. Negative association is described as when PDP is increased, it will decrease the profitability of the firms as measured by ROE. This explanation is against the general theory of WCM that longer the PDP, higher the profit of the firms. Hence, the negative relationship can be interpreted alternatively as described by Deloof (2003) that more profitable firms tend to pay their bills fast due to the fact that if firms pay their bills fast they tend to receive huge trade discount. Hence, like in Belgium's firms, in Nepal there can be tendency of exploiting huge discount by paying the bills to the suppliers before the credit period. The alternative explanations or reasons of negative relationship between payable deferral period and return on equity can be a) the owners of businesses wanting to maintain strong corporate relationships with their suppliers for the efficient functioning of their businesses, and the single most important thing they can do is pay their invoices earlier, b) owners wanting to maintain their goodwill in the market especially among suppliers, and c) owners wanting uninterrupted supply of raw materials and other goods used in production process (Carlson, 2019). When production process is hampered by unavailability of raw materials used for production process from supply then the profitability is likely to be affected negatively. Asaduzzaman & Chowdhury (2014), Rheman and Nasr (2007), Mohamad & Saad (2010) have found a negative relationship between PDP and profitability.

Relationship between Cash Conversion Cycle and Profitability

In regression results using fixed effect model when profitability has been measured by ROA, the coefficient value of CCC in Model 4 is negative (0.001) and the coefficient value is statistically significant. Whereas regression results using Random Effect Model when profitability is measured by ROE, the coefficient value in Model 4 is positive and the coefficient value is statistically insignificant. This signifies that the CCC has significant impact on ROA whereas the impact on ROE is statistically insignificant. The significant negative association between CCC and ROA can be interpreted as shorter the CCC higher the profitability of the firms as measured by ROA. Non-financial firms in Nepal attempt to reduce the CCC in order to increase the profitability of the firms. CCC can be reduced by reducing the RCP and ICP that can help to improve the profitability of the firms which is consistent with the general theory of the WCM.

The general theory of corporate finance also suggests that CCC can also be reduced by lengthening the PDP and assets positive relationship between PDP and profitability. However, the finding of this study has shown the negative association between PDP and profitability, therefore shortening the CCC by shortening payment period is irrelevant. The finding of negative relationship between CCC and profitability is consistent with the findings of the research carried out by Rheman and Nasr (2007), and Mohamad & Saad (2010).

Relationship between Control Variables and Profitability

In Nepalese context, significant negative relationship has been found between firms' size measured by total assets and profitability as measured by ROA. This indicates that profitable firms do not tend to increase their assets size, instead they would continue with same size of assets as increase in total assets does not lead to increase in profit of the firms. However, in theory, larger firms tend to earn higher profit in comparison to smaller firms due to economies of scales. Likewise, there is negative relationship between liquidity and profitability of non-financial firms in Nepal. The negative relationship can be explained by the fact that when the current ratio falls, the profitability of the enterprises rises, implying that the more the liquidity in the enterprises, the lower the profitability. Similarly, the negative relationship between leverage and profitability indicates that the high use of debt in the capital structure is associated with low profitability and if firms reduce its proportion of debt in the capital structure it will lead to higher profitability of the firms.

Conclusion

The results reveal that there is a significant negative relationship between RCP and profitability which implies that financial managers can maximize profits for the firms by speeding up the cash collections. The finding is similar to those of Mabandla & Makoni (2019), Raheman and Nasr (2007), Deloof (2003). Similarly, longer ICP is negatively associated with profitability and indicates that firms with high profitability maintain an optimum level of inventory and try to reduce the inventory conversion period. Deloof (2003), Raheman and Nasr (2007), have found the similar relationship between ICP and profitability. The PDP significantly affects the profitability of firms in Nepal and non-financial firms can reap profit by paying the bills to the suppliers as soon as possible. The negative relationship is supported by the findings Deloof (2003). Asaduzzaman & Chowdhury (2014), Raheman and Nasr (2007), Mohamad & Saad (2010), Sharma and Kumar (2011), and Mabandla & Makoni (2019). Finally, the study reveals the significant negative relationship between CCC and profitability. This indicates that financial managers of non-financial firms in Nepal attempt to reduce the length of the CCC to maximize the profitability of the firms. The relationships consistent with the findings of the research carried out by Rheman and Nasr (2007), Mohamad & Saad (2010).

The findings suggest that the managers of non-financial firms in Nepal should strive to reduce CCC to increase the profitability of the firms. Specifically, financial managers should strive to maximize the profitability of the firms by reducing RCP and ICP to the optimum level. However, firms have to pay their suppliers as quickly as possible to ensure higher profit as the study finds a negative relationship between PDP and ROE. The negative relationship is justified by the fact that the single most important thing that businesses can do to maintain good relationships with their suppliers is to pay their bills on time which ensures smooth operations and market goodwill.

The study will help owners and financial managers in understanding the relationships between working capital management and financial performance of the firms, as well as formulating firm-specific WC policies. Moreover, research scholars will benefit from this study as it aims to add to the existing literature by enhancing knowledge of the impact of working capital management on financial performance.

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