

Working Capital Management and Performance: Evidence from Sugar Sector

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Abstract

The purpose of this study is to shed the light on various components of working capital management and how these components influence the financial performance of sugar companies. For this purpose secondary data is extracted from the annual reports of sugar companies listed on Pakistan stock exchange during the period 2008 to 2014. Panel data is used for the analysis. In this study return on asset and return on equity used as measure of profitability and in the working capital management criteria average collection period, average payment period, inventory turnover in days and cash conversion cycle variables are considered. The results show that financial performance of the sugar companies is significantly influenced by working capital management. So fund managers should focus not only the procurement of funds but also deployment of funds should be emphasized in order to create value for the stockholders and profitability in an effective and efficient manner can be result of proper management of working capital.

Introduction

Working capital management (WCM) has a significant position in profitability and liquidity of a company. It is considered very important in financial affairs of the companies. Profitability and liquidity both are the two different sides of the same coin. Bhunia A. (2010) says working capital management means profit and liquidity. Mainly working capital consists of the liquid resources of a company which transforms from one to another during the day-to-day operations of business (Gitman, 2002). Primarily these assets involve cash, short term investments, debtors, inventory and prepaid expenses Ganesan (2007).

Optimization of balance of working capital in an appropriate manner requires reducing the requirement of working capital and generating revenues at highest possible level. There is strong association between performance of a company and efficiency of managing working capital. Lamberson (1995) says that profitability is the capability of a company to earn profits. An increase in the company's profitability is ensured by the appropriate management of working capital. As a result, surplus funds can be utilized in value creating ventures if a firm decreases its current assets 'investment so it can increase shareholders return along with firm's growth opportunities.

Afza et al (2007) argue that working capital management is considered an important issue for a company. Financial executives put loads of struggle for this issue because it has a greater impact on shareholder's wealth. An efficient WCM is considered quite important in value creation for shareholders after the greater analysis by investors and shareholders in erratic times. Moreover, for a small to high flying firm WCM is considered an important source of short term financing as well. In most developing countries, access to financial markets is limited for such firms. To get rid from this constraint, such firms depend on bank loans for short term, trade credits and shareholders' financing (Chittenden et al, 1998 and Saccurato, 1994). Hence, for such firms the

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position of working capital is not just matter of firm specific at internal level but also important risk indicator for creditors (Moyer et al. 1992). Firms can enhance their borrowing capacity, decrease their default risk and able to meet their short term obligations effortlessly if it maintain high amount of working capital and increase in borrowing capacity is an indication of decline in debt cost. Working capital management is not important only for short term but also important for long term financial performance. In short, for both profitability and prosperity of any firms an efficient WCM is crucial.

The study is mainly purposed to investigate the impact of WCM on financial performance by taking a sample of firms from sugar sector listed on Pakistan Stock Exchange. The study is useful for financial affairs of a company as it provides a deep insight how they can enhance firm value and create value for shareholders by utilizing resources in efficient manner because when a firm only considered the liquidity element this will disturb its profits, on the other side if company focus on profitability their short term survival will be disturbed that's why finance executives should consider both elements while making any policy regarding utilizing of funds.

The study is organized as; next section covers a brief review of literature. Methodology of this study is presented in third part and part four of the study highlights the main findings whereas the fifth part concludes the whole study.

Literature Review

Angahar and Alematu (2014) examined the association between WCM and financial performance and finds that profitability of cement companies is significantly affected by only two factors i.e. cash conversion cycle and inventory held for number of days that's why managers should keep an eye on inventory levels in order to decrease the storage cost this will enhance profitability along with this maximize shareholders 'return. Agha (2014) determined that how pharmaceutical companies deal with their working capital in order to enhance financial performance in different ways and explored that financial performance is significantly impacted by management of working capital, therefore, executives may enhance the performance of their firms by decreasing account payable ratios and by minimizing the account receivables ratio, inventory turnover.

Ponsian et al (2014) finds out that how manufacturing companies' performance is influenced by management of working capital and suggested that such firms' profitability ultimately enhances if these companies appropriately manage current assets. Kulkanya (2012) examined the relationship between WCM and performance and find that only two procedures i.e. minimizing the receivables turnover and decreasing the inventory turnover can enhance returns.

Charitou et al (2012) empirically examined the influence of WCM in an emerging market on firm's financial performance and find that better utilization of capital leads to value creation. Qazil et al (2011) examined the performance of the firms influenced by traditional WCM policies and find a positive trend of working capital on financial performance empirically.

Alavinasab and Davoudi (2013) examined the association between financial performance and firms' working capital management and found a significant relationship between working capital components and firms' financial performance and suggests that in order to increase assets 'cost price firms must evaluate its plans and identify the techniques which lead to decrease the firms' assets efficiency.

Ganesamoorthy and Rajavathana (2013) checked the relationship that exist between financial performance of automobile companies and WCM and find that f working capital management had insignificant association with financial performance of Tata Motors Ltd. and

Mahindra and Mahindra Ltd. Asad (2012) finds out that the profitability of textile sector companies is influenced by working capital management and results shows that due to shortage of funds Pakistani firms are following conservative policies regarding working capital management thus there is a need to concentrate regarding collection policies and concluding that efficient policies should be emphasized regarding working capital management furthermore, the performance can be enhanced by and least cost financing and efficient management.

Makori and Jagongo (2013) determined that whether there is a significant association between performance and working capital i.e. debtor turnover, inventory turnover, creditor turnover and cash conversion cycle and find that value creation requires reducing the collection period and increasing the payment period and inventory turnover and conclude that overall performance of manufacturing and construction sectors, significantly influenced by the working capital management and performance is negatively influenced by cash conversion cycle.

Awan et al (2014) studied the role of WCM to determine relationship between profitability and Liquidity, find in cement industry relative finance liquidity relative asset liquidity along with the influence on the cement companies' performance by working capital and also checked the impact on financial performance and suggests that Financial Managers can create value by decreasing the average payment period and days of holding inventory and reducing the cash conversion cycle.

Raheman et al (2010) determined the impact of management of working capital on profitability and also identify various factors that influence its efficiency and find that performance is significantly influenced by WCM and it plays a significant role in creation of value for stockholders as longer Net Operating financial performance of a firm is negatively influenced by net trade cycle and cash conversion cycle also suggests that for efficient working capital management.

Taghizadeh et al (2012) studied the influence on financial performance of the companies by cash conversion cycles' various components and find that management of short term funds for activity is working capital. Firm requires effective policy regarding management of working capital for smooth business activities.

Akoto et al (2013) examined the association between financial performance of manufacturing firms and practices of working capital management and stated that by decreasing the collection period, executives can enhance value for their stockholders along with concluding that in order to get rid of liquidity crisis and enhance financial performance executives of Ghanas' manufacturing firms should establish prudent policies regarding working capital management and executives can enhance the capacity to generate profits by decreasing average collection period as well as value of their firms also maintaining an optimal cash conversion cycle level should be of greater attention.

Agrim (2015) assessed the effect on performance of working capital management and find that for earning higher profits, prompt payments from debtor's quick cash conversion cycle, small inventory periods are favorable. Also the operating profits are influenced by type of industry. Adeleke et al (2013) examined the influence on Nigerian quoted different industries' profitability of working capital and stated that the profitability is influenced on greater extent if firm follow in the management of its cash conversion cycle less conservative approach and suggested that with a view to selecting appropriate cash conversion level via their financial performance companies should reappraise the inclinations of their working capital that will not impede their financial performance. Again, as literature has shown that companies' profitability is greatly influenced by

business environment of the organizations government should facilitate to the business organizations with enabling environment than working capital.

Raheman and Nasr (2007) investigated association between firms' profitability and WCM and shed light on various components impacting the firm's performance also establish the relationship among two objectives Pakistani firms' profitability and liquidity and find that financial performance of these firms will ultimately be enhanced if such firms appropriately pay attention towards the management of their debtors, cash and inventories in a right way.

Dinku (2013) examined the effect on micro and small enterprises' financial performance and WCM and found a significant association between enterprises' performance and payment period. However the performance is negatively influenced by collection period and inventory turnover, also an enterprise's profitability be enhanced by shortening cash conversion cycle.

Pouraghajan and Emamgholipourarchi (2012) examined the relationship between performance and WCM empirically and firms' market valuation and find a significant relationship between return on asset cash conversion cycle and total debt to total assets ratio (DTAR) management can enhance financial performance of firm.

Methodology

The sample selected for study contains 30 sugar sector companies which are listed on Pakistan Stock Exchange from the period of 2009 to 2014. Panel data is used for this study that is combination of both cross sectional and time series. The effect of WCM on performance is determined using following model.

$$1. \text{ROA} = \beta_0 + \beta_1(\text{APP}) + \beta_2(\text{ITD}) + \beta_3\text{CCC} + \mu$$

$$2. \text{ROE} = \beta_0 + \beta_1(\text{APP}) + \beta_2(\text{ITD}) + \beta_3\text{CCC} + \mu$$

Where; ROA is return on asset, ROE is return on equity, APP is average payment period, and ITD inventory turnover in days.

In this study performance is the endogenous variable. ROA is selected as a proxy of financial performance in this study. ROA is chosen because of being an sign of manager's efficiency as it demonstrates the conversion of company's assets into earning by the firms 'management under their check and balance (Correia, Flynn, Uliana, & Wormald, 2007). Another dependent variable ROE is used in this study. In the financial literature, this proxy has also been frequently used for firms 'financial performance Gatsi and Akoto (2010). It is measured as net profit to total equity. The ROE compute the rate of return on shareholders' funds invested in the company (Pandey, 2005). ROE provides indication about utilization of owners' resources by a firm.

APP is used to measure how many days does a firm requires to make payment of its short term obligations. It is measured as average payables to purchases and dividing it by 365 days. It is predicted that payment period is related positively with firm financial performance. If account payable period is increased the firm can reinvest these funds into some other, fruitful activities, firm can earn some interest on lenders 'money before repayments of short term lenders. Inventory turnover in days is another explanatory variable which is a measure of firms' policy to manage its inventory. Inventory represents all kinds of material to be used for production or to be sold (Falope and Ajilore, 2009). ITD demonstrates the average time period stock is kept in the firm before been sold. Longer the ITD, longer the investment required for inventory (Falope and Ajilore, 2009).

CCC is used to measure the length of time in days a firm takes in the conversion of raw material or inputs to cash flows. For firms the cycle is considered very important because it tells that through sales how efficiently a firm transforms its final goods into cash. If shorter the cycle it

will be better for the company because capital is tied up for less time period in the business process. It is calculated as Average collection period plus inventory days minus average payment period.

Results and Discussion

The regression analysis' results are revealed in the following Table. This demonstrates the extent of how firm's financial performance is affected by working capital management.

Table 2: Regression Results with Endogenous ROA

Variable	Coefficients	Std Error	t- Stat	P-value
Constant	9.224942	1.253642	7.358513	0.0000
APP	0.033894	0.014419	2.350702	0.0201
ITD	-0.032723	0.014284	-2.290917	0.0234
CCC	0.032528	0.014255	2.281787	0.0240
R ²	0.607219			
Adjusted R ²	0.519934			
F-value	6.956763			

The models' adjusted R² is 51% and in the model the value of R² is 60.72% which endorses that the model explained the 60.72 variation in the endogenous variable ROA. The results give an indication that the coefficient of APP is positive 0.033 with p-value (0.02) which is significant at 0.05 level and implying that the financial performance of the firm is significantly affected with a change in the payment period. The positive association between firms' performance and average payment period signify that longer the duration of payments of bills to vendors the more the profitable firms are.

The CCC is used to compute working capital management's efficiency. Results provide an indication that there exist a positive (0.032) association between firms' performance and CCC which implies that firms' financial performance is significantly influenced with enhancement or minimization in the CCC. Also the coefficient of ITD is negative (-0.032) which demonstrates a negative relationship between firms' financial performance and inventory period. It points out that the firm's financial performance decreases if there is increase in inventory turnover in days.

Table 3: Regression Results

Variable	Coefficients	Std Error	t- Stat	P-value
Constant	3.950211	0.671421	5.883363	0.0000
APP	-0.048432	0.021748	-2.226996	0.0275
ITD	-0.048559	0.021677	-2.240109	0.0266
CCC	0.048482	0.021661	2.238222	0.0267
R ²	0.681381			
Adjusted R ²	0.610576			
F-value	9.623436			

The models' adjusted R^2 is 61% and in the model the value of R^2 is 68.81% which endorses that the model explained the 68.81% variation in the endogenous variable ROE. The results give an indication that APP is negative with coefficient value of -0.048 and p-value (0.027) which is significant at 5% level and implying that the financial performance of the firms is negatively affected with increase or minimization in the APP. The negative association between firms' performance and average payment period signify that longer the duration of payments of bills to vendors the firms' profitability will be decreased because the delay in the payments to suppliers will disturb the firm's reputation in the market.

The CCC is indicator of working capital management's efficiency. Results provide an indication that there exist a positive (0.048) association between firms' performance and CCC which reveals that firms' financial performance is significantly influenced with enhancement or minimization in the CCC. Also the coefficient of ITD is negative (-0.048) which shows a negative association between firms' financial performance and inventory period. It indicates that the firm's financial performance decreases with an increase in ITD.

A negative association is found between ITD and Return on asset which is in accordance with (Lazaridis and Tryfonidis, 2006; Mansoor and Muhammad, 2012; Dong, 2010) who show a strong negative association between firms financial performance and ITD. But the findings are contrary to (Gill et al. 2012 and Mathuva 2010) who found positive association between firm's performance and ITD. In order to make profits, firms related to manufacturing need to sell goods quickly rather than having huge inventories in the form of raw material or finished products. In general, this conclusion can be drawn that there is an adverse affect on firms' financial performance if the inventory takes more time to sell.

A positive association between firms' performance and APP is found which is in accordance with (Naimulbari, 2012 and Gill et al. 2012) signifying that an increase in the APP is correlated with an enhancement of performance. This finding implies that a delayed payment to creditors will enable firm to hold higher level of working capital and firm can utilize these funds to avail other profit generating opportunities in order to increase firms' profitability. However, he results contradict with (Ray, 2012; Vural et al. 2012 and Saghir et al. 2011) who show that the firms with less profits delay in the payments of the bills to its creditors. The results imply that in order to take cash available advantage to meet the working capital needs, firms delay their payment to creditors.

The results of cash conversion cycle are contrary to (Vural et al. 2012; Saghir et al. 2011 and Nireesh, 2012) who show a negative association between firms' profitability and CCC. Results are consistent with (Gill et al. 2012; Lyroudi & Lazaridis, 2000) who found a positive association between firms 'performance and CCC. The findings can be explained that the firms' profitability increases when the cash conversion cycle increases. Due to high production, to carter for seasonality effect and in order to avoid the costs of stock out and price fluctuations, manufacturing firms maintain more inventories. The positive association between the firm's financial performance and cash conversion cycle can also be explained by the fact that in boosting profits, maximization of the investment in current assets can be helpful.

Conclusion

As the above results shows that there is a positive association between Average payment period and return on assets (ROA), return on asset ROA and cash conversion cycle (CCC) but there is negative significant relationship between ITD and ROA of sugar industry, so the null hypothesis has been rejected. Hence, the interpretation of results is that company can increase its financial performance by minimizing inventory turnover and by increasing average payment

period. Therefore; the results indicate that company can enhance capacity to generate high profits through proper management of working capital. In financial decision of the corporate sector, management of working capital is crucial due to the reason that firms' financial performance is directly influenced by it, so while taking decision of the deployment of funds fund managers should take into account both sides of the same coin the profitability and liquidity for the firms.

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