

# RELATIONSHIP BETWEEN CURRENT ASSETS MANAGEMENT AND FIRM'S MARKET VALUE: EVIDENCE FROM PAKISTAN

Mehwish Riaz<sup>1</sup>, Saba Haider<sup>2</sup> and Mohsen Shafiq<sup>3</sup>

## Abstract

*Business concerns must pay close attention to the management of current assets. This ensures a sufficient level of cash balances as well as other current assets, including stock (trade stock), and receivables. However, limited and/or overindulgence of current assets can cause serious threats to firms. Therefore, this study attempts to empirically test whether or not managing current assets influences the market value of firms with a sample of 59 firms from different industries listed at Karachi Stock exchange including textile, cement, chemical, sugar, fuel & energy and engineering industry. Data is gathered on quarterly basis from firms' financial reports for the period of 8 years (2008-2015). The GMM estimation technique is used to analyze the data. The analysis is conducted in 2 stages: firstly, separate industry to industry analysis is performed analyzing whether or not the association among the variables varies from industry to industry. Secondly a general estimation is performed to determine a general connection among the variables. The results indicate statistically significant connection of current asset management and firm's market value; however, in some industries this relation is negative while in others it is positive. This leads to the conclusion that association between firm's current assets management and market value depends on industry at which firm exists. Therefore, to augment the shareholder's wealth, authorities and decision makers are needed to consider that how the management of current assets affects its market value.*

**Keywords :** Current Asset Management, Market Value of the Firm, Wealth Maximization, Karachi Stock Exchange.

**JEL Classification:** G100

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<sup>1</sup> Lecturer, University of Gujrat, Pakistan (PhD Scholar, Universiti Sultan Zainal Abidin, Malaysia).  
Email: mehwish.riaz@uog.edu.pk

<sup>2</sup> Lecturer, University of Gujrat, Pakistan (PhD Scholar, Comsats University Islamabad, Lahore Campus).  
Email: saba.haider@uog.edu.pk

<sup>3</sup> PhD Scholar, University Sultan Zainul Abidin, Malaysia. Email: mohsenshafiq14@gmail.com

## Introduction

Managing current asset is considered very vital for business concerns as, the largest part of their investment lies in their current assets. Management of current assets requires maintaining an adequate amount of current assets including liquid money, trade debts, stock and marketable securities (Graham, 2001). This is because that the inadequate levels of current assets (excess as well as limited level of current assets) can cause serious threats to the company. The limited levels of current assets not only create the liquidity problems for the business but also increase the operating risk of the firm. Alternatively, the excess of current asset adds on to the cost of company eventually affecting the firm value. Mahmoudzadeh et al. (2017) argued that assessment of working capital is essential for business operations as having uncertain working capital usually keep the production low because of risks in operations and results in liquidity problems.

Management of current assets is considered as of crucial importance to develop the business level strategies that aim at enhancing the shareholder's wealth (Afza & Nazir, 2007). Afza and Nazir (2007) also claimed that sustaining a minimum optimal level of current assets not only help the firms to generate the maximum possible revenues but also makes the firm able to generate free cash flows. These free cash flows increase the growth opportunities for the business and ultimately the shareholder's return. Conversely, the unnecessary levels of current assets result in piling up more inventories, higher amount to money tied in receivables and keeping excess cash leads to the inefficient deployment of available resources therefore, value of firm will be negatively influenced by keeping redundant levels of these current assets. Therefore, conclusion can be drawn that decisions regarding current assets management ultimately influence the value of firm. Lewellen and Lewellen (2016) also found that lack of investment opportunities, financing frictions and free-cash flow problems bound firms to have a less amount of investment and cash flow that can eventually influence the value of firm. Hence, one of the main financial decisions of a firm is to ensure a suitable level of current assets that maximize its value.

Furthermore, Afza and Nazir (2007) exerted that effective management of current assets can increase company's rate of return as it has ability to positively influence the free cash flows of company. Moreover, Makelainen (1998) argued that a company having higher returns than its cost of capital is able to successfully enhance the value of its share in the market thereby increasing the shareholder's wealth. Thus, better management of current asset can help increasing the rate of return of firm that may influence the value of firm in a positive way.

Therefore, the study aims at examining the connection of current asset's management & firm value. Since, management of current assets can be measured through cash conversion cycle that's why the researcher has used this measure is used as proxy of management of current assets & to analyze its impact on value of firm.

### *Study Objectives*

The objectives of this empirical study are to:

1. Examine the impact of current assets management on the market value of firm in general (collectively) & industry-wise separately.
2. Analyze the influence of individual components of assets management on the market value of firm in general (collectively) and industry-wise separately.

### **Literature Review**

Current asset management has remained the center of interest for many researchers' academicians and businesses in the past. Ogundipe et al. (2012) argued that WCM (working capital management) that reveals the management of current asset and liabilities have power to influence profitability and firms' value of the business concerns. This is the reason that many researchers have put forth their efforts to study the relationship between the working capital and profitability of the firm. However, relationship between the current asset management and firm's market value is not much explored area rather has been neglected. Therefore, in the present study, researchers tried to find the link between these two.

Sudiyatno et al. (2017) examined the linkage of working capital, firm value and performance taking the statistics of companies listed at Indonesian Stock Exchange. Results signify that working capital has significant positive influence on the firm performance however, this firm performance negatively influence the firms' value. Researchers further suggested that the corporate performance is not considered as a positive signal for the future investor.

Kasiran et al. (2016) proposed that an effective management of working capital results in sustainability and growth of the firm. However, improper utilization of working capital will restrict the firm to avail short term investment opportunities as a result of liquidity crisis. In other times, Jędrzejczak-Gas (2017) claimed that during economic crisis firms should have more current liabilities than current assets to ensure low cost of capital.

Linkage between working capital management and firm's value is also explored by Wasiuz-zaman (2015) studied in case of emerging markets. For this purpose, she took the data of Malaysian firms and on the basis of results of the study it was concluded that reduction in working capital management is positively associated with the firm's market value. However, she further reported that this linkage is subjective to the financial constrained faced by the business. The firms facing financial constraints shows positive association between reduction and working capital and firms market value

while those having no financial constraints do not hold this relationship.

Ademola and Kemisola (2014) studied how working capital management influences the value of firm taking data of manufacturing firms of Nigeria. On the basis of their findings they concluded that working capital management has significant influence on the market value of the firms. They further suggested that managers must consider the proper management of working capital while taking any financial decision as it can have Impact on the shareholder's wealth.

Autukaite and Molay (2014) studied the impact of cash holdings and working capital on firm's value. To investigate the relationship among the variable researchers took the data from the companies of France. The results suggested that holding excess cash and working capital management undervalue the shareholder's wealth. They further suggested that management must not undervalue the working capital and cash holdings importance as it can be very costly for the firm otherwise.

Targeting to explore the connection of working capital management, value of firm and profitability Ogundipe, Idowu, and Ogundipe (2012) took data from 54 firms (non-financial) listed at Nigerian Stock exchange. Findings of their research showed the existence of a negative & significant link cash cycle and firm's profitability and between cash cycle and firm's value. There results were in line with the previous literature however, negative relationship in case of CCC and firm's market value was contradictory with the previous literature.

Using the data of Malaysian firms Mohammad et al. (2010) tried to examine the impact of working capital management on firm's market value and profitability. For this purpose, they used multiple regression and Pearson correlation techniques. Findings of their study confirmed that cash cycle & firm's value and cash cycle & profitability are linked negatively and significantly with each other.

In an attempt to explore the impact of liquidity management on firm's profitability and market value, Wang (2001) took the data from 1555 Japanese firms and 379 firms of Taiwan, listed at their relevant stock exchanges, for 11 years. They conducted a Pearson correlation analysis and confirmed that cash cycle and operating performance of the firm relates negatively. On the other hand, they concluded that a shorter cash conversion cycle causes an increase in the value of the firm. They also suggested that more firms of Japan are having Tobin's Q greater than 1 in the presence of shorter cash conversion cycle.

However, up to the researchers' best knowledge no attempt has been made in Pakistan to explore the influence of cash conversion cycle on market value of firm. Therefore, the present study tried to explore the same said relationship in context of Pakistan. Researchers have explored the said relationship in two folds: i) a combined general analysis is performed using the data of all the selected

firms ii) Secondly, the same relationship is tested for each industry separately. This is done to study the industry to industry differences between the cash cycle and firm's market value linkage.

### *Hypotheses*

*H1* : There is a significant relationship between firm's market value and Cash Cycle.

*H2* : There is a significant relationship between firm's market value and day's payment outstanding.

*H3* : There is significant relationship between firm's market value and day's inventory outstanding.

*H4* : There is significant relationship between firm's market value and day's sales outstanding.

### **Methodology**

In order to examine the impact of Cash Conversion Cycle on market value of firm, researchers have taken a sample of 59 companies that are listed at Karachi stock exchange (KSE). These 59 companies are taken from the manufacturing industries listed at KSE. Among these industries are Engineering, Sugar, Fuel & Energy, Chemical, Cement and Textile industry.

### *Sample and Data Set*

Intending to explore the relation of Cash cycle and market value of firm, data on quarterly basis is gathered for 8 years from 2008 to 2015, from the financial report of selected firms. Therefore, in this way panel dataset containing 1888 of firm-year observations is constructed. Given table indicates the details of sample taken from each industry.

Table 1  
*Percentage of Sample from Each Selected Industry*

| <b>Name of Industry</b> | <b>Total no. of firms</b> | <b>No. of Firms selected</b> | <b>% Sample</b> |
|-------------------------|---------------------------|------------------------------|-----------------|
| Engineering             | 14                        | 10                           | 71%             |
| Chemical                | 33                        | 11                           | 33%             |
| Fuel & Energy           | 12                        | 9                            | 75%             |
| Sugar                   | 24                        | 9                            | 37.50%          |
| Cement                  | 18                        | 11                           | 61%             |
| Textile                 | 92                        | 9                            | 10%             |

*Variables and their Description*

The selection of variables to examine the connection of cash cycle & firm's value is largely inclined by the previous literature. To estimate Firm's value, Tobin's Q is used as a proxy. Here, researchers not only measured the relationship between cash conversion cycle but also attempted to explore the link between individual components of cash conversion cycle namely day's inventory outstanding, day's payment outstanding and day's sales outstanding & firm's value. Also, along with these independent and dependent variables, few control variables have also been used in this study including current liability to total liability ratio, firm size, current ratio, ratio of debt to total asset and fixed asset to total asset.

Table 2  
*Formulas of Variables*

| Variable and Proxies                     | Formula and Description                                                                                  |
|------------------------------------------|----------------------------------------------------------------------------------------------------------|
| Cash Conversion Cycle                    | $\text{Days inventory outstanding} + \text{Days sales outstanding} - \text{day's payment outstanding}$   |
| Tobin's Q                                | $\text{Book Value to liabilities} + \text{Market Value of owner's equity} / \text{Book Value of assets}$ |
| Day's in sales outstanding               | $(\text{Trade Receivable} / \text{Credit sales}) * 365$                                                  |
| Day's payment outstanding                | $(\text{Creditors} / \text{On-Account Purchases}) * 365$                                                 |
| Day's Stock outstanding                  | $365 / \text{Stock turnover ratio}$                                                                      |
| Debt to asset                            | $\text{Total long term} + \text{short term debt} / \text{Book value of total assets}$                    |
| Non-current Assets to Total assets       | $\text{Book value of Non-current assets} / \text{book value of total assets}$                            |
| Current Liabilities to Total Liabilities | $\text{Current Liabilities} / \text{Total Liabilities}$                                                  |

### *Econometric Model*

Prior studies have confirmed the fact that firm value is usually significantly related to its own lagged term. Therefore, in this present study researchers have also included the lagged dependent variable as independent variable. Hence the model will be

$$TBQ = \beta_0 + \beta_1 TBQ_{i,t-1} + \beta_2 CLTC_{i,t-1} + \beta_3 FATA_{i,t-1} + \beta_4 CATA_{i,t-1} + \beta_5 lnsales_{i,t-1} + \beta_6 de\_ratio_{i,t-1} + \beta_7 TDTA_{i,t-1} + \beta_8 CCC_{i,t-1} + e_{it} \dots\dots\dots (a)$$

Since, the Panel data violates few assumptions of ordinary least square estimation technique, therefore, it is not considered an efficient statistical approach for panel data. However, fixed effects model and/or random effects model are usually acceptable approaches for panel data set but under certain conditions. As, it can be seen that above stated model is an autoregressive (endogenous) model therefore, in the presence of lagged dependent variable, fixed effect model generate biased results. According to Nickell (1981), in the presence of endogenous variable the bias can be zero if data is taken on larger time horizons. So, it can have concluded that in the presence of endogeneity fixed effect model can only be appropriate to use if data has been gathers for long time frames.

Alternatively, if time period is small to moderate one cannot use fixed effect approach rather will shift to several other estimation techniques available for panel data (In the presence of endogeneity). These estimators are mainly:

- Kiviet (1995), corrected LSDV estimator approach
- Arellano, Bond (1991), 2 stage GMM estimation approach
- Anderson, Hsiao (1981), instrumental variable approach

In the present study researchers have used GMM estimation approach proposed by Arellano and Bond (1991) to estimate the above stated econometric model.

#### *Why the Arellano – Bond GMM estimator?*

Cash Cycle and firm's value can be examined using following model.

$$TBQ = \beta_0 + \beta_1 TBQ_{i,t-1} + \beta_2 CLTC_{i,t-1} + \beta_3 FATA_{i,t-1} + \beta_4 CATA_{i,t-1} + \beta_5 lnsales_{i,t-1} + \beta_6 de\_ratio_{i,t-1} + \beta_7 TDTA_{i,t-1} + \beta_8 CCC_{i,t-1} + e_{it} \dots\dots\dots (1)$$

#### *Basic Distinctiveness of the model*

1. There are some characteristics of the error term that are time invariant (fixed effect). Therefore, it can be said that error term may comprised of some observation-specific effects

effect that are overlooked as well as some unseen company-specific effects via error term

$$\mu_{it} = \nu_i + e_{it}$$

2. The company-specific fixed distinctive features (time invariant), like strengths of a company, its management and competitive advantage etc may correlate with the regressors included in the model.
3. One of the explanatory variable  $\beta_1 TBQ_{i,t-1}$  that is integrated as lagged dependent variable in the model actually give rise to autocorrelation.

FE model can only be employed for the models having above mentioned 1 and 2 characteristics. But in the presence of 3<sup>rd</sup> problem fixed effect estimation technique cannot be used. Therefore, in this situation difference GMM proposed by Holtz-Eakin, Newey and Rosen (1988) or Arellano – Bond (1991) GMM estimation can be the best estimation techniques.

To resolve the 2nd issue discussed above through difference GMM take the first-difference of equation (1):

$$TBQ_{it-1} = \beta_0 + \beta_1 CATA_{it-1} + \beta_2 lnsales_{it-1} + \beta_3 TDTA_{it-1} + \beta_4 FATA_{it-1} + \beta_5 CLTA_{it-1} + \beta_6 debt_{it-1} + \beta_7 CCC_{it-1} + \beta_8 TBQ_{it-2} + \nu_i + e_{it} \dots\dots\dots (2)$$

Deducting equation (1) from (2):

$$\Delta TBQ = \Delta \beta_1 TBQ_{i,t-1} + \Delta \beta_2 CLTC_{i,t-1} + \Delta \beta_3 FATA_{i,t-1} + \Delta \beta_4 CATA_{i,t-1} + \Delta \beta_5 lnsales_{i,t-1} + \Delta \beta_6 de\_ratio_{i,t-1} + \Delta \beta_7 TDTA_{i,t-1} + \Delta \beta_8 CCC_{i,t-1} + \Delta e_{it} \dots\dots\dots (3)$$

Here the first difference is taken to eliminate the unobserved time invariant company-specific effects,  $\nu_i$ . Then the GMM estimation technique instruments lagged dependent variable included in the above model explanatory variable to its past levels in order to resolve problem 3. So, it means using GMM estimation technique help resolving all these problems and produce unbiased and efficient results. That's why in order to find the true and unbiased results GMM estimation technique is used in this present study. Therefore, the econometric models to measure the impact of cash conversion cycle and its component on firm's market value through GMM Estimation technique are:

$$\Delta TBQ = \Delta \beta_1 TBQ_{i,t-1} + \Delta \beta_2 CLTC_{i,t-1} + \Delta \beta_3 FATA_{i,t-1} + \Delta \beta_4 CATA_{i,t-1} + \Delta \beta_5 lnsales_{i,t-1} + \Delta \beta_6 de\_ratio_{i,t-1} + \Delta \beta_7 TDTA_{i,t-1} + \Delta \beta_8 CCC_{i,t-1} + \Delta e_{it} \quad (\text{Model 1})$$

$$\Delta TBQ = \Delta \beta_1 TBQ_{i,t-1} + \Delta \beta_2 CLTC_{i,t-1} + \Delta \beta_3 FATA_{i,t-1} + \Delta \beta_4 CATA_{i,t-1} + \Delta \beta_5 Insales_{i,t-1} + \Delta \beta_6 de\_ratio_{i,t-1} + \Delta \beta_7 TDTA_{i,t-1} + \Delta \beta_8 DPO_{i,t-1} + \Delta e_{it} \text{ (Model 2)}$$

$$\Delta TBQ = \Delta \beta_1 TBQ_{i,t-1} + \Delta \beta_2 CLTC_{i,t-1} + \Delta \beta_3 FATA_{i,t-1} + \Delta \beta_4 CATA_{i,t-1} + \Delta \beta_5 Insales_{i,t-1} + \Delta \beta_6 de\_ratio_{i,t-1} + \Delta \beta_7 TDTA_{i,t-1} + \Delta \beta_8 DSO_{i,t-1} + \Delta e_{it} \text{ (Model 3)}$$

$$\Delta TBQ = \Delta \beta_1 TBQ_{i,t-1} + \Delta \beta_2 CLTC_{i,t-1} + \Delta \beta_3 FATA_{i,t-1} + \Delta \beta_4 CATA_{i,t-1} + \Delta \beta_5 Insales_{i,t-1} + \Delta \beta_6 de\_ratio_{i,t-1} + \Delta \beta_7 TDTA_{i,t-1} + \Delta \beta_8 DIO_{i,t-1} + \Delta e_{it} \text{ (Model 4)}$$

Whereas:

TBQ = Tobin's Q  
DIO = Days in inventory outstanding  
DPO = Days in payment outstanding  
DSO = Days in sales outstanding  
CCC = Cash Conversion Cycle

### Estimations and Results

The present study estimates the linkage of cash cycle, its components & firm's value in two different aspects i) at first, researcher conducted industry-wise analysis between the said variables ii) then in the second step, a general combined estimation is performed to conclude a general connection among the variables.

*Model 1:*

To test the 1st hypotheses given model is analyzed through GMM estimation method and the findings are presented in following table:

$$\Delta TBQ = \Delta \beta_1 TBQ_{i,t-1} + \Delta \beta_2 CLTC_{i,t-1} + \Delta \beta_3 FATA_{i,t-1} + \Delta \beta_4 CATA_{i,t-1} + \Delta \beta_5 Insales_{i,t-1} + \Delta \beta_6 de\_ratio_{i,t-1} + \Delta \beta_7 TDTA_{i,t-1} + \Delta \beta_8 CCC_{i,t-1} + \Delta e_{it}$$

Table 3  
*Estimations of Relationship of CCC and Firm's market value*

| Industry Name   | $\beta$ of CCC | S. Errors | P-Value |
|-----------------|----------------|-----------|---------|
| Chemical        | -0.00219       | -0.000685 | 0.0018  |
| Engineering     | -0.0000904     | -4.52E-05 | 0.0488  |
| Textile         | 0.0002619      | -0.001415 | 0.00676 |
| Cement          | 0.00000216     | -1.08E-05 | 0.2456  |
| Fuel and Energy | -0.000331      | -9.21E-05 | 0.0006  |
| Sugar           | 0.0000548      | -4.46E-05 | 0.2417  |

Upon carefully analyzing the results presented in the table above it can be confirmed that there exists positive link between firm value and Cash Conversion Cycle in cement, Sugar & textile industry. Contrary to this rest of three industries showed negative relation indicating long cash cycle put negative influence the value of firms. This negative linkage between CCC and TBQ is in line with the findings Muhammad and Marisa (2010), and Wang (2001). One of the possible reasons of this negative linkage between the said variables is that, firms who manage getting back the cash from the cycle shortly; can utilize this free cash for profitable investment thereby increase their returns. The increased returns help creating a positive influence on the share price increasing ultimately the market value of the firm.

Contrary to this, the positive relationship between CCC and TBQ indicating that longer cash cycle is associated with higher firm's value. This positive relationship can be explained through the fact that the when cost of retaining cash in current assets through piling up the inventories or/and extending credit limit of debtors, is much less as compared to the cost of lost sales due to unavailability of inventories in time and granting credit for shorter time span.

#### Model 2:

To test the 2<sup>nd</sup> hypotheses given model is analyzed through GMM estimation method and the findings are presented in following table:

$$\Delta TBQ = \Delta \beta_1 TBQ_{i,t-1} + \Delta \beta_2 CLTC_{i,t-1} + \Delta \beta_3 FATA_{i,t-1} + \Delta \beta_4 CATA_{i,t-1} + \Delta \beta_5 \ln sales_{i,t-1} + \Delta \beta_6 de\_ratio_{i,t-1} + \Delta \beta_7 TDTA_{i,t-1} + \Delta \beta_8 DSO_{i,t-1} + \Delta e_{it}$$

Table 4  
*Estimation of Relationship of DSO and Firm's market value*

| Industry Name   | $\beta$ of DSO | S. Errors | P-Value |
|-----------------|----------------|-----------|---------|
| Chemical        | -0.001338      | -0.000695 | 0.0572  |
| Engineering     | -0.0000914     | -4.28E-05 | 0.0345  |
| Textile         | 0.005489       | -0.00242  | 0.0259  |
| Cement          | -0.000705      | -0.000318 | 0.0286  |
| Fuel and Energy | -0.004134      | -0.000405 | 0       |
| Sugar           | -0.000624      | -0.000179 | 0.0008  |

Researchers have also studied TBQ and components of CCC individually through GMM estimation approach. The results presented in the above table, clearly indicate that TBQ and DSO (days sales outstanding) relates negatively in case of all industries (excluding textile industry). This negative connection indicates that shorter collection periods lead to improve the value of firm. One of the possible reasons of this negative linkage between the said variables is that, firms who manage getting back cash from the cycle shortly; can utilize this free cash for profitable investments thereby increase their returns. The increased returns help creating a positive influence on the share price increasing ultimately the market value of the firm.

Contrary to this, the positive relationship of DSO and TBQ indicating that longer DSO is associated with higher firm's value. Indeed, some industries have been allowed to increase credit limits and long-term lines of credit to attract the customers. If companies in these industries do not comply with this code, they may lose customers, which can lead to lower returns that can hurt their value.

#### Model 3:

The 3<sup>rd</sup> hypothesis is tested using given model and is analyzed through GMM estimation method and the findings are presented in following table:

$$\Delta TBQ = \Delta \beta_1 TBQ_{i,t-1} + \Delta \beta_2 CLTC_{i,t-1} + \Delta \beta_3 FATA_{i,t-1} + \Delta \beta_4 CATA_{i,t-1} + \Delta \beta_5 lnsales_{i,t-1} + \Delta \beta_6 de\_ratio_{i,t-1} + \Delta \beta_7 TDTA_{i,t-1} + \Delta \beta_8 DIO_{i,t-1} + \Delta e_{it}$$

Table 5  
*Estimation of Relationship of DIO and Firm's market value*

| Industry Name   | $\beta$ of DIO | S. Errors | P-Value |
|-----------------|----------------|-----------|---------|
| Chemical        | -0.000488      | 0.000372  | 0.2752  |
| Engineering     | 0.000115       | 9.58E-05  | 0.2323  |
| Textile         | 0.000412       | 0.00025   | 0.1002  |
| Cement          | 0.0000306      | 8.28E-05  | 0.7119  |
| Fuel and Energy | -0.0025        | 0.0001072 | 0.0223  |
| Sugar           | -0.00172       | 2.98E-06  | 0       |

The results presented in the above table, clearly indicate that TBQ and DIO (days sales outstanding) relates negatively in 3 of industries including fuel & energy, sugar and chemical. While in rest of 3 industries said variables are found to have a positive linkage. It is evident from the table presented above that engineering industry's coefficient of DIO is statistically insignificant.

The negative relation in DIO and TBQ shows that faster a company sells a product, the higher its market value. This is because that the less time a company takes to sell a product, the better its sales. These higher sales will allow the company to make higher profits. Higher inventory turnover days may indicate excess inventory, missing product lines, or ineffective commercial marketing efforts. However, higher inventory turnover rates may be appropriate, for example when inventory levels are high, in anticipation of rapid price increases and anticipated market shortages. This may be because days with high inventory turnover rates have a positive relationship with the market value of firms in the engineering sector.

#### Model 4:

To test the 4th hypotheses given model is analyzed through GMM estimation method and the findings are presented in following table:

$$\Delta TBQ = \Delta \beta_1 TBQ_{i,t-1} + \Delta \beta_2 CLTC_{i,t-1} + \Delta \beta_3 FATA_{i,t-1} + \Delta \beta_4 CATA_{i,t-1} + \Delta \beta_5 lnsales_{i,t-1} + \Delta \beta_6 de\_ratio_{i,t-1} + \Delta \beta_7 TDTA_{i,t-1} + \Delta \beta_8 DPO_{i,t-1} + \Delta e_{it}$$

Table 6  
*Estimation of Relationship of DPO and Firm's market value*

| Industry Name   | $\beta$ of DPO | S. Errors   | P-Value |
|-----------------|----------------|-------------|---------|
| Chemical        | -0.000122      | -0.000116   | 0.7314  |
| Engineering     | 0.0000654      | -5.20E-05   | 0.2111  |
| Textile         | 0.001063       | -0.000324   | 0.0015  |
| Cement          | 0.00000283     | -7.81E-06   | 0.7179  |
| Fuel and Energy | 0.000502       | (8.55 E-05) | 0       |
| Sugar           | -0.00036       | -5.38E-05   | 0       |

The results presented in the above table, clearly indicate that in chemical and sugar industries TBQ and DPO relates negatively. Conversely in rest of four said variables are found to have a positive linkage. Moreover, the coefficient of DPO for engineering, chemical & cement industry's is statistically insignificant.

Negative relationships indicate that the longer the payment period, the higher the market value of the company. This may be due to the fact that the punctual or anticipated payment to the supplier guarantees a regular and regular raw materials supplies. This regular supply of materials ensures that the product is always available to the customer and guarantees that there is no delay in the completion of the order, keeping the operation going. This can help attract potential customers, maintain existing customers and increase sales and profits. Profit growth is considered a good thing for investors and gives more value to companies with higher profits. As a result, the shortening of the payment period has a positive relationship with the market value of the corporation.

However, apart from the sugar and chemical industries, there is a positive linkage between payment terms and TBQ. This is because late payments use more cash from others to make higher profits. However, it is possible if there is no issue of raw-material availability and greater numbers of suppliers are available. Therefore, DPO and TBQ are closely and positively related in these industries.

#### *Combine Analysis*

After analysing the industry to industry relationship of cash cycle & firm's value, in the subsequent stage the general linkages of cash cycle, its components & firm's value is studied and presented in Table 7.

Table 7

*Estimation of the Relationship of CCC, individual components of CCC & Firm's Market Value*

| Industry Name | $\beta$ Coefficient | S. Errors | P-Value |
|---------------|---------------------|-----------|---------|
| DSO           | -0.000598           | 0.0001791 | 0.0008  |
| CCC           | -0.000056           | 0.0000193 | 0.0033  |
| DIO           | 0.000033            | 0.0000108 | 0.0017  |
| DPO           | 0.000022            | 0.0000073 | 0.0023  |

The aforementioned table displays the over-all affiliation among the dependent variable TBQ and Cash Cycle and its gears i.e. DIO, DSO & DPO individually.

The outcomes disclosed that firm's market value & CCC and DSO & firms market value relates negatively and significantly. However positive relationship is confirmed between DPO and firm's value and between DSO and firm's value.

### Conclusion

On the basis of estimation and results it is cleared that the impact of cash conversion cycle on firm's value varies from one industry to other. The reason of this variation from industry to industry is mainly due to the fact that industries have their own particular and distinct features ranging from its management expertise & skills to technological advancements, that uniquely influence the connection between its cash cycle and value. Result indicates that cash cycle and firm's value are linked positively for textile industry while rest of the industries showed the negative relationship between the two variables. Furthermore, the findings indicate that cash conversion cycle and day's sale outstanding are linked positively in cement, fuel & energy and textile industries and rest of three industries showed negative connection between the two. Similarly, the findings confirmed the existence of a negative link between DIO and firm value in textile industry while rest of all show positive connection. Finally, results showed that existence of negative connection in day's payment outstanding and value of firm in textile, chemical & sugar industries while rest of 3 industries showed opposite relationship.

Lastly, the results of general combined analysis confirmed that firm's value & cash cycle and DIO and firm's value are linked negatively with each other. Contrary to this, DPO and firm value both are positively linked with the value of firm. All these relations are found to be significant statistically.

### Recommendations

As, results have shown that cash conversion cycle and its component have a significant influence on the value of firm, therefore, it is recommended to the business concerns to manage and control the day's payment outstanding, day's sales outstanding, day's inventory outstanding and cash conversion cycle in order to maximize the value of the firm. Furthermore, business concerns must consider the following points while managing their cash conversion cycle:

- In the expectation of future inflation, businesses must analyze that whether the cost of holding and storing inventory is less than the cost of inflation. If cost of inflation is higher businesses must buy and store the inventory, not otherwise.
- Businesses must consider and study the credit policy of all the other players in the industry. In order to analyze whether their credit policy is relaxed and tighten as compare to their credit terms and conditions and then manage according.
- Lastly, if availability of raw material is abundant and large number of suppliers are available then supply of raw material will not be affected by delay in the credit payments otherwise it can have adverse effects.

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