January – February 2020
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Impact of Working Capital Management on Firm's Economic Value Added Momentum

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Abstract

Trade credit and inventory management policies are key components of working capital management (WCM) and play important role in explaining the cross sectional variation in firm performance. We used cash conversion cycle, a comprehensive measure for WCM. However unlike previous studies we assess firm performance with economic value added momentum rather than accounting based profits. We evaluate cash conversion cycle with the help of three accounting ratios, creditor's turnover, debtor's turnover and inventory turnover. Our empirical evidence is based on non-financial firms listed with Pakistan Stock Exchange for the period (2007-2016). The secondary data is obtained from the official website of State Bank of Pakistan and verified with the consolidated financial statements of the firms. Our results based on descriptive statistics show that firms with relatively lower (higher) days inventory turnover and days debtor turnover (days creditors turnover) results in lower cash conversion cycle and leads to higher EVA momentum. Results based on fixed effect model showed that components of WCM plays significant role in explaining the variation in EVA momentum and can be used to predict changes in EVA momentum.

Keywords; *Economic Value Added Momentum, working capital management, firm performance.*

I. INTRODUCTION

Financial decisions i.e., capital structure, investments and dividend policy play a vital role in explaining the variation in firm financial performance. Among other, working capital management (WCM) is also a key financial decision as it represents a significant portion of total assets of firms (Aktas et al., 2015; Juan and Martinez-Solano, 2007). Its importance is highlighted by number of studies (see for example, Deloof, 2003; Garcia-Teruel and Martinez-Solano, 2007; Aktas, 2015; and Chang, 2018). An optimal level of working capital is of utmost importance for maximizing the firm value (Deloof, 2003). This is achieved by keeping a proper mix of inventory, a generous trade credit policy and efficient management of account receivables and payables. Trade credit can possibly stimulate sales by providing customers an opportunity to access the product quality before payments. It can also be used as an inexpensive source of credit. Similarly, any delay in payments to suppliers provide firms an opportunity to access the product quality before paying for it and is considered as an inexpensive and relatively more flexible source of financing for the firm. However, firms can incur significant opportunity cost as they cannot avail the discounts available on timely payment. Furthermore, delaying account payable can portray a negative image of a firm in terms of financial strength. The ideal payment period is arbitrary and it varies across firm but on average a contractual payable period is 41 days (Deloof, 2003).

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January – February 2020
ISSN: 0193-4120 Page No. 13845 – 13855

A popular measure highlighted by literature to measure working capital management is cash conversion cycle (CCC) which is the average time lag for a firm between incurring expenses on purchase of raw materials and the collection of receivables after selling the finished goods. There are two aspects of larger lag time. A larger CCC indicates high growth in sales and large investment in working capital and can thus lead to an increase in profitability. On the other side, larger CCC can create a downward drag in corporate profitability. The latter is mostly the case if the cost of investment in working capital surpasses the benefits of holding access inventory and granting credit sales. There are number of studies who investigate the relationship between CCC and corporate performance see for example, (Shin and Soenen, 1998; Nobanee et al., 2011; Vahid et al., 2012; Abuzayed, 2012; Enqvist et al., 2014; Mathuva, 2015; Chang, 2018; Yakubu et al., 2017; and Singh et al., 2017).

In addition to the above-mentioned studies, this relationship is also highlighted in developing and emerging markets. For example, (Gill et al., 2010; Sharma and Kumar, 2011) studied Indian market while (Ding et al., 2013) studied Vietnamese market. For studies in developing market i.e., Pakistan we refer the readers to (Shakoor et al., 2012; Tufail and Khan, 2013; Arshad and Gondal, 2013; Agha, 2014; Khidmat and Rehman, 2014; and (Raza et al., 2015). The studies mentioned here argue that efficient WCM leads to enhanced firms value. A common feature among these studies is their approach to measure firm value from an accounting perspective (ratio of returns on equity or returns of assets).

As argued by Stewart (2009) performance evaluation with an appropriate measure is very critical. As Michael Jensen argued, "If it is a ratio and it is a performance measure, it is wrong and you are paying people to do bad things". It means that an inappropriate matrix to measure firm financial performance can lead to a misleading image of the company. For example, net income is used to estimate earning per share. Managers can easily manipulate this accounting number by adopting different accounting practices or by cutting or deferring discretionary spending and valuable restructuring initiatives. Therefore, this figure can fail to portray the economic perspective of the firm's value (Stewart, 2009). Another famous measure in performance evaluation studies is return on equity (ROE). Firms with a relatively high ratio of ROE are evaluated as financially successful firms. This ratio is also not a safe heaven and can be inflated by using high proportion of financial leverage. A major drawback hence is: economic value addition perspective of firm is ignored and a firm performance is evaluated purely from an accounting perspective. This opens a new debate and creates a research gap.

This study is an effort to fill this gap by revisiting the research question: is there any relationship between working capital management and firm performance? Doing so, it differentiates itself from previous efforts in number of ways. First, we address the issue related to an appropriate measure of firm performance and use economic value added (EVA) as a proxy for firm performance rather than accounting based performance measures. EVA is capable of correcting accounting distortion in number of ways. For example, unlike conventional performance evaluation measures which only focus on accounting profit, EVA also considers shareholders opportunity cost. However, EVA should not be fore-granted as a plain-vanilla for managers in assessing firm performance. To bridge the gap between accounting ratios and EVA, we follow (Stewart, 2009) and use EVA momentum. EVA momentum is a simple index of value creation and is measured from residual income as a percentage change in the firm's economic income (measured by EVA) relative to prior period sales. Second, our sample is based on a unique data set i.e., all listed non-financial firms in Pakistan Stock Exchange (PSX).

Published by: The Mattingley Publishing Co., Inc.

January – February 2020
ISSN: 0193-4120 Page No. 13845 – 13855

We use CCC as a comprehensive measure of WCM. CCC shows a firm efficiency in terms of its trade debit, trade credit, and inventory policies. A further benefit of using this measure is the ease in conversion to measurable units i.e., days debtors turnover (DDTO), average inventory turnover (DITO) and days creditor turnover (DCTO). The basic reason for selecting these variables is their ability to represent a unique aspect of working capital management.

In order to test the relationship between WCM and EVA momentum, we collected accounting based fundamental data of non-financial firms listed in Pakistan Stock Exchange for the time period (2007-2016). Results based on descriptive analysis revealed that firms with relatively high DDTO and DITO have high CCC while firms with more efficient management of DDTO and DITO results in lower mean values for CCC. Therefore, such firms result in lower performance as captured by average values of EVA momentum. To further investigate this relationship we perform inferential analysis and our results based on fix effect model show that DDTO and DITO negatively affect EVA momentum while DCTO results in positive factor loading. These findings confirm that keeping high level of inventory and inefficient management of account receivables has a detrimental effect on EVA momentum and high creditors turnover enhance EVA momentum. It is important to mention that we adjust the model by taking remedial measures for multicollinearity, heteroscedasticity, and autocorrelation.

This study highlights the importance of a more reliable performance measure that better serve the needs of the shareholders, customers, and employees. The findings reveal that in order to increase EVA momentum firms managers should seriously consider efficient management of account receivables, accounts payable and inventory turnover and adopt those operations which can reduce the CCC. Future studies are required to test the findings of this study in different geographical settings.

Section 2 presents literature review. Section 3 discusses the data and methodology. Results are summarized in Section 4 while Section 5 concludes this study.

2. METHODOLOGY AND SAMPLING

We start the analysis by considering all listed firms at Pakistan Stock Exchange (PSX 100) as reference asset universe. We impose two constraints on the asset universe to select a final sample of firms. First, the firm is active throughout the time period 2007-2016 and is neither merged nor delisted from PSX. Thus our final sample is composed of firms which represent 30% of firms from each sector.

For analysis, we obtain accounting based fundamental data of all firms. Specifically, we obtain yearly data of inventory, receivables, payables, total assets, total interest-bearing debt, total equity, sales, interest paid, earnings before interest and taxes (EBIT). The annual data for these variables is obtained from official website of State Bank of Pakistan and consolidated annual report of the firms. The returns of PSX 100 index on monthly basis are available on the official website of Yahoo finance.

We start the analysis by estimating EVA for each firm i at time t as:

$$EVA = NOPAT_{i,t} - capital\ charges_{i,t}$$

Where NOPAT shows net operating profit after taxes of each firm i at time t and is estimated by subtracting interest of firm i at time t-1 from earnings before interest and taxes of firm i at time t. Capital charges show the minimum required rate of returns. Thus a positive EVA reflects the returns net of all capital charges (opportunity cost). For estimating equation (i) the capital charges are estimated as:

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January – February 2020
ISSN: 0193-4120 Page No. 13845 – 13855

$$capital\ charges = capital\ employed_{i,t} \times WACC_{i,t} \quad \text{(ii)}$$

Where capital employed means the total equity plus short and long term interest-bearing loans of a firm i at time t. We estimate the weighted average cost of capital as,

$$WACC = \left\{\left(\frac{E}{V}\right) \times Re\right\} + \left\{\left(\frac{D}{E}\right) \times Rd_{t-1}\right\} \quad \text{(iii)}$$

Where $\frac{E}{V}$ is equity of firm i divided by value of firm i (please confirm these things.), Re is the cost of equity and is estimated with standard CAPM. It is important to mention here that for CAPM we estimate the Beta with a 24 months estimation window and PSX 100 index as the market portfolio. We consider the returns on three months T-Bills issued by State Bank of Pakistan as risk-free rate. $\frac{D}{E}$is the ratio of debt to equity, Rd is cost of debt of each firm i at time t. After estimating EVA we then follow Stewart (2009) and estimate EVA momentum as:

$$EVA\ momentum = \frac{(EVA_t - EVA_{t-1})}{Sales_{t-1}} \quad \text{(iv)}$$

In order to see the effect of working capital management on EVA momentum, we perform two types of analysis. In the first step, we presented descriptive analysis for subsample of firms to highlight the general characteristics of the data. We classify firms in groups with high (low) EVA momentum if their mean EVA is greater (less) than historical median. Such analysis helps to differentiate the firms that are efficiently managing working capital from those with relatively less efficient in working capital management. Furthermore, it also shows a clear impact of working capital management on EVA momentum. In the second step, we test the effect of working capital management on EVA momentum. For this purpose, we performed correlation analysis and regression analysis. We used fixed effect model by taking remedial measures for multicollinearity, heteroscedasticity, and autocorrelation. The model is given below

$$EVAM_{it} = \alpha_{it} + \beta_1 WCM_{it} + \beta_2 EVAmg_{it} + \eta i + \lambda t + \varepsilon i \quad \text{(v)}$$

Where $EVAM$economic value is added momentum (dependent variable), α is the intercept, β is the slope from regression and it estimate the impact of WCM on EVAM. The symbol WCM represents component of working capital management (DITO, DDTO, DCTO and CCC). Whereas, $EVAmg$ shows economic value added margin and we considered this as a moderating variable in the model. $EVAmg$is the ratio of EVA to sales and it shows the amount of sales that ends up EVA after all capital charges are paid and operating expenses are adjusted. $EVAmg$is inversely proportional to total average cost as compared to the competitor. $EVAmg$is a key component for generating $EVAM$ and its not always the case that a firm can convert its positive $EVAmg$ to substantial $EVAM$. For detail discussion on the complex relationship between $EVAM$ and $EVAmg$ we refer the readers to Stewart (2009).

Finally we also added interaction term ($WCM * EVAmg$) to the above regression model. In the case of interaction term the β measures the impact of joint effect of the independent and moderating variable. This interaction term enables us to test the hypothesis that whether the relationship between efficient management of working capital management and $EVAM$ is effected by different levels of $EVAmg$. The regression analysis then takes the following shape,

$$EVAM_{it} = \alpha_{it} + \beta_1 WCM_{it} + \beta_2 EVAmg_{it} + \beta_3 (WCM_{it} * EVAmg_{it}) + \eta i + \lambda t + \varepsilon i \quad \text{(vi)}$$

Where the subscript i denotes firms (cross section dimensions) ranging from $i$to n, and t represents the time period (time-series dimension) ranging from 2007 – 2016. In all regressions, robust standard errors are used as a remedial measure for heteroskedasticity(Soekhoe, 2012) and cluster

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January – February 2020
ISSN: 0193-4120 Page No. 13845 – 13855

option is used as a remedial measure for Auto/serial correlation.

III. RESULTS

3.1. Descriptive analysis

In order to highlight the general characteristics of the variables and to provide detail understanding about the trends in working capital management components and EVA momentum, we present the descriptive statistics. We divide the whole sample into two groups. Panel A(B) represents firms whose EVA momentum is greater (lesser) than the historical median value of EVA momentum. Results show a clear difference in the average values of EVA momentum for both groups. Firms in Panel A results in average 33% EVA momentum with a standard deviation of 0.38 as compared to -14.92 EVA momentum of firms in Panel B. The difference in EVA momentum in both groups is partially explained by the difference in working capital management. We can see that firms in Panel A with higher EVA momentum have favorable values for all measures of working capital management. For example, firms in Panel A as compare to Panel B has on average 5 and 9 days advantage in terms of inventory turnover and creditor turnover. Same firms show lower values for debtor turnover (39 days vs 44 days). Thus the overall value for CCC of firms with greater EVA momentum is 9 days lesser than firms with lower EVA momentum. This means that firms with relatively high EVA momentum are taking fewer days to convert inventory into cash which leads to efficiency.

An interesting finding here is that the average CCC for Pakistani firms is 49 days which is relatively higher than firms in developed economies (41 days). Compared to the payment period in the USA and other developed economies payment period in Pakistan are relatively long. One of the possible reasons is the underdeveloped capital markets due to the information asymmetry and noticeable agency problem. This also probably shows the less efficient credit management system of firms and lesser opportunities in the market to access trade finances.

Table 1: How working capital management affects EVA momentum.

	Mean (%)	Median	Std.Dev.	Kurt	Skew	Days
Panel A: Firms with superior EVA Momentum						
EVA M	33.15	5.12	0.38	(0.18)	1.15	
DITO	18.36	5.16	0.18	36.34	4.12	66
DDTO	10.62	5.05	0.13	6.83	2.39	39
DCTO	15.24	5.07	0.24	37.17	4.86	56
CCC	14.77	5.14	0.26	15.15	(0.48)	53
Panel B: Firms with lower EVA Momentum						
EVA M	(14.92)	4.94	0.27	25.04	(4.28)	
DITO	19.39	5.16	0.17	17.61	3.17	71
DDTO	11.69	5.06	0.16	9.05	2.74	44
DCTO	12.88	5.07	0.20	18.61	3.81	47
CCC	17.18	5.14	0.21	6.18	1.13	62

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January – February 2020
ISSN: 0193-4120 Page No. 13845 – 13855

Days are estimated as values of a specific variable multiplied by number of days in a year.

3.2: Is there any association between working capital management and EVA momentum.

Results in Section 4.1 show the general characteristics of the data. However, in order to highlight the direction and magnitude of the relationship between EVA momentum and working capital management we perform two types of inferential analyses. In the first step, we estimate the association between EVA momentum and working capital management.

Table 2: Pearson Correlation Matrix

	EVA_M	DITO	DDTO	DCTO	CCC	EVA_M
EVA_M	1					
DITO	-0.04	1				
DDTO	-0.04	-0.06**	1			
DCTO	0.11***	0.22***	0.36***	1		
CCC	-0.16***	0.48***	0.23***	-0.54***	1	
EVA_M	0.33***	-0.11***	0.03	-0.15***	0.08**	1

In the above table ***,**,* shows the significance level at 99%, 95% and 90% respectively.

Results in Table 2 shows that there exist a positive association between EVA momentum and day's creditors' turnover and the relationship is significant at 99% confidence interval. However, there is a negative correlation between EVA momentum and DITO, DDTO and CCC. Another interesting finding is that DCTO has a significant positive relationship with DITO and DDTO. While CCC has a significant positive relationship with DITO and DDTO.

3.2.1. The EVA regression model

The analysis based on descriptive statistics showed that firms with relatively high EVA momentum also shows high average values for components of working capital management. However, we are still not able to find the underlying variables that cause EVA momentum to vary across firms. In order to explain the causal relationship between working capital management and EVA momentum, we perform regression analysis. Such analysis also explains the power of working management components to predict EVA momentum. In the first step, we run univariate regression by considering each component of working capital as an independent variable and EVA momentum as the dependent variable. In each regression, we consider EVA margin as moderating variable and we also add the respective interaction term for each variable. The results are reported in Table 02.

Result in Table 02 shows that factor loadings for DITO, DDTO, and CCC are negative and p-value provide enough evidence to conclude that the negative relationship is significant. This means that firms who are efficiently managing the working capital by reducing the time duration of inventory turnover, debtor turnover, and CCC are generating additional economic profits. The only variable that has positive loading is day's creditor turnover. This is an indication of a positive association between DCTO and EVA momentum thus any increase

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January – February 2020
ISSN: 0193-4120 Page No. 13845 – 13855

(decrease) in days creditor turnover accelerate (drag down) the EVA momentum. These univariate models explain the variation in EVA momentum up to average 18%.

The inclusion of interaction terms in these models results in surprising results in terms of explaining the changes in EVA momentum. In most of the cases, the model successfully explained more than 78% deviation in EVA momentum accepts for DITO which has a total explanatory power of 18%. A possible reason for such a high expletory power is the moderating variable and the interaction terms in each regression model. This indicates that the effect of having high EVA margin is different if a firm generates slightly higher (lower) EVA margin. Alternatively, we can infer that the slope of regression lines between EVAM and WCM are different for different categories of EVA margin.

It is very important to note that the interaction terms in each regression are significant which mean that the components of working capital management are not independent and there is an underlying interactive influence on the EVAM. It is an indication of the existence of a third variable and this motivate us to further test the relationship but this time in a more complex setting. We therefore run another regression model that is based on a joint effect of all the variables and considers more than one independent variable.

Table 02: Summary of the univariate regression analysis

Models	F-stat	EVAM	DITO	DDTO	DCTO	CCC	EVAM	IT1	IT2	IT3	IT4	P-val
M.1	78.07	2.28	-0.12**				0.75					0.00
M.2	18.41	1.17		-0.82***			0.81					0.00
M.3	78.59	2.11			0.26**		0.78					0.00
M.4	78.13	2.78				-0.10**	0.75					0.00
M.5	78.45	1.85	-1.57***				0.84	-0.30***				0.00
M.6	75.91	4.10		-1.74*			0.38		0.35*			0.00
M.7	79.83	1.66			2.00***		0.88			-0.39***		0.00
M.8	78.87	9.98				-1.49***	-0.77				0.29***	0.00

In the above table EVAM shows economic value added margin and we consider it as moderating variable. We obtain EVAM byEVA Margin t = EVA t / Sales t. There is one interaction term in each model and are represented by IT1, IT2, IT3 and IT4. Each interaction term is estimated as Independent variable*moderating Variable. M.1 shows regression model 1 and so on. DITO, DDTO, DCTO, and CCC represent the independent variables in each univariate regression.

3.2.2. Joint effect of working capitalmanagement components on EVA momentum.

In the previous subsection, we consider four univariate regression models by considering one independent variable. Here we extend the model and consider all the four components are independent variables and the relationship is tested with the following fix regression model,

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January – February 2020
ISSN: 0193-4120 Page No. 13845 – 13855

$$EVA\_M_{it} = \alpha_{it} + \beta_2 DITO_{it} + \beta_{it} DDTO_{it} + \beta_{it} DCTO_{it} + \beta_3 EVAM_{it} + \varepsilon_{it} \quad \text{(vii)}$$

Where α_{it} is the unknown intercept for each firm i at time t. $EVAM\_M_{it}$ is the economic value added momentum (dependent variable). $DDTO_{it}$, $DITO_{it}$, $DCTO_{it}$ are the independent variables while $EVAM_{it}$ is economic value added margin (moderating variable). ε_{it} is the error term.

In the above regression equation, we fixed for the non-random quantities by introducing fix time dummies. We also use robust standard error and take remedial measures to deal with serial correlation and heteroskedasticity.

Table 03: Multivariate regression analysis

EVA_M	Beta	Rob.SE	p value	R	F.stat
Alpha	5.96	0.02	0.00	0.78	2.2
DITO	-2.66	0.67	0.00		
DDTO	-10.15	2.16	0.00		
DCTO	1.47	0.52	0.01		
IT_1	0.56	0.13	0.00		
IT_2	2.06	0.44	0.00		
IT_3	-0.27	0.11	0.00		
FE_1	-1.06	0.02	0.00		
FE_2	-1.01	0.03	0.00		
FE_3	-0.86	0.03	0.00		
FE_4	-0.93	0.01	0.00		
FE_5	-1.22	0.05	0.00		
FE_6	-0.97	0.01	0.00		
FE_7	-0.92	0.02	0.00		
FE_8	-0.89	0.02	0.00		
FE_9	-1.14	0.03	0.00		

The above table shows the result of fixed effect model. IT represents the interaction variable while the 10 years' time fix dummies are denoted by FE_1,...,FE_10 respectively. The model selection is based on Hausman test.

The results of this multivariate regression analysis are reported in Table 03. We can see that all the explanatory variables play significant role in predicting EVA momentum. The results of multivariate analysis are complementary to those of univariate analysis and DITO and DDTO shows a negative relationship with EVA momentum while DCTO has a positive and significant effect on EVA momentum. These results are consistent with the findings of (Deloof, 2003; Padachi, 2006; Lazaridis and Tryfonidis, 2006; Raheman and Nasr, 2007; Karaduman et ., 2010; Raheman et al., 2010;

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ISSN: 0193-4120 Page No. 13845 – 13855

Sharma and Kumar, 2011; Arshad and Gondal, 2013; Enqvist et al., 2014).

As expected the explanatory power of the model increases as we add more variables to the univariate model. The addition of more variables significantly improved the explanatory power of the model and jointly the three independent variables are successful in explaining 72% variation in EVA momentum. Furthermore, the significant F-statistics provide enough evidence to support the model fitness for predicting EVA-momentum.

V. CONCLUSION

Our results based on secondary data for the time period 2007-2016 showed that firms with relatively high DDTO and DITO have high CCC while firms with more efficient management of DDTO and DITO results in lower mean values for CCC. Therefore, such firms result in lower performance as captured by average values of EVA momentum. Results based on fixed effect model show that DDTO and DITO negatively affect EVA momentum while DCTO results in positive factor loading. These findings confirm that keeping high level of inventory and inefficient management of account receivables has a detrimental effect on EVA momentum and high creditors turnover enhance EVA momentum. In order to enhance firms financial performance (EVA momentum) the firms managers should seriously consider efficient management of account receivables, accounts payable and inventory turnover and adopt such operations which can reduce the CCC. Future studies are required to test the findings of this study in different geographical settings.

Policy Implications and Future recommendations

Working capital represents significant portfolio of firm's total assets. Firms should search for an optimal level of working capital because it is one of the important determinants in maximizing the firm's value. An optimum level of working capital is possible if the firm manager adopt a balanced approach towards keeping a specific mix of inventory, show generosity in trade credit policy and efficiently managing the account receivables and payables. In this study we highlight the relationship between efficient working management and firm's financial performance. We assess the efficiency of working capital management by evaluating the cash conversion cycle of all firms. However, unlike previous studies we didn't evaluate firm's financial performance from an accounting perspective. Rather we focus on the economic performance of firms. Therefore, instead of tradition performance measure i.e., ROA and ROE we focus on EVA momentum.

We use secondary data of firms listed at Pakistan stock exchange for the time period 2007-2016. The firm level data is obtained from the official website of State Bank of Pakistan and verified with the consolidated financial statements available at the official website of each firm. For data analysis, we used descriptive statistics and inferential statistics.

Our results based on descriptive analysis revealed that firms with relatively higher average (lower average) values of DCTO (DDTO and DITO) result in higher average EVA momentum. These findings motivate us to investigate the causal relationship between DITO, DDTO, DCTO with EVA momentum. For this purpose, we use univariate and multivariate analysis with the moderating role of EVA margin. Our results based on Fixed Effect Model with time fixed dummy variables indicate that there exists a significant relationship between DITO, DDTO, DCTO, and EVA momentum. Our results are robust to the presence of endogeneity . The main message of this paper is that managers can create value by efficiently managing (reducing collection time), speeding up the inventory turnover, and shortening the cash conversion cycle. A positive relationship is found between DCTO and EVA momentum. It means that firms with the longer period to pay their bills to supplier, take a lesser period for collection their receivable and maintain the optimum level of inventory will have higher level of EVA momentum and vice versa. Future

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January – February 2020
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studies are required to test the findings of this study in different geographical locations and different time spans.

REFERENCES

[1] Abuzayed, B. (2012). Working capital management and firms' performance in emerging markets: the case of Jordan. International Journal of Managerial Finance, 8(2), 155-179.

[2] Agha, H. (2014). Impact of working capital management on profitability. European Scientific Journal, ESJ, 10(1).

[3] Aktas, N., Croci, E., and Petmezas, D. (2015). Is working capital management value-enhancing? Evidence from firm performance and investments. Journal of Corporate Finance, 30, 98-113.

[4] Arshad, Z., and Gondal, M. Y. (2013). Impact of working capital management on profitability a case of the Pakistan cement industry. Interdisciplinary Journal of Contemporary Research in Business, 5(2), 384-390.

[5] Chang, C.-C. (2018). Cash conversion cycle and corporate performance: Global evidence. International Review of Economics and Finance, 56, 568-581.

[6] Deloof, M. (2003). Does working capital management affect profitability of Belgian firms? Journal of business finance and Accounting, 30(3-4), 573-588.

[7] Ding, S., Guariglia, A., and Knight, J. (2013). Investment and financing constraints in China: does working capital management make a difference? Journal of Banking and Finance, 37(5), 1490-1507.

[8] Enqvist, J., Graham, M., and Nikkinen, J. (2014). The impact of working capital management on firm profitability in different business cycles: Evidence from Finland. Research in International Business and Finance, 32, 36-49.

[9] Gill, A., Biger, N., and Mathur, N. (2010). The relationship between working capital management and profitability: Evidence from the United States. Business and economics journal.

[10] Juan García-Teruel, P., and Martinez-Solano, P. (2007). Effects of working capital management on SME profitability. International Journal of Managerial Finance, 3(2), 164-177.

[11] Karaduman, H. A., Akbas, H. E., Ozsozgun, A., and Durer, S. (2010). Effects of working capital management on profitability: the case for selected companies in the Istanbul stock exchange (2005-2008). International Journal of Economics and Finance Studies, 2(2), 47-54.

[12] Khidmat, W., and Rehman, M. (2014). Impact of liquidity and solvency on profitability chemical sector of Pakistan. Economics management innovation, 6(3), 34-67.

[13] Lazaridis, I., and Tryfonidis, D. (2006). Relationship between working capital management and profitability of listed companies in the Athens stock exchange.

[14] Mathuva, D. (2015). The Influence of working capital management components on corporate profitability.

[15] Muhammad, H., Rehman, A. U., and Waqas, M. (2016). The relationship between working capital management and profitability: A case study of tobacco industry of Pakistan. The Journal of Asian Finance, Economics and Business (JAFEB), 3(2), 13-20.

[16] Nobanee, H., Abdullatif, M., and AlHajjar, M. (2011). Cash conversion cycle and firm's performance of Japanese firms. Asian Review of Accounting, 19(2), 147-156.

[17] Padachi, K. (2006). Trends in working capital management and its impact on firms' performance: an analysis of Mauritian small manufacturing firms. International Review of business research papers, 2(2), 45-58.

[18] Raheman, A., Afza, T., Qayyum, A., and Bodla, M. A. (2010). Working capital management and corporate performance of manufacturing sector in Pakistan. International Research Journal of Finance and Economics, 47(1), 156-169.

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[19] Raheman, A., and Nasr, M. (2007). Working capital management and profitability–case of Pakistani firms. International Review of business research papers, 3(1), 279-300.

[20] Raza, M. Y., Bashir, M., Latif, K., Shah, T. S., and Ahmed, M. (2015). Impact of working capital management on profitability: Evidence from Pakistan oil sector. International Journal of Accounting and Financial Reporting, 5(1).

[21] Shakoor, F., Khan, A. Q., and Nawab, S. (2012). The Inter-Linkages of Working Capital and Profitability in Pakistan (2001-2010). Academic Research International, 3(2), 562.

[22] Sharma, A., and Kumar, S. (2011). Effect of working capital management on firm profitability: Empirical evidence from India. Global Business Review, 12(1), 159-173.

[23] Shin, H.-H., and Soenen, L. (1998). Efficiency of working capital management and corporate profitability. Financial practice and education, 8, 37-45.

[24] Singh, H. P., Kumar, S., and Colombage, S. (2017). Working capital management and firm profitability: a meta-analysis. Qualitative Research in Financial Markets, 9(1), 34-47.

[25] Stewart, B. (2009). EVA momentum: the one ratio that tells the whole story. Journal of Applied Corporate Finance, 21(2), 74-86.

[26] Tufail, S., and Khan, J. (2013). Impact of working capital management on profitability of textile sector of Pakistan. Paper presented at the Proceedings of 3rd international conference on business management.

[27] Vahid, T. K., Elham, G., khosroshahi Mohsen, A., and Mohammadreza, E. (2012). Working capital management and corporate performance: evidence from Iranian companies. Procedia-Social and Behavioral Sciences, 62, 1313-1318.

[28] Yakubu, I. N., Alhassan, M. M., and Fuseini, A.-A. (2017). The Impact of Working Capital Management on Corporate Performance: Evidence from Listed Non-Financial Firms in Ghana. European Journal of Accounting, Auditing and Finance Research, 5(3), 68-75.