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Impact of Working Capital Management on Value Enhancing across Manufacturing Sector of Pakistan

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Abstract
Working Capital Management (WCM) shows a significant role in manufacturing firm's performance. Current study examines the effect of WCM on firm's performance, stock performance, investment and value enhancing for the time period of 7 years from 2010 to 2016 in Pakistan. Panel Data Technique along with descriptive and correlation test have been employed for the sake of analysis. Moreover, Fixed Effect Model is also applied with strong evidence from Hausman and likelihood test. Stock performance is calculated by using market to book value, operating performance by return on assets. Excess return is calculated by subtracting the expected return (Capital Assets Pricing Model) from actual return (Share Prices return). Data has been gathered from annual reports, balance sheet analysis, yahoo finance, open door and from Pakistan Stock Exchange. Eventually, strong evidence has been found that WCM has significant impact on the firm, as well as on stock performance, investment and value enhancing of manufacturing sector of Pakistan. Moreover, result suggests that firms can enhance their value, increase stock and operating performance and maximize the investment value with the optimal level of WCM. So, present research concludes in the light of investigated results that WCM plays a vital role for organization performance.
Keywords: Working capital management, Value Enhancing, CAPM, stock performance, investment, excess return, Pakistan

1. Introduction:

Corporate finance literature has conventionally divided the financial decision into two categories long term and short term financial decision (Lukkari, 2011). In this context long-term financial decision, particularly belong to long term investment, capital's structure, divided and company valuation decision. In recent times, covering efficiency by Working Capital Management now a day's giving more interest to short-term assets and liabilities, across the different industry (Chin, 2016). Working Capital is reflected as a lifeblood and nerve center of any business (Shah, 2012). WCM is about managing the resources and consumption of the capital in such a way that maximizes the value of firms" (Taghizadeh at el., 2012).

Efficient WCM means that management is capable to manage the firm's current liabilities and assets to encounter the short-term obligations (Eljelly, 2004). According to Sharma & Kumar (2011) WCM deal with managing short-range financing and investment decision. Its play a significant part in a firm's performance and its value enhancing (Radharamanan, 2011). It is an important portion of the overall firms strategy (Padachi, 2006) and it contributed positively to the making a firms value (Nazir&Afza, 2009). Large number of business failures have occurred due to improper management of WC. A well-managed WC increases the performance and value of the firms (Aktas et al., 2015). The increasing growth rates and profitability definitely enhance the value of the firm (Appuhami, 2008). So, a firm cannot save itself from liquidity problems as well increase performance and its value without efficient management of WC.

Value enhancing is degree of return on investment and if there is over investment in short term assets than it is negatively affected (Vishnani& Shah, 2007). The primaryobjective of managing WC is the managing of short term financing resources of a business in such form that a symmetry is formed between value enhancing of the firm and threat linked with that value enhancing (Ricci & Vito, 2000). Since its worth researchers focused on evaluating the WCM and value enhancing association such as Uyar (2009),Aktas et al., (2015) andPadachi, (2006) among others. There is fewer evidences on the relationship of value enhancing of firms and WCM in the context of Pakistan and it is the primary source of current study. Therefore, study focused on evaluating the impact of WC on value enhancing of firms and like issues.Here effect of WCM and excess return (as proxy for firm value, kieschnick et al., (2011) that is considered as a source to enhance progress of a firm, on firm performance and investment in Pakistan were required.

Previous studies examined the relationship of WCM with the performance of firm's like Raheman et al., (2010), Nazir (2008) and Afeef (2011). Other studies, like Deloof (2003) and Banos-Caballero (2012) were conducted for the evaluation of WC and firm performance. Aktas et al., (2015) used the excess return as measure of value enhancing of U.S firms. So, detailed findings of excess return and stock performance were lacking in case of Pakistan. It is tried to fulfill the research gap by including the said important parameters for the Pakistan's context in this study.

2. Literature Review:

Earlier, WCM has analyzed from different measures in this literature like Ali, (2011), Dong and Su, (2010),Deloof, (2003), Gill et al., (2010),Kieschnick&Laplante, (2012).Managers may maximize their shareholder's wealth by increasing working capital efficiency. Furthermore Gill (2011) indicated that the practices and management of WC differ from industry to industry as well as country to country. Moreover operating cash flow and leverage has significant influence on WCM (Nobanee&AlHajjar, 2009). While according to Palombini& Nakamura (2012) size, firm growth and leverage could have significant negative influence on length of Cash Conversion Cycle.

Chappre& Naqvi (2010) determined that efficiently management of WC significantly contributes toward firm's performance. Solano (2007) suggested performance could be increased by shortening CCC as well as making tight collection policy. Abuzayed (2012) performance and CCC were positively related to each according to some other studies like, Mohammad &Saad (2010) WCM has negative relationship with firm's performance .Additionally, Muammad et al., (2008) indicated that firms could increase performance by collecting accounts receivables earlier and release cash for their accounts payables later. So managers could increase their firm performance by efficiently managing WC (Azam&Haider, 2011). Reheman&Nasar (2007) WCM was negatively affecting the operating performance of firm. So, the firmare required to deliberate and make strongpayments and collection strategies (Rehman et al., 2010).

The association between stock performance and WCM in numerous markets has also attracted concentrated interest (Aktas et al., 2015). So, Shin &Soenen (1998) documentedthat WC efficiency has inverse association with stock performance. This association was strengthened by Deloof, (3003),Solano &Teruel, (2007),Ganesan, (2007),Rehman& Nasir, (2007), Falope&Ajilore, (2009)Karadagli, (2012) andDanuletiu (2010). But some studies conclude that there is strong negative association among the firms CCC and stock performance (Shin & Soenen,1998; Dong & Su, 2010). Additionally, Afeef, (2011); Ali, (2011); Haq et al., (2011) suggested that WCM had a recognizable impact on stock performance of firms. So, manager can increase stock performance by falling the number of days account receivable and stock (Deloof, 2003).

Fazzari et al., (1988) recommend the investment of firms may depended on financing factor for example capital availability and financing cost. Petersen &Fazzari (1993) proposed the investment in WC is extra delicate to financing limitations than investment in permanent capital. A more investment inprolonged credit of firm and stock (inventory)enhance the performance of firms (Blinder &Maccini, 1991). Large inventories allow the firm to avoid form high cost of production due to production variations and it allow the firmsto build better interaction with customers (Schiff &Lieber, 1974). It has opposite effect on value enhancing of firms up to specific limit (Kieschnick et al., 2011). So, investment in this sector depend on situation of a firm financing (Hill and Kelly, 2010)

Smith (1980) the realistic sources on value enhancing effect of investment on WC is rare. But the idea that WCM affect the value of firmshave extensive support. Effect of WCM on value enhancing of firms examined by Aktas et al., (2015),Moussawi et al., (2013). Banos& Pedro et al., (2011) indicate that those firms that have optimal level of NWC so that firms increase their value. Items of NWC have a great effect on the value of firms (Cote & Latham, 1999; Ali, 2011). It is evident that increase in the growth rate and performance definitely enhance the value of the firm (Appuhami, 2008).

WCM directly influences the performance and value of the firms. Previous studies assessed the relationship of WCM with the performance of firm's like Raheman et al. (2010), Nazir (2008) and Afeef (2011). Other studies, like Deloof (2003) and Banos-Caballero (2012) were conducted for the evaluation of WC and firm performance. Aktas et al., (2015) used the excess return as measure of value enhancing of U.S firms. Detailed findings of excess return and stock performance were lacking in case of Pakistan. However, study in hand has fulfilled the research gap by including the said important parameters for the Pakistan's context. Additionally, unlike the previous literature, current study for importantly has considered the investment for WCM value enhancing effect because it play the important rolled in it.

3. Data and Methodology

Study examined the WCM effect on stock, firm's performance, investment and value enhancing over the period of 2010 to 2016 in Pakistan. By using the panel data methodology (Aktas et al., 2015) along with descriptive and correlation test. Moreover, fixed effect modal has applied with strong evidence from Hausman and likelihood

test in present study for evaluation concerned variables. Stock performance is calculated by market to book value, operating performance by return on assets. Excess return by subtracting the expected return (Capital Assets Pricing Model) from

Table 3.1: Variables Measurement

Symbol	Definition	Measurement	Reference
Dependent Variables			
INV	Change in Investment	Capital Expenditure+ Cash outflows	McConnell and Muscarella (1985)
SP	Stock Performance	Market to Book value	Aktas et al. (2014)
OP	Operating Performance	Return on Assets	Meg et al. (2009)
EX.RT	Excess Return	Actual Return – Excess return	Finance Books
Independent Variables			
ENWC	Excess Net Working Capital	NWC Divided by Sales	Aktas et al. (2014); Talat&Nazir (2008); Deloof (2003)
Control Variables			
ROA	1-Year ROA	OIBDP / TA	Shahid et al. (2014)
SGR	Sale Growth Rate	$(SALE_t - SALE_{t-1}) / SALE_{t-1}$	Raheman et al. (2010)
OCF	Operating Cash Flow	Operating income before extraordinary items (IB) + deprecation (DP),Scaled by lagged fixed assets(PPENT).	Boscher (2011)
FA	Firm Age	No.of Year since first trading day	Aktas et al. (2015)
MvEq	Market value of Equity	As proxy for firms size	Roychowdhury, (2006)
LEV	Leverage	Total debt, scaled by total assets (DLTT + DLC) / AT	Valipour et al. (2012)
INT-AST	Intangible Assets	Intangible Assets (INT-AST), scaled by total Assets	Roychowdhury (2006)
CF	Cash flow	Cash and cash equivalent (CHE), scaled by total assets	Roodposthi and Chashmi (2011)
TOB	Tobin's Q	The market value of equity (PRCC times CSHO) plus total assets (AT) minus the book value of equity (ceq+txdb), divided by total assets (AT).	Aktas et al. (2015)
FAG	Fixed Assets growth	One-year growth rate of fixed assets (PPENT) at time t–1: (PPENT)/PPENT	Aktas, et al,(2015)
CAP.EXP	Capital expenditures	(CAPX), scaled by total assets at the beginning of the period (AT).	Aktas et al. (2015)
R &D	Research&development expenditure	R& D expenditure to total assets	Aktas et al. (2015)
INV01	Investment	Capital expenditures(CAPEX)plus cash acquisition, scaled by total assets at the beginning period	Daniel and Naveen (2008)

actual return (Share Prices return) in the present research.Data has been gathered from annual reports, balance sheet analysis, yahoo finance, open door and from Pakistan Stock Exchange.

Current study used excess return for value enhancing of firm and stock performance by market to book value and operating performance by return on asset (Coles et al., 2006). Following Barber & Lyon (1997), current study describe the excess return for time t the change between the Actual return (Return of Share Prices) of the sample firm ifrom expected return (CAPM).

$$Er_i = r_f + \beta_i(Er_M - r_f) \quad (1)$$

So,

Er_i is the expected return on an stock i

β_i is stock i's beta

$$\text{Excess Return} = \text{Actual Return} - \text{Expected Return} \quad (2)$$

And change in investment calculated by capital expenditure and cash outflows(Bates et al., 2009). It is assumed because it related with greater firm performance in well-organizedmarket (McConnell &Muscarella, 1985).

The independent variable of this study are excess net working capital, measured by the difference of NWC of firms with respect to the industry mean.

Present study examines the influence of excess NWC on firm, stock performance, investment and excess return by the use of succeeding linear regression:

$$V_{i,t} = \alpha_t + \eta_i + \beta_1 ENWC_{i,t-1} + \beta_2 CAPEXP_i + \beta_3 CF_i + \beta_4 FA_i + \beta_5 FAG_i + \beta_6 INTAST_i + \beta_7 INV01_i + \beta_8 LEV_i + \beta_9 MvEq_i + \beta_{10} OCF_i + \beta_{11} OP_i + \beta_{12} R\&DEXP_i + \beta_{13} ROA_i + \beta_{14} SGR_i + \beta_{15} TOBQ_i + \varepsilon_{i,t} \quad (3)$$

Here, $V_{i,t}$as the measuring variable likewise stock performance, firm's performance, investment, or excess return andη_i andα_t denote firms and year fixed effects, correspondingly. For the justification of absent values use the firm fixed effectand year fixed effects use to control for the economic changingand the conditions finance across the time.Study too gathered standard errors at the level of firm (Thompson, 2011). Following Hill et al., (2010), Study employed the controlled variables the some features of firm; 1-year sales growth rate, operating cash flow and R & D expenditure. Damoderan (2012) argued that the established firm required fewer WC than sale per unit.

Here[Table 4.1], the coefficient estimation of excess NWC with investment is negatively and significantly-4.68(P value 0.0455) with the value. The ENWC decrease in the previous years related to increase in the firm investment in WC. Over the next period the firm SD decrease in ENWC is related with a increase of 0.60% in the corporate investment component. For firms that have a positive relationship ENWC and in the change in investment this show that the firms are in position to control the shortage in WC and also the investment in fixed assets. As stressed in Table 4.3, regarding the other controlled variables, coefficient of CAPEXP, sale growth rate, cash flow, investment, leverage, intangible assets and R& D Expenses are statistically significant and operating cash flow, firm age, ROA, and market value of equity are insignificant at conventional levels. Further, more CAPEXP, cash flow, market value of assets and firm age are negatively associated with investment and sale growth rate, ROA, leverage, intangible assets, R & D and firm age are positively correlated with investment in regression test. Taken, the results suggest that the

Table 4.1: Summary statistics of the selected variables

Variables	Investment		Stock Performance		Operating Performance		Excess Return	
	Coef.	P-Value	Coef.	P-Value	Coef.	P-Value	Coef.	P-Value
CAP.EXP	-0.323476	0.0021	-1.501694	0.0085	-0.392245	0.000	-0.04652	0.009
CF	-0.568736	0.000	0.666277	0.0014	-0.085088	0.0021	-0.054479	0.0514
ENWC	-4.68E-07	0.0455	-3.22E-05	0.0029	4.80E-07	0.0237	-6.88E-07	0.0202
FA	-0.033397	0.4755	0.332769	0.1948	-0.090714	0.0079	0.396333	0.0135
FAG	0.353885	0.000	0.065901	0.7371	0.134798	0.000	0.016398	0.000
INT-AST	0.279612	0.000	-0.373081	0.2771	0.136627	0.0028	0.052367	0.0391
INV01	0.863729	0.000	1.20374	0.0264	0.245579	0.0007	0.03932	0.0061
LEV	0.097232	0.0008	0.232582	0.1426	-0.024867	0.2381	-0.040963	0.2197
Mv.Eq	-0.042542	0.5413	0.816936	0.0333	0.008343	0.8699	0.041889	0.5171
OCF	0.027757	0.1391	0.358812	0.0003	0.112981	0.000	0.010072	0.0087
OP	0.128822	0.0049						
R &D	-0.02044	0.0834	0.024539	0.7045	0.021563	0.0123	0.025592	0.2004
ROA	0.085355	0.1973	-1.146419	0.0014	0.255905	0.000	0.074788	0.0108
SGR	0.062651	0.0001	-0.184862	0.0297	-0.001688	0.8811	0.053891	0.0173
TOB	0.094537	0.1869	-0.553962	0.16	0.012701	0.8084	-0.003036	0.9628
R-squared	0.772346		0.088296		0.259201		0.439076	
F-statistic	20.2006		16.19133		22.36823		14.193026	
Prob (F-statistic)	0.000		0.000		0.000		0.000	

negative ENWC of firms that increase the NWC of firms. So, investment in fixedassets also increase the firm's performance.

[Table 4.1] presents the regression of stock performance. The coefficient of ENWC is statistical significant with the value of -3.22 (P value 0.0029) The result recommends that WC has an optimal level that firms cover it by decrease their stock performance About the coefficient of controlled variableslike CAPEXP, sale growth rate, cash flow, investment, operating cash flow and return on assets are statistically significant and leverage, firm age, intangible assets and R & D are insignificant at conservative levels. Dependable on the literature stock performance decreases with the size of firm and with leverage (Faulkender& Wang 2006; Duchin et al. 2010a), but increase with the R and D expenses (Chan et al. 2001). Stock performance is negative related withthe intangible assets, returns on assets, sale growth rate and positive related with the cash flow.

[Table 4.1] The dependent variable is the operating performance report the estimation results of regression. The coefficient of ENWC is positive and significant with P value of 0.0237. These outcomes are same as stock performance and in the investment regression. Show that a decrease in the ENWC lead to increase in the operating performance for the succeeding time period. General, these results show that there is an optimal level of WC this level can be achieved by reducing the extra investment in WC this increase the performance of firms. Concerning the othercontrolled variable the coefficient estimates of CAPEXP, cash flow are negatively correlated and significant furthermore fixed assets growth, intangible assets, investment, operating cash flow, R& D and ROA are positively and significant but Leverage and sale growth rate are negatively and insignificant correlated with operating performance in regression test.

[Table 4.1] presents the Excess return regressions. The coefficient of the term ENWC is statistically significant with values of -68.8% (p-value = 0.0202). Concerning the other control variables, the coefficient estimates of CAPEXP , cash flow are negatively correlated and significant furthermore fixed assets growth, intangible assets, investment, operating cash flow, ROA and sale growth rate are positively and significant but Leverage are positively and insignificant with operating performance in regression test.

4. Conclusion

Firms should try to overcome the WC resources for their efficient use such as finance in growing investment project. So, present research suggests the efficient WCM is high valuable mostly in the time period in which investment opportunity are expand. The results indicate that ENWC is significantly affecting the stock performance, operating performance, excess return and investment of the firms. So, complete result show that WCM of complete manufacturing sector has a significant influence on the performance of firms. Moreover, the leverage, sales growth rate, operating cash flows and firm age have significantly affect the firm's performance and ENWC are significantly affecting the excess return of firms.

WC as an important part of firm's assets so firms managers must put more importance on maximizing its utility for the benefit of shareholder. Specifically, the finding of the study focus that manager should not hold too much cash in WC and achieved the optimal level of WC. So, this type of management must provide the opportunities for generating internal funds, which must be utilized in profitable investment projects for the benefit of shareholder.

Inefficient WCM means the ability of investment in profitable projects is dropping and the reserve are unnecessarily locked in ideal assets. In instruction to increase on the WCM of nonfinancial firms, it is suggested that manager should build a specific credit control system and companies applied the collection strategies and ensure that the amount receivable are collected as rapidly as possible. Because nonfinancial sectors firms have not proper collection system.

5. Recommendations

i. Managers not tied up the funds of firms in idle assets they must invest these funds in productive assets such as plant and machinery.
ii. Managers must create a system that control the credit with full time finance officer and also create a strong collection polices that outstanding amount can be collected as quickly as possible.
iii. It is suggested that these firms shift their accounting system form manual to computerized system.
iv. Firms must create a strong relation with those suppliers who give long credit time and those customers who give payment in the short period

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