THE RELATIONSHIP BETWEEN WORKING CAPITAL MANAGEMENT EFFICIENCY AND EBIT: EVIDENCE FROM TEXTILE SECTOR OF PAKISTAN

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Abstract  
This study examines the working capital management efficiency of the textile companies of Pakistan for the period of 2004 to 2009. Three index variables that are performance index, utilization index and efficiency index are constructed along with Financial Debt Ratio and Fixed Financial Asset Ratio which acts as control variables for measuring the efficiency of working capital management. This study also tests the pace of accomplishing that target level of efficiency by an individual firm during the period of study. Finding of the study suggests that overall performance of textile industry was satisfactory, but contrary to this the performance of individual firms fluctuated very much during the considered time span.

Keywords: Working Capital Management Efficiency, Earning before Interest and Tax, Performance Index, Utilization Index.
1. Introduction:
The familiarity and understanding of efficient Working Capital Management (WCM) performances of textile industry is currently not sufficient and numerous firms have gone into insolvency over the years as a consequence of running a shortfall cash flow from operations. Proficient management of Working Capital (WC) refers to the supervision of different instrument of WC in a manner that sufficient level of operational capital is retained for fluent continuing of process of a business. The expert supervision of WC is very essential for an organization. This base on the fact having too much WC show ineffectiveness, while too little cash at hand Point out that the continued existence of company is insecure.

Efficient management of WC include preparation and controlling of current asset and existing liabilities in a way that minimize the danger of incapability of a firm to meet up due near future debt and to keep away from too much investment in these asset (Eljelly A.M.A , 2004). Cash decline affects the company’s potential to finance operation, reinvest and meet up with capital requirements and payments. It entail that whenever WCs go down too low, such business may be at risk; this is why it is very essential for company to have effective management of WC to keep its financial system alive.

A fine calculated and employed management of day to day expenses is anticipated to add positively to the formation of a firm's worth (Padachi Kesseven, 2006). Holding of the excess amount of WC, cause for decline in profitability of a business. On this stage the proper assessment of daily expense is requisite but it hard-hitting job for administration for the reason that the importance of WC fluctuates among business. For this purpose sufficient amount of funds is required for investment in different current assets. Harris A. (2005) recommended that for improving overall performance, minimize risk and well prepare for uncertainty at this time it is a prerequisite for firm to know about the Determinants of WC and the appropriate intensity of WC.

The aim of supervision is to maintain the optimum balance of all components of WC, so it is extremely necessary for companies to keep an eye on overall trends in order to find out areas that require more rapid management. For achieving this, different methods and strategies are applied to effectively control each component of WC.

WCM is necessary for financial management (Reddy M., 1991). The fundamental idea of financial management is to optimize owner of the company (shareholders) wealth. The company can only achieve their objective when business get enough revenue. The amount of earnings mainly relies on the degree of sales but it does not transfer to optimize owner of the company (shareholders) wealth. The company c

2. Literature Review:
2.1 Efficiency of WCM:
(Ghosh S. K and Maji S. G, 2004) used three indexes “Performance, Utilization and Overall Efficiency Index” for examining the effectiveness in Cement Companies of India from (1992-1993 to 2001 -2002). Results indicated that cement industry of India was under performing and proper WCM guidelines need to be implemented. Positive cash inflows, planned move toward managing the key essentials of WC the efficiency of WCM of British American Tobacco Bangladesh Company Ltd. is highly satisfactory. Multi-dimensional representation of current assets mix affect positive on the uninterrupted developing of this business which operating in several countries (Sayaduzzaman .Md, 2006).

(Ganesan V, 2007) focuses on the WCME in US firms of telecom equipment industry. The association among WCME & profitability is examined using ANOVA, Correlation and Regression analyses. Sample of (443 Annual Financial reports of 349 telecom tools companies from 2001-2007), this research find out that “day’s WC” is pessimistically related to the profitability however it is not extensively affecting firm’s profitability in telecom equipment sector. (Ramachandran A. and Janakiraman M, 2009) analyzed the association between WCME and Earnings Before Interest & Tax (EBIT) of Paper Industry in India. Outcome proved Paper Industry handled WC well. Accounts payables had significant negative effect with EBIT and overall efficiency of industry is good. (Bardhan R. K, 2009), analyzed WCME in seven banks associated with State Bank of India for period 1990-1991 to 2003-2004. Performance, utilization and on the whole efficiency index are intended to measure efficiency of WCM. The result shows that overall performance of associate banks was not bad, but performance of individual banks varies.(Sen M. and Oruç E, 2009) found a relationship between firm’s efficiency level which operated in Istanbul Stock Exchange through WCME and return on total assets. NWC level, CCC, Accounts Receivable Period, Inventory Period, Return on Total Assets and Current Ratio shows a significant negative relationship.

(Dănulețiu A. E, 2010) analyzed WCME and profitability of Alba County and relation is checked through Pearson Correlation. Outcome gives the evidence that here is a small weaken linear relation among WCM determinants and
profitability rates. (Hayajneh O.S & Yassine F, 2011) observed a relation among WCME and profitability. Descriptive statistics Ordinary Least Squares (OLS), Pearson correlation coefficients and Two Stage Least Squares (2SLS) regressions model are used for analysis and average receivable collection, conversion inventory, payment time and the CCC (indicate efficiency of WC) show negative significance relationship with profitability. On other hand development of sales, size of firm and current ratio show positive significance with profitability but the leverage negatively correlated with profitability.

2.2 Studies of WCM in Pakistan:
(Afza T. and Nazir M. S, 2007) examine comparative connection among aggressive/conservative WC guiding principle of 208 public ltd. companies registered at KSE from 1998-2005. Cross-sectional regression models are used for checking affect of aggressive/conservative WC financing & investment strategy. The result shows a negative relation among the profitability methods of firms and level of aggressiveness. According to (Raheman A. and Nasr M, 2007) result shows a solid contrary relation among variables in profitability and WCM, its indicate that as CCC rise it will reduce profitability, and manager can make optimistic value for the shareholders by decreasing cash conversation cycle as slight as feasible. (Afza T. and Nazir M. S, 2008) examine relation among aggressive/conservative WC policies from 1998-2003 of seventeen manufacturing groups of public ltd companies registered at KSE. Results show significant distinction amongst their financing and WC investment guiding principles across diverse industries. It also indicates a negative relation between the profitability measures of a firm and aggressiveness level of WC.

(Nazir M. S. and Afza .T. 2009) examines relationship between WCM strategy/ tactic and profitability of a firm. Panel Data is used to check the impact of aggressive WC investment and financing policies for period 1998-2005 by using ROA and Tobin’s q. Result shows Managers can create value by adopt a conservative approach towards WC investment and financing policies. The second thing that study finds financier gives weight-age to the stocks of aggressive approach company for managing their short-term liabilities. WCM is very important in firms to produce higher returns for the stakeholders but the researcher not paid much attention. When the WC requirements are not properly managed or allocated more than the requirement its decrease the benefits of short-term investments (Nazir M. S. and Afza .T. 2009). According to (Raheman A., Afza T., Qayyum A, and Bodla M. A, 2010) Net Trade Cycle, CCC and Inventory Turnover in days are significantly affecting a firm’s performance. However profitability of a firm has been significantly affected by Financial Leverages, Sales Growth and a firm size. Difficulties are bear by manufacturing businesses that belonged to collection and payment strategies. Pakistani firms are following conservative WCM policy and attention is needed to fine tune their collection and payment policy. Due to the effects on profitability, WCM is the key determinants of firms’ value. The panel data methods are used to analyze these relationships. The Return On Assets (ROA) is used as a profitability and CCC as WCME measure. The findings show that reducing CCC positively affects ROA. The results suggest that it may be possible to profitability through better the effectiveness of WC (Karaduman et al., 2011).

2.3 Other Studies on WCM:
Managers can build worth of their shareholders by reducing the number of accounts receivable days and maintaining minimum inventories level. Profitability is measured by Net operating income, Gross operating income, No. of days accounts payable, Sales growth, FDR, FFAR and Variability. And if there is negative relation between accounts payable and profitability than firms stay longer to pay their bills (Deloof M. 2003). According to (Filbeck .G and Krueger T, 2005) firms are capable to reduce financing costs and increase the funds available for extension through minimizing the amount of funds fixed up in current assets. This analysis of WCM is based on the CFO magazine’s annual WCM Survey. The results show that significant disparity exist between industries in WC measures and change considerably in different time period. (Lazaridis I. and D. Tryfonidis, 2006) examines the relationship of WCM and corporate profitability by using a sample of 131 companies in the Athens Stock Exchange (ASE) for the period 2001-2004. The results show that there is statistical importance among profitability, calculated by gross operating profit, and cash conversation cycle. And can create income for companies by managing cash conversation cycle properly and observing each different element (accounts receivable, accounts payable, inventory) to a best possible level. To compare the financial performance of pre and post merger an analysis has to be made to compare. Secondary data is taken for analysis and sample size (17 companies out of 58) that is thirty percent of total population. In order to assess financial performance, ratio analysis, mean, standard deviation and ‘t’ test have been used as tools of analysis. Results found that in India reputed and good Management companies take over merging companies (Vanitha S. and Selvam M, 2007).
(Chowdhury A. and Amin M, 2007) evaluate WCM in the chosen companies of the Pharmaceutical business from 2000-2003. They also examine the practices and policies regarding management of cash; assess the morality, methods and skill of inventory, management of receivable and payable. They do not check the economic and political impacts on the WCM. The results show that due to the competitive nature of the industry of pharmaceutical firms which are operated in Bangladesh, are competently deal with their investment criteria and liquidity preferences. (Samiloglu F. and Demirgunes K, 2008) analyze the effect of WCM on firm’s profitability. Multiple regression models are used for analysis, the findings show that accounts receivables period, inventory period and leverage (FDR) affect negatively; growth (in sales) affects positively but the CCC, size and FFAR have no significant effect on firms profitability. (Chakraborty K, 2008) assessed the relationship between WC and profitability of Indian pharmaceutical companies. He piercing out that there were two different schools of thought on this issue: according to one school of thought the WC is not a factor of improving profitability and there may be a negative relationship between them, at the same time according to the other school of thought, investment in WC acting a very important role to develop/ improve corporate profitability, and except there is a least level of investment of WC, output and sales cannot be sustained in real, the insufficiency of WC would go on fixed asset out of order.

The (Appuhami B.A, 2008) check the impact of firms’ capital expenditure on their WCM and data is collected from 416 listed companies in the Thailand Stock Exchange from 2000 to 2005. WC Requirement and Net Liquidity Balance used as a proxy for WC measurement and create multiple regression models. The results found that firms’ capital expenditure that is independent variable and operating cash flow (control variable) has a significant impact on WCM. The findings increase the information base of WCM and will facilitate companies to manage WC efficiently in growing situations related with capital expenditure. (Zariyawati et al., 2009) observe the relationship between WC management and firm profitability. CCC is used as measure of WC management and study used the (panel data of 1628 firm-year for the period of 1996-2006) that based on six different economic sectors which are listed in Bursa Malaysia. The coefficient fallout of (Pooled OLS regression) examination explains a strong negative importance association among CCC and firm profitability. It is mean that dropping cash conversion period results to profitability increase so, in rationale to create shareholder value, firm manager should focus on cut down of CCC. (Appuhami R, 2009), working on the double function of WC in relation to corporate investments. With the data gathered from registered service firms in the Thailand Stock Exchange, the research find out that NLB (Net Liquidity Balance) has a considerable positive association with corporate investments and WCR (WC Requirement) has an important negative affiliation with corporate investments. The research also discovers that firms handle WCR proficiently during expansion opportunities in array to increase NLB. Number of days inventory, CCC (CCC), Natural Logarithm of sales (LOS), FDR (FDR), Fixed financial assets ratio (FFAR) are used for checking for the profitability of firm. Result shows a Strong pessimistic association among profitability that is calculated through gross operating profit and the CCC. Its means that as the CCC increases, it will lead to declining firm profitability. Managers can generate a positive value for the shareholders by managing the CCC and keep dissimilar factor on best possible level (Dong H. P. and Su J. 2010).

According to (Karaduman et al., 2010) WCM is one of the basic determinants of firm’s market value because it directly affects profitability and it is also important from firm’s sustainability point of view. The panel data methods are used to analyze and result shows that WCM influence the companies listed in ISE (Istanbul Stock Exchange). In the light of results of estimated models for Turkey, WCM categorically influences the companies listed in the ISE. (Mohamad N. E, 2010) is focus on Connect the breach in the literature by providing experiential proof on WC management and its effect on performance of Malaysian listed companies from the point of view of market assessment and profitability. After applying correlations and multiple regressions analysis the result shows that there are significant negative associations between WC variables with performance of firm. For finding the relation of WC components and the impact of WCM on profitability of Amararaja Batteries Limited, secondary data collected from annual reports from 2000 to 2009. The ratio analysis, coefficient of correlation and Multiple Regression have been used to analyze the data. Findings show that the profitability performance of company was depend more on components of WC like current assets, Inventory and debtors than of creditors and total assets (Rajesh M. and Reddy N. R, 2011). (Kesimli I. G and Gunay S. G, 2011) examines the impact of global economic crisis on WC of real sector in Turkey and this crisis was started in 2007 and disclose in 2008. In study current assets and liabilities related ratios are used for analysis, based on financial statements of Turkish real sector firms which are registered in Istanbul Stock Exchange (ISE). Pre-crisis period is compared with crisis period and result of this study shows that the 45 ISE which were choose for analysis have been affected on limited basis.
3. Methodology and Data:
Data is taken from Balance Sheet Analysis of Joint Stock Companies Listed on The Karachi Stock Exchange (2003-2009) State Bank of Pakistan Statistics & DWH Department. Study cover the year from 2004-2009, 101[List of KSE Comp/Pakistan Stocks Number of Textile Companies Listed at KSE. Mht textile companies are listed in KSE. 50 companies are selected from the textile sector of Pakistan, observations are 300. Sample Interval (SI) is calculated through N/n. SI = 101/50 = 2.02. Every second company is chosen for study by using Systematic Random Sampling Technique [Ramachandran and Janakiraman (2009)], which covers almost 50% of population.

3.1 Variables Used for Analysis of Data:
In this study six variables are used PI, UI & EI (independent), FDR & FFAR (control) and EBIT (dependent).

3.1.1 Performance Index (PI):
Performance Index is measure of WCM efficiency and used for checking the performance of individual company/firm regarding management of WCM. If value of index is >1 its means the performance of firm in managing WCM is efficient.

Formula:

\[ PI_{WCM} = \frac{1}{N} \sum_{i=1}^{N} \frac{W_i(t-1)}{W_i} \]  

Where:
- \( I_s = \) Sales Index
- \( S = \) Sales
- \( I_s = St / St-1, \)
- \( W_i = \) individual group of Current Assets (CAS),
- \( N = \) Number of CAS group (Three groups) *
- \( i = 1, 2, 3,... N. \)
- * In study current asset are divided into three components: Liquid Asset, Other Current Asset and Inventories.

3.1.2 Utilization Index (UI):
It shows the capability of firm in utilizing current assets for idea of generating sales it is also measure of WCM efficiency. If the utilization index is >1 it’s indicates efficient utilization of WCM.

Formula:

\[ UI_{WCM} = \frac{A_{t-1}}{A_t} \]  

Where \( A = \) (current assets)/sales.

3.1.3 Efficiency Index (EI):
Efficiency index is product of performance and utilization index and its measure the efficiency of WCM. A firm considers being efficient in managing WCM if the index value is >1.

Formula:

\[ EI_{WCM} = PI_{WCM} \times UI_{WCM} \]  

3.1.4 Financial Debt Ratio (FDR):
FDR means how much the portion of firm’s total asset are acquired by external financing.

Formula:

\[ FDR = \frac{(Short Term Loans + Long Term Loans)}{(Total Assets)} \]  

3.1.5 Fixed Financial Asset Ratio (FFAR):
Fixed financial assets are the shares in other firms, anticipated to contribute towards actions of firm holding them by building a lasting and precise relationship and loans that were approved for the same purpose. This ratio is used to check that how much our total asset is comprised of fixed financial resources.
Formula:

\[ \text{FFAR} = \frac{\text{Fixed Financial Assets}}{\text{Total Assets}} \]

3.1.6 Earnings before Interest & Tax (EBIT):
It is revenue earned by a business before paying the interest and tax during a specified time period. It is normally used to determine a company's capability to earn a profit.

3.2 Hypothesis:
The study has been pursued to test the following hypotheses of Textile Industry of Pakistan:

H01: There are no significant efficiencies of WC components used by textile firms.
In first hypothesis check the significance of different components of WC which is used by textile firms. Three indexes checked these efficiencies (Performance, Utilization & Efficiency) if the value of each index is more than one it shows that firm manages WC efficiently.

H02: There is no significant relationship between WCME and EBIT of the Textile industry in Pakistan.
In second part the relation of WCME and EBIT is examined through the use of regression analysis. Each independent variable is checked with the help of two control variables.

3.3 Theoretical Model:

Figure 3.1: Theoretical Model

3.3.1 Model:
\[ \text{EBIT} = \beta_0 + \beta_1 (\text{FDR}) + \beta_2 (\text{FFAR}) + \beta_3 (\text{PI}) + \epsilon \] ...........................(vi)
\[ \text{EBIT} = \beta_0 + \beta_1 (\text{FDR}) + \beta_2 (\text{FFAR}) + \beta_3 (\text{UI}) + \epsilon \] ...........................(vii)
\[ \text{EBIT} = \beta_0 + \beta_1 (\text{FDR}) + \beta_2 (\text{FFAR}) + \beta_3 (\text{EI}) + \epsilon \] ...........................(viii)

FFAR = \frac{\text{Fixed Financial Assets}}{\text{Total Assets}} 
3.4 Analysis Used in Study:

This research provided two types of data analysis; descriptive and quantitative.

3.4.1 Descriptive Analysis:
Descriptive analysis is the first step in our analysis; it will help us explain phenomena of WCME & EBIT and provide detailed information about each relevant variable.

3.4.2 Quantitative Analysis:
To find out empirical relationship between EBIT and efficiency of WCM secondary data is used. EBIT used as a proxy to measure the profitability of firms in textile sector of Pakistan. First, find out the efficiency of WCM by using of three indices Performance, Utilization and Efficiency Index these indexes are documented in literature. If the value of these indices is greater than 1 it means the firm manages WCM efficiently.

Second, find out that WCME & control variables (FDR & FFAR) affect the earnings before interest. For measuring this relationship equation is formulated and OLS regression analysis is used.

3.5 Procedure of Quantitative Analysis:

3.5.1 Analysis I: WCME:
For measuring WCME indexes are used instead of using general WCM ratios. Three indices Performance Index (PI), Utilization Index (UI) and Efficiency Index (EI) used for measuring efficiency.

3.5.1 Analysis II: EBIT and WCME:
This research study shows the effect of Performance, Utilization and Efficiency Index (Independent Variable) on Earnings before Interest and Tax (Dependent Variable) with help of control variables FDR and FFAR. In this portion each index is used one by one with two control variables.

4. Data Analysis and Explanation of Results:

In this section two types of analysis descriptive and quantitative are presented.

4.1 Descriptive Analysis:
Descriptive analysis shows the average, and standard deviation of the different variables of study. It also illustrates the maximum & minimum values of variables which assist in getting an image about the maximum & minimum values a variable can attain.

Table-1 explains descriptive statistics for 50 Pakistani Textile firms for a period of six years from 2004 to 2009 and for a total 300 firms year observations. The mean value of EBIT is 148 million and standard deviation is 263.70 million. The maximum value for EBIT is 1815.90 million for a company in a year while is -362.00 million.

For checking the WCME of the companies, three indexes PI, UI & EI are used. The average values of PI, UI & EI for Pakistani firms is 2.03, 1.04 & 2.68 with a standard deviation of 5.55, 0.46 & 6.52. The highest Performance, Utilization & Efficiency Index of firms in a particular year are 8.46, 3.27 & 10.08 and the minimum values in a year are 0.21, 0.00 & 0.06.

4.1 Analysis and Findings of Industry:

To test out debt financing and its relationship with EBIT the financial debt ratio is used as a control variable. Results of descriptive statistics show that the average debt ratio for the Pakistani firms is 76% with a standard deviation of 25%. The maximum debt financing used by firms is 258% which is abnormal but it is possible if the equity of the company is in negative and minimum level of financial debt ratio is 17%.

To test the ratio of fixed financial assets to the total assets of Pakistani firms, fixed financial assets ratio is also used as a control variable. The mean value for this ratio is 57% with a standard deviation of 16%. Maximum part of assets in the form of financial assets for a particular firm is 93% and the minimum is 1%.

4.2 Analysis and Findings of Industry:
The analysis of WCM efficiency of the textile industry is presented here. In (Table- 2) the Performance Index is greater than 1 in all years, Utilization Index is greater than 1 in 4 years and Efficiency Index is greater than 1 in 5 years. So, the performance of the industry as complete was efficient during the time span of this empirical investigation. These results show that the Textile Industry has adequately managed its WC, and also managed its current assets for generating sales.

Insert Table 2 Here

In Table-2 minimum value in three indexes is 0.7278 (UI, 2005) and maximum value is 5.8410 (EI, 2007). Mean (average) of all indexes is >1 that shows overall performance of sector is efficient. S.D of PI (0.2121) point out that most of observations in a data set is close to mean and (1.8030) EI shows the majority of observations are scattered from mean. C.V of EI (67.29) is high it indicates great variability in adopting the WCM policies by textile sector.

4.2.1 Performance Index of WCM:

Performance index of WCM shows average performance index of the different components of current assets. When in general, performance index greater than 1 it indicates management of WC efficiently. A year, wise comparison discloses that the number of efficient firms varied in different time periods. Performance index Table-3 is greater than 1 in more than 25 firms out of 50 expect in 2005, where the number of firms are less than 25. In other years, during 2004, 2006, 2007, 2008 and 2009 respectively, 29, 42, 26, 27 and 37 firms performed well. 2005 come out to be the most unproductive years during which only 16 firms out of 50 may well maintain their performance in the subject of managing different components of current assets.

Insert Table 3 Here

4.2.3 Utilization Index of WCM:

Utilization index shows the capability of the firm in makes use of its current assets as an intact for the rationale of produce sales. If a rise in total current assets is greater than sales, it is unstated that there is improvement in utilization of these assets and vice versa. In Table-3 Utilization index the performance of firms are not up to mark because the result of index in most of years is less than one. Only in 2006 and 2009 results of Utilization Index is greater than 1 which is the bench mark for checking efficiencies. In 2004, 2005, 2007, and 2008 the number of firms who perform well is 16, 9, 24, and 20 respectively out of 50 in each year.

4.2.4 Efficiency Index of WCM:

Efficiency index is a measure of performance which reflects the combined effects of both Performance index and Utilization index. In other words it is the product of Performance index and Utilization index and measures the ultimate efficiency in WCM of a firm. Efficiency (Table-3) of firms is well during the study time period except in 2004 and 2005, where the index of 22 & 13 firms out of 50 is greater than 1.

4.2.5 Criteria for Acceptation and Rejection of Hypothesis:

In Table-4 hypothesis H01 is accept are rejected on the basis when the index value is greater than 1 at least 25 firms out of 50 and number of efficient firms are shows in Table-2. This criteria show the year wise efficiency of WCM of textile industry in a particular year.

Insert Table 4 Here

H01: There are no significant efficiencies of WC components used by textile firms. According to the results in Table-2 the mean value of Efficiency, Utilization and Efficiency index is greater than 1, on this basis H01 is rejected because there are significant efficiencies of WC components used by textile firms.
4.3 Regression Results/analysis:

OLS model has been used for the measurement of firm’s efficiency during the study period. Firm’s efficiency in regarding the management of WCM is equivalent to the average level effectiveness of the industry.

4.3.1 Relationship between PI and EBIT
The regression equation is
\[ \text{EBIT} = 444.62 - 104.82 \text{FDR} - 401 \text{FFAR} + 5.889 \text{PI} \]

In Table-5 the regression results are presented, dependent variable EBIT is regressed against independent variable PI with control variable FDR and FFAR. Estimation results find out that there is a positive and statistically significant relation (t = 2.24) between EBIT & PI at 5% confidence interval.

Insert Table 5 Here

While the control variable FDR document negative relation with EBIT having t-value (-1.79) which is significant at 5% confidence interval. Second control variable FFAR also show negative association with EBIT (t = -4.39) that is significant at 1% confidence interval. R-Square of model is 9.4%, it is define the variability of dependent variable due to independent variable. Estimation shows that variable used in model define 9.4% of dependent variable which is acceptable for estimation.

4.3.2 Relationship between UI and EBIT
The regression equation is
\[ \text{EBIT} = 419.01 - 119.62 \text{FDR} - 407.04 \text{FFAR} + 50.26 \text{UI} \]

In Table-6 regression results shows positive relationship of independent variable UI (t-value =1.65) and dependent variable EBIT. The estimated sign is statistically significant at 10% confidence interval. Control variable show negative relation with EBIT, t value of FDR (-2.00) and FFAR (-4.41) that are significant at 10% confidence interval. Where R-Square of model is 8.7% that is acceptable for estimation, which shows how much the variation in dependent variable is explained by independent variables.

Insert Table 6 Here

4.3.3 Relationship between EI and EBIT
The regression equation is
\[ \text{EBIT} = 449.09 - 106.09 \text{FDR} - 400.57 \text{FFAR} + 3.047 \text{EI} \]

Table-7 also shows positive relationship between EBIT dependent & EI independent variable. The estimation findings show that there is statistically significant relation of EI & EBIT because t value (2.62) at 5% confidence interval. And other control variables show the negative relationship because the t values of FDR (-1.82) and FFAR (-4.40) at 10% & 5% confidence interval. It means that when the efficiency of the firm increase the earning may also increase but the FDR and FFAR decrease it leads towards increase in earning. Value of R-Square is 10% which is acceptable in estimation, its show 10% variation is explained by independent variable in the dependent variable.

Insert Table 7 Here

H02: There is no significant relationship between WCME and EBIT of the Textile industry in Pakistan. The H02 is rejected because the Performance Index (t- value 2.24) at 5%, Utilization Index (t- value 1.55) at 10% and Efficiency Index (t- value 2.62) at 5% confidence interval shows the significantly relationship with Earnings before Interest and Tax (EBIT). These t values show the significance relation of WCME and EBIT of textile sector in Pakistan.
5. Conclusion:
The management of WC impacts on liquidity, investment portfolio and profitability. Superior performances in WCM affects critical factors positively and also contribute to growth and success of the industry. The far above the ground point of actions in the company also makes contribution to its well-organized WC. The maximum inventory return and the fewer days in inventory point out high rate of actions. High actions also force optimistically on earnings of the company.

Two hypotheses are used in study, in first hypothesis check the significance of different components of WC which is used by textile firms. Three indexes checked these efficiencies (Performance, Utilization & Efficiency) if the value of each index is more than one it shows that firm manages WC efficiently. In second hypothesis WCME and EBIT is examined through the use of regression analysis. Each independent variable is checked with the help of two control variables.

To achieving first objective that is examination of WCME in the textile sector of Pakistan three index variables “PI, UI and EI” are used. Overall industry average shows that the Performance Index is greater than 1 in all years, Utilization Index is greater than 1 in 4 years and Efficiency Index is greater than 1 in 5 years from out of six. It indicates that the performance of the industry as complete was efficient during the time span of this empirical investigation.

To find out the second objective which is variations arising in working capital in different textile firms, a year wise comparison is conducted by using three indexes PI, UI & EI. Performance index is greater than 1 in more than 25 firms out of 50 except in 2005. Utilization index the performance of firms is not up to mark because the result of index in most of years is less than one. Only in 2006 and 2009 results of Utilization Index is greater than 1 which is the bench mark for checking efficiencies. And Efficiency of firms is well during the study time period except in 2004 and 2005, where the index of 22 & 13 firms out of 50 is greater than 1. Results of study show that overall efficiency of the industry is satisfactory, but the performance of individuals firms varies in different years.

To apprise the relations among WCM Efficiency and EBIT in selected firms of Pakistan’s Textile industry regression analysis is used. FDR and FFAR which acts as control variables are also use for measuring the efficiency of WCM. These control variables shows significant and negative relation with EBIT. This paper also tests the pace of accomplishing target level of efficiency by an individual firm during study period.

Regression results also show the significant relationship of WCM efficiency and earnings before interest and tax. PI, UI & EI shows the positive relationship among EBIT its mean if the company manage WC efficiently it may lead towards increase the earnings/ income. FDR & FFAR ratio shows negative relation with EBIT and company/ firm can increase earnings through reducing the debt and fixed financial resources.
References


Annexure

Table 1: Descriptive Statistics (50 Pakistani Textile firms, 2004-09)

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>St. Dev</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBIT</td>
<td>300</td>
<td>148.00</td>
<td>263.70</td>
<td>-362.00</td>
<td>1815.90</td>
</tr>
<tr>
<td>PI</td>
<td>300</td>
<td>2.03</td>
<td>5.55</td>
<td>0.21</td>
<td>8.46</td>
</tr>
<tr>
<td>UI</td>
<td>300</td>
<td>1.04</td>
<td>0.46</td>
<td>0.00</td>
<td>3.27</td>
</tr>
<tr>
<td>EI</td>
<td>300</td>
<td>2.68</td>
<td>6.52</td>
<td>0.06</td>
<td>10.08</td>
</tr>
<tr>
<td>FDR</td>
<td>300</td>
<td>0.76</td>
<td>0.25</td>
<td>0.17</td>
<td>2.58</td>
</tr>
<tr>
<td>FFAR</td>
<td>300</td>
<td>0.57</td>
<td>0.16</td>
<td>0.01</td>
<td>0.93</td>
</tr>
</tbody>
</table>

Table 2: Average of Performance, Utilization and Efficiencies Indices showing the WCME of the Textile Industry

<table>
<thead>
<tr>
<th>Financial Year</th>
<th>Performance Index</th>
<th>Utilization Index</th>
<th>Efficiency Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>1.8933</td>
<td>0.9439</td>
<td>1.5485</td>
</tr>
<tr>
<td>2005</td>
<td>1.0034</td>
<td>0.7278</td>
<td>0.8285</td>
</tr>
<tr>
<td>2006</td>
<td>2.2503</td>
<td>1.3783</td>
<td>3.5118</td>
</tr>
<tr>
<td>2007</td>
<td>3.1806</td>
<td>1.0430</td>
<td>5.8412</td>
</tr>
<tr>
<td>2008</td>
<td>1.6162</td>
<td>1.0421</td>
<td>1.7573</td>
</tr>
<tr>
<td>2009</td>
<td>2.2368</td>
<td>1.1024</td>
<td>2.5884</td>
</tr>
<tr>
<td>Minimum</td>
<td>1.003</td>
<td>0.7278</td>
<td>0.8280</td>
</tr>
<tr>
<td>Maximum</td>
<td>3.181</td>
<td>1.3783</td>
<td>5.841</td>
</tr>
<tr>
<td>Mean</td>
<td>2.03</td>
<td>1.0396</td>
<td>2.679</td>
</tr>
<tr>
<td>Standard Deviation (S.D)</td>
<td>0.729</td>
<td>0.2121</td>
<td>1.803</td>
</tr>
<tr>
<td>Coefficient of Variation (C.V)</td>
<td>35.92</td>
<td>20.41</td>
<td>67.29</td>
</tr>
</tbody>
</table>

Table 3: Number of Efficient Firms (Value of Index >1)

<table>
<thead>
<tr>
<th>Years</th>
<th>Performance Index Companies &gt;1</th>
<th>Utilization Index Companies &gt;1</th>
<th>Efficiency Index Companies &gt;1</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>29</td>
<td>16</td>
<td>22</td>
</tr>
<tr>
<td>2005</td>
<td>16</td>
<td>9</td>
<td>13</td>
</tr>
<tr>
<td>2006</td>
<td>42</td>
<td>39</td>
<td>42</td>
</tr>
<tr>
<td>2007</td>
<td>26</td>
<td>24</td>
<td>26</td>
</tr>
<tr>
<td>2008</td>
<td>27</td>
<td>20</td>
<td>26</td>
</tr>
<tr>
<td>2009</td>
<td>37</td>
<td>30</td>
<td>35</td>
</tr>
<tr>
<td>Average</td>
<td>29.5</td>
<td>23</td>
<td>27.33</td>
</tr>
</tbody>
</table>
Table 4: Acceptation and Rejection of Hypothesis

<table>
<thead>
<tr>
<th>Years</th>
<th>Performance Index (PI)</th>
<th>Utilization Index (UI)</th>
<th>Efficiency Index (EI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>Reject</td>
<td>Accept</td>
<td>Accept</td>
</tr>
<tr>
<td>2005</td>
<td>Accept</td>
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<tr>
<td>2006</td>
<td>Reject</td>
<td>Reject</td>
<td>Reject</td>
</tr>
<tr>
<td>2007</td>
<td>Reject</td>
<td>Accept</td>
<td>Reject</td>
</tr>
<tr>
<td>2008</td>
<td>Reject</td>
<td>Accept</td>
<td>Reject</td>
</tr>
<tr>
<td>2009</td>
<td>Reject</td>
<td>Reject</td>
<td>Reject</td>
</tr>
</tbody>
</table>

>1 Rejected<br />
<1 Accepted


Table 5: EBIT versus FDR, FFAR, PI

<table>
<thead>
<tr>
<th>Predicator</th>
<th>Coefficient</th>
<th>T</th>
<th>P</th>
<th>R-Square</th>
<th>F</th>
<th>F-Sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>444.620</td>
<td>7.09</td>
<td>0.000</td>
<td>0.094</td>
<td>10.30</td>
<td>0.000</td>
</tr>
<tr>
<td>FDR</td>
<td>-104.820</td>
<td>-1.79*</td>
<td>0.075</td>
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<td></td>
</tr>
<tr>
<td>FFAR</td>
<td>-401.000</td>
<td>-4.39***</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PI</td>
<td>5.889</td>
<td>2.24**</td>
<td>0.026</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

, ** and *** Significant at 10%, 5% and 1% levels respectively.

Table 6: EBIT versus FDR, FFAR, UI

<table>
<thead>
<tr>
<th>Predicator</th>
<th>Coefficient</th>
<th>T</th>
<th>P</th>
<th>R-Square</th>
<th>F</th>
<th>F-Sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>419.010</td>
<td>6.340</td>
<td>0.000</td>
<td>0.087</td>
<td>9.350</td>
<td>0.000</td>
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<tr>
<td>FDR</td>
<td>-119.620</td>
<td>-2.00**</td>
<td>0.046</td>
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</tr>
<tr>
<td>FFAR</td>
<td>-407.040</td>
<td>-4.41***</td>
<td>0.000</td>
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<td></td>
</tr>
<tr>
<td>UI</td>
<td>50.260</td>
<td>1.65*</td>
<td>0.092</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

, ** and *** Significant at 10%, 5% and 1% levels respectively.

Table 7: EBIT versus FDR, FFAR, EI

<table>
<thead>
<tr>
<th>Predicator</th>
<th>Coefficient</th>
<th>T</th>
<th>P</th>
<th>R-Square</th>
<th>F</th>
<th>F-Sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>449.09</td>
<td>7.19***</td>
<td>0.000</td>
<td>0.10</td>
<td>10.97</td>
<td>0.000</td>
</tr>
<tr>
<td>FDR</td>
<td>-106.05</td>
<td>-1.82*</td>
<td>0.070</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FFAR</td>
<td>-400.57</td>
<td>-4.40***</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EI</td>
<td>3.047</td>
<td>2.62**</td>
<td>0.009</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

, ** and *** Significant at 10%, 5% and 1% levels respectively.