

Impact of Working Capital Policy on Firm's Profitability: A Case of Pakistan Cement Industry

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Abstract

The main aim of this study is to investigate the relationship between working capital policy and firm's profitability in the cement sector of Pakistan. Working capital management is considered to be a crucial element in determining the performance of an organization. An optimal WCM practice is expected to contribute positively to the creation of firm's value and enrichment of its profitability. Working capital policy, growth of firm, size of firm and debt, and size (capital) of the firm as control variables are also used to investigate their effect on profitability. Profitability of Pakistan cement sector measured in terms of market as well as in accounting terms. Tobin's Q, return on equity (ROE) return on asset (ROA) and Net operating Profitability (NOP) used to measure profitability. For regard this research adopted ordinary least square regression method of research approach to test a research hypothesis. This research used 20 cement companies listed in Karachi stock exchange during the period of 2006 – 2011. The result of study showed that there is significant negative relationship between working capital policies on profitability of the firms.

Keywords: Working capital policy, Return on Asset, Return on Equity, Tobin's Q, Net Operating Profit.

1. Introduction

In the today's dynamic business environment, survival of the organization is more uncertain even though the companies are earning profit, unless they can't meet the short term obligations. Corporate finance basically deals with three decisions such as capital structure decisions, capital budgeting decisions, and working capital management decisions. Among these, working capital management is a very important component of corporate finance since it affects the profitability and liquidity of a company and finally to its value. It basically deals with current assets and current liabilities and the way of financing current assets and liabilities. Efficient working capital management involves planning and controlling current assets and current liabilities in a manner that eliminates the risk of inability to meet short term obligations on one hand and avoids excessive investment (Eljelly, 2004).

Working capital is considered to be life-giving force to an economic entity and managing working capital one of the most important functions of corporate management. Corporate financial officer's major concern is to satisfy the conflicting requirement of corporate liquidity and profitability in the face of high level of competition, increasing cost of capital and hyperinflation. The success of any business organizations in achieving the above goals is often attributed to proficiency in planning and control techniques (Imegi et al 2003).

Management of short -term assets and liabilities needs a careful devotion. Since the WCM plays an important role in the determination of the profitability, liquidity and risk as well as the ultimate objective of firm's value (Smith, 1980). The greater the investment in current assets leads to the lower risk in terms of settling short term obligation, whilst gaining lower profitability because of the inability to invest in the profitable long-term investments. Efficient management of working capital is a fundamental part of the overall corporate strategy to create the shareholders' value. Firms try to keep an optimal level of working capital that maximizes their value (Afza and Nazir, 2007 ; Howorth and Westhead, 2003; Deloof, 2003).

Working capital management from the broader perspective of Chief Financial Officer (CFO) is a simple and straightforward concept of confirming the ability of the organization to fund the difference between the short-term assets and short-term liabilities (Harris, 2005). The main objective of WCM is to maintain an optimal balance between each of the working capital component. Business success heavily depends on the ability of financial executives to effectively manage the working capital component of receivables, inventory, and payables (Filbeck and Krueger, 2005; Parsad, 2001). Firms can reduce their financing costs and/or increase the funds available for expansion projects by minimizing the amount of investment tied up in current assets. Most of the financial managers' time and efforts are allocated towards bringing non-optimal levels of current assets and

liabilities back to optimal levels (Lamberson, 1995).

An optimal level of working capital would be the one in which a balance is achieved between risk and efficiency. It requires continuous monitoring to maintain proper level in various components of working capital, i.e., cash receivables, inventory and payables, etc. (Yadav, 1986). However, it is a difficult task to estimate the working capital actually required because it varies across companies over time depending upon operational scale, nature of business, credit policy, production cycle, inventory availability and other distinctive factors.

Working Capital Management Practices (WCMP) is the firm's way of making investment in their current assets which is known as working capital investment policy and use short-term liabilities to finance firms' assets which is known as working capital financing policy. Theoretically, a firm can adopt different working capital management practices as Aggressive working capital policy and Conservative working capital policy based on its investment and financing strategies. These different practices affect the profitability, liquidity, risk, and finally the value of the firm in different ways.

A firm may adopt an aggressive working capital management policy with a low level of current assets as a percentage of total assets, or it may also be used for the financing decisions of the firm in the form of high level of current liabilities as a percentage of total liabilities. Excessive levels of current assets may have a negative effect on the firm's profitability, whereas a low level of current assets may lead to a lower level of liquidity and stock outs, resulting in difficulties in maintaining smooth operations (Van Horne and Wachowicz, 2004). More aggressive working capital policies are associated with higher return and higher risk while conservative working capital policies are concerned with the lower risk and return (Gardner et al., 1986 and Weinraub and Visscher, 1998).

Modern Financial management aims at reducing the level of current assets without ignoring the risk of stock outs (Bhattacharya, 1997). Though the impact of working capital policies on profitability is highly important, in Pakistan only a few empirical studies have been carried out to examine this relationship. In the light of the above, an attempt is made in this study to investigate the potential relationship of aggressive/conservative policies with the accounting and market measures of profitability of cement industry of Pakistan, using a panel data set for the period 2006-2011. The present study is expected to contribute to better understand these policies and their impact on profitability sector wise in emerging economies specially Pakistan.

Cement industry is indeed a highly important segment of industrial sector that plays a pivotal role in the socio-economic development. Cement industry is one of the benchmark materials industries which manufacture basic raw materials for industrial production together with steel and petrochemical industries. The industry, which is closely linked to the construction industry, provides concrete and cement manufacturing products for civil engineering and construction structure. Since cement is a specialized product, requiring sophisticated infrastructure and production location. Cement industries in Pakistan are currently operating at their maximum capacity due to the boom in commercial and industrial construction within Pakistan. In 1947, Pakistan had inherited 4 cement plants with a total capacity of 0.5 million tons. However, by the end of June 2011, the installed cement production capacity will touch to the level of 49.579 million tones with 29 operating units of cement (Baig, 2008).

The industry comprises of 29 firms (19 units in the north and 10 units in the south), with the installed production capacity of 44.09 million tons. The north with installed production capacity of 35.18 million tons (80 percent) while the south with installed production capacity of 8.89 million tons (20 percent), compete for the domestic market of over 19 million tons. There are 4 foreign companies, 3 armed forces companies and 15 private companies listed in the Karachi Stock Exchange. The capacity utilization of cement sector has been, on average, above 80% in last decade; hence making analysis of its working capital management policies worth investigating.

1.1 Problem Statement:

The problem statement to be analyzed in this study is

“Does working capital policy affects profitability of cement industry of Pakistan?”

To analyze this problem statement, I have developed objectives of my research, which will hopefully contribute towards a very important aspect of financial management known as working capital management.

1.2 Objective of the study:

This research is focusing on looking capital management policy and its impact on profitability for a Pakistan

cement industry from 2006-2011.

The main objectives are:

- To find out the relationship between profitability and size of the firm.
- To find out the relationship between debt used by Pakistan cement industry and its profitability.
- To draw conclusion about relationship of working capital management policy and profitability of Pakistan cement industry.

2. Literature review:

Many researchers have studied working capital from different views and in different environments. However, very few of them have discussed the working capital policies in specific.

Weinraub and Visscher (1998) have discussed the issue of aggressive and conservative working capital management policies of US firms. The researchers have examined ten diverse industry groups to study the relative relationship between their aggressive/conservative working capital policies and they have concluded that the industries had distinctive and significantly different working capital management policies over the time. Moreover, the study also showed a high and significant negative correlation between industry asset and liability policies and found that when relatively aggressive working capital asset policies are followed they are balanced by relatively conservative working capital financial policies.

Filbeck and Krueger (2005) studied the importance of efficient working capital management by analyzing the working capital management policies of 32 non-financial industries of USA. According to their findings significant differences exist between industries in working capital practices over time. Moreover, these working capital practices, themselves, change significantly within industries over time. Similar studies are conducted by Gombola and Ketz (1983), Soenen (1993), Maxwell et al. (1998), and Long et al. (1993).

In the Pakistani context, Rehman (2006) studied the impact of the different variables of working capital management, including average collection period, inventory turnover in days, average payment period and CCC on the net operating profitability of 94 Pakistani firms listed on Islamabad Stock Exchange (ISE) for the period 1999-2004. He found that there is a strong negative relationship between working capital ratios mentioned above and profitability of firms. Furthermore, managers can create a positive value for the shareholders by reducing the CCC up to an optimal level. Similar studies on working capital and profitability include Smith and Begemann (1997), Howorth and Westhead (2003), Eljelly (2004), Rehman et al (2010) and Lazaridis and Tryfonidis (2006).

However, the study done by Afza and Nazir (2007) found a negative relationship between the profitability measures of firms and degree of aggressiveness on working capital investment and financing policies for 204 public limited companies listed at Karachi Stock Exchange for a period of 1998-2005. As their result indicates that the firms with more aggressive working capital policy may not be able to generate more profit proving the negative relationship of Working capital policy and profitability

Another important study done by Afza and Nazir (2007) investigated the relationship between the aggressive and conservative working capital, using Analysis of Variance (ANOVA) and Least Significant Difference (LSD) test, for seventeen industrial groups and a large sample of 263 public limited companies listed at Karachi Stock Exchange for a period of 1998-2003. Finally, ordinary least regression analysis found a negative relationship between the profitability measures of firms and degree of aggressiveness of working capital investment and financing policies.

Research done by Pandey and Parera (1997) in Sri Lankan context provided an empirical evidence of working capital management policies and practices of the private sector manufacturing companies in Sri Lanka. The information and data for the study were gathered through questionnaires and interviews with chief financial officers of a sample of manufacturing companies listed on the Colombo Stock Exchange. They found that most companies in Sri Lanka have informal working capital policy and company size has an influence on the overall working capital policy (formal or informal) and approach (conservative, moderate or aggressive). And also company profitability has an influence on the methods of working capital planning and control.

Binti Mohammad and Binti Mohd Saad (2010) found in the study of 172 listed Malaysian firms that current ratio is negatively significant to financial performance. Their study emphasized the importance of proper management of working capital as it affects firm's market value and profitability. They also suggested that working capital management should be part of the company's strategic and operational processes in order to be effective.

Ghosh and Maji (2003) examined the efficiency of working capital management of the Indian cement companies during 1992–1993 to 2001–2002. For measuring the efficiency of working capital management, performance, utilization, and overall efficiency indices were calculated instead of using some common working capital management ratios. Setting industry norms as target efficiency levels of the individual firms, and also tested the speed of achieving that target level of efficiency by an individual firm during the period of study. It was found that the Indian Cement Industry as a whole did not perform remarkably well during this period.

Wajahat Ali and Syed Hammad Ul Hassan (2010) found no significant relationship between profitability and working capital management policy when grouped as aggressive, defensive or conservative based on cash conversion cycle of 37 listed firms in the OMX Stockholm Stock Exchange. The ratio of current asset to total assets of the observations in this study was another proxy variable for working capital management, but the data failed the tests of normality. Because of this limitation, dummy variables were used instead to capture the effect of working capital management policy on profitability.

All the above studies provide author a solid base and gave idea regarding working capital management. They also help to understand the results and conclusions of those researches already conducted on the same area for different countries and environment from different aspects. On basis of these researches done in different countries, author have developed her own methodology for research. In This study impact of working capital policy impact on accounting profitability was measured using the following variables: net income, ROA, and ROE. The present study further validates the impact of working capital policies on market measures of profitability, i.e., Tobin's q using panel data approach.

2.2. Statement of hypothesis:

Since the objective of this study is to examine the relationship between profitability and working capital management policy, the study makes a set of testable hypothesis {the Null Hypotheses H₀ versus the Alternate Hypotheses H₁}.

Hypothesis

The hypothesis of this study is as follows:

H₀: There is no relationship between working capital policy and profitability of Pakistani cement sector.

H₁: There is a possible positive relationship between working capital policy and profitability of Pakistani cement sector.

Firms more efficient in managing their aggressive working capitals are expected to pose high level of profitability and vice versa.

3. Research Methodology:

3.1. Variable used in the study:

In this study first we identified the working capital policy followed by the firms as Investment Policy (IP) and Financing Policy (FP). The level of the investment and financing policy is measured by the degree of aggressiveness or the conservativeness. Aggressive Investment Policy results in minimal level of investment in current assets versus fixed assets. In compare, a conservative investment policy places a greater proportion of capital in liquid assets with the opportunity cost of less profitability. If the level of current assets increases in proportion to the total assets of the firm, the management is said to be more conservative in managing the current assets of the firm. In order to measure the degree of aggressiveness / conservativeness of investment policy, following ratio has been used. There are in consistent with Afza & Nazir, (2007); weinraub & Visscher, (1998); Salawu, (2006).

$$\text{Investment Policy} = \text{Total Current Assets} / \text{Total Assets}$$

Where a lower ratio means a relatively aggressive policy and a higher ratio means a relatively conservative policy.

An Aggressive Financing Policy use higher levels of current liabilities and less long-term debt. In contrast, a conservative financing policy uses more long-term debt and capital and less current liabilities. To measure the degree of aggressiveness/conservativeness of financing policy, following formula has been used.

$$\text{Financing Policy} = \text{Total Current Liabilities} / \text{Total Assets}$$

Where a higher ratio means a relatively aggressive policy and a lower ratio means a relatively conservative policy.

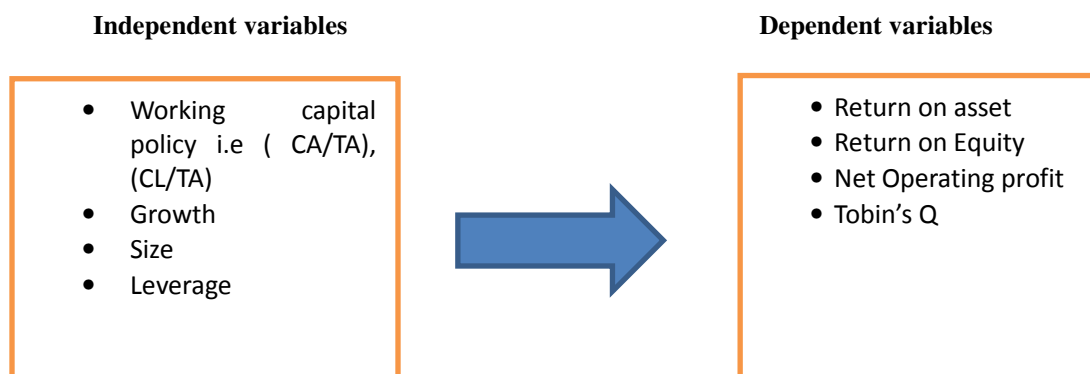


Figure1. Conceptual Framework

All the variables stated in table 1 have been used to test the hypotheses of the study. They include dependent and independent variables and control variables. The impact of working capital policies on the profitability has been analyzed through accounting as well as market measures of profitability, i.e., Return on Assets (ROA), Return on equity (ROE), net operating profit (NOP) and Tobin's q . The size of the firm, the growth in its sales and financial leverage (debt) are used as control variable.

Table 1: Measurement of variables and Abbreviation

Variable	Measurement	Abbreviation
Dependent Variable		
Net Operating Profitability	(Earnings before Interest and Tax + Depreciation) / Total Assets	NOP
Return on Asset	Net Earnings After Taxes / Book Value of Assets	ROA
Tobin's Q	Market Value of Firm / Book Value of Assets	TQ
Return on equity	Net Earnings After Taxes / Avg. Stock's Holder Equity	ROE
Independent Variable		
Investment Policy	Total Current Assets/ Total Assets	IP
Financial Policy	Total Current Liabilities/Total Assets	FP
Control Variables		
Size of firm using Log of Sales	Natural Logarithm of Sales	LOS
Sales Growth	(Current year N. sales-Last year N. Sales) / Last year's N. Sales	SG
Financial Debt Ratio	Total Financial Debt / Total Assets	DEBT

3.2. Statistical analysis

The impact of aggressive and conservative working capital policies on the profitability of the firms has been evaluated by applying the panel data regression analysis. The performance variables (*ROA*, *NOP*, *ROE* and Tobin's *q*) as well as the *investment policy (IP)* and *Financing Policy (FP)* along with the control variables were regressed using the Eviews software. The following regression equations are run to estimate the impact of working capital policies on the profitability measures.

$$ROA = \beta_0 + \beta_1(IP)_{it} + \beta_2(FP)_{it} + \beta_3(Size)_{it} + \beta_4(Growth)_{it} + \beta_5(Debt)_{it} + \varepsilon \quad \dots (1)$$

$$ROE = \beta_0 + \beta_1(IP)_{it} + \beta_2(FP)_{it} + \beta_3(Size)_{it} + \beta_4(Growth)_{it} + \beta_5(Debt)_{it} + \varepsilon \quad \dots(2)$$

$$NOP = \beta_0 + \beta_1(IP)_{it} + \beta_2(FP)_{it} + \beta_3(Size)_{it} + \beta_4(Growth)_{it} + \beta_5(Debt)_{it} + \varepsilon \quad \dots (3)$$

$$Tobin's\ q = \beta_0 + \beta_1(IP)_{it} + \beta_2(FP)_{it} + \beta_3(Size)_{it} + \beta_4(Growth)_{it} + \beta_5(Debt)_{it} + \varepsilon \quad \dots (4)$$

Where

ROA = Return on Assets

ROE = Return on equity

NOP= Net operating Profit

Tobin's Q= Value of Q

IP= Investment Policy

FP= Financing Policy

Size = Natural log of Firm sales

Growth = growth of sales

Debt = Financial Leverage Ratio

β = Intercept

ε = Error term of the model

$i = 1 \dots 20$

$t = 2006 \dots 2011$

3.3. Data set

The sample of the study consists of all firms of cement industry of Pakistan listed on the Karachi Stock Exchange (KSE). This study used annual financial data of 20 firms for the period 2006-2011. The reason for restricting to this period was that the latest data for investigation was available for this period. The panel data set was developed for six years and for the 20 sampled firms which produced 120 year-end observations. The required financial data for the purpose of the study was obtained from the respective companies' annual reports and publications of State Bank of Pakistan. The data regarding annual average market prices was collected from the daily quotations of KSE.

Limitation of data: Total 29 companies are working in Pakistan but only 20 listed in Karachi stock exchange for the selected period.

4. Empirical Analysis

ROA, ROE, NOP and Tobin's Q has been estimated for 20 firms for the period 2006-2011 and results are reported in Table 2. Independent and control variable have been regressed against all 4 models. The models F-values and the Durbin-Watson statistics indicate overall best fit of the models. If significance value of $F > 0.05$ then it means that model is not acceptable and variation illustrated by the model is by chance. However, if significance value of $F < 0.05$ then it means that model is acceptable and variation showed in the model is not just by chance.

Hence, the statistical analysis of this study shows that the significance value of F is 0.000 which is less than 0.05 so it means that my model is acceptable and the variation explained by this model is not just due to chance. Whereas Durbin-Watson statistics < 2 indicate positive correlation among the independent variables of the regressions models. The positive coefficient of IP indicates a negative relationship between the degree of aggressiveness of investment policy and profitability. As the IP increases, the degree of aggressiveness decreases, and return on assets increases. Therefore, there is a negative relationship between the relative degree of aggressiveness of working capital investment policies of firms and performance measures, i.e., ROA, ROE, NOP and Tobin's Q. A greater value of IP shows less aggressive investment policy of working capital (Afza & Nazir, 2007). From this, it can be concluded that a less aggressive working capital investment policy leads to more profitability. If a firm invests more in fixed assets then it can generate more profits. If a firm uses more of its resources as current assets then it will lead to wastage of resources. These results are similar to the findings of Afza and Nazir (2007). This similarity in market and accounting measures confirms that investors do not believe in the adoption of aggressive approach in the working capital management.

In all models, negative value of coefficient for *FP* also points out the negative relationship between the aggressiveness of working capital financing policy and performance measures, i.e., ROA, ROE, NOP and Tobin's Q. The higher the *FP* ratio, the more aggressive the financing policy, that yields negative profitability. These results are in accordance to the findings of Afza and Nazir (2007), but results for Tobin's Q is not consistent with the study done by Afza and Nazir (2007).

Table 2: Regression Analysis of performance Measures and working capital policy

Variable	ROA		ROE		NOP		Tobin's Q	
	β	t-Statistic	β	t-Statistic	β	t-Statistic	β	t-Statistic
C	0.021892	0.755129	0.050928	0.224224	0.011536	0.346726	1.624411	1.20897
IP	0.123418	2.505198	0.493165	1.27774	0.11306	1.999637	8.481823	3.714767
FP	-0.275228	-4.375405	-1.61164	-3.270238	-0.24985	-3.460859	-2.309093	-0.792036
SIZE	0.00772	4.168114	0.02454	1.691235	0.011924	5.609627	0.268134	3.123686
GROWTH	0.000482	0.107862	0.00244	0.069702	-0.003082	-0.600919	-0.139825	-0.675149
DEBT	-0.13319	-2.916221	-0.118617	-0.3315	-0.126192	-2.407463	-3.293231	-1.555787
R-squared	0.436655		0.168064		0.380729		0.222009	
Adjusted R-squared	0.411947		0.131575		0.353568		0.187887	
S.E. of regression	0.074435		0.583163		0.085427		3.449826	
Sum squared resid	0.63162		38.76896		0.831949		1356.748	
F-statistic	17.67256		4.605939		14.01748		6.506255	
Prob(F-statistic)	0.00000		0.000728		0.00000		0.000023	
Durbin-Watson stat	1.108325		1.769628		1.303225		0.495178	

The control variables used in the regression models are natural log of firm size, sales growth, and debt. All the control variables have their impact on the performance of the firms. Firms' size causes the returns of the firms to be increased and it is found to be statistically significant. Result of the study also showed that firm size has a significant positive relationship with financial performance. This is not consistent with the study of Wajhat Ali and Syed Hammad Ul Hassan (2010), which found inverse relationship and the study of Amarjit, G., et. Al (2010), which found no significant relationship. On the other hand, financial debt has a negative effect on profitability, as much as the cost of borrowing money increase, it decreases profitability. Additionally, Growth

and Debt are found to be significantly associated with the book-based returns which confirm that leverage and growth are strongly correlated with the book value-based performance measures (Deloof, 2003; Eljelly, 2004; Afza and Nazir, 2007).

This study results are consistent with Afza and Nazir (2007) but inconsistent with the findings of Gardner *et al.* (1986), Deloof (2003), Eljelly (2004) and Teruel and Solano (2005); and produced a negative relationship between the aggressiveness of working capital policies and accounting and market measures of profitability. Firms cannot more profit and create value if they adopt an aggressive approach towards working capital investment and working capital financing policy.

5. Conclusion

In financial management, you can about capital management studies are not as popular as those related to capital structure and capital budgeting. Of in this perspective, this study aims to analyze the determinants of firm profitability of variables associated with the management of working capital policy namely working capital investment policy and working capital financing policy with a sample steam of 20 cements firm's for the period 2006-2011. Investment policy is regarding the management of current assets of the business and financing policy is concerned about the management of current liabilities mainly. In aggressive working capital investment policy more resources are invested in fixed assets than current assets to gain more profits. A conservative working capital investment policy is opposite to it. In aggressive working capital financing policy more current liabilities are used than long-term debts and vice versa for conservative financing policy. The impact of working capital investment and the financing policies has been examined using panel data regression models between working capital policies and profitability. Moreover, the results show a positive correlation between investing policy and financing policy of working capital. This positive relation demonstrates that the firms which follow aggressive working capital investing policy, they also go for aggressive financing policy. Similarly the firms pursuing conservative investing policy also prefer conservative financing policy for the management of working capital.

The study finds a negative relationship between the profitability measures of Cement industry and degree of aggressiveness of working capital investment and financing policies. The firms report negative profit if they follow an aggressive working capital policy. These results were further confirmed by examining the impact of working capital policies on market measures of profitability. The results of Tobin's q were in line of the accounting measures of profitability and produced almost similar results for working capital investment and financing policy. In the same way, there is a considerable positive relationship between the firm size and profitability. And there is a considerable negative relationship between total debts utilized by the cement firms of Pakistan and their profitability. These findings are similar to the results of some previous researchers such as Raheman and Nasr (2007), Afza and Nazir (2007) and Padachi (2006).

The findings of this study are helpful for the financial managers of the cement sector as these provide the information regarding the management of short-term capital and also inform them about the management policies used by their peers. This information is useful for maintaining a healthy competition and improving own organization. Eventually it is recommended that the managers should try to create good synchronization between the assets and liabilities of the firm.

The study also suggests some policy implications for the managers and prospective investors in the emerging market of Pakistan. Firms with more aggressive policy towards working capital may not be able to generate more profit. So, as far as the book value performance is concerned, managers cannot generate more returns on assets by following aggressive approach towards short-term assets and liabilities.

However the results of present study are in contradiction to some earlier studies on the issues. Nevertheless, we hope that the result can contribute to the body of knowledge by identifying how market value and profitability of cement industry affected by their working capital policies. It was recommended that the study is further improved with more industries, different variables for working capital practices and also other external variable which might provide a strong relationship between the variables and help to uncover the better firm's performance in Pakistan perspectives. Thus this study is left for future to be further explored.

References

Afza, T. & Nazir, S. M. (2007). Working Capital Management Policies of Firms: Empirical Evidence from Pakistan. *In the Proceedings of 9th South Asian Management Forum (SAMF) on February 24-25, North South University, Dhaka, Bangladesh.*

- Afza, T. & Nazir, S. M. (2007). Is it better to be Aggressive or Conservative in Managing Working Capital? *Journal of Quality and Technology Management*, 3(2): 11-21.
- Afza, T. & Nazir, S. M. (2008). Working Capital Approaches and Firm's Returns in Pakistan. *Pakistan Journal of Commerce and Social Sciences*, 1(1): 25-36.
- Abdul Raheman & Mohamed Nasr. (2007). Working capital management and profitability – case of Pakistani firms. *International Review of Business Research Papers*, Vol.3 (2), pp. 275 – 296.
- Amarjit, G., et.al. 2010. The relationship between working capital management and profitability: Evidence from the United States. *Business and Economics Journal*, Vol 2010: BEJ-10
- Baig, M. R. (2008). Cement Industry. *Economic Pakistan* (February 12, 2008).
- Bhattacharya, H. (1997). *Total Management by Ratios*, Sage Publication India Pvt. Ltd. New Dehli.
- Binti Mohamad and Binti Mohd Saad. 2010. Working capital management: The effect of market valuation and profitability in Malaysia. *International Journal of Business and Management* , Vol 5, No 11, pp 140-147 (ISSN: 1833-8119 online)
- Brigham EF and MC Ehrhardt (2004). *Financial Management: Theory and Practice* (11th Edition). New York: South-Western College Publishers.
- Deloof M (2003). Does Working Capital Management Affect Profitability of Belgian Firms? *Journal of Business, Finance and Accounting* 30(3&4): 573-587.
- Eljelly AMA (2004). Liquidity-Profitability Tradeoff: An Empirical Investigation in an Emerging Market. *International Journal of Commerce and Management* 14(2): 48-61.
- Filbeck G and T Krueger (2005). Industry Related Differences in Working Capital Management. *Mid-American Journal of Business* 20(2): 11-18.
- Gardner MJ, DL Mills, and RA Pope (1986). Working Capital Policy and Operating Risk: An Empirical Analysis. *The Financial Review* 21(3): 31-31.
- Gardner, M. J., Mills, D. L. and Pope, R. A. (1986). Working Capital Policy and Operating Risk: An Empirical Analysis. *The Financial Review*, 21(3): 31-31.
- Ghosh SK and SG Maji (2004). Working Capital Management Efficiency: A Study on the Indian Cement Industry. *The Management Accountant* 39(5): 363-372.
- Gitman LA. (2005). *Principles of Managerial Finance* (11th Edition). New York: Addison Wesley Publishers.
- Hall C (2002). "Total" Working Capital Management". *AFP Exchange* 22(6): 26-32.
- Harris A (2005). Working Capital Management: Difficult, but Rewarding. *Financial Executive* 21(4): 52-53
- Howorth, C. and Westhead, P. (2003). The Focus of Working Capital Management in UK Small Firms. *Management Accounting Research*, 14(2): 94-111.
- Imegi, J C et al (2003) , Managing Work capital in River State Owned Enterprises: A strategic Analysis
- Lamberson M (1995). Changes in Working Capital of Small Firms in Relation to Changes in Economic Activity. *Mid-American Journal of Business* 10(2): 45-50.
- Lazaridis I and D Tryfonidis (2006). Relationship between Working Capital Management and Profitability of Listed Companies in the Athens Stock Exchange. *Journal of Financial Management and Analysis* 19 (1): 26-35.
- Maxwell, C. E., Gitman, L. J. and Smith, S. (1998). Working Capital Management and Financial-Service Consumption Preferences of US and Foreign Firms: A Comparison of 1979 and 1996 Preferences. *Financial Practice and Education*, 8(2): 46-52.
- Nazir, M., & Afza, T. (2009). Impact of Aggressive Working Capital Management Policy on Firms' Profitability. *The IUP Journal of Applied Finance* , 25 (8), 19-30.
- Niskanen, J., & Niskanen, M. (2006). The Determinants of Corporate Trade Credit Polices in a Bank-Dominated Financial Environment: The Case of Finnish Small Firms. *European Financial Management* , 12 (1), 81-102.
- Nobanee, H., Abdullatif, M., & Asl Hajjar, M. (2011). Cash Conversion Cycle and Firm's Performance of Japanese Firms. *Asian Review of Accounting* , 19 (2).
- Raheman, A., & Nasr, M. (2007). Working Capital Management and Profitability – Case of Pakistani Firms. *International Review of Business Research Papers* , 3, 279-300.

- Pandey IM and KLV Parera (1997). Determinants of Effective Working Capital Management - A Discriminant Analysis Approach. IIMA Working Paper # 1349. Research and Publication Department Indian Institute of Management Ahmedabad India.
- Prasad, R. S. (2001). Working Capital Management in Paper Industry. *Finance India*, 15(1): 185-188.
- Salawu, R. O. (2007). Capital industry practice and aggressive conservative working capital policies in Nigeria. *Global Journal of Business Research*, 1(2), 109-118.
- Shin HH and L Soenen (1998). Efficiency of Working Capital and Corporate Profitability. *Financial Practice and Education* 8: 37-45.
- Smith K (1980). *Profitability versus Liquidity Tradeoffs in Working Capital Management, in Readings on the Management of Working Capital*. New York: St. Paul, West Publishing Company.
- Smith, M. B. and Begemann, E. (1997). Measuring Association between Working Capital and Return on Investment. *South Africa Journal of Business Management*, 28(1): 1-5
- SBP. 2009. *Handbook of Statistics on Pakistan Economy*. Karachi: State Bank of Pakistan (SBP).
- Teruel PJG and PM Solan (2005). Effects of Working Capital Management on SME Profitability. *Working Papers Series. Dept. Organización de Empresas y Finanzas, Facultad de Economía y Empresa, Universidad de Murcia, Campus Espinardo, Spain*.
- Uyar, A. 2009. The Relationship of Cash Conversion Cycle with Firm Size and Profitability: An Empirical Investigation in Turkey. *International Research Journal of Finance and Economics*, 24:186-193
- Van-Horne JC and JM Wachowicz (2004). *Fundamentals of Financial Management* (12th Edition). New York: Prentice Hall Publishers.
- Weinraub HJ and S Visscher (1998). Industry Practice Relating To Aggressive Conservative Working Capital Policies. *Journal of Financial and Strategic Decision* 11(2): 11-18.
- Wajahat Ali and Syed Hammad Ul Hassan. 2010. Relationship between profitability and working capital policy of Swedish companies. Essays.se, Retrieved from Swedish University Essays.
- Yadav, R. A. (1986). Working Capital Management: A Parametric Approach. *The Chartered Accountant*, 952.
- Zariyawati, M., Annuar, M., Taufiq, H., & Abdul Rahim, A. (2009). Working capital management and corporate performance: Case of Malaysia. *Journal of Modern Accounting and Auditing*, 5 (11), 47-54.