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IMPACT OF WORKING CAPITAL MANAGEMENT ON FIRM'S PROFITABILITY: A CASE FROM FOOD SECTOR OF PAKISTAN

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ABSTRACT: *The main aim of this study is to investigate the relationship between working capital management (WCM) and firm's profitability in the Food sector of Pakistan. WCM plays an important role in firm's financial management decisions. An optimal (WCM) is expected to contribute positively to the creation of firm's value and enhancement of its profitability. Return on assets (ROA) is used as dependent variable while different independent variables are also used. Working capital, current asset to total asset ratios' debt to equity ratio, current ratio and capital size of the firm are used independent variables. These variables are also used to investigate their effect on profitability (net income). A sample size of 5 major food companies in Pakistan has been selected from balance sheet analysis of state bank of Pakistan for a period of five years, from 2012 to 2016. The relationship between (WCM) efficiency and profitability is examined using correlation, regression analyses. The results show a strong positive significant relationship between (WCM) and firm's profitability in Pakistan's Food sector.*

KEYWORDS: Working capital, Food sector, Financial performance, Return on Assets

INTRODUCTION

Working capital management is very important for a firm to maintain its performance. As it affects the profitability of firm "Working Capital management explicitly impacts both the profitability and level of desired liquidity of a business**.** Working capital means the difference between the current assets and current liabilities, current assets include the term cash, prepaid expense, marketable securities, short term investments etc and current liabilities include the short term loan, outstanding expenses etc, if current assets are more than the current liabilities then. Working capital management is most important part of firm's short-term financial matters. Firms of all sizes have to strictly manage its working capital regarding their profitability (Alipuor, 2011).

The management of working capital play vital role to recover the financial performance of the firm, through the working capital the firms obtain the benefits of opportunities. Decisions relating to working capital and short term financing are referred to as working capital management. Working capital management ensures a company has sufficient cash flow in order to meet its short-term debt obligations and operating expenses (Peterson and Rajan, 2002). Kaddumi and Ramadan (2012) studied the purpose of managing working capital as a controlling factor of current financial resources of a firm in such a way that a balance is created between profitability of the firm and risk associated with that profitability Working capital is the need of every business; it is an important part of business investment to run the operation of business.

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Gill et al., (2010) studied the importance of managing working capital of a business efficiently cannot be denied Working Capital management explicit impacts both the profitability and level of desired liquidity of a business Moreover the firm will have to endure the cost of storing inventory for longer periods as well as the cost of handling excessive inventory. Working capital management is used as a tool to measure the profitability in Pakistan in various sectors but food sector is not much study available many other sector have a lot of research on it and use the working capital management to check the performance. For example the food sector or industry working capital management is very important, so the objective of this study is to determine. Working capital management is the main part of business management. The basic purpose of managing working capital is controlling of current financial resources of a firm in such a way that a balance is created between profitability of the firm and risk associated with that profitability (Eljelly, 2004; Lazaridis, 2006, Khan, 2006, Pandey, 2007)**.**

Rehman (2007) conducted a research on working capital as it is need of every business; it is an important part of business investment to run the operations of business. The importance of managing working capital of a business efficiently cannot be denied**.** The profitability as well as adequate level of liquidity is required to be maintained for the survival of a business, the field of working capital management is given attention by researchers because of its continued relevance and centrality to the success of a going concern. To corroborate this assertion asserts that a business is as strong as its unencumbered capital base, as liquid as its working capital volume, and as dynamic and viable as its managerial decisions, working capital is the center of existence of any business (Samiloglu, 2008,).

Vishnani and Shah, (2007) did some research on Indian National Fertilizer Limited, for the period 1990-91 to 1999-2000**.** He finds that profitability and working capital management have negative impact on positive relationship. He also determines proof that the rate of increase in firm's profitability is less than from decrease in working capital.Azam and Haider, (2011) conducted research on impact of working capital management and firm's performance as well as liquidity in India. For the purpose of their analyses they have been selected the other food sector and selected the data from 2006-2010 of 18 companies of this sector listed on Karachi Stock Exchange. For this purpose they examine the effect of different variables of working capital management like Average collection period, average payment period, inventory turnover in days, cash conversion cycle, debt ratio, financial asset to total asset ratio, current ratio and net operating profitability.

Size of firm a Kaddumi and Ramadan (2012) conducted a study to assess the effect of (WCM) on the performance in Jordanian Industrial corporations listed at Amman Stock Exchange. They explained that the negative relationship of average collection period, average age of inventory with profitability. This also implies that handling proper inventory and shortening the debtor's collection period will increase the profitability. On the other hand the positive relationship of average payment period with the profitability involve that the increase the days of payment period will increase the profitability has significant positive effect on firm's liquidity.Shin and Soenen (1998) discusses industrial problems in India and argues that, despite the growth in industrial production, investment levels have fallen. He identifies multiple factors in this respect, including high production and transaction costs, and allocated, technical, and X-inefficiencies.

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Net working capital is the excess of current assets over current liabilities of a firm. It determines the strength of the business and its liquidity position means more the working capital more the liquidity of the firm. WCM could be permanent or temporary; former is the amount of current assets company must possess for longer period of time to offset its current liabilities while later is the excess of current assets to meet seasonal current liabilities (Van Horn, 2005)**.**The rest of this paper is organized as follows: Section 2 describes problem definition, Section 3, proposes model with results and analysis of this research. Section 4, conclusion, contains discussion and future research directions.

Key Research Problem:

The research work is mainly focused on impact of working capital management on firm’s performance in food sector. Before this research work food sector of Pakistan is neglected basically sugar sector which is an important part of Pakistan’s economy. Purpose of this study is to investigate the impact of working capital management on firm’s performance in overall food sector of Pakistan.

The data collected from manufacturing companies in food sector that are listed in Karachi stock Exchange Pakistan. This sector is selected because management of working capital is essential for improving the daily operations which will result in increasing the profitability of this sector. In this study research the WCM are positive or negative impact on the profitability of the firm. Greater number of variable is used in this study for measuring the WCM and firm’s profitability.
The main objective is to discover the effect of working capital management (WCM) on firm’s profitability (FP) in over all food sectors because heavy investments have been made in the working capital in this sector and this sector is also neglected in research in the past. So it is very important to have knowledge of how different indicators of working capital affecting the profitability in this sector and to know the basic short coming of not managing working capital in the efficient manner.

This problem deals in following:

- To find the extent of link between WCM and FP (profitability) in food sector.
- To inspect the level of WCM and FP (profitability) in food sector of Pakistan listed at Karachi stock exchange.

Following are the research questions of our research.

- What is the significance effect of WCM on FP?
- What is the nature of link between WCM and FP in food sector?
- How is the profitability of companies in food sector and how well working capital is managed in food sector over the period 0f 2012-2016?
- Does there any relationship exist between inventory turnover and Profitability of Food Sector

All previous work on other factors but there is no proper study on ROA, current ratio, Quick ratio, debt to equity ratio food sector. Over the past few years, a declining trend can be observed in the ROA for the food sector. The purpose of the study is to find the relationship between the firm profitability with current ratio in food sector Pakistan.

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MATERIALS AND METHODS

Research Design and Methodology

The main purpose of this study is to determine the impact of Working capital management on the profitability of over all food sectors. The research is conducted by using secondary data, which is collected from the Balance Sheet Analysis of State Bank of Pakistan (SBP) as well as from the publication of Karachi stock exchange. Because in food sector, firms are involved in the day to day operations and cash is needed to manage this operations.

Sampling Design

The total population size for this study consists of 164 companies in the Food sector of Pakistan at website of SBP in balance sheet analysis. The sample only includes the whole food sector of Pakistan. All other sectors are excluded from the sample as current research investigates the relationship of WCM and Profitability of food companies in Pakistan. The Simple Random Sampling method is used to take the sample size of 5 firms from 164 firms of food sector. Random sampling is a quite useful technique as it avoids sampling error by giving equal chance of selection to each company. The study period is five years starting from 2012 to 2016. The firms with missing or inaccessible data were eliminated from the study.

Research Design:

To deal with this kind of problems, several techniques can be used. The type of investigation was correlation as researcher tries to explore the relationship between dependent variable (Profit or ROA) and different independent variables like Current Ratio, Current Assets to Total Assets Ratio, and Debt to Equity.

Data Analysis Methodology

Data collected from financial statements of all firms in the food sector of Pakistan has been entered in the SPSS software to check the authenticity of the data. Then, different tools and methods were applied on the data for the purpose of evaluation and statistical analysis of this research. These methods are Regression, Co efficient of Correlation. T-statistics,

Regression is used to predict the values of quantitative outcome variable using several other predicative variables. Simple regression shows the collective effect of independent variables on the dependent variable. Correlation coefficient explains the relationship between two variables. It shows change in one variable because of any change in other variable.

In this study just some of the variables are selected except these factors there are number of variables to interpret the performance of firm. Performance can also be influenced by taxation, economic conditions of the country and many other controllable or uncontrollable factors.

Sample Characteristics

The characteristics of this research sample is that only companies from food sector are selected as research pertains to food sector of Pakistan and all other companies and sectors are excluded from this study.

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Hypothesis:
The hypotheses of this study are as follows:
HA1: There is a significant impact of WCM on the profitability of food sector.
HA0: There is an insignificant impact of WCM on the profitability of food sector.
HB1: There is significant impact of current asset to total asset ratio on the performance of food sector.
HB0: There is an insignificant impact of current asset to total asset ratio on the performance of food sector.
HC1: There is a positive relationship between debt to equity ratio and profitability of food sector.
HC0: There is a positive relationship between debt to equity ratio and profitability of food sector.
HD1: Current ratio impacts significantly on the profitability of food sector.
HD0: Current ratio impacts insignificantly on the profitability of food sector.

Proposed Model:
ROA=β_0+β_1 (CATAR) +β_2 (DTER) +β_3 (CR) +β_4 (LOS) +ε
β0 =Intercept
β1 =Co-efficient of Predictors
ROA =Return on asset of the firm
CATAR = Current Assets to total Assets turnover of the firm
DTER =Debt to Equity of the firm
CR = Current Assets and Current Liabilities of the firm
ε = Error term.

A high debt/equity ratio generally means that a company has been aggressive in financing its growth with debt. If a lot of debt is used to finance increased operations (high debt to equity). The company could potentially generate more earnings that it would have without this outside financing. ROA tells you what earnings were generated from invested capital (assets). ROA figures give investors an idea of how effectively the company is converting the money it has to invest into net income. The higher the ROA number, the better, because the company is earning more money on less investment. For example a company has net income of $ 1 million and total assets of $ 5 million, its ROA is 20% however, if another company earns the same amount but has total assets of $ 10 million then its ROA is 10%. Based on this example the first company is better at converting its investment into profit.

Variables:
All the selected variables are used for developing and testing the hypothesis. These variables include dependent and independent variables:

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Variables and Notations

Variables	Name	Abbreviation	Formula	Definition
Dependent variable	Return on Asset	ROA	Net profit/total net assets	It is the ratio between companies' earnings before interest and tax to its total assets. It shows that how effectively the company is uses its current assets before meeting its contractual obligations.
Independent Variable	Current Asset to Total asset Ratio	CATAR	Total current assets/total assets	This is the ratio of current assets to total assets to check the investment policy of working capital used by the firm.
Independent Variable	Debt to Equity Ratio	DTER	(Total debt /shareholders equity)*100	It indicates that proportion of equity and debt the company is using to finance its assets.
Independent Variable	Current Ratio	CR	Current assets/current liabilities	It is the ratio between current assets and current liabilities of firm .The highest CR shows the financial strength of firm.

Regression:
The working capital management and profitability relationship is analyzed by using panel data techniques of fixed effects regression. The results of this method are illustrated pooled least square method is used to find the fixed affect model for regression analysis
Impact of our Evolving variables on dependent variable by utilizing multiple linear Regression Model of over all Food Sector

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	48.40087	28.45241	1.053	0.025
CATAR	59.641949	34.2594	.568	0.94
DTER	-9.100413	-.004283	-.368	0.8847
CR	67.150311	34.11002	.735	0.6937

This table put light on our analysis which is calculated by utilizing of multiple linear regression models. Regression is a statistical measure that endeavors to focus the quality of relationship between one dependent variable and a progression of other independent variables. A constant is an esteem that never show sign of change. The number used to duplicate a variable is called co-

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efficient. T-statistic is a ratio of the takeoff of an expected parameter from its notional worth. The p-worth is a capacity of the watched specimen comes about (a statistic) that is utilized for testing a statistical hypothesis.

At 5% level of significance the significance of all these variables is measured. Beta coefficient of current assets to total assets ratio is 59.641914, which shows that if there is decrease of 1 unit in CATAR then it causes a decrease of 59.641914 units in ROA. So, there is positive relationship between them. Return on assets is has a significant impact on profitability. So, consequently there is a positive relation between current assets to total assets ratio and profitability. A higher value of this ratio escorts towards high profitability. Similarly the β coefficient of debt to equity ratio is -9.100413. This coefficient with negative sign shows an inverse relationship of DTER with the independent variable. This can be interpreted as an increase of 1 unit in DTER will lead to decrease of -9.100413 units in ROA. This shows an insignificant relationship with ROA. The regression result in table-1 the coefficient of debt to equity ratio is negatively related to the accounting performance measure ROA and the result show that high level of leverage lead to lower ROA. Moreover, due to agency conflict, if firm over leverage it then this will cause its performance down.

Current ratio has β-coefficient of 67.150311, which demonstrates a positive relation between CR and ROA. This relationship is significant. This shows that there is direct relationship between ROA and CR and if one unit change is occur in CR positively it would cause 67.150311 units change positively in ROA. The more current ratio tells that firms are managing their short term debts efficiently that will help to increase their ROA. The t-statistics shows the individual coefficient is significance and p value shows the exact level of significance if individual slop coefficient significance.

The t-value of CATAR is .568 and it is rejecting the null hypothesis because it has value more than 1 and is significant and positive in relation to the dependent variable. Means it affects the profitability significantly. The t-value of debt to equity ratio is- .368 and p value is 0.8847 which show that DTER accepts the null hypothesis and shows an insignificant and negative relationship indicating that one unit change in DTER brings -.368 units change in firm’s profitability.

The t-value of number of current ratio is 0.735 and p value is 0.6937 shows that it accepts the null hypothesis .it have insignificant and positive relationship with ROA. The p value shows that data set is near accurate ROA will increase with increase in CR but not so much because of insignificance of CR. As many researcher stressed on optimal capital structure and larger firm use more debt due to low bankruptcy cost. We can say that as larger firm use more debt but it is possibility that larger firms can be incapable to tradeoff between cost of debt and benefit from debt that causes lower ROA.

Diagnostics of Regression model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.969(a)	.938	.754	.01245

a Predictors: (Constant), CATAR, DER, CR

Diagnostics statistics confirmed the correlation coefficient results. The empirical finding showed that all the independent variables are responsible for the overall change of 93% in the dependent variable i.e. Return on assets. Reliability defined that Company utilized its resources effectively.

Correlation Coefficients comparison:
Correlation coefficient explains the relationship between two variables. It shows change in one variable because of any change in other variable. The range of correlation coefficient lies between 1 to -1.if value lies near 1 it means that the variables is perfectly correlated and if it lies near -1 it means that correlation is not perfect.

Correlation Coefficient analysis

Variables	ROA	CATAR	DTER	CR
ROA	1.0000			
CATAR	0.1419	1.0000		
DTER	-0.1053	0.1033	1.0000	
CR	0.1595	0.6087	0.0472	1.0000

The correlation between CATAR and dependent variable ROA is measured and it has found in results that the there is a positive relation between CATAR and ROA having value 0.1419 .this means that if CATAR is increased it will also increase the ROA but the variables are perfectly correlated but not strongly correlated as value is less than 1.The correlation coefficient of debt to equity ratio is negative with that of return on assets having value -0.1053 which shows that DTER and ROA are negatively and not perfectly correlated and negative sign shows that if DTER increased it will decrease the ROA.

The correlation between CR independent variable and ROA showing the value of 0.1595 which shows that ROA and CR are perfectly and weakly correlated .the positive sign shows that the relationship is direct means if CR increases it will also increase the ROA of firms.

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The correlation coefficient matrix also shows the relationships between the independent variables and results shows that how these independent variables are correlated with each other. The debt to equity ratio and current assets to total assets ratio shows a value of 0.1033 giving us interpretation that these are perfectly correlated with other. Positive sign indicate that if Debt to equity ratio increases it will also increase the current assets to total assets ratio.

The current ratio and current assets to total assets ratio having correlation value is 0.6087 giving a positive correlation and direct relation exists between these two independent variables. Increase in CR will also increase in CATAR. As these both are liquidity ratios so the results shows that firm would have able to fulfill its current assets with its own resources. Allocation of resources perfectly occurred in scenario.

The correlation value between current ratio and debt to equity ratio is 0.0472. This shows that these to variables are positively correlated to each other. But this correlation is weak because value is far away from 1. These two independent elements related to different types of ratios .current ratio belongs to liquidity ratio that shows the liquidity position of firm and debt to equity ratio related to the leverage ratios that shows the position of firm in manner of how much debt is payable on the results shows that the correlation is positively significant.

The management of working capital is one of the most important financial decisions of a firm. Efficient level of working capital should be present for smooth running of business regardless of the nature of business. From this study, it is concluded that maintaining efficient level of working capital is very important for food sector as well like all other sectors of business.The β-coefficient of current assets to total assets ratio (CATAR) is 59.641949. The positive value of this coefficient shows an direct relationship between independent variable current assets to total assets ratio and dependent variable return on assets Debt to equity ratio is used as proxy of leverage. The value of β-coefficient for this is -9.100413. A negative sign exhibits the presence of a negative relation between loan of a firm and its profitability. The t statistics also shows an insignificant and negative relationship or debt on the profitability of firm. When leverage increases, then it negatively affects the profitability. Some previous researchers have also reported the same results such as Raheman and Nasr (2007), Mohamad and Saad (2010), Gill et al. (2010) and Ching et al. (2011). The value of coefficient of current ratio is 67.150311 which show a positive relationship with the profitability of firm. It means that if 1 unit increase occurs in CR it will increase 67.150311 units in Return on Assets.

CONCLUSION, LIMITATION AND FUTURE RESEARCH

In this study, an attempt is made to cover as many important dimensions as possible. But to cover all the dimensions and to include all the variables is just not possible. So, the results estimated from this study should be evaluated keeping in mind that there could be many other variables as well besides the variables mentioned above, that can explain working capital management and profitability correlation and this study is limited only to the effect of selected variables in measuring the efficiency of working capital management. Another limitation of the proposed study is that the data used of only 5 years due to the limitation of lack of availability of data. This study has the implication for food sector only.

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

This study can be extended in terms of empirical model such as some other variables can be also be included in the model used in this study. These other variables can be cash conversion cycle, current assets, return on equity and gross profit etc. Moreover this study can be extended in terms of number years as well food sector is selected for this study; future research can also be done for other sectors as well such as Textile sector, cement sector, telecommunication sector etc.

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