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Analysis of Banker's Perception on Islamic Banking In Pakistan

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19 January 2023

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MPRA Paper No. 116547, posted 01 Mar 2023 14:40 UTC

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CHAPTER 1: INTRODUCTION

1. Introduction

A running business is a composition of many important factors like fixed investment, current assets, current liabilities, long term debt, equity and many more. Working capital is one of the financial matric that represents the liquidity position of the company at the given time. Liquidity is the ability of the firm to run its day to day operations without financial constraints. Working capital is as important as the fixed assets like plant and equipment because both of these are a part of the operating capital. The operating capital is important for the company because it is the capital necessary for the operations of a firm. These assets are available for use in the production of further assets. Other types of capital are used for financial transactions and long-term improvements of the company and its growth.

As the fixed assets are important for the production of further assets and sales, working capital is also important to keep the business in a running condition. Working capital is as important as the life blood in human body (Reddy and Patkar, 2004).

The ultimate objective of any firm is to maximize the profit, but, preserving liquidity of the firm is also an important objective. The problem is that increasing profits at the cost of liquidity can invite serious problems to the firm. Therefore, there must be a tradeoff between these two objectives of the firms. Firms may have an optimal level of working capital that maximizes their value (Juan & Martinez, 2007).

1.1 Background

Working capital management is a very important component of the corporate finance because it has a direct effect on the profitability and liquidity of the organization (Rehman & Nasr, 2007). Researchers have been trying to find the key to survival and success of the organizations since a long time. There have been different debates as to what should be the perfect blend of components on the balance sheet to ensure maximum returns and minimum risk. The debate usually revolves around the capital structure that is the proportion of equity and debt, however, the operating capital is also sometimes carefully looked by the stakeholders.

The working capital has an inverse relation with the fixed investment (Fazzari & Petersen, 1993). The coefficient of endogenous working capital investment is negative in a fixed-investment regression, as expected if working capital competes with fixed investment for a limited pool of finance. The role of Working capital is extremely important, but is often neglected, as both a use and a source of funds. Working capital can place finance constraints on investment affecting the growth of the company.

The recent economic and financial turmoil has brought renewed focus on working capital policies (Enqvist, 2013). With growing concerns after the financial crisis of 2008-09, the companies have started to focus more on proper management of the funds available and try to distribute them in a way that leads to a tradeoff between minimum risk of bankruptcy, profitability and growth through fixed investments.

1.2 Problem Statement

The problem statement that is to be analyzed with the help of this study is "Does Working Capital Management has an effect on the Profitability of firms?"

Firms are trying hard and are applying many tactics so that they can remain competitive in the industry and ensure their survival within the industry. In the financial chaos of 2008-09, many big firms like Lehman Brothers that were deemed to be long lived, and were known as "too big to fail" had to file for bankruptcy because of large amounts of current liabilities and inefficient working capital management.

The markets have become more alert and educated about the allocation of the funds. Thus, to remain an attractive investment, the operating companies must make sure that they comply with all the variables that might affect the profitability of the firm. Along with that, the companies have to find an optimal level between working capital and fixed investment so that they can maximize the shareholders' wealth through capitalizing on the growth opportunities without losing its ability to meet short term obligations.

1.3 Research Objective

The objective of this research is to discover if the working capital management has an impact on the profitability of the firm and its growth. The main objective is to find out the important variables that might affect the profitability and risk situation of the firm so that they can be included in the firms' financial planning. Certain variables in the field of financial management have a cause and effect relationship. Thus, those variables must be identified that affect the firms'

profitability and growth. Considering the limitations of the study, only the effects of working capital are observed which affects the profitability to a high level theoretically. It will lead to further gaps for future researches.

- To find the impact of Working capital management on the profitability of the firms
- To find out the differences among industries with respect to the impact of Working capital efficiency on the profitability on the firms
- To find the impact of Working capital management on the Fixed Investment/growth of the firms

1.4 Research Questions

The specific research questions, as derived from the objectives, for this study are:

- Is there an impact of Working capital management on the profitability of the firms?
- Are there any differences among industries with respect to the impact of Working capital efficiency on the profitability on the firms
- Is there an impact of Working capital management on the Fixed Investment/growth of the firms?
- Is there an impact of Fixed Investment/growth of the firms on Profitability?

1.5 Analysis Model

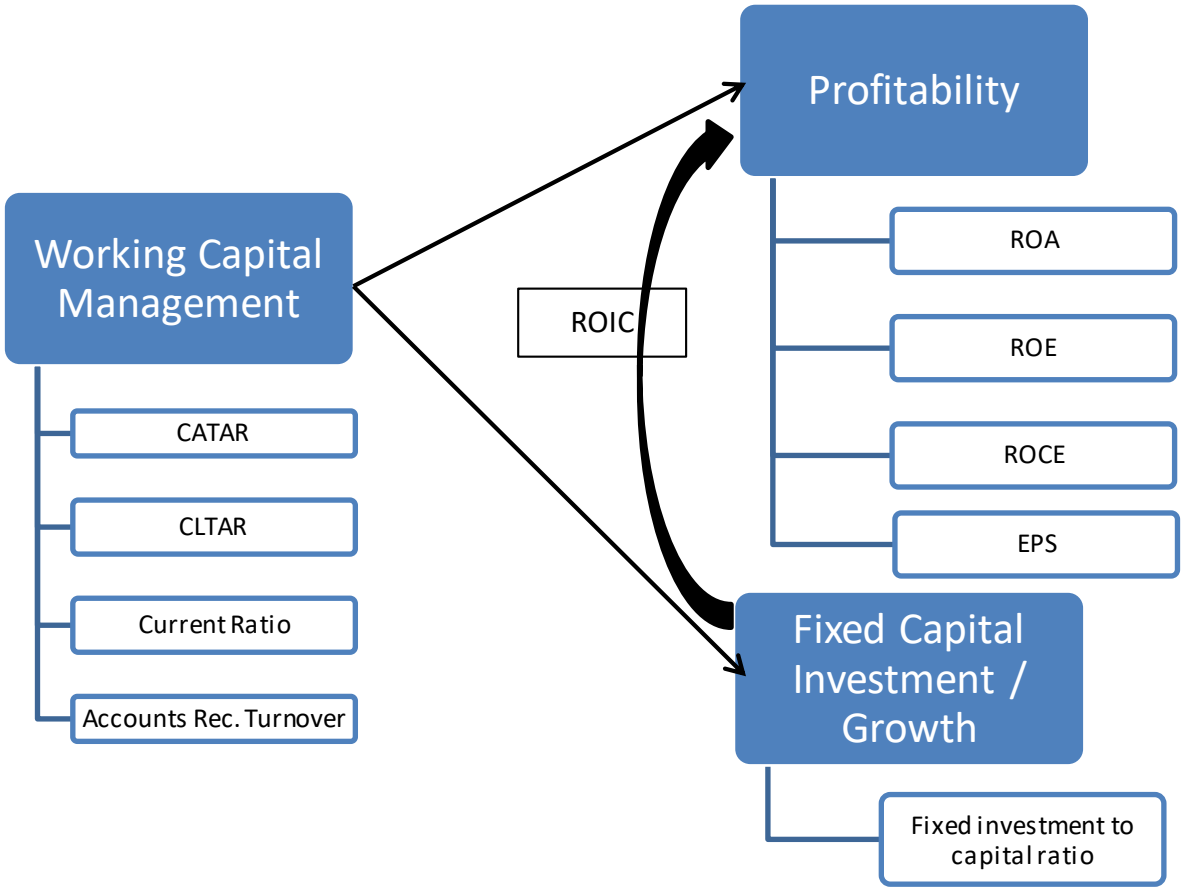

Figure 1.1: Analysis Model

1.6 Variables

Linkage between 'Working capital management' and 'the profitability of the firms'

In this context linkage between 'Working capital management' and 'the profitability of the firms.' is tested.

- Working capital management *(independent variable)*
- Profitability of the firms *(dependent variable)*

Linkage between 'Working capital efficiency' and 'the profitability on the firms' among different industries

In this context linkage between 'Working capital efficiency' and 'the profitability on the firms.' among different industries is tested.

- Working capital efficiency in different industries*(independent variable)*
- Profitability on the firms in different industries *(dependent variable)*

Linkage between 'Working capital management' and 'the Fixed Investment/growth of the firms'

- Working capital management *(independent variable)*
- Fixed Investment/growth of the firms *(dependent variable)*

Linkage between 'Fixed Investment/growth of the firms' and 'the profitability on the firms'

- Fixed Investment/growth of the firms *(independent variable)*
- Profitability of the firms *(dependent variable)*

Fixed Investment/growth of the firms is used as a dependent and independent variable for investigating different linkages. Initially, the impact of Working capital management on Fixed Investment/growth of the firms is investigated. Thus, Fixed Investment/growth of the firms is **dependent variable** for Working capital management. Then, the impact of Fixed Investment/growth of the firms on Profitability of the firms is investigated, for which Profitability of the firms is **dependent variable** and Fixed Investment/growth of the firms is **independent variable.** The relation is clearly visible in the Analysis Model of Research.

1.7 Hypothesis

Since, all the variables and the relationship among them for the study have been identified and the theoretical framework has been developed, the research has following several testable statements or hypothesis.

Hypothesis No. 1

H_o There is no causal relationship between working capital management and the profitability of the firms

H_a There is a causal relationship between working capital management and the profitability of the firms

Hypothesis No. 2

H_o Significant differences do not exist among industries with respect to a causal relationship between working capital efficiency and the profitability on the firms

H_a Significant differences exist among industries with respect to a causal relationship between working capital efficiency and the profitability on the firms

Hypothesis No. 3

H_o There is no causal relationship between working capital management and the Fixed Investment/growth of the firms

H_a There is a causal relationship between working capital management and the Fixed Investment/growth of the firms

Hypothesis No. 4

H_o There is no causal relationship between fixed Investment/growth of the firms and their Profitability

H_a There is a causal relationship between fixed Investment/growth of the firms and their Profitability

1.8 Rationale

The study is meant to provide useful data about the fundamentals that are necessary for a running business. Working capital is a fundamental part that represents liquidity of the company. The ability to pay back the long and short term loans are decided on this particular factor by the lenders. A proper working capital management might lead to a better profitability situation for the company.

Keeping too much liquid assets might mean less investment in fixed assets. Thus, the working capital management should be closely linked with the fixed capital investment which leads a firm to its growth and other potential prospects. Managing the working capital ensures that the firm is utilizing its full capacity to reap the profits from the available market.

There might be other factors that are contributing to the profitability, for example economy, management and others but these two factors identified under study affect the risk and return situation of the company, as well. Thus, they are theoretically important. The idea is to check the theoretical learning in the practical life.

If the results are positive, then the companies should add up this factor while their financial planning and other stakeholders like lenders or customers can check the past trend data of the company to judge its reliability.

On the whole the focus of working capital management and fixed capital investment is on reducing the risk level of the organizations and save it from heavy losses due to improper management of important variables.

1.9 Scope

The scope of this research is to provide a model that will help in assessing the importance of working capital management is different time periods and its effects on profitability and fixed capital investment. The requirement as decided by the central banks is different in economic downturns and economic booms. But the companies must also assess the required level of financial variables that affect the company's survival in these times.

1.10 Target Group

The target group is the public companies that are listed on the Karachi Stock Exchange. The study will be conducted on the twenty companies that are listed on KSE-30 index because they are the best performing companies of the market. The remaining 10 companies fall in the Banking sector which has a totally different perspective of debt and equity situation, thus, commercial banks are eliminated from the KSE-30 companies in this research. This will help us to decide whether working capital management led these companies to a profitable situation or not and if they achieved growth simultaneously through fixed investments.

CHAPTER 2: LITERATURE REVIEW

2. Literature Review

The field of corporate finance deals relates to different types of decisions like capital budgeting decisions, capital structure decisions and working capital management decisions. The fact that working capital management affects the profitability and liquidity position of the company makes it a factor of important consideration in the ask of financial planning (Addae & Nyarko, 2013).

2.1 Importance of financial planning

According to Kallberg, White & Ziemba (1982), there are different reasons that make proper financial planning vital for the companies. A proper financial planning includes the incorporation of proper variables that are important to a firm. This financial planning will in turn help the companies to decide their short and long-term financial goals so that a plan can be created to meet those obligations in the near future. The companies can attain their financial goal of highest profitability if the appropriate financial planning is observed.

2.1.1 Income: It's conceivable to adequately manage the net income with the help of this financial planning. This will help the companies to keep a check and balance for the amount of cash that it will require for taxes, other month to month uses, retain and investment funds.

2.1.2 Cash Flow: The companies can increase money streams via precisely checking its uses and sources. The cautious planning of the upcoming expenditures will help the company to maintain a cash reserve so that end time arrangements are not necessary on larger interest rates.

2.1.3 Capital: An expansion in money streams can prompt an increment in capital. It will permit the companies to consider ventures to enhance growth of the company.

2.1.4 Security: Having the best possible coverage and arrangements set up can give genuine feelings of serenity to the company's management and shareholders along with all other stakeholders.

2.1.5 Investment: The financial planning will allow the companies to gauge their risk absorbing capability and thus the investments shall not breach the level of risk identified through legitimate budgetary arrangement. It helps the company to pick the right sorts of ventures that fit the company's needs, identity, and objectives.

2.1.6 Avoid Bankruptcy Risk: The savings funds made from great arranging can prove beneficial in troublesome times. For example, the company can pay dividends from the retained earnings in case of loss reported in that period. This will help the company's rating and its stock price from falling down.

2.1.7 Financial Understanding: Better monetary comprehension could be attained when measurable budgetary objectives are situated, the impacts of those choices are understood, and results are inspected periodically. It provides an entirely new approach to have an enhanced control over the financial position of the company.

2.1.8 Assets: Companies desire a pleasant 'cushion' in the form of assets. At the same time numerous liabilities are also to be managed by the company. In this way, it gets imperative to focus the real value of an asset. The financial planning helps the companies to manage a balance position between the assets and the liabilities. The general procedure helps construct holdings that don't turn into a load later on.

2.2 The importance of crisis theory

According to the Marx's analysis of capitalism, which is very relevant here, the world of wild stock market booms and slumps are more prevalent nowadays than ever before. The economic downturn was no exception to this type of crisis. The financial crisis has the power to destroy the healthy economies as well. The companies that were better managed financially and elsewise managed to survive, whereas other ceased to exist as a result of this financial crisis (Easterling, 2003).

2.3 Working Capital Management

Working Capital management refers to the optimal level of current assets and current liabilities because the working capital tends to meet the short-term financial requirements of a business enterprise. It is an exchanging capital, not held in the business in a specific structure for more than a year. The cash put into the business changes its structure throughout the ordinary course of business operations (Rafuse, 1996).

The requirement for keeping up a satisfactory working capital can barely be questioned. In the same way that course of blood is exceptionally essential in the human body to keep up the life, the stream of funds is extremely important in keeping up the business. If by chance it gets weak, the business can barely flourish and continue. Working capital shortage is considered as a real cause if not the significant reason for the failure of business in many emerging countries (Rafuse, 1996).

2.4 Investment in fixed and working capital

Recent capital-market research reveals that real investment is dependent on various financial factors. If there is an availability of any external finance it will be more costly to the firm rather than internal financing methods because of agency problems, transactions costs, or asymmetric information.

Investment smoothing is the act of leveling the investment in the projects over the period of slow economy and economic boom times. Investment smoothing is necessary to avoid the marginal adjustment costs of acquiring and installing capital. It is because the cost increases with the rate of investment. The businesses try to reduce the long-run costs because of rising marginal adjustment cost by maintaining stable investment over the long run. The firms cannot delay the investment projects for a very long time because of the increasing cost that it has to pay against the time, thus increasing the need for investment smoothening. Along with that, if the innovations are not tapped on time in this fast moving industry, then new investment opportunities might be lost.

These lost opportunities will reduce the overall value of the firm because of the shorter product life Cycles in these types of industries. Thus, the data might significantly tell different figures for different industries. The companies get the first mover advantage by stepping in the market at the earliest by investing their money in these projects. This is even more disastrous for the situations where the projects are perishable and the value gets decreased as more and more companies adopt it (Fazzari & Petersen, 1993).

2.5 The choice between Working capital management and Fixed Capital Investments

According to the previous studies, the firms that are depending on the cash flow fluctuations for making the decisions regarding investment spending would lose significant amount of marginal benefits with each project sacrifice. It is theoretically assumed that more risk would result in more returns so the marginal returns for the projects in the periods of high cash flow would not have high returns as the flow of capital in the market would generally be high in that time.

Thus, as a result, the use of smooth investment it is highly appreciated relative to cash-flow variations. Lastly, while unrushed investment spending may take place constantly, some investment projects are often distinct and take a lot of time to finish. It may be inflated for a firm to diminish or abolish spending on a project in progress because of the transitory shortfalls in cash flow.

2.6 Fixed investment smoothing with working capital:

It is well realized that a firm confronting a coupling finance obligation will most likely be unable to compare the marked down peripheral rates of profit for holdings crosswise over time. Moreover, a reserved firm cannot compare marginal returns on investment to the business' cost of capital. Consider the effects because of the shock to cash flow, other things held constant. If the shock is negative, the shadow value of finance will rise for financially constrained firms, and they will respond by reducing their rate of asset accumulation (Fazzari & Petersen, 1993).

The returns for the firms come from both the working capital and the investing capital. So, technically, in the times of distress, reducing the proportionate amount of fixed and working capital is not adequate because of the benefits through liquid nature of the working capital. If the firm chooses to absorb a higher amount of capital thorough working capital, then the firm's expenses and losses are decreased as compared to the costs associated with the reduction of fixed investments. Working capital serves as a source of fund as well, so it can be assumed as the method of overcoming the firms' short-run financing constraints (Fazzari & Petersen, 1993).

2.7 Profitability of the Firms

The profitability of the firms is the reason why the businesses keep operating. Thus it is important for the firms to find the ways that will help it to maximize the profitability and reap the full potential. the profitability is the return that the company is getting from investing in particular assets and the profitability of the shareholders or equity holders is the returns that they are getting on their invested dollar. So, all of the stakeholders are really concerned with the profitability of the firm (Geroski, Machin & Van Reenen, 1993).

There are different factors that affect the profitability of the firms. These factors might include the choice between the available alternatives for investment, efficient working capital management, the capability of the management to run the firm in a well demonstrating manner etc. (Geroski, Machin & Van Reenen, 1993).

2.8 Gaps in the Literature

There have been many debates in the past literature as to the importance of working capital for ensuring the profitability of the firms. While most of the researches accept the theoretical model that encourages the use of proper working capital management for maximizing the profitability of the shareholders, there have been debates on the use of fixed capital investment as a result of working capital management rather than the attractiveness and importance of the project at a given time to avoid the financial constraints.

Along with that, there have been researches on the Pakistani firms for gauging the effects of working capital on the profitability but none of them considered the fact across different industries considering the different nature if those industries. Those researches were focused on a particular segment only, thus limiting the scope of the study.

An additional gap filled by this research study is the effect of fixed capital investment on the profitability and there will be comparability as to whether working capital or fixed capital is more important for the firm to manage.

CHAPTER 3: METHODOLOGY

3.1 Research Design

This is a quantitative research study. Conclusion is passed on the archival and panel data as the information is publically available and is categorized as time series data of five years. The data is extracted from the annual reports of the company and then ratios are calculated in order to gain comparability among the companies. The data is distributed industry wise so that the bias due to the difference in the nature of industries can be eliminated and more concrete results can be identified. The study is conducted in order to draw a conclusion of relationship between the identified dependent and independent variables.

Data on working capital, fixed investments and profitability is acquired from income statement and balance sheet analysis of companies listed on Karachi Stock Exchange (KSE) for a period of five years i.e. 2009-2013. The reason for constraining the time period is the availability limitations of the latest and updated data and the ease of analysis.

3.2 Population

Population of the listed companies on Karachi stock Exchange is 582 companies. The target population of this research will be the listed companies that are considered profitable by the market indices. According to the KSE stock website, there are 33 sectors in the market that have 582 listed companies in all.

3.3 Sample Size

The sample size for this research is 20comapnies that are listed as top companies by the market in the KSE-30 index except the commercial banks and other financial institutions.

3.4 Sampling Method

The sample is selected through the selection of industries that fall in the KSE-30. The particular market index is selected because of its profitability as they are the best performing stocks available in the market.

Information was collected for the six sectors that are a part of the KSE-30 index

- Oil and Gas
- Construction and Materials (Cement)
- Chemicals
- Personal Goods (Textile)
- Food Producer
- Electricity

3.5 Research Instrument

Research instrument used for the research are the annual reports. The annual reports have all the data needed for the calculation of ratios that relate to the study.

3.6 Plan of Analysis

Following analyses is conducted:

- Descriptive Analysis
- Pearson's coefficient Correlational Analysis
- Regression Analysis
- ANOVA
- T-test

3.7 Software Used

The software used in this research is Microsoft Excel and SPSS. These are the basic software used for ease and generating better reliability of the results.

CHAPTER 4: FINDINGS

Data Extraction:

The data was extracted from the annual reports of the companies chosen to be the part of the research. The calculations of ratios include book values of the balance sheet items since there is a discrepancy in using market value or fair value. Along with that, the market values are subject to availability which could have led to missing figures. Along with that, this affects the legitimacy of the values because of the time frame when the market values were re-estimated. The profitability figures were taken from the net income and related statements, if any.

4.1 Descriptive Analysis of Sample

The descriptive statistics are combined through descriptive analysis technique. It helps in bifurcation of the data according to the needs of the study and provides a transparent result for analysis.

Sector Name	Number of Companies
Oil and Gas	6
Construction and Materials (Cement)	5
Chemicals	4
Personal Goods (Textile)	2

Food Producer	1
Electricity	2
TOTAL	**20**

Table 4.1: Descriptive Analysis of Sample

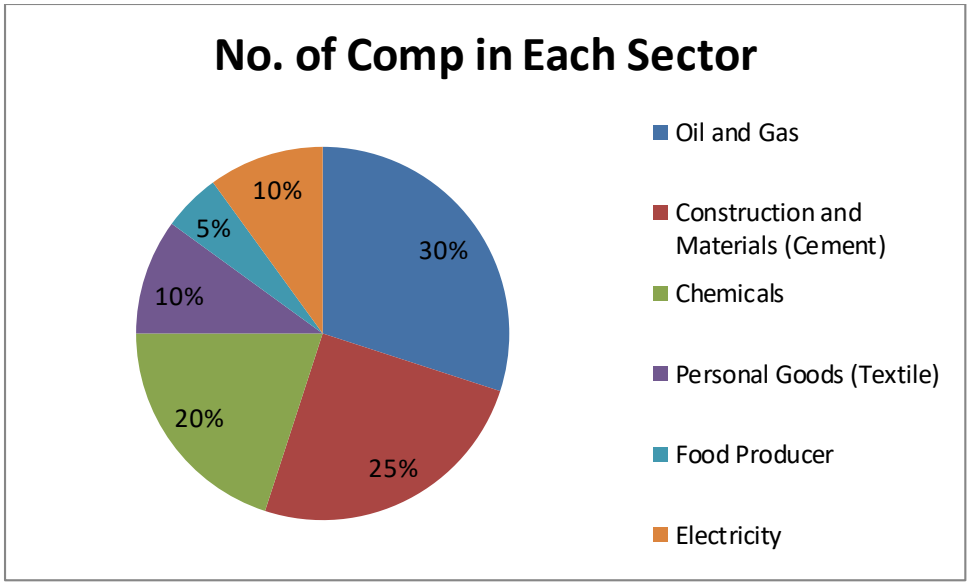

Figure4.1: Descriptive Analysis of Sample

The companies under study belong to six major sectors of the markets. The majority of the companies, i.e. a total of 6 companies that makes 30% of the companies under review, lie in the Oil and Gas sector. It is because the nature of the oil and gas industry is very attractive since there is a onetime cost of exploration and

development. The cash flow streams become constant and the cost of extraction is very low. Thus, the companies can give away as much as 100% in the dividend. However, companies do retain some amount for further growth.

The second heavily populated sector is the Construction and Materials (Cement) having 25% share in the sample that is 5 companies. It is followed by Chemicals sector by 4 companies that is 20% of the population size. The cement industry is also very attractive but the inefficient management practices in the cement industries of Pakistan leads it to a lower position. Personal Goods (Textile) and Electricity, both have 2 companies that is 10% of the sample. The last sector is Food Producer which has only 5% share with one company only.

4.2 Descriptive Statics of Variables

The descriptive analysis involves the means and standard deviation of the pooled variables of interest in the study. It also presents the maximum and minimum values of the variables which help in getting a picture about the maximum and minimum values that a firm can achieve in that particular variable. Table 4.2 presents descriptive statistics for 20 listed Pakistani firms from 2009 to 2013.

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
CATAR	20	3	91	37.04	22.959
CLTAR	20	6	70	33.19	18.973
Current Ratio	20	.0316	5.3092	1.506167E0	1.1647728
Accounts Receivable turnover	20	.77	4778.04	2.9418E2	1059.35131
EPS	20	-1.33	58.72	13.2011	14.73831
ROA	20	-.02	.31	.0966	.08327
ROE	20	-.10	.80	.2231	.18777
ROCE	20	.06	1.08	.3147	.24021
Fixed investment to Capital Ratio	20	.01	4.25	1.5583	1.11764
ROIC	20	-1.66	.37	-.0582	.44445
Valid N (listwise)	20				

Table 4.2: Descriptive Statics of Variables

The mean value of Current assets to total assets ratio is 37.04%, and standard deviation is 22.96%. It means that value of CATAR can deviate from mean to both sides by 22.96%. The maximum value for the CATAR is 91% for a company in a particular year while the minimum is 3%. Similarly, Current Assets to Total Assets ratio is used to check how much portion of assets does the firm holds in its financial statements as related to its total assets.

In a total of 20 companies under review, the mean was found to be 33.19% with the standard variation of 18.973%, which means that most of the companies hold the remaining proportion of 67% in the intangibles and fixed assets portion. The maximum amount is as much as 70%, leaving 30% for the fixed assets; whereas the minimum amount is 6% which seems too low for the distressing times.

The current ratio is the first thing that comes to mind when checking the liquidity position of the company. Here, the mean of current ratio for these 20 companies is found to be 1.50 with a standard deviation of 1.16. Normally, the current asset depends on the industry average however, any number above 1 is generally considered good because it shows that the current assets are more than the current liabilities so the company can pay off its obligations without having to liquidate the fixed assets portion. The maximum value observed is 5.3 which is too high, representing the risk averse nature of the company or its inability to finance the current assets by the current liabilities. The company hasn't leveraged it assets properly in this case. The minimum amount of current ratio is .0316.

The Accounts receivable turnover is used as a proxy to check the efficiency in managing working capital. The mean is found to be 294 whereas the maximum value is 4778 and the minimum value is 0.77 days. It shows that there are some forms that have extremely loosened credit policy whereas others do not work on credit sales at all.

The average EPS as observed by these companies is Rs.13.20, with a standard deviation of Rs.14.73. The maximum EPS demonstrated by a company in these years is 58.72 whereas the lowest EPS figure is -1.33 representing a loss.

ROA investigates the return on total assets employed by the company. The overall effect of current and fixed asset distribution can be analyzed by this ratio. The mean result for this variable is calculated to be 9.6% with a standard deviation of 8.3%. The minimum is -2% which indicates a loss, and the maximum value is 31% which is quite appealing for the investors.

However, investors are more concerned about how much return they are having on their invested capital. For this purpose, they use ROE. The mean of this ratio is as much as 22.31, with the standard deviation of 18.77%, indicating the reason of inclusion of these in the top thirty companies. The investors can see a return on their investment of up to 80%, whereas the minimum value is -10%.

Last, but not least, profitability is measured by a comprehensive ratio of ROCE. The ratio analyzes the return before any interest or tax is subtracted against the long term debt and the equity. Thus, it tells the efficiency of the company to generate revenues on the capital employed. The more efficiency firm is able to manage it current liabilities (non-interest bearing) the more will be the results, indicating more efficient use of capital. The mean ROCE for these companies is 31.47% with Std. Deviation of 24%. The minimum value is 6% whereas the maximum is as much as 108%. Hence there is vast variability among the companies.

The Fixed Asset-To-Equity Capital Ratio tells how performing their fixed assets are. This helps the stakeholders to identify the financial strength of the company that comes from the fixed investments or assets in the worst situation if the revenues get dried up completely. Mean is found to be 155.83% with standard deviation of 1.11764. Minimum value is 1%, whereas the maximum is 425%. This signifies that the assets have 4 times more worth than their equity invested.

ROIC is a profitability measure used by most of the companies and stakeholders because it helps to assess the company's efficiency at allocating the capital to profitable investments. If the company is allocating the available money properly to generate returns, then this ratio would be higher. It tells about how much effect the fixed investment is placing on the profitability. It calculates the "return on capital". The mean value is –5.8% which means that actually the company had

a loss if the dividends were subtracted from the net income and divided by the total capital invested. The minimum value for ROIC was -1.66, whereas the maximum value was 0.37. The mean had a standard deviation of 0.44445.

4.3 Correlation Analysis

Since the nature of this study is to find the cause and effect relationship between the variable. The cause and effect relation is generally identified by the regression analysis. However, according to the statisticians, the regression will be strong if the correlation is strong it is because correlation identifies the interdependences between the variables. So, in case the correlation between the variables is found to be strong, then the regression analysis will not be interpreted for those variables under study as the cause and effect relation will be identified by the correlation in both directions.

The significant values at 0.01 and 0.05 are found for the variables ROA and ROE, CLTAR and current ratio, ROA and current ratio, ROIC and EPS, ROCE and ROE, ROCE and ROA & Fixed investment to Capital Ratio and EPS

The correlation between ROA and ROE is positive, strong and significant. But the relationship of these variables is not intended by this research study. So it does not affect any of the regression variables. Similar is the case for CLTAR and current ratio except the fact that there is a weak relationship as well between the variables.

The correlation value for ROA and current ratio is significant but not strong. There is a positive relationship between them; however the relationship must be strong enough to prove the interdependency.

ROIC and EPS slightly affects the fourth hypothesis of this study because there is a strong positive significant relationship between them. However, the profitability is not dependent on single factor only, so the hypothesis testing is still valid.

ROCE and ROE, ROCE and ROA & Fixed investment to Capital Ratio and EPS are a part of the profitability which consists of multiple variables. Thus, the effect of strong correlation will be neutralized.

4.4 Regression Analysis

The regression analysis tends to identify the cause and effect relationship between the variables involved in the study.

Working Capital and Profitability

Referring to the regression analysis, it can be seen that the value of R-square is found to be 40.2%. The regressing of ROA on Accounts Receivable, Current Ratio, CATAR and CLTAR produced an R-square of 0.402, which indicates that 40.2 percent of the variation in ROA can be explained by variability in a firm's Accounts Receivable, Current Ratio, CATAR and CLTAR that is the working capital management. Thus, as much as 40.2% of the variation in the value of the dependent variable is explained by this regression model.

In the Analysis of Variance (ANOVA), if the value of F is at a level of 0.05 or less, it is considered statistically significant. This suggests a linear relationship among the variables. Statistical significance at a .05 level means there is a 95 percent chance that the relationship among the variables is not due to chance. This has become the accepted significance level in most research fields. The value of F for relation between working capital management and ROA is 0.085 which is not significant. ROA is most affected by the current ratio as suggested by the t-test analysis because all other factors are insignificant.

For the second variable of profitability, the regression analysis can be seen to have the value of R-square of 23%. The regressing of ROE on Accounts Receivable, Current Ratio, CATAR and CLTAR produced an R-square of 0.230, which indicates that 23% percent of the variation in ROE can be explained by variability in a firm's Accounts Receivable, Current Ratio, CATAR and CLTAR that is the working capital management. Thus, as much as 23% of the variation in the value of the dependent variable is explained by this regression model.

In ANOVA, the value of F is at a level of more than 0.05, so it is considered statistically insignificant. This suggests a non-linear relationship among the variables, if any. ROE is also most affected by the current ratio as suggested by the t-test analysis because all other factors are insignificant.

The third variable for profitability is ROCE, which captures the effect of both equity and long term debt. The regressing of this variable against the working capital variables produced an R-square of 0.256, which indicates that 25.6% percent of the variation in ROCE can be explained by variability in a firm's Accounts Receivable, Current Ratio, CATAR and CLTAR that is the working capital management. ANOVA is insignificant whereas it is also most affected by the current ratio as suggested by the t-test analysis because all other factors are insignificant.

The last variable for profitability is EPS which takes into account the net income as against the shareholders equity to generate comparability between the companies. For this variable of profitability, the regression analysis has a value of R-square of 27.3%. The regressing of EPS on Accounts Receivable, Current Ratio, CATAR and CLTAR produced an R-square of 0.273, which indicates that 27.3% percent of the variation in ROE can be explained by variability in a firm's Accounts Receivable, Current Ratio, CATAR and CLTAR that is the working capital management. Thus, as only 27.3% of the variation in the value of the dependent variable is explained by this regression model.

The ANOVA has an insignificant F value. This suggests a non-linear relationship among the variables, if any. Like every other factor, EPS is also most affected by the current ratio as suggested by the t-test analysis.

Working Capital and Profitability among Industries

Since it is assumed that the effect of working capital management might be different for different industries, the regression model is used separately on each industry. ROCE is a more intensive financial variable, thus it is the only factor used to judge the impact of working capital efficiency on the profitability of the sectors under study.

Oil and Gas:

Regressing the profitability variable on the working capital variable, an R-square of 0.661 is found, referring to the fact that working capital management has laid a significant impact of 66.1% on the profitability of this sector.

The F value is high in ANOVA, increasing the probability of occurrence by chance. None of the variable is identified by t-test that affects the profitability the most.

Construction and Materials (Cement)

The R-square of 1.00 is found by regressing the profitability variable on the working capital variable for this sector. Thus, there is an impact of working capital management on the profitability of the firms in this sector. Current ratio is found to have the most powerful affect in this relationship.

Chemicals

The R-square of 1.00 is found by regressing the profitability variable on the working capital variable for this sector as well referring a 100% cause and effect relation. Thus, there is an impact of working capital management on the profitability of the firms in this sector. In this sector as well, the current ratio is found to have the most powerful affect.

Personal Goods (Textile)

For this sector as well, an R-square of 1.00 is found by regressing the profitability variable on the working capital variable referring a 100% cause and effect relation. Thus, there is an impact of working capital management on the profitability of the firms in this sector. In this sector, CATAR, CLTAR, and Current Ratio are excluded because of a high correlation among the variables. In this sector, the accounts receivable turnover has most powerful effect on profitability.

Food Producer

There is only one company in this sector, so regression is not possible for this sector.

Electricity

The R-square of 1.00 is found by regressing ROCE on the working capital variable for this sector as well referring a 100% cause and effect relation. Thus, there is an impact of working capital management on the profitability of the firms in this sector. In this sector as well, CATAR, CLTAR, and Current Ratio are excluded because of a high correlation among the variables. So, once again, the accounts receivable turnover has most powerful effect on profitability.

Working Capital and Fixed Capital Investment

There is weak negative correlation among these variables as theoretically proved. However, these values are not found significant for any of the variable involved. To the astonishment, an R-square value of .450 is found when regressed. Oppositely, the F value for ANOVA is not significant referring the probability of occurrence by chance. It is mostly and negatively affect by the current ratio. It is hence found that the more the current ratio, the less the fixed capital investment.

Fixed Capital Investment and Profitability

The correlation is weak among these variables, so regression can be applied to judge the hypothesis. Referring to the regression analysis, it can be seen that the value of R-square is mere 11.6%. The regressing of fixed capital Investment on Profitability produced an R-square of 0.116, which indicates that only 11.6 percent of the variation in profitability can be explained by variability in a firm's fixed capital investment.

The F value in Analysis of Variance (ANOVA) is considered statistically insignificant and it is not affected by any factor according to the t-test.

4.5 Hypothesis Testing

Hypothesis No. 1

H_o There is no causal relationship between working capital management and the profitability of the firms

H_a There is a causal relationship between working capital management and the profitability of the firms

The table extracted from the Regression analysis explains the fact that the relationship between working capital management and profitability is not very high. The only ratio that is affecting the profitability is the current ratio. Thus a balance between the current assets and current liabilities can deliver the desirable results to the firm. In all, there is a more inclination towards the acceptance of the null hypothesis referring to the fact that there is no or a very little causal relationship between working capital management and the profitability of the firms.

Regression (R-square)	
Profitability Variables	**Working Capital**
ROA	40.20%
ROE	23.00%
ROCE	25.60%
EPS	27.30%

Table 4.3: Regression (R-square)

Hypothesis No. 2

H_o Significant differences do not exist among industries with respect to a causal relationship between working capital efficiency and the profitability on the firms

H_a Significant differences exist among industries with respect to a causal relationship between working capital efficiency and the profitability on the firms

The table extracted from the Regression analysis explains the fact that the relationship between working capital management and profitability is very high if seen for individual industries. However, these results are a consequence of high correlation found among the factors. Thus it cannot be explicitly said that working capital affects the profitability because of the two way relation identified by correlation. In all, on the basis of regression only, the alternative hypothesis would have been selected but due to correlation, there is a more inclination towards the acceptance of the null hypothesis referring to the fact that there is no or a very little causal relationship between working capital management and the profitability of the firms among different industries.

Regression (R-square)	
Profitability Variable	Working Capital
Oil and Gas	66.10%
Construction and Materials (Cement)	100%
Chemicals	100%
Personal Goods (Textile)	100%

Food Producer	N/A
Electricity	100%

Table 4.4: Regression (R-square)

Hypothesis No. 3

H_o There is no causal relationship between working capital management and the Fixed Investment/growth of the firms

H_a There is a causal relationship between working capital management and the Fixed Investment/growth of the firms

The data found through regression is more inclined towards the acceptance of null hypothesis however, the relationship among these factors is medium thus referring to the fact that efficient management of working capital, if current ratio is kept at the lowest possible level prevailing among the industry players, will lead to a higher profitability.

Hypothesis No. 4

H_o There is no causal relationship between fixed Investment/growth of the firms and their Profitability

H_a There is a causal relationship between fixed Investment/growth of the firms and their Profitability

There is neither any interdependency between fixed Investment/growth of the firms and their Profitability nor there exist any causal relationship between fixed Investment/growth of the firms and their Profitability. Thus, the null hypothesis is selected.

CHAPTER 5: DISCUSSION & CONCLUSION

5.1 Discussion

The overall impact between these variables suggests that the working capital management is important for the profitability of the company but to a very small level. It cannot be explicitly said that the effective working capital management is leading the company in the profitability situation. In particular industries, there is interdependency between these variables suggesting that the profitability also helps the companies to maintain a good working capital.

The relationship among working capital management and fixed capital investment is medium thus referring to the fact that efficient management of working capital, if current ratio is kept at the lowest possible level prevailing among the industry players, can lead the company to a higher profitability level.

There is neither any interdependency between fixed Investment/growth of the firms and their Profitability nor there exist any causal relationship between fixed Investment/growth of the firms and their Profitability.

5.2 Conclusion

The importance of working capital management cannot be neglected completely; however, the working capital management is not leading the firms to the profitability in isolation. So the effective management should be accompanied by other relevant factors that result in better profitability of the companies.

5.3 Recommendations

The firms should carefully look on the current ratio as a measure to maintain their profitability level constant and growing. Along with that, this particular factor will allow the companies to make decisions about fixed capital investments in a better manner.

5.4 Limitations of the Study

Because of the different nature of financial industry in terms asset and equity distribution, this particular sector was excluded from this study to eliminate the bias that it could have brought to the data and results.

Other than that, there are different thing, identified in the literature that affect profitability of the firm other than working capital and fixed investments, in theory. Since it was not possible to take all of those factors into account, the external factors were kept constant for this study.

5.5 Future line of Research

Further research should investigate the effect of working capital of profitability of the financial institutions especially banks. This will help in understanding the fact that why the amount of reserves, as imposed by the central banks, are necessary for the banks. The research on financial sector for the same topic must be done in isolation that is excluding all other sectors to generate better results for that industry.

Further research should compare the sectors to give a generalized view about the profitability situations of the firms. Other researchers can take into account other factors like the role of management in determining the profitability of the firms.

Appendix

For Hypothesis 1: Correlation

		CATAR	Accounts_Rec	ROE	CLTAR	ROA	Current Ratio	EPS	ROIC	ROCE
CATAR	Pearson Correlation									
	Sig. (2-tailed)									
	N									
Accounts_Rec	Pearson Correlation	.232								
	Sig. (2-tailed)	.324								
	N	20								
ROE	Pearson Correlation	.384	-.004							
	Sig. (2-tailed)	.095	.985							
	N	20	20							
CLTAR	Pearson Correlation	.435	.290	.189						
	Sig. (2-tailed)	.055	.216	.424						
	N	20	20	20						
ROA	Pearson Correlation	.349	-.125	.868**	-.070					
	Sig. (2-tailed)	.131	.600	.000	.769					
	N	20	20	20	20					
Current_Ratio	Pearson Correlation	.221	-.102	.243	-.551*	.544*				
	Sig. (2-tailed)	.349	.667	.302	.012	.013				
	N	20	20	20	20	20				
EPS	Pearson Correlation	.301	-.149	.361	.065	.441	.359			
	Sig. (2-tailed)	.198	.531	.118	.787	.052	.120			
	N	20	20	20	20	20	20			
ROIC	Pearson Correlation	-.439	.061	-.076	-.209	-.159	-.026	-.786**		

	Sig. (2-tailed)	.053	.800	.752	.376	.504	.914	.000		
	N	20	20	20	20	20	20	20		
ROCE	Pearson Correlation	.401	-.101	.919**	.220	.784**	.194	.272		
	Sig. (2-tailed)	.080	.672	.000	.351	.000	.412	.247		
	N	20	20	20	20	20	20	20		
Fixed_investment_to_ Capital_Ratio	Pearson Correlation	-.290	.062	-.357	-.259	-.429	-.329	-.618**	.340	-.250
	Sig. (2-tailed)	.215	.795	.122	.271	.059	.156	.004	.142	.287
	N	20	20	20	20	20	20	20	20	20

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Regression

Correlations

		ROA	CATAR	CLTAR	Current_Ratio	Accounts_Rec
Pearson Correlation	ROA	1.000	.349	-.070	.544	-.125
	CATAR	.349	1.000	.435	.221	.232
	CLTAR	-.070	.435	1.000	-.551	.290
	Current_Ratio	.544	.221	-.551	1.000	-.102
	Accounts_Rec	-.125	.232	.290	-.102	1.000
Sig. (1-tailed)	ROA	.	.066	.384	.007	.300
	CATAR	.066	.	.028	.174	.162
	CLTAR	.384	.028	.	.006	.108
	Current_Ratio	.007	.174	.006	.	.334
	Accounts_Rec	.300	.162	.108	.334	.
N	ROA	20	20	20	20	20
	CATAR	20	20	20	20	20
	CLTAR	20	20	20	20	20
	Current_Ratio	20	20	20	20	20
	Accounts_Rec	20	20	20	20	20

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	Accounts_Rec, Current_Ratio, CATAR, CLTAR[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: ROA

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.634[a]	.402	.242	.07250	.402	2.516	4	15	.085

a. Predictors: (Constant), Accounts_Rec, Current_Ratio, CATAR, CLTAR

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.053	4	.013	2.516	.085[a]
	Residual	.079	15	.005		
	Total	.132	19			

a. Predictors: (Constant), Accounts_Rec, Current_Ratio, CATAR, CLTAR

b. Dependent Variable: ROA

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.053	4	.013	2.516	.085[a]
	Residual	.079	15	.005		
	Total	.132	19			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.029	.058		-.505	.621
	CATAR	.000	.001	.112	.397	.697
	CLTAR	.001	.001	.297	.894	.385
	Current_Ratio	.048	.022	.666	2.196	.044
	Accounts_Rec	-1.325E-5	.000	-.169	-.802	.435

a. Dependent Variable: ROA

Regression

Correlations

		ROE	CATAR	CLTAR	Current_Ratio	Accounts_Rec
Pearson Correlation	ROE	1.000	.384	.189	.243	-.004
	CATAR	.384	1.000	.435	.221	.232
	CLTAR	.189	.435	1.000	-.551	.290
	Current_Ratio	.243	.221	-.551	1.000	-.102
	Accounts_Rec	-.004	.232	.290	-.102	1.000
Sig. (1-tailed)	ROE	.	.047	.212	.151	.493
	CATAR	.047	.	.028	.174	.162
	CLTAR	.212	.028	.	.006	.108
	Current_Ratio	.151	.174	.006	.	.334
	Accounts_Rec	.493	.162	.108	.334	.
N	ROE	20	20	20	20	20
	CATAR	20	20	20	20	20
	CLTAR	20	20	20	20	20
	Current_Ratio	20	20	20	20	20
	Accounts_Rec	20	20	20	20	20

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	Accounts_Rec, Current_Ratio, CATAR, CLTAR[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: ROE

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.479[a]	.230	.024	.18546	.230	1.119	4	15	.384

a. Predictors: (Constant), Accounts_Rec, Current_Ratio, CATAR, CLTAR

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.154	4	.038	1.119	.384[a]
	Residual	.516	15	.034		
	Total	.670	19			

a. Predictors: (Constant), Accounts_Rec, Current_Ratio, CATAR, CLTAR

b. Dependent Variable: ROE

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.040	.149		-.270	.791
	CATAR	.001	.003	.156	.487	.633
	CLTAR	.004	.004	.376	.998	.334
	Current_Ratio	.065	.055	.405	1.176	.258
	Accounts_Rec	-1.916E-5	.000	-.108	-.453	.657

a. Dependent Variable: ROE

Regression

Correlations

		ROCE	CATAR	CLTAR	Current_Ratio	Accounts_Rec
Pearson Correlation	ROCE	1.000	.401	.220	.194	-.101
	CATAR	.401	1.000	.435	.221	.232
	CLTAR	.220	.435	1.000	-.551	.290
	Current_Ratio	.194	.221	-.551	1.000	-.102
	Accounts_Rec	-.101	.232	.290	-.102	1.000
Sig. (1-tailed)	ROCE	.	.040	.175	.206	.336
	CATAR	.040	.	.028	.174	.162
	CLTAR	.175	.028	.	.006	.108
	Current_Ratio	.206	.174	.006	.	.334
	Accounts_Rec	.336	.162	.108	.334	.
N	ROCE	20	20	20	20	20
	CATAR	20	20	20	20	20
	CLTAR	20	20	20	20	20
	Current_Ratio	20	20	20	20	20
	Accounts_Rec	20	20	20	20	20

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	Accounts_Rec, Current_Ratio, CATAR, CLTAR[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: ROCE

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.506[a]	.256	.057	.23321	.256	1.289	4	15	.318

a. Predictors: (Constant), Accounts_Rec, Current_Ratio, CATAR, CLTAR

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.280	4	.070	1.289	.318[a]
	Residual	.816	15	.054		
	Total	1.096	19			

a. Predictors: (Constant), Accounts_Rec, Current_Ratio, CATAR, CLTAR

b. Dependent Variable: ROCE

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.280	4	.070	1.289	.318[a]
	Residual	.816	15	.054		
	Total	1.096	19			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.012	.187		-.063	.950
	CATAR	.002	.003	.221	.703	.493
	CLTAR	.005	.005	.369	.996	.335
	Current_Ratio	.067	.070	.325	.962	.351
	Accounts_Rec	-5.118E-5	.000	-.226	-.963	.351

a. Dependent Variable: ROCE

Regression

Correlations

		EPS	CATAR	CLTAR	Current_Ratio	Accounts_Rec
Pearson Correlation	EPS	1.000	.301	.065	.359	-.149
	CATAR	.301	1.000	.435	.221	.232
	CLTAR	.065	.435	1.000	-.551	.290
	Current_Ratio	.359	.221	-.551	1.000	-.102
	Accounts_Rec	-.149	.232	.290	-.102	1.000
Sig. (1-tailed)	EPS	.	.099	.393	.060	.265
	CATAR	.099	.	.028	.174	.162
	CLTAR	.393	.028	.	.006	.108
	Current_Ratio	.060	.174	.006	.	.334
	Accounts_Rec	.265	.162	.108	.334	.
N	EPS	20	20	20	20	20
	CATAR	20	20	20	20	20
	CLTAR	20	20	20	20	20
	Current_Ratio	20	20	20	20	20
	Accounts_Rec	20	20	20	20	20

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	Accounts_Rec, Current_Ratio, CATAR, CLTAR[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: EPS

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.522[a]	.273	.079	14.14466	.273	1.407	4	15	.279

a. Predictors: (Constant), Accounts_Rec, Current_Ratio, CATAR, CLTAR

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1126.066	4	281.516	1.407	.279[a]
	Residual	3001.070	15	200.071		
	Total	4127.136	19			

a. Predictors: (Constant), Accounts_Rec, Current_Ratio, CATAR, CLTAR

b. Dependent Variable: EPS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-8.166	11.363		-.719	.483
	CATAR	.034	.200	.053	.171	.867
	CLTAR	.318	.284	.409	1.118	.281
	Current_Ratio	6.954	4.228	.550	1.645	.121
	Accounts_Rec	-.003	.003	-.223	-.964	.350

a. Dependent Variable: EPS

For Hypothesis 2

Oil and Gas

Regression

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.813[a]	.661	-.693	.19844	.661	.488	4	1	.774

a. Predictors: (Constant), Accounts_Rec, Current_Ratio, CATAR, CLTAR

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.077	4	.019	.488	.774[a]
	Residual	.039	1	.039		
	Total	.116	5			

a. Predictors: (Constant), Accounts_Rec, Current_Ratio, CATAR, CLTAR

b. Dependent Variable: ROCE

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.201	.487		.412	.751
	CATAR	3.484E-5	.004	.007	.008	.995
	CLTAR	-.002	.007	-.406	-.311	.808
	Current_Ratio	.042	.116	.515	.365	.777
	Accounts_Rec	.021	.039	.490	.535	.687

a. Dependent Variable: ROCE

Construction and Materials (Cement)

Regression

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	1.000[a]	1.000	.	.	1.000	.	4	0	.

a. Predictors: (Constant), Accounts_Rec, CATAR, Current_Ratio, CLTAR

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.027	4	.007	.	.[a]
	Residual	.000	0	.		
	Total	.027	4			

a. Predictors: (Constant), Accounts_Rec, CATAR, Current_Ratio, CLTAR

b. Dependent Variable: ROCE

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.129	.000		.	.
	CATAR	-.011	.000	-1.047	.	.
	CLTAR	.007	.000	.647	.	.
	Current_Ratio	.183	.000	1.074	.	.
	Accounts_Rec	-.002	.000	-.839	.	.

a. Dependent Variable: ROCE

Chemicals

Regression

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	1.000[a]	1.000	.	.	1.000	.	3	0	.

a. Predictors: (Constant), Accounts_Rec, CLTAR, Current_Ratio

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.592	3	.197	.	.[a]
	Residual	.000	0	.		
	Total	.592	3			

a. Predictors: (Constant), Accounts_Rec, CLTAR, Current_Ratio

b. Dependent Variable: ROCE

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.543	.000		.	.
	CLTAR	.011	.000	.448	.	.
	Current_Ratio	1.328	.000	.464	.	.
	Accounts_Rec	.004	.000	.807	.	.

a. Dependent Variable: ROCE

Excluded Variables[b]

Model		Beta In	T	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	CATAR	.[a]	.	.	.	.000

a. Predictors in the Model: (Constant), Accounts_Rec, CLTAR, Current_Ratio

b. Dependent Variable: ROCE

Personal Goods (Textile)

Regression

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	1.000[a]	1.000	.	.	1.000	.	1	0	.

a. Predictors: (Constant), Accounts_Rec

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.005	1	.005	.	.[a]
	Residual	.000	0	.		
	Total	.005	1			

a. Predictors: (Constant), Accounts_Rec

b. Dependent Variable: ROCE

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.113	.000		.	.
	Accounts_Rec	.008	.000	1.000	.	.

a. Dependent Variable: ROCE

Excluded Variables[b]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	CATAR	.[a]	.	.	.	.000
	CLTAR	.[a]	.	.	.	.000
	Current_Ratio	.[a]	.	.	.	.000

a. Predictors in the Model: (Constant), Accounts_Rec

b. Dependent Variable: ROCE

Food Producer
N/A

Electricity

Regression

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	1.000[a]	1.000	.	.	1.000	.	1	0	.

a. Predictors: (Constant), Accounts_Rec

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.057	1	.057	.	.[a]
	Residual	.000	0	.		
	Total	.057	1			

a. Predictors: (Constant), Accounts_Rec

b. Dependent Variable: ROCE

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.537	.000		.	.
	Accounts_Rec	-7.098E-5	.000	-1.000	.	.

a. Dependent Variable: ROCE

Excluded Variables[b]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics: Tolerance
1	CATAR	.[a]	.	.	.	.000
	CLTAR	.[a]	.	.	.	.000
	Current_Ratio	.[a]	.	.	.	.000

a. Predictors in the Model: (Constant), Accounts_Rec

b. Dependent Variable: ROCE

For hypothesis 3

Regression

Correlations

		Fixed_investment_to_Capital_Ratio	CATAR	CLTAR	Current_Ratio	Accounts_Rec
Pearson Correlation	Fixed_investment_to_Capital_Ratio	1.000	-.290	-.259	-.329	.062
	CATAR	-.290	1.000	.435	.221	.232
	CLTAR	-.259	.435	1.000	-.551	.290
	Current_Ratio	-.329	.221	-.551	1.000	-.102
	Accounts_Rec	.062	.232	.290	-.102	1.000
Sig. (1-tailed)	Fixed_investment_to_Capital_Ratio	.	.107	.135	.078	.397
	CATAR	.107	.	.028	.174	.162
	CLTAR	.135	.028	.	.006	.108
	Current_Ratio	.078	.174	.006	.	.334
	Accounts_Rec	.397	.162	.108	.334	.
N	Fixed_investment_to_Capital_Ratio	20	20	20	20	20
	CATAR	20	20	20	20	20
	CLTAR	20	20	20	20	20
	Current_Ratio	20	20	20	20	20
	Accounts_Rec	20	20	20	20	20

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	Accounts_Rec, Current_Ratio, CATAR, CLTAR[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: Fixed_investment_to_Capital_Ratio

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.671[a]	.450	.304	.93249	.450	3.073	4	15	.049

a. Predictors: (Constant), Accounts_Rec, Current_Ratio, CATAR, CLTAR

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.690	4	2.672	3.073	.049[a]
	Residual	13.043	15	.870		
	Total	23.733	19			

a. Predictors: (Constant), Accounts_Rec, Current_Ratio, CATAR, CLTAR

b. Dependent Variable: Fixed_investment_to_Capital_Ratio

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.030	.749		5.379	.000
	CATAR	.012	.013	.244	.900	.382
	CLTAR	-.052	.019	-.886	-2.785	.014
	Current_Ratio	-.819	.279	-.853	-2.938	.010
	Accounts_Rec	.000	.000	.175	.866	.400

a. Dependent Variable: Fixed_investment_to_Capital_Ratio

For Hypothesis 4

Regression

Correlations

		ROIC	Fixed_investment_to_Capital_Ratio
Pearson Correlation	ROIC	1.000	.340
	Fixed_investment_to_Capital_Ratio	.340	1.000
Sig. (1-tailed)	ROIC	.	.071
	Fixed_investment_to_Capital_Ratio	.071	.
N	ROIC	20	20
	Fixed_investment_to_Capital_Ratio	20	20

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.340[a]	.116	.066	.42942	.116	2.353	1	18	.142

a. Predictors: (Constant), Fixed_investment_to_Capital_Ratio

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.434	1	.434	2.353	.142[a]
	Residual	3.319	18	.184		
	Total	3.753	19			

a. Predictors: (Constant), Fixed_investment_to_Capital_Ratio

b. Dependent Variable: ROIC

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.269	.168		-1.605	.126
	Fixed_investment_to_Capital_Ratio	.135	.088	.340	1.534	.142

a. Dependent Variable: ROIC