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IMPACT OF SOLVENCY AND LIQUIDITY ON PROFITABILITY PETROLEUM AND ENERGY SECTOR IN PAKISTAN

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ABSTRACT

Petroleum and energy sector serves as the backbone of the economy. This segment provides support, not only for the economic growth of the country by showing positive trends towards the sectorial growth. Petroleum & energy sector provides significant inputs for production, trade and service. This paper examines the generalization that firms with higher profitability may choose high leverage by using various statistical tools It reveals that the players of the petroleum and energy in Pakistan can improve their financial performance. Liquidity management important part every organization that means to pay current obligations of business, the payment obligations include operating and financial expenses that are short term however increasing long period debt. The importance of researcher is determined on the basis of following parameter applied theoretical contribution for the body of knowledge. The model developed for the research may be used effectively to increase liquidity for the profitability of the company The population has been taken from the oil & energy sector of Pakistan and from 15 companies we have selected Ten listed petroleum & energy sector of Pakistan and we have compiled last 10 years data of these companies from (2001-2011). Solvency ratio describes negative relation and highly significant impact on the ROA, and ROE. It means that debt to equity ratio increases then performance of companies' decreases. It is also result that liquidity high positive effect over Return on Assets of oil & energy sector f Pakistan i.e. if liquidity Rate is increased, ROA will also be increased with greater effect and vice versa) as shown in the article Khalid, Irfan Ahmed,(2012). Shareholder also interested in solvency ratios of companies. Suppliers check the solvency position of the companies before delivering the raw material. The investors are interested in solvency position how much the company is risky and profitable. Liquidity, solvency and profitability ratios are related to each other because one ratios increases the other ratios decreases.

Keywords: ROA, Liquidity, Solvency, Profitability, Financial Ratios, Petroleum & Energy Sector in Pakistan

1. Introduction

Liquidity management is very important for every organization that means to pay current

liabilities on business, the payment obligations include operating and financial expenses are short term debts however increasing long period debt. Liquidity ratios are used for the support of liquidity management inside organization within the form of current ratio and quick ratio with the intention of extremely influence on the profitability of organization. Thus business has adequate liquid assets (Cash, Debtors, Bank) in the direction to meet the payment program by compare the cash and liquid assets use for payment of obligations. Liquidity ratios work with cash and liquid assets (together called "current" assets) of a business on one side, and immediate payment of companies obligations (current liabilities) on the other side. The liquid assets generally consist of receivables from customers and inventories of complete goods and under processed materials. The compensation obligations include dues to suppliers, operating & financial expenses that use to be paid shortly and maturing installments under long term debt.

The importance of the researcher is determined result on the basis of following parameters applied theoretical framework contribution of the body of knowledge. The study developed for the effectively to increase liquidity and profitability of the company. The research includes the development of a model explaining the relationship between liquidity and the profitability an original contribution to the body of knowledge. Keeping the above in view, the study appears to be highly significant. Solvency ratios measure a company's ability to meet long-term obligations such as bank loans and bond obligations. Solvency ratios measure a company's ability to meet long-term obligations such as bank loans and long term obligations. Profitability ratios measure a company's ability to earn high profits from its resources (Assest).

2. Literature Review

In this research paper we examined the relationship between the solvency, liquidity ratio and profitability of firm. The study is conduct between the years' 2015 and 2020 firms data and later than collecting data about the financial positions as a result of annual activities and the related ratios of 15 enterprises per year which is traded on the Pakistan. We investigated the relationship between liquidity and operating performance and using the sample firms for the period of 10years it was found liquidity management would improve the firm worth and its operating cycle performance. A study done to investigate impact of working capital management on profitability and market valuation of Pakistani firms. The author found that it was a positive relationship total debt to total assets and profitability but negative relationship between cash conversion cycle and profitability (ROA).The authors took the sample of 10 industrial firms all the sample firms were listed in Karachi Stock Exchange of Pakistan. The result showed that stock return high reacted on profitability of firm .A study have been done to examine the effect of debt policy on the performance of small and medium size firm .Performance was taken as dependent variables and long term and total debt as independent variables. The results of the study show that long term and total debt ratio negatively effect on performance. A study has been done to find out the impact of debt financing on performance of microfinance institutions. A study finds out the determinants of capital structure of listed companies. The result shows that proper risk management and how affect financial policy of emerging market firms .The results of the study show negative significant relationship between risk and capital structure and importance positive relationship between bankruptcy risk and capital structure of firm. Research found the influence of corporate governess on the relationship between capital structure and value. Taking the sample of five companies for the period of 10 years the author concluded that return on assets had negative association with debts ratios. Further some time firm low operating cost then increase the profitability of the firm. The author found that capital structure and investigated the firm size and corporate financial leveraged regression model used to find out the relationship between the firm size and the financial leverage of firms found that was firm size is negative and importance high leveraged firm examine that what the determinants of capital structure decisions are of small and medium firms .The author used the regression to estimate the association between the firm level characteristics and capital structure measured which were by long term debt and short term debt ratios. . The

variable used return on assets, operating profit on sales, inventory conversion period, average collection periods, current ratios, cash conversion cycle, financial leveraged. Ownership of a firm plays vital role in the operating performance of the firm. This study has been done to conclude that firm owned by government could negatively affected on their performance but on the other hand if the owner ship given to the management it would affect positively and enhanced the performance .To increase the motivation level of the employee companies transfer some part of ownership to the employee in the way of employee stock option programs. The author concluded that variables like, asset structure, Profitability, and growth affect the capital structure of the firms. He further found that Short term debt was representing important financing source for the firms. In this study we examined the effect of working capital management on profitability of company. Dependent variable was taken return on asset and independent variable was account receivable, account payable, days of inventory, debt ratio, cash conversion cycle.

3. Research Methods

Research methodology shows the different parameters in which research collect data and utilized and interpreted in thes current study. It also show the limitations for researcher findings . For this research the sample has been taken from 15 companies of the petroleum & energy sector ,Pakistan Petroleum limited, Shell oil Pakistan, Mari gas company limited ,Attock petroleum limited ,Byco petroleum limited, Total Parco Pakistan limited, Pakistan State oil, United energy Pakistan, Dana energy OGDCL, .We have selected Ten listed and compiled last 10 years data of these companies from (2001-2010). We have taken randomly ten listed petroleum & energy sector of Pakistan for our research paper which includes but on the other hand unlisted companies are not component of our research and the main source of data gathering mentioned below through balance sheet analysis of joint stock companies. This research p is descriptive, explanatory & analytical . The main aim of our research is to study the liquidity and solvency in listed petroleum & energy sector of Pakistan. For this research paper dependent variables are Return on Equity and Return on Assets and independent variables are Credit Ratio, Quick Ratios, Debt Ratios, Debt/Equity Ratios, Coverage Ratios has to be taken. Sample Data gathered from balance sheet analysis of joint stock companies and annual reports of by different petroleum & energy companies. Other different sources Website of State Bank of Pakistan, Business Recorder, different Journals and through Internet. The data for this research can be analyzed using the instrument stated above and then the analysis tool used through which we can get the output will be by Correlation and Regression. In this research the results are too compiled and get result through MS Excel and the use of Statistical Package for social science software (SPSS) for further analysis.

4. Theoretical Framework

Variables

(Independent variables)	**(Dependent variable)**
Liquidity Current ratio Solvency	Performance

(ROA) Return on Asset is measured as the ratio of profits generated to the total assets under the responsibility of management. Therefore, return on asset reflects the net impacts of management decisions and goals along with the businesses environment of the company during a specific period of time. it reflects the efficiency of business assets under the control of management, return on asset is an intuitively understanding measurement of performance. Within the company, return on assets is most common expression of the return on investment idea applied to performance of business.

$$\textbf{Return on Asset} = \frac{\textbf{Net Income}}{\textbf{Total Assets}}$$

(ROE) The shareholder of the company the equity invested by the company. Return on equity is measured as the ratio of profit generated to the total investment capital provided by the shareholder of the company. , return on equity measures the profitability which the shareholder money was managed. At the top level executive management and outside the company, return on equity is the most common expression of the ROI idea to company performance for make investments. Executive Management of company is directly answerable to the shareholder to, maximizing

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return on equity with in tolerable limits of risk is a vital and proper concern of executive management.

Return on Equity = $\frac{\textbf{Net Income}}{\textbf{Shareholders Equity}}$

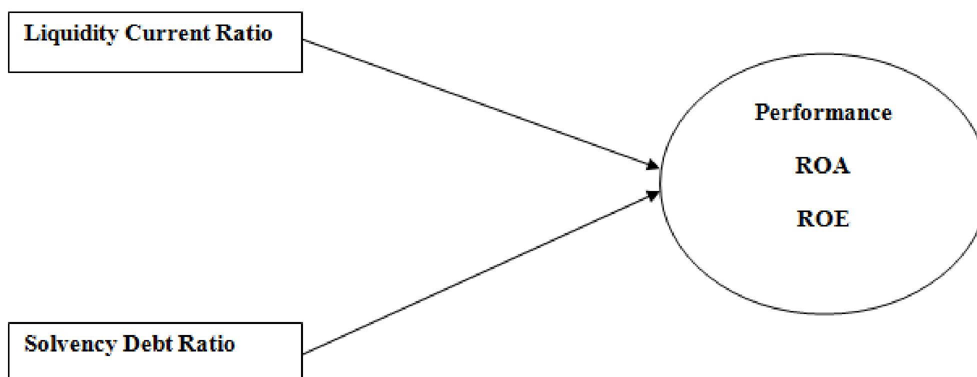

Fig 1: Variable description

Current Ratio: The current ratios a gross measurement of liquidity that simply compares liquid assets with current liabilities. The current ratio is calculated by dividing current assets by current liabilities of business.

Current Ratio = $\frac{\textbf{Current Assets}}{\textbf{Current Liabilities}}$

Quick Ratio: The important weakness in the current ratio is the inclusion of inventory is an asset that will be converted to cash within the next few month at book value.

Quick Ratio = $\frac{\textbf{Cur Assets - Invent}}{\textbf{Current Liabilities}}$

Debt Ratio: The method of measuring the relative use of debt financing by a company is to calculate the ratio of total liabilities to total assets. This is known as company's debt ratio.

Debt Ratio = $\frac{\textbf{Total Assets}}{\textbf{Total Liabilities}}$

Debt/Equity Ratio: Financial ratios and capital structure ratios are intended to bring the relative importance of debt financing in the company and the risks in such financing involve for company.

Debt/Equity Ratio = $\frac{\textbf{Total Assets}}{\textbf{Total Liabilities}}$

Interest Coverage Ratio: Coverage ratios focus on the ability of the firm to meet its fixed financial liabilities with operating earnings of firm during accounting periods. These debt obligations may be defined as all funds committed to debt on fixed interest rate , debt amortization, lease obligations, and dividends requirements

Interest Coverage Ratio = $\frac{\textbf{EBIT}}{\textbf{Interest Expense}}$

	N	Minimum	Maximum	Mean	Std. Deviation
ROE	90	-32.40	91.80	11.8744	16.69690
ROA	90	-345.00	353.80	21.2756	69.07030
C.R	90	.00	950.10	162.7122	151.92326
Q.R	90	.00	2927.00	173.2322	331.27108
D.E	90	.00	1147.30	186.9989	198.89941
DTA	90	.00	116.89	56.8539	21.17963
ICR	90	-149.40	196.30	18.7611	37.66087
Valid N (list wise)	90				

Table 1: Descriptive Statistics

The **table 1** below shows the descriptive statistics results for the variables used in the research.

5. Results and Discussions

In this research study we have 90 observations and this shows that the range of Return on assets is lies between 32.40 to 91.8 and mean is 11.8744 and deviate is 16.69. In the case of Return on equity the same population range from -345.00 to 353.80 and mean & standard deviation is 21.27, 69.07 respectively. this case shows Current Ratio (CR) it lies between the values 00.0 to 950.10 with Mean & Standard Deviation 162.71, 151.92 respectively. In the case of Quick Ratio (Q R) shows between the values 00.0 to 2927.0 with Mean & Standard Deviation 173.23, 331.27 respectively. Debt to equity ratios show in table between the value 00.0 to 1147.30 with mean & Standard Deviation 186.99, 198.89 respectively. In the case debt to asset ratios it lies between the values 0.0 to 116.89 with Mean & Standard Deviation 56.85, 21.18 respectively. The Interest coverage ratios lie between the values -149.4 to 196.3 with a Mean & Standard Deviation 18.76, 37.66 accordingly.

Table 2: **Correlation analysis**

	ROE	ROA	C.R	Q.R	D.E	DTA	ICR
ROE	1						
ROA	.849(**)	1					
C.R	.254(*)	.099	1				
Q.R	.097	.039	.539(**)	1			
D.E	-.405(**)	-.597(**)	-.264(*)	-.189	1		
DTA	-.386(**)	-.235(*)	-.528(**)	-.345(**)	.615(**)	1	
ICR	-.047	.130	.073	.067	-.222(*)	.007	1

* Correlation is significant the 0.01 level 2
* Correlation is significant the 0.05 level 2

Table 3: Regression Model

	ROE	
Variable	**Model**	
	ß	**t value**
C.R	.152	1.189
Q.R	-.084	-.735
D.R	-.327	-2.543
D.T.R	-.133	-.930
I.C.R	-.124	-1.226
R^2	.220	
Adj R^2	.174	
F. Statistic	4.747	

The table 2 shows visible the relation of ROA (Return on Assets) and CR (Current Ratio) has positively related i.e. show a positive relationship between these variables.
The table overview that the relationship between Liquidity Ratio and Return on Assets (ROA), Return on Equity (ROE) is positive and significant result. Total impact of liquidity ratios on firm performance is positive but quick ratio shows the low positive impact on the performance of companies.

Solvency ratios have negative and highly important impact on the ROA and ROE. It means debt to equity ratios increases then performance of company's decreases. Interest coverage ratio also has negative impacts on the performance because he does not show positive impacts on the company performance.

Table 2 shows the Regression model and cofficients, we observed that Liquidity Ratio has a positive impact on performance in both standardized and Un-standardized and significant. In Solvency Ratios value shows the negative impact on performance of both standardized and Un-standardized and significant. In the coefficient table we observed that Liquidity Ratio has a positive impact on performance in both standardized and Un-standardized and significant. In

Solvency Ratios value shows the negative impact on performance of both standardized and Un-standardized and significant.

6. Conclusion and Recommendations

After this study it is concluded that a firm may be unable to pay its expenses or debts unless it has spare liquidity, and if we talk about solvency than we can say that it is the one measure of a firm's financial health since it demonstrate its ability to manage operations. Investors can use ratio to analyze a firm solvency. The results of this study is explain the relationship between the liquidity solvency and their performance which plays a vital role in the return on asset of petroleum and energy sector in Pakistan this study is conducted on the data of 9 petroleum and energy sectors of Pakistani companies for past ten (10) years (2001-2010) liquidity helps us to meet desired target and objectives liquidity ratios and solvency ratios tells us the average of current assets and current liabilities in company. In order to find out liquidity and solvency we apply regression and correlation; it is observed that liquidity has high positive effect over return.

Liquidity shows positive results because it is a fact that every investor interested in profit of company and wants to get more profit for his own better interest. So the ratio of liquidity and solvency is very helpful in measuring the profitability of company, we use a lot of cash to invest in the working capital of a business these results recommended that managers are capable to create worth for their shareholders via reducing the number of days account receivable and inventories to a rational minimum. The results of this study suggest that the negative relationship between solvency and profitability consistent with the view that less profitable firms wait longer to pay day to day expenses. The use of ratios like, current ratio, quick ratio, debt ratio debt equity ratio and interest coverage ratio at the end it is concluded that if our current and quick ratio is high, it means that the company is in good position and stable because additional cash is available to handle the problems of a company.

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