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Impact of Liquidity and Solvency Management on Firm Financial Performance: Evidence from Cement Sector of Pakistan

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ABSTRACT

The main purpose of this study to determine the effect of liquidity and solvency management on firm financial performance by cement sector of Pakistan, time period is taken from 2016 to 2020.This research is based on secondary data of PSX. Sales growth used for a control variable. To measure the firm performance by ROE and EPS and liquidity is measured by current ratio and solvency is measured by cash and debt ratio. For running the data used descriptive statistics, correlation and regression. Overall results show insignificant relationship of independent variables with dependent variables also show the insignificant negative relationship of sales growth with ROE and EPS.

Introduction

The difference between liquidity and solvency is short-term and long-term debts. Purpose of liquidity is to pay less period of obligations in which we convert debts into cash and the other hand solvency ratio is used to pay

long period of time of loans in which the company meets its financial obligations. Soenen (1993)[1] stated that effective money stream makes by way of belongings would distress continuing association liquidity. For making the good position of a company it is essential to reach their goals. It is most important for those people who are taking interest in development they are not waste time and work of firm valuation and efficiently manage its obligations. In investment, liquidity shows a significant role because most of the decisions are linked to liquidity amounts. An important role of financial analysis is to accomplish its objects. In this research, I will examine the financial performance of the cement sector of Pakistan.

Financial performance is measured by Return on Equity and Earnings per Share. These ratios are very beneficial for company goodwill. Liquidity is measured by the current ratio; solvency ratio is measured by cash ratio and debt ratio. For better performance or firm results also used sales growth ratio for a control variable. Jackson (2002)[2] says that though, uncertainty whole resources are decreased by existing obligations then company aspects bankruptcy danger and will not pay its obligations. If the administration declared increasing profits of firm, it is good situation or condition in future. But if the administration declared low profit or debts of the firm, it is a bad condition in the future of the firm financial position. Moreover, the financial statement could be used for obtaining access to notable circumstances and the validity of the company. Stakeholders relate to liquidity and solvency rates. Investors are immediately interested in a company's locality to see if it was for further investment plans or to invest the capital in the business. Brignall and Stan (2007)[3] says that main characteristics of economic act size comes in interior usage as a capacity of inspiring and monitoring the actions of directors thus they listen on growing the complete worth of organization or, minimum cost quality to stockholders.

The merchant also examines the solvency ratio before the distribution of goods whether the company is at risk or not. Its liabilities are not high to its assets. Its cash outflows are high than its cash inflows. The decision of management related to liquidity and solvency ratio and their effect on the functional process and valuable things management. For this study, it is important to evaluate the country's economic condition, liquidity, and solvency risk because it has a great impact on a firm financial performance. Valuation of the firm is the idea of intrinsic value it is used

for setting the price of also for company value. Business strength that has the potential to create profit for future. In finance to pay the obligations and manage the risk in business, it is very tough. We research in Pakistan study the response of liquidity and solvency ratio to the corporation's accomplishment, and not sufficient investigation is valid. If not properly manage the risk may have serious results given their potential consequences influencing the enterprises capital and earnings in general negatively and maximum predictor contracts by the minor quantity of descriptive alteration in their studies to determine the factor that effect of liquidity and solvency ratio.

To find out impact of liquidness on firm financial performance.

To check out the effect of credit worthiness on performance of firm.

How does liquidity impacts on firm performance?

How ensures solvency ratio effect on performance of the firm?

In previous research papers, most of the researchers took size firm as a control variable. And mostly used to measure dependent variables with ROA. And independent variables are measured by the current and debt ratio. The period of previous articles was 2019. But in this research, we sstake control of variable sales growth and measure the dependent variable with ROE and EPS also independent variables are measured by cash ratio, current ratio, debt ratio and the period of my research is 2020.

Literature review

The *following* Theories are related to the ratio

Some theories relate to firm liquidity and solvency ratio. Number one is shift ability theory and second is doctrine theory and the last is commercial loan theory. Moulton (1918)[4] says that if firms maintain the asset property or transform the asset to another firm accurately without any loss firm can convert this asset into cash. Emmanuel (1997)[5] discuss that the second theory suggests that short-term financing in which firms relate to doctrine the short-term obligations. Firms require short terms loans for then the productivity of goods. And 3rd one is the hired one theory that is commercial loan theory concentrate on that asset which matures within one year another hired anticipated theory forces on that asset which maturity date is greater than one. Firm increase their revenue

through by providing loans to others and by issuing bonds also increase their financing and earning with better production of goods. Theory of risk arrangement shows that uncertainty in business because most of the decisions are taken anonymously and it means how fair the outcome of conclusion can result as the strengthen of indicates the risk possess are dangerous.

Nexus of liquidity with firm profitability

Munawir (2004)[6] says that liquidity shows our debts/obligations represent less period of debts with current assets which is most essential to convert into cash. Company increases their goodwill by increasing the wealth of shareholders. Current assets are used to pay short period requirements. The impact of liquidity is positive in company size. According to the Abor (2007)[7] this researcher declares their results of negative impact with firm financial performance that is measured by ROA. And independent variable liquidity is measured by total obligations also shows a negative relationship with firm profitability. Ade Bayo o. et al. (2011)[8] stated that researcher represents significantly relationship of firm and liquidity. The firm progress rate is linked with the share price if the market increases share price company can create revenue if the company is in a good position to generate profit. It means the firm current production will be good. The firm can achieve goals by increasing the value of the company or increasing the value of the sale. Akram Ali Rehman (2011)[9] discusses the debt to equality ratio represents a positive effect on firm performance, but the cycle of cash conversion shows that negative effect with the company asset which is measured for company valuation. Kashmer (2012)[10] declares financial ratios use assessment of capability to create revenue compare its income. Profitability is measured by the net total income of the firm Khidmat (2014)[11] explain if the firm checks the effect of liquidity ratio by current ratio of the money-making statement was made positive, the longest cash period increase. Dahiyat (2016)[12] says that the relationship of liquidity and firm performance have significant negative because performance is determined by return on assets and liquidity measured by cash holding ratio. If the current ratio is used for liquidity with the firm performance, there is the significant positive effect between them. Sumani and Roziq (2020)[13] says that there is no significant effect of liquidity on financial profitability. Hence the proposed hypothesis is

H_1 **:** There is significant relationship of liquidity with firm performance.

Solvency with firm performance

According to Myers and Majluf (1984)[14] says that there is a negative impact on profitability and solvency ratio because of longer debts. Munawir (2004)[15] says solvency comparison between expenses. The ratio of solvency comparison between the expense of total obligation with its valuable things. The company shows a negative relationship with solvency. Effect of firm performance and company size show a positive relationship. The company can increase its profit by increasing the value of assets. Compare these assets into expenses and manage the debts.

Abdul and Mamduh (2007)[16] stated that firm can create revenues by using profitability ratio. The company value is determined by the return on equity. Due to return on equity firms in that position compete for their earnings which are invested in the business as capital by shareholders. For the valuation of company performance using earning per share. The price of shares is clear how much monetary value to by share of the money. A firm change exchange rate based on factors as well as interior and exterior. The net income of the company is separated by the total whole figure of shares. GPS changes the main long-term impact on the value of the share is common price, public increases when corporate earnings rise and fall when firm win. The topic of long-term cash tenure has developed selected areas of study by financial and administration scientists' purpose of arising requests for that asset that convert into cash under association. Dahiyat (2016)[17] affirms that evaluate the relationship of solvency with profitability has no impact. Iftikhar (2017)[18] explains Check out the effect of component of managing revenue they represent firm arise earnings because of doubts in cash comes into the business. Satisfactory relationship between revenue and money-making statement. Due to increasing of debts our earning will be decline. In this research select debt ratio that estimated of impact variables that are evaluated by debt of total shareholders. The debt ratio represents the proportion of money from investors and borrowers. The company value could increase by the debt of used to total shareholders. Reduction the chance of happening related to money managing worry and depression. Minnema and Andersson (2018)[19] says that there is insignificant impact on firm performance. Nguyen and Nguyen (2020)[20] determine that the impact of solvency ratio with firm performance is negative. Hence the proposed hypothesis is

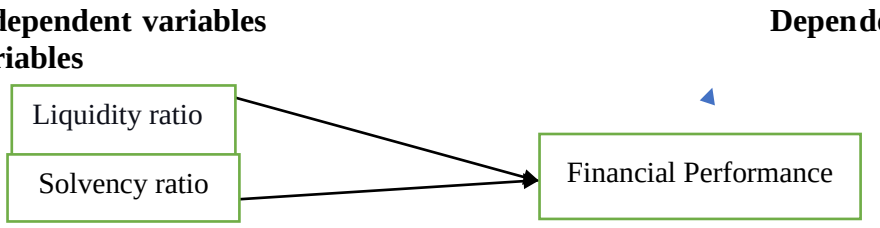
H_2: There is significant negative relationship of solvency with firm performance.

Sales growth with firm performance

Growth rate for the firm is very essential to attain the intior profit of the firm that makes the company larger and raise the value of that company in the market and eventually creation of additional money-making statement. For successful growth of business, it is essential to know how to create prices strategy. If company growth rate is very down, then the business of those is company is ultimately. Ozkan et al (2015)[21] find out hypothetically the capability to generate revenue from markets include two main serious conclusions, number one is buying the right time and number second is selling the right time. Akmese (2016)[22] declares recognition of growth or progress chances would be important element of on any business slop of areas when the business transfer elsewhere beginning up points and shows there is insignificant and positive relationship with firm performance. Hence the proposed hypothesis is

H_3: There is insignificant relationship of sale growth with firm performance.

Theoretical Framework:



Methodology

3.1 *Research design*

Figures are collected from companies' yearly information for the time 2016 to 2020. This is accessible on the Pakistan stock exchange. Monetary proportions, cash flow statements, and other Substances which are linked to the community are available on PSX. This study is based on a secondary type of data. We select the cement sector of Pakistan. In the cement industry 21companies are listed in this sector. In this research, we

picked eight companies in the cement sector of Pakistan and used quantitative techniques for hypothesis testing. One unit of analysis Pakistan cement industry. Descriptive Statistics, Correlation, Regression are used.

Company performance

This study measures the firm performance by earning per share, return on equity, liquidity is measured by current ratio, and solvency ratios measure by cash ratio and debt ratio. and use control variable control variable is measure by sale growth. Econometric equation of variables is as below:

$$ROE_{it=}\beta_{0+}\beta_1 CUR_{it+}\beta_2 DR_{it+}\beta_3 CR_{it+}\beta_4 SG_{it+}\varepsilon_{it} \quad \text{.....(1)}$$

In this equation return on equity is the dependent variable that is measured by company performance and the independent variable current, debt, and cash ratio is used for liquidity and solvency measurement.

$$EPS_{it=}\beta_{0+}\beta_1 CUR_{it+}\beta_2 DR_{it+}\beta_3 CR_{it+}\beta_4 SG_{it+}\varepsilon_{it} \quad \text{..... (2)}$$

Earing per share is also used to check the company results as a dependent variable and current, debt, and cash ratio is used for liquidity and solvency valuation as an independent variable.

where

ROE = Return on equity

EPS = Earnings per share

CUR = Current Ratio

DR =Debt ratio

CR = Cash ratio

SG= Sales growth

βo = Constant coefficient(intercept)

β1, β2, β3 =Coefficient of independent variables

£ =Other factors (error term)

Results and Discussions

The outcomes and clarifications are brief in respectively section. We found descriptive statistics which shows (mean, maximum, minimum and standard deviation values) and correlation which describes the relationship between independent variables and regression which explains how much variation in results due to independent variable and how much other factors affect our results. In this table (value of Durbin watson shows autocorrelation between error terms DW value must be equal to 2). Coefficients describe increase and decrease the values and t-stat and p-value shows significance level.

4.1: *Descriptive Statistics*

	ROE	EPS	Current Ratio	Debt Ratio	Cash Ratio	Sales growth
Mean	-.39	-.05	.01	.18	-.11	-.80
Minimum	.32	.92	3.07	.80	149.97	.32
Maximum	.1164	.1683	.4169	.3979	10.9084	.0287
Std. Deviation	.13102	.18489	.63438	.15955	32.80606	.18002

In the table of data descriptive mean value of ROE is .1164 and the maximum value is .32 and the minimum value is -.39. which shows that the data is normal. The value of standard deviation is .13102 which shows data spread about the mean. The average value of EPS is .1683 and lowest value of EPS is -.05 and the largest value is .92. and the standard deviation value is .18489 which is close to the mean.

The maximum value of the current ratio is 3.07 and minimum value is .01 and mean value is 0.4169 and the standard deviation value is. 63438.The minimum value of the debt ratio is 0.18 and the maximum value is .80 and the average value of the debt ratio is .3979 and the standard deviation value 0. 15955.The maximum value of the cash ratio is 149.97 and minimum value is -.11 and the mean value is 10.9084. and the standard deviation value is 32. 80606.The maximum value of sales growth is .32 and minimum value is -80 and means value is 0.287 and the standard deviation value is .18002.

4.2: *Correlation Matrix*

	ROE	EPS	Current Ratio	Debt Ratio	Cash Ratio	Sales growth
ROE	1					
EPS	.175	1				
Current Ratio	-.108	.042	1			
Debt Ratio	-.069	-.075	-.037	1		
Cash Ratio	.118	.013	.172	-.164	1	
Sales Growth	.017	-.219	.028	-.423	.201	1

We recognized the problem using the test of multicollinearity the table value shows that there is insignificant relationship between independent variable because the values are negative, and the output does not reflect a 100% relationship between the variables.

4.3: *Model Summary*

Dependent Variable: ROE

Model.	R	R Square	Adjusted R Square	Std. Error of Estimate	Durbin Watson
1	.681	.464	.403	.10125	1.738

The R Square is 0.464 which tells us variation in the model there is 46% variation in the model is due to the independent variable and 54% variation is due to other variables that affect our model. The Durbin Watson value is 1.738 which is close to 2. It means there is no autocorrelation problem in the model.

4.4: *ANOVA*

Model.	Sum of Squares	df	Mean square	F	Sig.
Regression	.311	4	.078	7.578	.000
Residuals	.359	35	.010		

Total	.670	39			

The regression value is 0.311 and the residual value is 0. 359.The F value is significant because it is greater than tabulated value at 1% of level of significant. The table shows that the probability ratio is 0.00 which is below 1%.

4.5: *Coefficients*

Model.	Coefficients.	Std. Error.	t- Statistics	Sig.
Constant	.369	.051	7.310	.000
Current Ratio	-.029	.026	-1.119	.271
Debt Ratio	-.599	.113	-5.319	.000
Cash Ratio	.000	.001	.653	.518
Sales Growth	-.222	.100	-2.207	.034

1 % increase in the current ratio will decrease ROE by -0.029 and coefficient current ratio -1.119 is statistically insignificant negative even at 10% level of significance because the calculated value is less than tabulated value so this is insignificant.1% increase in debt ratio will decrease ROE by -0.0559 and coefficient debt ratio -5.319 is statistically insignificant negative even at 10% level of significance. because the calculated value is less than tabulated value, so this is insignificant.

1% increase in cash ratio will remain same ROE by 0.000 and coefficient cash ratio 0.653 is statistically insignificant positive even at a 10% level of significance because calculated value is less than the tabulated value so this is insignificant.1% increase in sales growth will decrease ROE by -0.222 and coefficient sales growth -2.027 is statistically insignificant negative even at 10% level of significance because calculated value is less than tabulated value, so this is insignificant. These results show that overall relationship of independent variable and sales growth with return on equity is insignificant negative and these results was rejected.

4.6: *Model Summary*

Dependent Variable: EPS

Model.	R	R Square	Adjusted R Square	Std. Error of Estimate	Durbin Watson
1	.292	.086	-.019	.18666	1.601

The R Square is 0.85 which tells us variation in the model there is 85% variation in the model is due to the independent variable and 15% variation is due to other variables that affect our model. The Durbin Watson value is 1.601 which is close to 2. It is means there is no autocorrelation problem in the model.

4.7: *ANOVA*

Model.	Sum of Squares	df	Mean square	F	Sig.
Regression	.114	4	.028	.825	.524
Residuals	1.220	35	.035		
Total	1.333	39			

The regression value is 0.114 and the residual value is 1.220. The F value is .815 which is less tabulated value it is insignificant at 10% of level. The table shows that the probability ratio is 0.524 which is less than 10%. So, this is not significant.

4.5: *Coefficients*

Model	Coefficients.	Std. Error.	t- Statistics	Sig.
Constant	.263	.093	2.821	.008
Current Ratio	.011	.048	0.224	.824
Debt Ratio	-.231	.208	-1.114	.273
Cash Ratio	.000	.001	0.219	.828
Sales Growth	-.320	.185	-1.728	.093

1% increases in current ratio will increases EPS by 0.011 and a coefficient current ratio of 0.224 is statistically insignificant positive even at 10%

level of significance because calculated value is less than the tabulated value so this is insignificant.1% increase in debt ratio will decrease EPS by -0.231 and coefficient of debt ratio -1.114 is statistically insignificant negative even at 10% level of significance. because calculated value is less than tabulated value, so this is insignificant.

1% increase in cash ratio will remain same EPS by 0.000 and coefficient cash ratio 0.219 is statistically insignificant positive even at a 10% level of significance because calculated value is less than the tabulated value so this is insignificant.1% increase in sales growth will decrease EPS by -0.320 and coefficient of sales growth -1.728 is statistically insignificant negative even at 10% level of significance because calculated value is less than tabulated value so this is insignificant. Overall results of independent variables and sales growth with earning per share is insignificant negative so the results are rejected.

Conclusion

In this study the core purpose is the analysis of liquidity and solvency management on firm financial performance of cement sector of Pakistan whether the impact remained whichever negative or positive. We select the 8 companies for this purpose and collect the data from 2016 to 2020 and we determined the descriptive statistics, correlation matrix and regression analysis from this data. After running the data, the relationship of liquidity with ROE is insignificant negative and with the EPS insignificant positive. In solvency (debt ratio) show the insignificant negative with ROE and insignificant positive with EPS also (cash ratio) represent insignificant positive effect with EPS. In adding we use sales growth as a control variable and display the insignificant negative relationship with firm financial performance.

Very short time is taken in this study and collect the data only eight companies. In this analysis use secondary data from yearly reports of the company which are mostly based on historical information. May be this information are non-really imitate the recent requirement of the studies. Additional limit of this research is only considered 5 years of data which are not enough data to check the impact of liquidity and solvency ratio on firm performance

Future investigator should increase sample size and increased variables also take another control variable to check the results of the

model. Used for an incomplete period, the outcome of this work will rise the time mandatory for upcoming study. In future researcher should take another sector for analysis of data and check the impact of independent variable in those sectors because most of the study conduct in this sector. So, for new results and information analysist may be implement the research in another sector.

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