



FINANCIAL PERFORMANCE OF SELECT SUGAR MANUFACTURING COMPANIES IN INDIA: AN ANALYTICAL STUDY

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1. INTRODUCTION

The financial performance of select Sugar Manufacturing companies measured considering the relative impact of liquidity, turnover and leverages on profitability of the five companies viz. Bannari Sugars, Balrampur Chini, Dalima Sugars, Dwarkesh Sugars and EID parry which are the enterprises listed in the National Stock Exchange (NSE). Sugar industry is an important agro-based industry that impacts rural livelihood of about 50 million sugarcane farmers and around 5 lakh workers directly employed in sugar mills. Employment is also generated in various ancillary activities relating to transport, trade servicing of machinery and supply of agriculture inputs. India is the second largest producer of sugar in the world after Brazil and is also the largest consumer. According to the Indian Sugar Mills Association (ISMA), 492 sugar mills were in operation in the country as on 31st December 2021 and have produced 115.55 lakh tonnes of sugar, as compared to 110.74 lakh tonnes produced by 481 sugar mills as on 31st December 2020. This is 4.81 lakh tonnes higher as compared to last season's production for the corresponding period.

This study is an attempt to ascertain the impact on profitability. In this regard, Liquidity ratios comprises Current Ratio and Quick Ratio, Turnover Ratios are based on Asset Turnover Ratio and Inventory Turnover Ratio, Leverages are based on Debt Equity Ratio and Interest Coverage Ratio and the profitability ratios are Return on Asset and Return on Equity. This study compiled initially by briefing the theoretical framework, followed by related literature, problem statement, objectives, methodology and finally the data analysis with interpretation and summary of results.

2. THEORETICAL FRAMEWORK

- Liquidity is one of the important elements that ensure the continuity of companies, as companies that do not have sufficient liquidity may not be able to pay their short-term obligations to their suppliers and provide services and goods on time, which affects their reputation and may result in bankruptcy due to the company's inefficiency in managing its assets optimally (Yusoff, 2017).
- The activity ratio is also known as the efficiency ratio or the more popular turnover ratio. The role of activity ratio or turnover ratio is in the evaluation of the efficiency of a business by careful analysis of the inventories, assets and accounts receivables.

- Financing by borrowing results in what is called leverage (Aliwi, 2019). Although there are advantages to corporate leverage for the tax savings that it achieves, increasing dependence on external financing sources without efficiency in their use exposes the company to serious consequences (Kanaan & Saoud, 2018). The concept of financial solvency is also one of the basic concepts that management of industrial firms is interested in to measure the company's efficiency in covering its long-term obligations (Owais, 2016).
- Profitability is the primary goal that companies seek to achieve to ensure their viability and continuity. Hence, increasing the profitability of companies depends on their ability to manage their sources of funds optimally (Kanaan & Saoud, 2018).

3. RELATED LITERATURE

Akhtar, Ibrahim, Riaz, Abbas, and Asif (2015) collected data from 2007 to 2012 and used SPSS software for the analysis. They find out that liquidity has a significant positive impact on the profitability of sugar industry in Pakistan. Akenga (2015) collected data of thirty companies listed in Nairobi Securities Exchange and examined that liquidity has a significant impact on return on assets. Safdar, Awan, Ahmed, Qureshi, and Hasnain (2016) collected five years data of the sugar mills listed in Karachi Stock Exchange and found a positive impact of liquidity on return on assets, return on equity and return on capital employed.

Ishak, I., Hashim, et al., (2020). This research is conducted to evaluate the determinants of leverage on 29 construction companies listed in Bursa Malaysia over ten years (2008-2017). The purpose of this research is to observe whether the independent variables which are growth profitability, liquidity and tangibility gives any influence towards dependent variable which is leverage. Methods used in this study include Pooled Ordinary Least Square (POLS) Regression analysis, Random Effect analysis and Fixed Effect analysis. Random effect model was employed through a few tests and the result discovered that profitability (return on asset and return on equity) and liquidity have significant impact towards leverage. For recommendation, future research is urged to diversify the scope of sector such as industrial or services sector as it also gives huge contribution to the country. On top of that, future research can use other alternative or tools in gathering the data besides Thompson Reuters and

annual financial reports while expanding the sample of study.

Shivani and Bodla B S (2020), This study seeks to measure the impact of different company characteristic such as firm size, interest coverage ratio, growth, tax, volatility, business risk, return on assets on leverage of the Sugar companies listed on the National Stock Exchange (NSE). The data of 21 companies listed in the NSE was obtained from Capitaline database from the years 2001-2019. The panel data method is used to determine the effect on leverage of the firm's characteristics and the debt equity ratio defines leverage. The research discusses only seven variables of business characteristics; additional studies may consider certain aspects affecting the organization's leverage such as investments opportunities, ownership structure and tangibility. The results of empirical analysis, Interest coverage ratio, Business risk, Size and Tax are negatively connected with the leverage. However, results found that there are significant correlation of debt equity ratio with Return on assets, Growth and Volatility.

Dr.Salma Banu (2022), The adequate liquidity position of a concern shows the ability to manage day-to-day operations in the business. The study attempts to evaluate the current assets, current liabilities, liquid assets and liquid liabilities etc. to assess the liquidity position as well as solvency position of select sample sugar factories in Karnataka state. The study is also interested in applying the various statistical tools to arrive at the conclusion

4. STATEMENT OF THE PROBLEM

Manufacturing sector plays a pivotal role in a developing economy. Rate of inflation is cooling significantly prior to the Covid-19 situation, that has increased significantly post 2020, however, the country's inflation rate is quite low observed during post Covid situation. This study particularly concentrates the sugar producing companies listed in the small, mid and large capital sectors considered for analyzing its financial performance during 2017-18 to 2021-2022. This places a strong emphasis in identifying the present situation and to understand how far the growth, efficiency and profitability of the select firms played its role in India.

5. OBJECTIVE OF THE STUDY

▪ To study the financial performance of select sugar manufacturing companies in India.

6. RESEARCH METHODOLOGY

Research in common parlance to a search for knowledge. One can also define research as a scientific and systematic search for pertinent information on a specific topic. Methodology, in turn, depends on the nature of the project work. The use of proper methodology is an essential part of any research. Research design is the arrangement of activities for the collection and analysis of the data in a manner that aims to combine relevance to the purpose with economy in procedure. The study carried out here is an Analytical Research. The secondary data collection was adopted in this study for the periods from 2017-18 to 2021-22. There are fifty seven sugar manufacturing companies classified as Large Cap, Mid Cap and Small Cap in which five Medium and Large cap companies were randomly selected for the study that are Bannari Sugars, Balrampur Chini, Dalima Sugars, Dwarkesh Sugars and EID Parry. Tools used for analysis are Ratio Analysis, Linear Growth Rate (LGR), Correlation and Multiple Regression.

7. LIMITATIONS OF THE STUDY

▪ Secondary data conceal micro level operational constraints that are to be understood to formulate suitable strategy to remain competitive in the global market. However, the limitations of time and other resources restricted the micro level study to just a few firms. Therefore some of the problems might have escaped attention. So care has been taken from generalizing the conclusions of the study.

8. ANALYSIS AND RESULTS

A ratio is a simple arithmetical expression of the relationship of one number to another. The relationship between two figures expressed mathematically is called a ratio. According to Accountant's Handbook by Wixon, Kell and Bedford, a ratio is an expression of the quantitative relationship between two numbers.

8.1. LIQUIDITY RATIOS

Liquidity measures is a company's ability to pay its short term obligations, which means its capacity to repay its current liabilities on every occasion they fall due. Descriptive statistics shows Current ratio and Quick ratio representing liquidity of the select sugar companies measured with the descriptive statistics (Mean and SD) followed by the linear growth of the select companies.

Table 1: Liquidity Ratios (CR & QR)

Companies	Current Ratio (X)			Quick Ratio (X)		
	Mean	SD	LGR	Mean	SD	LGR
Bannari	1.49	0.045	-1.41	0.33	0.076	9.64
Balrampur	1.43	0.213	8.8	0.22	0.09	-5.91
Dalmia	1.55	0.194	6.34	0.47	0.066	-3.22
Dwarkesh	1.32	0.208	9.24	0.17	0.036	7.74
EID	1.30	0.224	10.19	0.71	0.102	6.6

Current ratio of select sugar companies shows Bannari: Mean=1.49 (SD=0.045), followed by Balrampur: Mean=1.43 (SD=0.213), Dalmia: Mean=1.55 (SD=0.194), Dwarkesh: Mean=1.32 (SD=0.208) and finally, EID: Mean=1.30 (SD=0.224). Current ratio of all sugar companies is found well within the rule of thumb while the linear growth was observed positive among four companies except Bannari (-1.41).

Quick ratio of select sugar companies shows Bannari: Mean=0.33 (SD=0.076), followed by Balrampur: Mean=0.22 (SD=0.09), Dalmia: Mean=0.47 (SD=0.066), Dwarkesh: Mean=0.17 (SD=0.036) and finally, EID: Mean=0.71 (SD=0.102). Except EID Parry, quick ratio of all four sugar companies found to have recorded marginally below the threshold and the linear growth of quick ratio for all five years shows positive effect among Bannari (9.64%), Dwarkesh (7.74%), EID (6.6%) whereas negative growth among Balrampur (-5.91) and Dalmia (-3.22%).

8.2. EFFICIENCY RATIOS

Turnover ratios are also indicated as efficiency or activity ratios with which a firm manages its current assets. Descriptive statistics measures the Asset Turnover Ratio (ATR) and Inventory Turnover Ratio (ITR) representing Efficiency of the select sugar companies computed with the descriptive statistics (Mean and SD) followed by the linear growth of the select companies.

Asset Turnover ratio of select sugar companies shows Bannari: Mean=52.14 (SD=30.176), followed by Balrampur: Mean=82.40 (SD=46.463), Dalmia: Mean=40.57 (SD=37.013), Dwarkesh: Mean=62.08 (SD=61.374) and finally, EID: Mean=92.65 (SD=53.664). Percentage of Asset Turnover ratio of the all sugar companies were found to be significantly higher proving adequate enough in exhibiting its efficiency. Linear growth of all five companies were negative during the five years period.

Table 2: Turnover Ratios (ATR & ITR)

Companies	Asset Turnover Ratio (%)			Inventory Turnover Ratio (X)		
	Mean	SD	LGR	Mean	SD	LGR
Bannari	52.14	30.176	-26.65	1.74	0.605	-12.96
Balrampur	82.40	46.463	-26.68	1.95	0.361	-9.26
Dalmia	40.57	37.013	-53.65	1.86	0.656	-18.8
Dwarkesh	62.08	61.374	-58.99	1.74	0.547	-10.03
EID	92.65	53.664	-17.342	3.16	1.509	-14.00

Inventory Turnover ratio of select sugar companies shows Bannari: Mean=1.74 (SD=0.605), followed by Balrampur: Mean=1.95 (SD=0.361), Dalmia: Mean=1.86 (SD=0.656), Dwarkesh: Mean=1.74 (SD=0.547) and finally, EID: Mean=3.16 (SD=1.509). Percentage of Inventory Turnover ratio of the all sugar companies were found to be significantly higher proving adequate enough in exhibiting its efficiency. LGR of ITR recorded negative growth during the study period.

8.3. LEVERAGES RATIOS

The solvency or leverage ratios throws light on the long term solvency of a firm reflecting its ability to assure the long term creditors with regard to periodic payment of interest during the period and loan repayment of principal on maturity or in predetermined installments at due dates. Descriptive statistics measures the Debt Equity Ratio (DER) and Interest Coverage Ratio (ICR) representing leverages of the select sugar companies computed with the descriptive statistics (Mean and SD) followed by the linear growth of the select companies.

Table 3: Leverage Ratios (DER & ICR)

Companies	Debt to Equity (x)			Interest Coverage Ratios (%)		
	Mean	SD	LGR	Mean	SD	LGR
Bannari	0.62	0.129	8.44	4.65	1.346	11.19
Balrampur	0.56	0.146	-10.07	14.49	6.353	22.83
Dalmia	0.54	0.152	-8.77	6.82	4.861	40.41
Dwarkesh	1.07	0.275	-6.09	5.62	2.331	11.84
EID	0.85	0.675	-45.08	7.23	5.954	44.1

Debt Equity ratio of select sugar companies shows Bannari: Mean=0.62 (SD=0.129), followed by Balrampur: Mean=0.56 (SD=0.146), Dalmia: Mean=0.54 (SD=0.152), Dwarkesh: Mean=1.07 (SD=0.275) and finally, EID: Mean=0.85 (SD=0.675). Debt Equity ratio of the all sugar companies were found to have been low or within the specified limits indicating stable perpetuation of debt and equity. Linear growth of four sugar companies was negative while Bannari recorded positive growth rate (8.44%) during the five years period.

Interest Coverage Ratio of select sugar companies shows Bannari: Mean=4.65 (SD=1.346), followed by Balrampur: Mean=14.49 (SD=6.353), Dalmia: Mean=6.82 (SD=4.861), Dwarkesh: Mean=5.62

(SD=2.331) and finally, EID: Mean=7.23 (SD=5.954). Interest Coverage ratio of the all sugar companies were found to be high and adequate enough to cover its obligations. Linear growth was found positive towards Interest Coverage ratio of all sugar companies during the five years period.

8.4. PROFITABILITY RATIOS

A firm's profitability can be determined by computing various types of profitability ratios. Descriptive statistics measures the Debt Equity Ratio (DER) and Interest Coverage Ratio (ICR) representing leverages of the select sugar companies computed with the descriptive statistics (Mean and SD) followed by the linear growth of the select companies.

Table 4: Profitability Ratios (ROE & ROA)

Companies	Return on Equity (%)			Return on Assets (%)		
	Mean	SD	LGR	Mean	SD	LGR
Bannari	6.78	0.85	-5.44	3.78	0.547	-6.59
Balrampur	19.61	4.964	-2.02	10.00	2.234	6.29
Dalmia	11.84	1.483	6.47	6.25	1.271	12.23
Dwarkesh	20.46	5.222	-6.87	7.82	2.714	0.78
EID	10.72	4.624	20.23	2.97	1.809	34.59

Return on Equity ratio of select sugar companies shows Bannari: Mean=6.78 (SD=0.850), followed by Balrampur: Mean=19.61 (SD=4.964), Dalmia: Mean=11.84 (SD=1.483), Dwarkesh: Mean=20.46 (SD=5.222) and finally, EID: Mean=10.72 (SD=4.624). Return on Equity ratio of the all sugar companies were found to have positive impact and reasonable returns during its operations. Linear growth was observed negative among Bannari (-5.44), followed by Balrampur (-2.02) and Dwarkesh (-6.87) while, Dalmia (6.47) and EID Parry (20.23) recorded positive growth.

Return on Asset ratio of select sugar companies shows Bannari: Mean=3.78 (SD=0.547), followed by Balrampur: Mean=10.00 (SD=2.234), Dalmia: Mean=6.25 (SD=1.271), Dwarkesh: Mean=7.82 (SD=2.714) and finally, EID: Mean=2.97

(SD=1.809). Return on Asset ratio of the all sugar companies was found to have positive impact and positive returns during its operations. Linear growth was observed negative only with Bannari (-6.59%), whereas, all four companies recorded positive RoA viz. Balrampur (6.29%), Dalmia (12.23%), Dwarkesh (0.78%) and EID Parry (34.59%) during the study period.

8.5. CORRELATION AND REGRESSION ANALYSIS

8.5.1. Correlation

Considering Return on Assets (RoA) and Return on Equity (RoE) as dependent variables indicating the profitability of the select Sugar Companies and the performance of the companies based on Liquidity, Efficiency and Leverage Ratios are measured.

Table 5: Correlation shows the financial Performance of the select Sugar Companies

		RoA	RoE	CR	QR	ATR	ITR	DER	ICR
RoA	Pearson Correlation	1							
	Sig. (2-tailed)								
RoE	Pearson Correlation	.870**	1						
	Sig. (2-tailed)	.000							
CR	Pearson Correlation	.313	-.057	1					
	Sig. (2-tailed)	.127	.788						
QR	Pearson Correlation	-.555**	-.433*	.034	1				
	Sig. (2-tailed)	.004	.030	.872					
ATR	Pearson Correlation	-.133	.092	-.616**	.114	1			
	Sig. (2-tailed)	.526	.660	.001	.589				
ITR	Pearson Correlation	.149	-.108	.548**	-.232	-.489*	1		
	Sig. (2-tailed)	.476	.609	.005	.265	.013			
DER	Pearson Correlation	-.280	.017	-.709**	-.139	.272	-.157	1	
	Sig. (2-tailed)	.175	.935	.000	.507	.189	.454		
ICR	Pearson Correlation	.637**	.444*	.505*	-.095	-.361	.118	-.496*	1
	Sig. (2-tailed)	.001	.026	.010	.653	.077	.576	.012	

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

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

Liquidity comprises of Current Ratio and Quick Ratio (Liquidity), Asset Turnover Ratio and Inventory Turnover Ratio (Efficiency) finally, Debt Equity and Interest Coverage Ratio (Leverages) are compared to find the relationships with the first dependent variable (RoA) and Return on Equity (RoE) is the second dependent variable.

- Current Ratio is positively correlated ($r=0.313$, Sig.0.127) with Return on Assets (RoA) thus, significance is statistically not proved while, Current Ratio is negatively correlated ($r=-0.57$, Sig.0.788) however, significance is statistically not proved to support the H_0 .
- Quick Ratio is negatively correlated ($r=-0.555$, Sig.0.004) with Return on Assets (RoA) therefore, statistically proving significant while, Quick Ratio is also negatively correlated ($r=-0.433$, Sig.0.030) thus, the significance is statistically proved to reject the H_0 .
- Asset Turnover Ratio is negatively correlated ($r=-0.133$ Sig.0.526) with Return on Assets (RoA) however, statistically not proved significant whereas, Asset Turnover Ratio is positively correlated ($r=0.092$, Sig.0.660) however, the significance is statistically not proved to accept the H_0 .
- Inventory Turnover Ratio is positively correlated ($r=0.149$, Sig.0.476) with Return on Assets (RoA) therefore, not statistically proving significant while, Inventory Turnover Ratio is negatively correlated ($r=-0.108$, Sig.0.609) thus, the significance is not statistically proved to accept the H_0 .
- Debt Equity Ratio is negatively correlated ($r=-0.280$ Sig.0.175) with Return on Assets (RoA) however, statistically not proved significant

while, Debt Equity Ratio is positively correlated ($r=0.017$, Sig.0.935) however, the significance is statistically not proved to accept the H_0 .

- Interest Coverage Ratio is positively correlated ($r=0.637$, Sig.0.001) with Return on Assets (RoA) therefore, statistically proving significant while, Interest Coverage Ratio is also positively correlated ($r=0.444$, Sig.0.026) thus, the significance is statistically proved to reject the H_0 .

Result shows significant negative relationship between efficiency indicator considering Inventory Turnover Ratio and positive relationship between leverages indicator considering Interest Coverage Ratio with Profitability (RoA and RoE) ratios. Further, regression analysis is employed to determine the power of the relationships of the select financial ratios on profitability of the sugar companies.

8.5.2. Regression Analysis

To determine the power of the predictor variables viz. Liquidity, Efficiency and Leverage (CR, QR, ATR, ITR, DER and ICR) to measure the relationship with profitability ratios viz. RoA and RoE (dependent) and the results are presented hereunder.

Table 6: Multi-collinearity Diagnostic

Ratios	Collinearity Statistics	
	Tolerance	VIF
CR	.219	3.564
QR	.859	1.164
ATR	.538	1.859
ITR	.520	1.922
DER	.382	2.618
ICR	.642	1.558

A collinearity statistical diagnostic test was conducted to evaluate the closeness of the predictors with each other. None of the predictors (CR, QR, ATR, ITR, DER and ICR) were found unequal or close to zero or equal to zero thus,

tolerance is proved fit, also, the variance inflation factor (VIF) is observed well below the threshold (<5) indicating absence of multi-collinearity among the predictor variables.

Table 7: Financial Performance of select sugar companies (Model Summary)

Value of R	Value of R ²	Adjusted R ²	DF of V ₁ & V ₂	F-Value	Significance
0.834	0.696	0.595	(6, 18)	6.870	0.001

Dependent Variable: RoA

Predictors: (Constant), ICR, ITR, ATR, DER, CR

Model-1:

$$\text{RoA} = \beta_0 + \beta_1(\text{CR}) + \beta_2(\text{QR}) + \beta_3(\text{ATR}) + \beta_4(\text{ITR}) + \beta_5(\text{DER}) + \beta_6(\text{ICR})$$

Analysis of variance (ANOVA) test is used to assess the overall significance of the Model. Model proves the F-Statistics F(6,18)=6.870 is significant @ 1% level (P<0.001) indicating explanatory variables are contributing adequately to explain the regression model. The strength of

the correlation (r=0.834) between the predictors (CR, QR, ATR, ITR, DER and ICR) and dependent variable (RoA) is observed to be strong. The predictor explained 69.6% variance when compared with Return on Assets. Liquidity and Leverages are found to be the significant contributors in explaining the Return on Asset of the select Sugar Companies during the study period.

Table 8: Coefficients measuring the relationships between predictor and dependent variables

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.846	.519		-1.631	.120
	CR	.243	.278	.243	.875	.393
	QR	-.547	.140	-.547	-3.898	.001
	ATR	.254	.177	.254	1.436	.168
	ITR	-.050	.180	-.050	-.275	.786
	DER	.059	.557	.022	.106	.917
	ICR	.104	.029	.571	3.522	.002

Dependent Variable: RoA

HYPOTHESES

Significant relationship expected between

H1a: Current Ratio and Return on Asset

H1b: Quick Ratio and Return on Asset

H1c: Asset Turnover Ratio and Return on Asset

H1d: Inventory Turnover Ratio and Return on Asset

H1e: Debt Equity Ratio and Return on Asset

H1f: Interest Coverage Ratio and Return on Asset

- Result reveals the beta coefficient of Current Ratio (Liquidity) in predicting Return on Asset recorded $\beta=0.243$, $SE=0.278$, $t=0.875$, $Sig.0.393$ did not statistically prove significant relationship therefore, the null hypothesis (H1a) is accepted.
- Beta coefficient of Quick Ratio (Liquidity) in predicting Return on Asset recorded $\beta=-0.547$, $SE=0.140$, $t=-3.898$, $Sig.0.001$ statistically proved significant relationship therefore, the null hypothesis (H1b) is rejected.

- Beta coefficient of Asset Turnover Ratio (Efficiency) in predicting Return on Asset recorded $\beta=0.254$, $SE=0.177$, $t=1.436$, $Sig.0.168$ did not statistically prove significant relationship therefore, the null hypothesis (H1c) is accepted.
- Beta coefficient of Inventory Turnover Ratio (Efficiency) in predicting Return on Asset recorded $\beta=-0.050$, $SE=0.180$, $t=-0.25$, $Sig.0.786$ statistically not proved significant relationship therefore, the null hypothesis (H1d) is accepted.
- Beta coefficient of Debt Equity Ratio (Leverage) in predicting Return on Asset recorded $\beta=0.059$, $SE=0.557$, $t=0.106$, $Sig.0.917$ did not statistically prove significant relationship therefore, the null hypothesis (H1e) is accepted.
- Beta coefficient of Interest Coverage Ratio (Leverage) in predicting Return on Asset recorded $\beta=0.104$, $SE=0.029$, $t=3.522$,

Sig.0.002 statistically proved significant relationship therefore, the null hypothesis (H1f) is rejected.

Table 9: Financial Performance of select sugar companies (Model Summary)

Value of R	Value of R ²	Adjusted R ²	DF of V ₁ & V ₂	F-Value	Significance
0.693	0.480	0.307	(6,18)	2.774	0.043

Dependent Variable: RoE

Predictors: (Constant), ICR, ITR, ATR, DER, QR, CR

Model-2:

$$\text{RoE} = \beta_0 + \beta_1(\text{CR}) + \beta_2(\text{QR}) + \beta_3(\text{ATR}) + \beta_4(\text{ITR}) + \beta_5(\text{DER}) + \beta_6(\text{ICR})$$

Analysis of variance (ANOVA) test is used to assess the overall significance of the Model. Model proves the F-Statistics $F(6,18)=2.774$ is significant @ 5% level ($P<0.043$) indicating explanatory variables are contributing adequately to explain the regression model. The strength of the correlation ($r=0.693$) between the predictors (CR, QR, ATR, ITR, DER and ICR) and dependent variable (RoE) is observed to be moderate. The predictor explained 48% variance when compared with Return on Equity. Liquidity and Leverages are found to be the significant contributors in explaining the Return on Equity of the select Sugar Companies during the study period.

HYPOTHESES

Significant relationship expected between

H2a: Current Ratio and Return on Equity

H2b: Quick Ratio and Return on Equity

H2c: Asset Turnover Ratio and Return on Equity

H2e: Inventory Turnover Ratio and Return on Equity

H2d: Debt Equity Ratio and Return on Equity

H2f: Interest Coverage Ratio and Return on Equity

- Result reveals the beta coefficient of Current Ratio (Liquidity) in predicting Return on Equity recorded $\beta=-0.013$, $SE=0.363$, $t=-0.036$, $\text{Sig}.0.972$ did not statistically proved significant relationship therefore, the null hypothesis (H2a) is accepted.
- Beta coefficient of Quick Ratio (Liquidity) in predicting Return on Equity recorded $\beta=-0.410$, $SE=0.183$, $t=-2.238$, $\text{Sig}.0.038$ statistically proved significant relationship therefore, the null hypothesis (H2b) is rejected.

Table 10: Coefficients measuring the relationships between predictor and dependent variables

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	-1.142	.678		-1.684	.109
	CR	-.013	.363	-.013	-.036	.972
	QR	-.410	.183	-.410	-2.238	.038
	ATR	.242	.232	.242	1.043	.311
	ITR	-.122	.236	-.122	-.518	.611
	DER	.424	.728	.160	.582	.568
	ICR	.108	.038	.593	2.796	.012

Dependent Variable: RoE

- Beta coefficient of Asset Turnover Ratio (Efficiency) in predicting Return on Equity recorded $\beta=0.242$, $SE=0.232$, $t=1.043$, $\text{Sig}.0.311$ did not statistically proved significant relationship therefore, the null hypothesis (H2c) is accepted.
- Beta coefficient of Inventory Turnover Ratio (Efficiency) in predicting Return on Equity recorded $\beta=-0.122$, $SE=0.236$, $t=-0.518$, $\text{Sig}.0.611$ statistically not proved significant relationship therefore, the null hypothesis (H2d) is accepted.
- Beta coefficient of Debt Equity Ratio (Leverage) in predicting Return on Equity recorded $\beta=0.424$, $SE=0.728$, $t=0.582$, $\text{Sig}.0.568$ did not statistically proved significant relationship therefore, the null hypothesis (H2e) is accepted.
- Beta coefficient of Interest Coverage Ratio (Leverage) in predicting Return on Equity recorded $\beta=0.108$, $SE=0.038$, $t=2.796$, $\text{Sig}.0.012$ statistically proved significant relationship therefore, the null hypothesis (H2f) is rejected.

9. SUMMARY OF THE RESULTS

Liquidity

- Result shows Dalmia Sugars recorded high current ratio, followed by Bannari, Balrampur, Dwarkesh and the least by EID. While, EID Parry recorded high quick ratio, followed by Dalmia, Bannari, Balrampur and the least by Dwarkesh.

Efficiency

- Result indicates EID Parry recorded high Asset turnover ratio, followed by Balrampur, Dwarkesh, Bannari and the least by Dalmia. While, EID Parry recorded high Inventory turnover ratio, followed by Balrampur, Dalmia and the least by Bannari and Dwarkesh respectively.

Leverages

- Result shows Dalmia sugars recorded the least Debt Equity ratio, followed by Balrampur, Bannari, EID Parry and the highest by Dwarkesh. While, highest percentage of interest coverage were found with Balrampur Chini followed by EID Parry, Dalmia, Dwarkesh and the least by Bannari.

Profitability

- Result shows Dwarkesh recorded the highest Return on Asset ratio, followed by Balrampur, Dalmia, EID Parry and the least by Bannari Sugars. While, highest percentage of Return on Assets was found with Balrampur, followed by Dwarkesh, Dalmia, Bannari and the least by EID Parry.

Correlation and Regression Analysis

- Four indicators compared with Return on Asset and Return on Equity measuring financial performance were found insignificant there indicates include H1a, H2a: Liquidity, H1c, H2c, H1d, H2d: Efficiency, H1e, H2e: Leverage measuring the financial performance of the select firms. It is also surprising to notice the select sugar companies level of debt equity based leverage did not showed the impact on the firm performance. Different levels of leverage or capital structure do not guarantee better or worse financial performance of the select firms. The failure or success of the companies considered for the study show much to depend on other factors (e.g., liquidity, efficiency, etc.) beyond merely debt policy.

10. DISCUSSION

- Results are consistent with the study (Ghosh, 1998), moderate liquidity indicating the firm's

assets are well utilized, in this regard, the Quick Asset (liquidity) of the select sugar companies were adequately utilized to increase the rate of return supporting to enhance the financial performance.

- Considering the leverage (Interest Coverage Ratio), the select Sugar companies illustrates moderate degree of risk leading to low uncertainty (Gurbuz et al., 2010) therefore, the select sugar companies tend to preserve adequate liquidity to manage the uncertainty.

11. SUGGESTIONS AND CONCLUSION

Negative effect of liquidity (QR) signifies that when liquidity decreases, the profitability will increase and vice-versa, was observed from the results indicating profitability of the select Sugar Manufacturing companies considering liquidity position is good enough. Considering the efficiency, The framed null hypothesis (H0) is accepted with respect to Turnover Ratios (ATR and ITR) which means the efficiency did not differ significantly among the select sugar manufacturing companies. Considering the leverages, debt equity observed almost same among the selected companies while the interest coverage of the companies differ significantly, proving the framed hypothesis is true when compared with Return on Equity and Return on Assets.

To sum-up, it is recommended that the companies shall adequately maintain liquidity which plays important role in the day to day success of a business. Management practices of all sugar companies were found satisfactory considering the efficiency, leverages and profitability positions. A proper flow of pay back debts can easily improve the efficiency of the companies. Therefore, it is recommended that the companies shall conduct a deep analysis of their of customers credit worthiness. Financial impact will happen for maintaining liquidity, profitability and solvency in a business organization not considering the size and the nature of their operations. The debt equity mix constitutes the capital structure of the firm (Brealey et al, 2008). An optimal capital structure is reached where the overall cost of capital is at minimum. Therefore, it is important to maintain leverages effectively in equilibrium to overcome distress. Profitability is the end result of a variety of policy and management decisions. Profitability provides answers about the effectiveness of management. In this regard the selected sugar companies are found satisfactory in maintaining its financial performance.

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