Research Paper **Management**

An Empirical Study on Effect of Profitability and Market Value Ratios on Market Capitalization of Infrastructural Companies In India

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ABSTRACT *Market Capitalization represents the combined value of a company's stock. The present study is focused to find an effect of profitability ratios and market value ratios on market capitalization. Thus, the objective of the study is to know one of the internal measures, which can influence the market capitalization of Indian infrastructural companies. To examine market capitalization is taken as a dependent variable and the profitability ratios (GPM, NPM, ROCE, ROE and RONW) and market value ratios (EPS, PER and DPR) variables are selected as independent variables. Sample of 23 listed infrastructural companies of CNX Infrastructure Index have been taken for the study. The period of the study is 5 years (F.Y. 2009-10 to F.Y. 2013-14). The study reveals that there is positive relationship between market capitalization and profitability ratios of selected infrastructural companies during the period. Result shows that there is significant relationship between ROCE, ROE and EPS with Market Capitalization.*

KEYWORDS : Market Capitalization, Financial Performance, Infrastructure Companies.

1. INTRODUCTION

Capital formation is an integral part of economic growth and development and it plays an important role in the economic theory of production and distribution. It is assumed that capital accumulation can facilitate faster rate of economic growth. The growth of a stock market is measured by its total market capitalization. The size of the market capitalization and its growth rate pose a major influence on the growth and development of the economy **(Ologunde et al. 2006)**. In today's unbalanced economic environment and high precariousness of stock price indices, the financial performance of the companies have become foreseeable mediator for creating organization values and thereby increasing shareholder's wealth. The present study is undertaken to examine the effect of selected financial variables on market capitalization. Here, market capitalization is taken as a dependent variable and the profitability and market value ratios variables are selected as independent variables.

1.1. Market Capitalization:

Now-a-days market capitalization has become a universally accepted indicator of business valuation. It represents the aggregate value of a company or stock **(Jaya & Sundar 2012)**. The term, 'Market Capitalization' of a company refers to the number of its shares outstanding multiplied by its market price per share. The common yardstick to quantify the value of the company is market capitalization or more generally, the wealth created by a firm. It represents the collective value of a company or stock. The success or failure of crucial decisions like mergers, acquisitions and takeovers has great impact on the value of a company.

1.2. Financial Performance:
A slanted measure of how well a firm can use assets from its primary mode of business and generate revenues. This term is also used as a general measure of a firm's overall financial health over a given period of time, and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation. Investors analyses and interpret the financial statements so that they can get an insight in to the firm's performance. Ratio analysis is one of the tools for financial performance analysis of the company. Investors are more interested in profitability ratios like GPM, NPM, ROCE, ROE etc. valuation ratios like P/E ratios, EPS and DPR.

1.2.1. Profitability Ratios:
Profitability is an aptitude of a given investment to earn a return from its use. Profit cannot be ignored since it is both a measure of success of the business and means its survival and growth. The profitability variables chosen for the present study are:

(a) Gross Profit Margin (GPM)

(b) Net Profit Margin (NPM)
(c) Return on Capital Employed (ROCE)
(d) Return on Equity (ROE)
(e) Return on Net Worth (RONW).

1.2.2. Market Value Ratios:
Market value ratios evaluate the economic status of your company in the wider marketplace. Market value ratios give management an idea of what the firm's investors think of the firm's performance and future prospects. Market value ratios are pertinent to the publicly traded firm. The market ratio variables used for the study are:

(a) **Earnings Per Share (EPS)**
(b) **Price Earnings Ratio (PER)**
(c) **Dividend Payout Ratio (DPR)**

1.3. Indian Infrastructural Sector:
Infrastructure drives development in the economy. It is also a significant for the effective functioning of the economy. Development in the infrastructure has a direct impact on the sustainability of overall growth and development of the Indian economy. In recent years, India made significant progress in physical infrastructure. Electricity, railways, roads, ports, airports, irrigation, and urban and rural water supply and sanitation with the governments focus on infrastructure development and increased investments in the sector. In the present study CNX Infrastructure Index companies have been taken as sample.

2. REVIEW OF LITERATURE

The relationship between market capitalization and financial performance has been studied in the recent years in many studies world over, with many methods and with different results. The results of the empirical studies are mixed.

The study of **Jaya & Sundar (2012)** adopted a time series approach in the analysis and the quarterly data have been used for the period 2003 to 2011. The sample Information Technology firms were chosen from BSE500 Index. The results of the multiple regression analysis of the market capitalization indicates that 91 per cent of the variation in the market capitalization for the study period has been explained by the variables included in the equation viz., Equity and Liquidity. **Shobhana & Karpagavalli (2011)** focus on the fundamental variables influencing equity prices of 'A' Group and 'B' Group shares of the banking companies listed at BSE. Correlation and multiple regression analysis were employed in the analysis of data. The findings reveal that company specific factors such as market capitalization and dividend yield have significant influence on the equity prices of 'A' group shares and in the case of group 'B' shares book value per share emerged significant. The study covers a period of ten financial years

i.e. from 2000-2001 to 2009-2010. **Kenneth (2009)** used multiple regression analysis to determine which of several important factors yielded the best model for market capitalization. The factor included brand value, dividend, price to sales ratio and forward price earnings ratio. He founded that brand value had the high correlation with the market capitalization and the brand value of small companies and had a stronger relationship with the market capitalization than bigger companies. **Prasetyantoko & Rachmadi (2008)** analyzed listed companies in Jakarta stock exchange for the period 1994-2004 under panel data. The main findings of the study were that size was position related to the firm's profitability but it was not related to market capitalization. The result also showed that the ownership factor weighted heavily firm performance by proving that firms with predominant foreign staked much higher performance in both measurements namely Return on Asset (ROA) and Market Capitalization Growth than domestically owned firms.

3. RESEARCH METHODOLOGY
3.1. Objective of the Study: The major objectives of the study are:

> To study an effect of profitability ratios on market capitalization.
> To study an effect of market value ratio on market capitalization.
> To find out which financial performance effect significantly on market capitalization.

3.2. Sample Size: The attempt has been made on the sample of 23 infrastructural companies of CNX Infrastructure Index.

3.3. Duration of the Study: The period of the study is 5 years beginning from the FY 2009-10 and ending with FY 2013-14. The rationale behind the selection of a 5-year period for the study is to cover a complete business cycle.

3.4. Method of Data Collection: Secondary data were collected to conduct the study. Data collection method convenient and as per availability of data. Data is collected from the electronic online data base of Capitaline (www.capitaline.com).

3.5. Research Tools: The collected data have been analyzed with the help of financial ratios. Further, data have been also analyzed in the light of relevant statistical tools like mean, standard deviation, coefficient of variation, correlation, multiple correlations, multiple regressions and Z-Score for normalization of financial values. SPSS 17.0 has been used for analysis of data.

3.6. Hypothesis: To study the relationship between MBA and financial ratios, following hypothesis have been developed and tested:

> H_01: There is no significant effect of profitability ratios on market capitalization.
> H_02: There is no significant effect of market value ratios on market capitalization.

4. RESULTS AND DISCUSSIONS:
Based on the objective of the study, collected data were analyzed and important findings of the study are following:

4.1. Effect of Profitability Ratios on Market Capitalization:
Table No. 4.1.1. Correlation Analysis of Profitability Ratios

Variables	Particulars	GPM	NPM	ROCE	ROC	RONW
GPM	Pearson Correlation	1	-0.118	0.103	0.098	0.100
	Sig. (2-tailed)	.	0.211	0.273	0.296	0.289
NPM	Pearson Correlation	-0.118	1	0.017	-0.061	0.295**
	Sig. (2-tailed)	0.211	.	0.853	0.520	0.001
ROCE	Pearson Correlation	0.103	0.017	1	0.782**	0.852**
	Sig. (2-tailed)	0.273	0.853	.	0.000	0.000
ROC	Pearson Correlation	0.098	-0.061	0.782**	1	0.809**
	Sig. (2-tailed)	0.296	0.520	0.000	.	0.000
RONW	Pearson Correlation	0.100	0.295**	0.852**	0.809**	1
	Sig. (2-tailed)	0.289	0.001	0.000	0.000	.

** Correlation is significant at 0.01 level (2-tailed)
Table 4.1.1 displays the result of correlation between the dependent variables. To avoid multicollinearity problem, highly correlated variable RONW is omitted. Hence, the variables GPM, NPM and ROCE and ROE are selected for the final regression model.

Table No. 4.1.2: Model Summary of Profitability Ratios

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F-Value	P-value	Durbin-Watson
1	0.337	0.113	0.081	0.9585717	3.517	0.010*	0.516

Table No. 4.1.3. Regression Analysis of Profitability Ratios

	Coefficients	Standard Error	t Stat	P-value
Intercept	-3.99371E-16	0.089387273	-4.46788E-15	1
GPM	0.051175588	0.090927054	0.562820251	0.574702611**
NPM	-0.027497457	0.091069346	-0.301939761	0.763268106**
ROCE	-0.314790679	0.145156969	-2.168622564	0.032265116*
ROC	0.506050314	0.145198284	3.485236189	0.000707277*

*Significant at 5%, **Not Significant at 5%

From the above analysis finds in table no. 4.1.2 & 4.1.3 of regression analysis of market capitalization and profitability ratios shows that the multiple correlation coefficients are 0.337. This indicates that the correlation among the independent and dependent variables is positive. The coefficient of determination is 11.3%. This means that close to 11% of the variation in the dependent variable is explained by the independent variables. Since the p-value of F-static is 0.010 which is less than 0.05 at 5% level of significance, so we reject the null hypothesis and conclude that there is a significant effect of profitability ratios on market capitalization of selected infrastructure industries.

The significance of independent variables are also been tested individually. Since the p-value of GPM and NPM is greater than 0.05 at 5% level of significance, so we accept the null hypothesis and conclude that there is no significant effect of GPM and NPM on market capitalization of selected infrastructure industries. Whereas the p-value of ROCE and ROE is less than 0.05 at 5% level of significance, so we reject the null hypothesis and conclude that there is a significant effect of ROCE & ROE on market capitalization of selected infrastructure industries. Since P-value of ROE is 0.00071, so result concludes that ROE is highly significant on market capitalization.

4.2. Effect of Market Value Ratios on Market Capitalization:
Table No. 4.2.1. Correlation Analysis of Market Value Ratios

Variables	Particulars	PER	EPS	DPS
PER	Pearson Correlation	1	-0.140	0.033
	Sig. (2-tailed)	.	0.135	0.727

EPS	Pearson Correlation	-0.140	1	-0.064
	Sig. (2-tailed)	0.135	.	0.499
DPS	Pearson Correlation	0.033	-0.064	1
	Sig. (2-tailed)	0.727	0.499	.

Table 4.2.1 displays the result of correlation between the dependent variables. To avoid multicollinearity problem. There is no highly correlated variable. Hence, the variables PER, EPS and DPS all are selected for the final regression model.

Table No. 4.2.2. Model Summary of Market Value Ratios

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F-Value	P-value	Durbin-Watson
2	0.212	0.045	0.019	0.9902819	1.749	0.161**	0.490

Table No. 5.4.3. Regression Analysis of Market Value Ratios

	Coefficients	Standard Error	t Stat	P-value
Intercept	-1.85189E-16	0.092344261	-2E-15	1
PER	-0.053289525	0.093703018	-0.56871	0.570704**
EPS	0.194721244	0.093842742	2.074974	0.0403*
DPR	-0.026837343	0.092964449	-0.28868	0.773362**

Significant at 5%, **Not Significant at 5%

From the above analysis finds in table no. 4.2.2 & 4.2.3 of regression analysis of market capitalization and market value ratios shows that the multiple correlation coefficients are 0.212. This indicates that the correlation among the independent and dependent variables is positive. The coefficient of determination is 4.5%. This means that close to 5% of the variation in the dependent variable is explained by the independent variables. Since the p-value of F-static is 0.161 which is greater than 0.05 at 5% level of significance, so we accept the null hypothesis and conclude that there is no significant effect of market value ratios on market capitalization of selected infrastructure industries.

The significance of independent variables are also been tested individually. Since the p-value of PER and DPR is greater than 0.05 at 5% level of significance, so we accept the null hypothesis and conclude that there is no significant effect of PER & DPR on market capitalization of selected infrastructure industries. Whereas the p-value of EPS is less than 0.05 at 5% level of significance, so we reject the null hypothesis and conclude that there is a significant effect of EPS on market capitalization of selected infrastructure industries.

5. CONCLUSION and SUGGESTIONS
The study explains importance of using profitability ratios and market value ratios as tools for Market Capitalization. The study reveals that there is positive relationship between market capitalization and financial performance of selected infrastructural companies during the period. There is significant effect of ROCE, ROE and EPS on market capitalization. Whereas GPM, NPM, PER and DPR are not significantly related with market capitalization. Further more studies can be done for other companies/sectors with more financial variables.

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