ANALYSIS OF TOTAL SHAREHOLDER RETURN (TSR) ON BASIS OF MARKET CAP IN LISTED INDIAN COMPANIES

Pavan Chand H.M[1],*Uday Kumar Jaganathan[1]

[1]Faculty of Management and Commerce, M.S.Ramaiah University of Applied Sciences, Bangalore

Abstract- Total Shareholder Return (TSR) is useful in determining the performance of any particular stock. The present study is focused on determining whether TSR is different across companies when they are grouped by market capitalization. The Indian equity market has grown to an aggregate market capitalization of over $ 2 Trillion and is growing fast. Since liberalization in 1991, Indian firms have shown steady growth in capitalization. The current literature does not adequately discuss the difference in TSR for Indian firms when grouped by market capitalization. Current literature does not account for change in market capitalization of firms each year and does not perform a comprehensive overhaul of portfolio as the current paper does. As there is churn in firm capitalization, the group constituents continue to alter and therefore rebalanced portfolios should be considered when ascertaining difference exhibited in mean TSR across the small, mid and large cap groups. The contribution of this paper is to divide the publicly traded Indian firms listed in the Bombay Stock Exchange (BSE) into groups of small, mid and large cap and to test for differences in the level of mean TSR across the groups. The study finds that there are statistically significant results when the groups are compared to each other when mean TSR is considered. The small cap firms possess a mean TSR statistically different from the large cap as well as the mid-cap firms. However, when mid-cap firms are compared to the large cap firms, the mean TSRs for the groups are not statistically different. The results have been done for two distinct years 2013 and 2016 and results are found to be consistent for the two years. The number of firms being considered in aggregate for 2013 is 2,863 and for 2016 total number of firms being considered is 3,110.

Key Words: Total Shareholder Return, Market Capitalization, Difference in Means
JEL Classification codes: G11, E44, G32

1. INTRODUCTION

Total shareholder return (TSR) is the total returns from stock, the shareholder, or the assets gain plus dividends. TSR is the domestic rate of gains from the cash flow to shareholder through the investment period of a fund.

TSR is used in analyzing venture capital and private funds. These funds naturally engage several funds more than the life of the business in particular cash out flow at the end of the early public contribution.

TSR is financial indicator of monetary profits generated for stock holders, Sharma (2013). Total shareholder return is a measure of corporate performance, but as we see, it is also a process of management combined in a set of metrics and practices in the operation of a company to increase its value formation, over both the short term and the long term.

The well built market capital should support the growth by encouraging increased reserves and lowered contract cost, the developed GDP ratio shows the development of stock market relative to GDP by market capitalization, Mittal (2017).

Large cap are frequently large and well-established firms that have a well-built market attendance and are usually measured as safe funds. Many large cap firms have good icon and consequently there is no lack of information for an investors concentrating on them.

Mid-Cap are those that normally take account of a market capitalization within the range of ₹ 50billion and ₹ 200billion. This signifies that mid-cap firms are comparatively unsafe than large cap as investment options, as for as they are not measured risky as small cap companies.

Small cap lies at the low end of market capitalization, small cap stocks are usually seen under the misconstruction of being unsafe or 'fast rich' stocks. Small cap stocks contain smaller revenue and client bases are frequently included as startups. The allocation of market capitalization is very much important for investors in choosing the portfolio and their risk of returns.

In the field of stock market, we would come across two different management styles pertaining to investing one being little considerate i.e. passive and one being aggressive than the other i.e. Active. Here considerate and aggressive refers to the style one person is chosen for his investment as it all ultimately depends on the strategy or the risk-taking ability and the options available that the person wants to choose and the return that the person expects after all. One thing is for sure that the passive management style requires less investment and considerably fair returns than the actively managed shares. The cost like transaction cost, brokerage, administration etc. that is incurred on the Index funds are much lesser than that of active portfolio as these require more of such costs, so the question lays that why will the people go for the active management.

Contradicting to the comment, There are some people who consider active portfolio management, the companies will have the tendency to go for the costs that gets incurred in return of equity or the over the margin returns.

So, the whole idea is that even if there are theories suggesting styles that a person would stick on to his own investment strategies and styles which again differ from one to another.

- Eliminate guessing the cycle of growth or value.
- Reducing the investment cost

- Eliminate the problem of inertia which means a person will leave behind the follow up on the stocks once he starts to get profited or when his funds are performing well which should not be the case, rather there should be a look up on the funds every time.
- Changing the style often is not admissible

2. REVIEW OF LITERATURE

Bhattacharjee (2006) made estimation whether the mutual funds that are selected are capable of doing better than the market on the average. The paper also determined the interrelationships strength and values of Portfolio Change Measures for successive time periods, this paper also inferred relation between upcoming values of fund presentation and how are they connected to its past by means of single index models with 1-month, 1-quarter, and 4-quarter intervals. Findings being Mutual funds provided excess returns on an average but this happened only when time period was longer i.e. one to four quarters. Therefore, they concluded that a longer time prospect is better for assessing the true performance of any particular investment.

Choi (2013) proposed an incentive well-matched portfolio act measurement to determine in which managers is to increase the investor's gross returns, net of managerial reward by considering the effects of managerial essentials and also compared the new measure with Sharpe ratio.

De Jong, Koedijk and Schnitzlein (2013) focused on the role of the post central value of the option; it was found that systematic patterns in option market returns were incompatible with view of options as surplus assets. However the large options traders have fewer effects on options prices, they are based on the information, and it shows the significant role that is the existence of a interrelated asset and the broker act play in determining market quality.

Guo (2013) gave a new facts for the out of sample expectedness of stock returns, it was found that expenditure ratio as a combination to calculate the collective stock market instability, which shows the considerable out of sample forecasting of surplus stock market returns.

Guojun (2013) provided theory of stock price handling and adopting for stock market effectiveness and it shows that trade based management is feasible when it is not clear. Whether the buyer of shares has good knowledge about the firm's prediction or it may try to manage the stock profits. They had seen that there is growth in the amount of information seekers may bad for market effectiveness. When there are managers present. The stock price rise throughout the management period and then fall in post management period, prices and liquidity are higher when the manipulators sell than when the manipulators buys.

Kapoor (2014) researched about the holistic point of view of the portfolio management, suggesting the use of a set of proper management methods for not only examining merchandised projects but also extending to managerial aspects and including them in strategic planning and portfolio reviews.

3. PROBLEM STATEMENT

To conduct a comparative analysis on Total Shareholder Return (TSR) across firms grouped by market capitalization level in Listed Indian Companies.

3.1 PROBLEM FORMULATION

The research gap is identified through the analysis on the papers that has been conducted on the stocks and other investments activities, which are conducted by the different authors from different business schools.

The data for the calculation is taken from all publicly listed companies and publicly available information for market capitalization is used in order to divide the companies into groups of Small cap, Mid-cap and Large-cap Companies. For the calculation of the market cap and the total shareholders returns the following formulation has been used.

$TSR = (MCAP_{t+1} - MCAP_t + DIVIDEND_t)/MCAP_t$

(TSR: Total Shareholder Returns, $MCAP_{t+1}$: New Market cap, $MCAP_t$: Previous year market cap, $DIVIDEND_t$: previous year Dividend paid)

The scope of the study is to examine the impact of TSR on the stocks from different levels of market capitalization.

Objectives:
- To group BSE listed stocks on the basis of market capitalization for years 2013 and 2016
- To create equal weighted portfolio of large cap, Mid-Cap and small cap and compute risk and return for selected years
- To perform comparative analysis of three segments of funds for selected years
- To conclude on findings on difference in TSR across the segments

Table 1 Descriptive Statistics for Market Cap and TSR for three groups of Listed Indian Companies by Market Capitalization

| YEAR		2013		2016	
N		2,315		2,295	
		Market cap	TSR	Market cap	TSR
Small cap	μ	70.3	0.03	75.25	0.18
	σ	105.8	0.50	109.46	0.58
	min	0.09	-0.98	0.09	-0.98
	max	498.7	1.9	495.726	1.996
Mid cap	N	322		575	
	μ	2,471.30	0.11	2,443.50	0.23
	σ	2,231.70	0.49	2,215.60	0.55
	min	509.4	-0.89	500.59	-0.99
	max	9,946.10	1.91	495.73	1.990
Large cap	N	84		127	
	μ	47,609.20	0.16	52,504.23	0.20
	σ	59,779.90	0.37	77,713.32	0.37
	min	10,180.98	-0.97	10,101.89	-0.94
	max	3,07,506	1.30	4,95,434.4	1.400
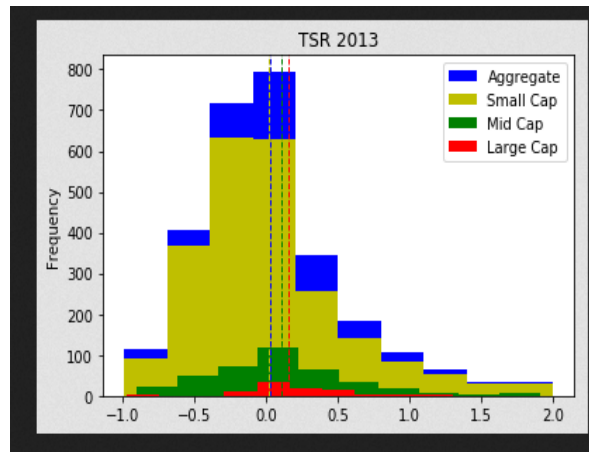
Figure 1Descriptive Statistics of 2013, depicting TSR levels segregated by market capitalization

From the Table 1 and Figure 1, we can observe that mean TSR in 2013 of large cap companies is higher than mean TSR Mid-Cap and small cap companies; whereas variance of small cap is higher than mid and large cap companies.

Minimum value of mean TSR of small cap Listed Indian Companies is higher than that of mid-cap and large cap Listed Indian Companies.

Maximum value of mean TSR of mid-cap Listed Indian Companies is higher than maximum of mean TSR of small and large cap Listed Indian Companies.
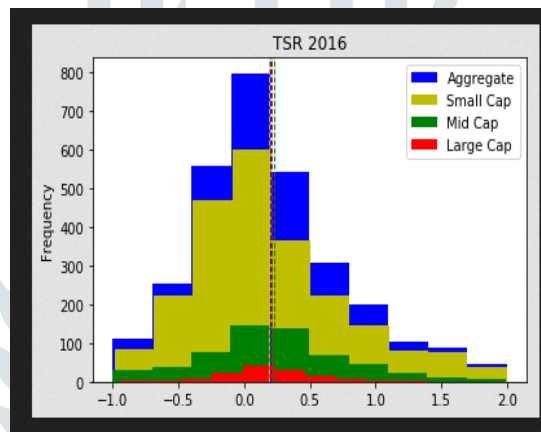

Figure 2 Descriptive Statistics of 2016 depicting TSR levels segregated by market cap

From Table 1 and Figure 2, we can observe that mean TSR in 2016 of Mid-Cap companies is higher than mean TSR of large cap and small cap companies, where as variance of small cap is higher than mid and large cap companies.

Minimum of mean TSR of large cap Listed Indian Companies is higher than that of small and Mid-Cap Listed Indian Companies.

Maximum of mean TSR of mid-cap Listed Indian Companies and small cap Listed Indian Companies is higher than mean TSR of large cap Listed Indian Companies.

In order to investigate the difference in mean TSR across group's Anova test is performed and the f-statistics is interrogated and the results are shown in Table 2 as we can see p value is more than 0.05 there is variation in mean TSR between groups.

In order to investigate further T-test are conducted to test for statistical difference between mean TSR across groups and the results of these t-test are documented in Table 3.

Table 2 Anova test for difference in TSR across groups.

	sum square	df	f	pr(>F)
C(type)	0.824	2	1.285	0.277
Residual	958.978	2,994		

Hypothesis 1

H_0: There is no difference in the means of TSR across groups of market capitalization in Listed Indian Companies.

H_1: There is difference in the means of TSR across groups of market capitalization in Listed Indian Companies.

From the above Table 2 it can be inferred that the probability associated with the f- value is the square of the all means of the data. As the p value is more than 0.05 therefore there is no statistically significant variation between the mean values of the groups, hence the null hypothesis is rejected. Since the f value is more than the pr value the test is further taken to t-test and analysis is made.

Table 3 T-test for difference in mean TSR across groups of market capitalization in Indian companies

			2013	2016
t-test			3.399**	2.442**
t-critical			1.960	1.961
Small		μ	0.55	0.84
		Σ	21.30	57.46
		N	2,369	2,393
Mid		μ	0.199	0.405
		Σ	0.814	4.867
		N	408	589
t-test			3.083**	3.932
t-critical			1.962	1.960
Small		μ	0.55	0.84
		Σ	21.302	57.463
		N	2,369	2,393
Large		μ	0.214	0.218
		Σ	0.282	0.165
		N	86	128
t-test			-0.203	1.912*
t-critical			1.971	1.963
Mid		μ	0.19	0.40
		Σ	0.81	4.86
		N	408	589
Large		μ	0.21	0.21
		Σ	0.28	0.16
		N	86	128

Hypothesis 2

H_0 = There is no mean difference in mean TSR between small and mid-cap Listed Indian Companies.

H_1 = There is a difference in mean TSR between small and mid-cap Listed Indian Companies.

From Table 3 we can observe that there is a difference in mean TSR. The t-statistics is 3.399, and it is more than t-critical value hence the null hypothesis is rejected, and mean TSR in small cap firms is higher and statistically different from mean TSR in mid-cap Listed Indian Companies.

Hypothesis 3

H_0 = There is no mean difference in mean TSR between small and large cap Listed Indian Companies.

H_1 = There is a difference in mean TSR between small and large cap Listed Indian Companies.

From Table 3, we can observe that there is a difference in mean TSR between groups of small and mid-cap Indian companies. The t-statistics is 3.083, and it is more than t-critical value hence the null hypothesis is rejected and it can be inferred that mean TSR of small cap Listed Indian Companies is larger and statistically different from mean TSR of large cap Listed Indian Companies.

Hypothesis 4

H_0 = There is no mean difference in TSR between mid-cap and large cap Listed Indian Companies.

H_1 = There is a difference in TSR between mid-cap and large cap Listed Indian Companies.

From Table 3, we can observe that there is a difference in mean TSR. The T-statistics is 0.204 and it is less than t-critical value hence the null hypothesis is accepted and it can be inferred that there is no statistical difference between the mean TSR of large cap Listed Indian Companies as compared to the mid-cap Listed Indian Companies.

6. CONCLUSION

This research empirically estimates difference in mean TSR between groups of Listed Indian Companies on the basis of market capitalization.

The total shareholder returns is paid to the shareholders relative to the market capitalization of companies and equity shares.

The purpose of this study is to find out the statistical difference in mean TSR between small, medium and large cap groups of total shareholders returns. The study found that there is a statistically significant variation in mean TSR between small cap, mid-

cap, and large cap groups of Listed Indian Companies. Further, the study found statistically different and higher value of mean TSR for small cap Listed Indian Companies when compared to mean TSR of mid-cap or large cap Listed Indian Companies. Finally, the mean TSR of mid-cap Listed Indian Companies is found to be statistically not different from the mean TSR of large cap Listed Indian Companies.

7. SUGGESTIONS AND RECOMMENDATIONS

Following are the suggestions and recommendations made after conducting this research:

- Variables like economic value added, risk level of firm as proxied by cost of capital can also be considered for further study.
- This study is only to find out whether there is a difference or no difference between mean TSR of different market capitalization groups hence further research can be done to know the nature and origins of difference.
- Sample contains the cross sectional data of firms. Further research can be undertaken by taking the sector wise firms. Sectoral perspectives are not part of the current research and can be part of the future studies. So sector wise performance of the firms may shows different results when grouped by Market Capitalization.
- Other geographies and also other time periods can be considered for further research. Other countries data (than India) for different time periods can also be considered in further research.

8. REFERENCES

[1] Bhattacharjee, K. and Roy, B, 2006. Fund Performance Measurement without Benchmark - A Case of Select Indian Mutual Funds. SSRN Electronic Journal.

[2] Choi, 2013. Relative portfolio performance evaluation and incentive structure. The jurnal of business, pp. 903-921.

[3] De Jong, K. a. S., 2013. stock market quality in the presence of traded option. The jurnal of business , pp. 2243-2274.

[4] Guo, 2013. On the out-of-sample prdeictability of stock market returns. the jurnal of business, pp. 645-670.

[5] Guoju, A. a., 2013. Stock market manipulation. The jurnal of business, pp. 1915-1953.

[6] Kapoor, 2014. overview and Decision making in investments. International jurnal of research, 1(10).

[7] Mittal, 2017. The effects of market capitalization ratio on GDP growth and cpital market robustness in newly industrialized countries. The Jurnal business.

[8] Sharma, 2013. Total share holder returns as a performance measure. Hurnal of marketing and Management Research, 2.