A STUDY ON SOURCES OF SIZE EFFECT IN INDIAN STOCK MARKET WITH SPECIFIC REFERENCE TO NSE

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Abstract

Including India, in many of the countries in world the extensively documented in capital markets is the size effect. This project is all about examining the sources of size effect in Indian market with specific reference to NSE. The data for the studyis considered from 2011 to 2015 to find whether size effects the operating, financial and liquidity characteristics of the firms. The sample for the purpose of the study consists of 5 large capital companies and 5 small capital companies based on the market capitalization. This study measures Stock Liquidity, Operating Profit, Asset Turnover, ROCE, Debt Equity, Interest Coverage, Current Ratio, Dividend Payout Ratio, Distress Level and Institutional Ownership. These characteristics were used to carry out ANOVA to find the effect of size in the stock market. Out of 13 measures it is found that 9 measures stated that the operating, financial and liquidity characteristics substantially differentiates small cap firms from that of large cap firms.

***Key words**: Size Effect, Stock Market, NSE, Operating and Financial Characteristics, Stock Liquidity.*

Introduction

For the organizations to raise money one of the imperative sources is the stock market. Organizations can trade publicly or can raise extra monetary capital for the development in public market by offering the shares of the organization and giving possession rights to them. This gives the ability for the investors to sell the securities quickly and easily because of liquidity afford by the stock market. For this feature of stocks, investors are attracted to invest in stocks than in other less liquid investments. Companies can actively increase the liquidity position by trading in their own shares.

Share prices and some different assets are a fundamental part of the elements of financial development as found ever. Rise in the stock market is an indicator of an upcoming economy. It is told that securities exchange is considered as a vital marker for financial strength and advancement of a nation. Increment in business investment is connected with ascend in share prices. Share prices likewise affect the utilization of households as their wealth relies upon the speculation. Therefore for the smooth operation of monetary framework especially in control of the conduct of the stock market, Central banks tend to keep an eye. This smooth functioning encourages economic growth and development in low expenses and promotes

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employment opportunities. In this way it contributes to the increase in country's prosperity.

Investment strategy based on size was found to offer economically possible additional returns and this "size effect" leads to investment strategy of arbitrage which could be explained as buy small firm stocks and sell short large firm stocks. Usually small firms are less liquid and are neglected more by the institutional investors. Everyone perceives small firms are having low operating profitability along with financial leverage. Further, there is a belief that small firms have more presence in certain sectors that are performing very poor in the economy like chemicals, textiles, consumer durables etc., whereas large firms are found in high profitable sectors like IT, banking and FMCG. But in reality size effect is not the only factor for any sector premium it depends on specific factors related to firms. This study is exhaustive and it is a rich contribution on the security market. So the knowledge about this issue and the extent of impact of size effect on stock market is very essential for an investor to assess the risk and effectively exploit them to get maximum return. This is an interesting topic for academicians, researchers and policy makers. This study not only helps investors but also useful for mutual fund managers and financial analysts for framing the investment strategies that are based on size of the firms to get extra normal returns in the stock market in Indian context.

Theoretical Background:

There are certain anomalies exist in the stock market that attracts the interest of the investors. Without any warning these anomalies will appear, disappear and reappear in the stock market that affects the stock prices. They are Size effect, January effect, Low Book Value, Neglected Stocks, Reversals, Days of the Week and Dogs of the Dow.

- Size effect is one of the major anomaly that tells about the small firms outperform.
- January Effect says that stocks which are not performed well in the fourth quarter of the last year likes to perform well in the markets in January. This effect leads to more pressure on selling before January and there is excess buying pressure after January to avoid the tax loss selling.
- The third anomaly is the low book value indicates that stocks with below average price to book ratios gives market beating better performance in the market.
- The fourth anomaly is neglected stocks usually occurs on less liquidity stocks which do not have even minimum support from analysts. These stocks will do well as these companies are identified by the investors. Neglected stocks have lower volatility though there is correlation between the performance and size.
- The fifth anomaly is Reversals shows that companies at the either corners of the performance range will tend to show the reverse action over a period of time. In stock market, the company that performs well yesterday can become the underperformer in today's market and vice-versa. It is common that stocks that are over-priced shows under performance whereas stocks that are underpriced outperform well in stock market.
- The next anomaly is days of the week shows

that stocks tend to move more on Fridays than Mondays creating a bias towards positive market performance on Fridays. Investors may have more interest towards trading, and they can allot time for reading about the market on weekends and feels gloomy to trade on Monday are some of the psychological factors that support this anomaly.

- The last anomaly is the Dogs of the Dow means that investors should select the stocks to invest in based on the Dow Jones Industrial Average which have certain value attributes. According to this theory, investors select 10 highest Dow yielding stocks and take only 5 stocks from that list which are having low absolute stock price and hold those for a year. The highest Dow yielding stocks are underperformers relatively and those are expected to outperform later.

Review of Literature:

Pandey and Sehgal (2015) analyzed BSE 500 companies with the information from October 2003 to January 2015. They found that profits diminish monotonically along with the size of the firm by controlling the penny stocks. They got vigorous findings for various options size measures, for example, market capitalization, net fixed assets, net sales, total assets, net working capital, and enterprise value. They found there was an opposite seasonality effect and non-synchronous exchanging inclination in stock market. It was observed that size effect is clarified by the market, size, value and business cycle elements whereas liquidity and momentum elements have very little role.

Prasad and Verma (2013) clarified that around the world in the securities exchange, one of the prominent anomalies observed was the size effect. This study finds out whether the portfolio of small stocks yields higher returns vice-versa. And also finds out whether there was a size effect in Indian securities exchange. From April 2001 to March 2010 of monthly returns of the S&P CNX 500 index was the sample they considered. Two equal portfolios were constructed by taking 30 smallest and largest stocks by taking total assets and market capitalization as criteria. The result of the correlation analysis exhibits that the size effect was not present in the Indian securities exchange as the returns on portfolio of small stocks are not totally different from the returns of portfolio of the large stocks.

Subramanian (2012) examined the presence of asset pricing anomalies which includes size, liquidity, momentum, accruals, value, profitability and net stock issues in India. The effect of size is one of the most grounded irregularities that had 4.4% contrasts between enormous stock and small stock companies. Accruals, stock issues and returns were directly related with each other whereas profitability and returns were indirectly related with each other. CAPM does not clarify these oddities with the rejection of new stock issues. The Fama French (FF) model can catch the values, profitability and accruals. Size and short term momentum were consistent and hence continue to cause challenge to rational asset pricing in India. The steadiness of size and momentum anomalies may recommend that there is role for extra risk factors in returns.

Welc (2011) perceived small firms carry higher investment risks than that of larger firms because of higher money related and working risks. Empirical research exhibited that small

companies would fluctuate with large companies by their long term ordinary returns and variability in those benefits. As regards to statistical implication, scope, stability and direction of firm size and long term risks and returns relationship the findings of the study were a long way from being unmistakable. They considered polish securities exchange for the study and analyzed the size effect on it in the middle of 1999-2011 years by utilizing elective measures for organization size. They affirmed there was a solid negative relationship exists in the middle of size of the organization and long term return on stocks and it is significant statistically.

Shijin et.al (2007) inspected the risk-return attributes of regular stocks in Indian business sector. To discover the way of relationship between three elements to be specific market risk, size and value they projected auto regressive method, Granger-Causality tests and variance decomposition analysis. They discovered market risk proxy effectively affected returns in securities exchange in India. There was causal relationship between market risk variable and non-market based measures. This study gave better comprehension with respect to the size, value and market risk outcome on stock prices to speculators in India.

Tripathi (2003) explained that including India for most of the world capital markets, size effect has been extensively documented. They examined the causes of the size effect in Indian stock market. They tried the distinction of small firms with expansive firms considerably through working, budgetary and liquidity attributes. They also confirmed whether small firms are innately more dangerous than large firms. The observational results highlight the covering of size and value effects i.e., BE & ME whereas in US they were observed to be an autonomous risk components. The findings may have suggestions for mutual fund administrators and other investment strategies as a major part of the size premium which they saw as an arbitrage opportunity could actually be a compensation for unaccounted risk.

Mohanty (2002) reported the consequences of a research were intended to inspect the firm particular characteristics by illuminating the cross sectional disparity in stock returns using Fama and Macbeth's methodology. It was found that size, market leverage, price-to-book value, earnings-to-price ratio were highly correlated with stock returns. The outcome demonstrated that these two proportions were extremely associated with stock returns. While size and price-to-book value were negatively associated with stock returns, earnings-to-price and market influence were observed to be positively correlated.

Jan Annaert et.al (2002) analyzed the premium for both size and value for European stocks. Previously there were number of studies that found returns from small stock exceeds from that of big stocks which was called as size premium. Similarly value stock returns exceeds the growth stock returns which was called value premium. They found in whole European market, there was large size premium but it exists only in cross section. The technique will never again be productive if stocks were chosen in the light of the market size of a nation. Annually there was impressive premium of 7% when portfolios of value and growth were weighted equally.

Statement of the Problem:

The size effect is considered to be one of the

prominent factors that have been pragmatic in the stock markets throughout the world. This study attempts to examine the causes of the size effect in the Indian Stock Market which helps in finding out whether operating, financial and liquidity characteristics significantly distinguish the small firms from that of large firms which verifies whether small firms are inherently riskier than larger firms.

Objectives:

- To study the presence and sources of size effect in Indian stock market for a recent time period.
- To find whether operating characteristics substantially differentiate small firms from large firms.
- To evaluate whether financial characteristics substantially differentiate small firms from large firms.
- To examine whether liquidity characteristics substantially differentiate small firms from large firms.

Hypothesis:

Null Hypothesis H_0 = The operating, financial and liquidity characteristics does not substantially differentiate smaller firms from that of larger firms.

Alternative Hypothesis H_1 = The operating, financial and liquidity characteristics substantially differentiate smaller firms from that of larger firms.

Research Design:

Quantitative and Analytical method was used to know the sources of size effect on the Indian stock market.

Sources of Data:

Secondary data includes –

- Data related to accounting and finance of selected companies was taken from the respective company's website.
- The daily traded share volume of the sample companies was considered and the data was collected from NSE website.
- Other relevant information was collected from website, journals, newspaper and books.

Sampling Design:

The Judgemental sampling was used as the sample companies are selected based on the market capitalization.

Sample size:

The sample for the purpose of the study consists of 10 companies listed in NSE. The sample includes 5 large capital companies and 5 small capital companies.

Sector	Large Capital Company	Small Capital Company
Banking	HDFC	Dhanalaxmi Bank
Auto Ancillaries	Bosch	ANG Industries
Pharmaceuticals	Sun Pharma	Alpha Labs
Tele Communication	BhartiAirtel	MTNL
Finance Investments	Bajaj Finserv	Reliance Capital

Data Analysis:

A detailed analysis was done using statistical tool like Anova. The following steps are used for the analysis of data:

- The selected sample companies are ranked on the basis of market capitalization at the end of March 2016.
- Two similarly weighted portfolios are framed on the basis of ranking where one is a portfolio consists of 5 sample companies with lowest market capitalization and on other hand a portfolio consists of 5 companies with largest market capitalization.
- Then these two portfolios are measured by the various operating, financial and liquidity characteristics of the firms at the end of the year. The parameters incorporates number of shares outstanding, trading volume, share holding pattern, book value per share, market price per share, long term debt, equity capital, operating profits, net sales, fixed interest charges, capital employed, total assets, current assets and current liabilities. These were taken at the end of March every year as proxies for size.
- To know the difference between two portfolios ANOVA test was used at 5% level of significance.

Characteristics	Measure	Operational Definition
Stock Liquidity	Average Daily Trading Volume	Arithmetic mean of the number of shares traded per day during a year.
Operating and Financial Characteristics	Operating profit ratio	$\frac{\text{Profit before interest and taxes}}{\text{net sales}}$
	Asset Turnover	$\frac{\text{Net Sales}}{\text{Total Assets}}$
	Return on Capital Employed	$\frac{\text{Net Profits before profits and taxes}}{\text{Capital Employed}}$
	Debt-Equity Ratio	$\frac{\text{Total long term debt}}{\text{Equity Share Capital}}$
	Interest Coverage Ratio	$\frac{\text{Profits before interest and taxes}}{\text{Fixed Interest Charges}}$
	Current Ratio	$\frac{\text{Current Assets}}{\text{Current Liabilities}}$
	Dividend pay out	$\frac{\text{Total Final Dividends}}{\text{Net profits after Taxes}}$
Distress Level	Book equity to market equity ratio	$\frac{\text{Book value per share}}{\text{Market value per share}}$
	Earnings Yield	$\frac{\text{Earnings per Share}}{\text{Market price per share}}$
	Dividend Yield	$\frac{\text{Dividend per share}}{\text{Market price per share}}$
	Cash flow yield	$\frac{\text{Cash Earnings per share}}{\text{Market Price per share}}$
Neglect	Institutional Ownership	Percentage of common stock holdings held by various institutional investors

Limitations of the Study:

- Small number of companies isselected for the study.
- In this study only one anomaly is used i.e., sources of size effect on stock market.

Other asset pricing anomalies like value, momentum, liquidity, accruals, profitability and net stock issues in India are not considered.

Data Analysis and Discussion

Stock Liquidity:

Table showing Average Trading Volume of the Small Cap Firms:

SI. No	Stocks	Average Trading Volume
1.	Dhanlaxmi Bank	744366.65
2.	ANG Industries	44447.2463
3.	Alpa Laboratories	12420.22351
4.	MTNL	1980562.489
5.	Reliance Capital	3176743.299

Table showing Average Trading Volume of the Large Cap Firms:

SI. No	Stocks	Average Trading Volume
1.	HDFC Bank	2450774.471
2.	Bosch LTD	12960.40708
3.	Sun Pharma	2124322.421
4.	BhartiAirtel	4800778.421
5.	Bajaj Finserv	101235.6806

Regression Statistics	
Multiple R	0.034470821
R Square	0.001188238
Standard Error	1577003.694
Observations	5

ANOVA for Average Trading Volume

	df	SS	MS	F	Significance F
Regression	1	8875775052	8875775052	0.003568953	0.956119081
Residual	3	7.46082E+12	2.48694E+12		
Total	4	7.4697E+12			

The calculated F value is 0.0035 which is less than the tabulated value 0.956 at 5% level of significance. The correlation r=0.034 indicates that there is a weak linear correlation exists in between the stock liquidity of both the small and large cap firms. Coefficient of Determination (r^2) indicates that 0.12% of the variation in the average trading volume between small cap firms and large cap firms has been accounted due to the size of the firm.

As calculated F value is less than the significant F value at 5% level of significance it belongs to critical region, therefore H_0 is accepted. That means there is no significant difference in average daily traded volume of the stocks of small capital and large capital firms. Therefore there is no size effect on stock liquidity characteristics of the firms.

Operating and Financial characteristics:

Operating Profit Ratio:

Regression Statistics	
Multiple R	0.783780224
R Square	0.61431144
Standard Error	0.392345826
Observations	5

Table showing ANOVA for operating profit ratio

	df	SS	MS	F	Significance F
Regression	1	0.735548259	0.73555	4.7783	0.116698262
Residual	3	0.461805741	0.15394		
Total	4	1.197354			

The calculated F value 4.7783 which is greater than the table value 0.1167 at 5% level of significance. The correlation r value 0.784 indicates operating profits of both the small cap firms and large cap firms has strong positive correlation. Coefficient of Determination (r^2) indicates that 61.43% of the variation in the operating profit ratio between small cap firms and large cap firms has been accounted due to the size of the firm.

As calculated F value is greater than the significant F value at 5% level of significance it belongs to critical region, therefore H_0 is rejected. That means there is a significant difference in operating profit ratios of small capital and large capital firms. Therefore there is a size effect on operating profit ratios of the small and large capital firms.

Asset Turnover Ratio:

Regression Statistics	
Multiple R	0.768391835
R Square	0.590426012
Standard Error	0.190621862
Observations	5

Table showing ANOVA for Asset Turnover Ratio:

	df	SS	MS	F	Significance F
Regression	1	0.157144717	0.15714	4.32468	0.129053433
Residual	3	0.109010083	0.03634		
Total	4	0.2661548			

The observed value of F is 4.32468 which is greater than the tabulated value 0.1290 at 5% significance level. The correlation r value 0.768 indicates asset turnover of both the small cap firms and large cap firms has strong positive correlation. Coefficient of Determination (r^2) indicates that 59.04% of the variation in the asset turnover ratio between small cap firms and large cap firms has been accounted due to the size of the firm.

As calculated F value is greater than the significant F value at 5% level of significance it belongs to critical region, therefore H_0 is rejected. That means there is a significant difference in asset turnover ratios of small capital and large capital firms. Therefore there is a size effect that differentiates small cap firms with large cap firms.

Return on Capital Employed:

Regression Statistics	
Multiple R	0.002344701
R Square	5.49762E-06
Standard Error	0.206564353
Observations	5

Table showing ANOVA for Return on Capital Employed

	df	SS	MS	F	Significance F
Regression	1	7.03735E-07	7E-07	1.6E-05	0.997014637
Residual	3	0.128006496	0.04267		
Total	4	0.1280072			

The calculated F value is 0.000016 which is less than tabulated value 0.9970 at 5% significance level. The correlation r = 0.0023 that shows there is a weak correlation between the return on capital employed of both the small cap and large cap firms. Coefficient of Determination (r^2) indicates that 0.00124% of the variation in the return on capital employed between small cap firms and large cap firms has been accounted due to the size of the firm.

Since calculated value is less than significant value at 5% level of significance it belongs to critical region, therefore H_0 is accepted. That means there is no significant difference between small cap firms and large cap firms on return on capital employed. Therefore there is no size effect on the return on capital employed of the fim.

Debt Equity Ratio:

Regression Statistics	
Multiple R	0.84194405
R Square	0.708869784
Standard Error	31.47188673
Observations	5

Table showing ANOVA for Debt-Equity Ratio

	df	SS	MS	F	Significance F
Regression	1	7235.124267	7235.12	7.304667225	0.073616651
Residual	3	2971.438963	990.48		
Total	4	10206.56323			

The observed F value is 7.304 which is greater than the table value 0.07 at 5% significance level. The correlation r=0.842 shows that there is a strong positive correlation between the debt equity ratios of small cap firms and large cap firms. Coefficient of Determination (r^2) indicates that 70.89% of the variation in the debt equity ratio between small cap firms and large cap firms has been accounted due to the size of the firm.

Since calculated value is greater than significant value at 5% level of significance it belongs to critical region, therefore H_0 is rejected. That means there is a significant difference between small cap firms and large cap firms on debt equity ratio. Therefore there is a size effect on the debt equity ratio of the firms.

Interest Coverage Ratio:

Regression Statistics	
Multiple R	0.422674679
R Square	0.178653885
Standard Error	1.740663767
Observations	5

Table Showing ANOVA for Interest Coverage Ratio:

	df	SS	MS	F	Significance F
Regression	1	1.977139396	1.977139396	0.65254056	0.478317601
Residual	3	9.089731052	3.029910351		
Total	4	11.06687045			

The calculated F value is 0.652 which is greater than the table value 0.478 at 5% level of significance. The correlation is 0.4 in interest coverage ratio between small cap firms and large cap firms indicate a weak correlation between them. Coefficient of Determination (r^2)

indicates that 17.68% of the variation in the interest coverage ratio between small cap firms and large cap firms has been accounted due to the size of the firm.

As calculated F value is greater than the significant F value at 5% level of significance it belongs to critical region, therefore H_0 is rejected. That means there is a significant difference in interest coverage ratios of small capital and large capital firms. Therefore there is a size effect that differentiates small cap firms with large cap firms.

Current Ratio:

Regression Statistics	
Multiple R	0.957589611
R Square	0.916977864
Standard Error	3.959054367
Observations	5

Table showing ANOVA for Current Ratio

	df	SS	MS	F	Significance F
Regression	1	519.3607615	519.3607615	33.13494115	0.010417416
Residual	3	47.02233444	15.67411148		
Total	4	566.383096			

The observed F value is 33.135 which is greater than the significance value 0.0104 at 5% level of significance. The correlation r=0.957 shows that there is a very strong correlation between the current ratio of both the small cap and large cap firms. Coefficient of Determination (r^2) indicates that 91.69% of the variation in the current ratio between small cap firms and large cap firms has been accounted due to the size of the firm.

As calculated F value is greater than the significant F value at 5% level of significance it belongs to critical region, therefore H_0 is rejected. That means there is a significant difference in current ratios of small capital and large capital firms. Therefore there is a size effect that differentiates small cap firms with large cap firms.

Dividend Payout Ratio:

Regression Statistics	
Multiple R	0.820529963
R Square	0.67326942
Standard Error	0.127527806
Observations	5

Table showing ANOVA for Dividend Payout Ratio:

	df	SS	MS	F	Significance F
Regression	1	0.100537976	0.100537976	6.181877011	0.088770873
Residual	3	0.048790024	0.016263341		
Total	4	0.149328			

The calculated F value is 6.181which is greater than the tabulated value 0.0887 at 5% level of significance. The correlation r=0.820 indicates there is a strong correlation between the dividend payout ratio of both large cap firms and small cap firms. Coefficient of Determination (r^2) indicates that 67.32% of the variation in the dividend payout ratio between small cap firms and large cap firms has been accounted due to the size of the firm.

As calculated F value is greater than the significant F value at 5% level of significance it belongs to critical region, therefore H_0 is rejected. That means there is a significant difference in dividend payout ratios of small capital and large capital firms. Therefore there is a size effect that differentiates small cap firms with large cap firms.

Table Showing Summary of all the measures of the Operating and Financial Characteristics

Measures	Interpretation
Operating profit Ratio	There is a significant difference between small cap and large cap stocks
Asset Turnover Ratio	There is a significant difference between small cap and large cap stocks
Return on Capital Employed	There is no significant difference between small cap and large cap stocks
Debt-Equity Ratio	There is a significant difference between small cap and large cap stocks
Interest coverage Ratio	There is a significant difference between small cap and large cap stocks
Current Ratio	There is a significant difference between small cap and large cap stocks
Dividend Payout Ratio	There is a significant difference between small cap and large cap stocks

Out of 7 measures in operating and financial characteristics only one measure accepted null hypothesis rest all measures rejected null hypothesis indicating that there is a substantial differentiate between the large cap and small cap firms.

Distress Level of the Firms:

It is the circumstances where a firm is confronting trouble in meeting its monetary commitments. If the firm has high fixed expenses, illiquid resources and incomes that are sensitive to monetary downturns then there is more risk of expanding the money related distress levels of the company. This outcomes in less productive workers and it increments both the money related and opportunity costs.

Book Equity to Market Equity Ratio:

Regression Statistics	
Multiple R	0.280962866
R Square	0.078940132
Standard Error	1.428758507
Observations	5

Table showing Anova for Book Equity to Market Equity Ratio

	df	SS	MS	F	Significance F
Regression	1	0.524866557	0.524866557	0.257117267	0.647030916
Residual	3	6.124052611	2.04135087		
Total	4	6.648919168			

The calculated F value is 0.257 which is less than the significant value 0.647 at 5% level of significance. The correlation r=0.280 indicates that there is a weak linear correlation between the book value to market value ratio of both the small cap firms and the large cap firms.Coefficient of Determination (r^2) indicates that 7.89% of the variation in the book equity to market equity ratio between small cap firms and large cap firms has been accounted due to the size of the firm.

As calculated F value is less than the significant F value at 5% level of significance it belongs to critical region, therefore H_0 is accepted. That means there is no significant difference in book value to market value ratios of small capital and large capital firms. Therefore there is no size effect that differentiates small cap firms with large cap firms.

Earnings Yield Ratio:

Regression Statistics	
Multiple R	0.982556168
R Square	0.965416623
Standard Error	0.065151247
Observations	5

Table showingANOVA for Earnings Yield

	df	SS	MS	F	Significance F
Regression	1	0.355479113	0.355479113	83.74687795	0.002758399
Residual	3	0.012734055	0.004244685		
Total	4	0.368213168			

The calculated F value is 83.746 which is greater than the tabulated value 0.0027 at 5% level of significance. The correlation r=0.982 indicates that there is a positive linear correlation between the earnings yield ratio of both the small cap firms and large cap firms. Coefficient of Determination (r^2) indicates that 96.54% of the variation in the earnings yield ratio between small cap firms and large cap firms has been accounted due to the size of the firm.

As calculated F value is greater than the significant F value at 5% level of significance it belongs to critical region, therefore H_0 is rejected. That means there is a significant difference in earnings yield ratios of small capital and large capital firms. Therefore there is a size effect that differentiates small cap firms with large cap firms.

Dividend Yield:

Regression Statistics	
Multiple R	0.621667611
R Square	0.386470619
Standard Error	0.008459823
Observations	5

Table showingANOVA for Dividend Yield:

	df	SS	MS	F	Significance F
Regression	1	0.000135246	0.000135246	1.889741375	0.262914977
Residual	3	0.000214706	7.15686E-05		
Total	4	0.000349952			

The calculated F value is 1.8897 which is greater than the tabulated value 0.2629 at 5% level of significance. The correlation r=0.621 indicates that there is a strong positive correlation between the dividend yield ratios of both the small cap firms and large cap firms. Coefficient of Determination (r^2) indicates that 38.64% of the variation in the dividend yield ratio between small cap firms and large cap firms has been accounted due to the size of the firm.

As calculated F value is greater than the significant F value at 5% level of significance it belongs to critical region, therefore H_0 is rejected. That means there is a significant difference in dividend yield ratios of small capital and large capital firms. Therefore there is a size effect that differentiates small cap firms with large cap firms.

Cash Flow Yield:

Regression Statistics	
Multiple R	0.427354514
R Square	0.182631881
Standard Error	0.194314638
Observations	5

Table showing ANOVA for Cash Flow Yield:

	df	SS	MS	F	Significance F
Regression	1	0.025309944	0.025309944	0.670316875	0.472924008
Residual	3	0.113274536	0.037758179		
Total	4	0.13858448			

The calculated F value is 0.670 which is greater than the tabulated value 0.472 at 5% level of significance. The correlation r=0.42 which indicates there is a weak linear correlation between the cash flow yield ratio of both the small cap firms and the large cap firms. Coefficient of Determination (r^2) indicates that 18.26% of the variation in the cash flow yield ratio between small cap firms and large cap firms has been accounted due to the size of the firm.

As calculated F value is greater than the significant F value at 5% level of significance it belongs to critical region, therefore H_0 is rejected. That means there is a significant difference in cash flow yield ratios of small capital and large capital firms. Therefore there is a size effect that differentiates small cap firms with large cap firms.

Table showing summary of all the measures of distress level of the firms:

Measures	Interpretation
BE/ME Ratio	There is no significant difference between small cap and large cap stocks
Earnings Yield	There is a significant difference between small cap and large cap stocks
Dividend Yield	There is a significant difference between small cap and large cap stocks
Cash Flow Yield	There is a significant difference between small cap and large cap stocks

Out of 4 measures in budgetary distress level attributes, 3 measures rejected null hypothesis. Only one measure that is book to market equity proportion acknowledged null hypothesis that demonstrates there is no significant contrast between the large cap companies and small cap companies.

Institutional Ownership:

It refers to the measure of the stocks in an organization that are claimed by mutual funds, insurance companies, financial institutions, investment firms, private foundations and other large institutions that deals with the assets in the interest of others. The organization that has more stocks held by institutional speculators is an ideal circumstance for the organization. This impacts other potential individual financial specialists to put resources into that organization which has high institutional possession. Institutions also work to raise the price and to build the estimation of the shares of a specific organization in light of the fact that even they are the proprietors of the organization through TV, publishing articles in prominent magazines, giving presentations at the speculator's gatherings.

Table showing Institutional Ownership of Small Cap Firms:

Sl. No	Stocks	Institutional Ownership
1.	Dhanlaxmi Bank	19.19
2.	ANG Industries	0.24
3.	Alpa Laboratories	0
4.	MTNL	22.11
5.	Reliance Capital	28.93

Table showing Institutional Ownership of Large Cap Firms:

Sl. No	Stocks	Institutional Ownership
1.	HDFC Bank	53.51
2.	Bosch LTD	19.32
3.	Sun Pharma	35.37
4.	BhartiAirtel	26.76
5.	Bajaj Finserv	15.35

Regression Statistics	
Multiple R	0.063779953
R Square	0.004067882
Standard Error	15.2540193
Observations	5

Table showing ANOVA for Institutional Ownership:

	df	SS	MS	F	Significance F
Regression	1	2.851205294	2.85121	0.01225	0.918847932
Residual	3	698.0553147	232.685		
Total	4	700.90652			

The calculated F value is 0.0122 which is less than the tabulated value 0.918 at 5% level of significance. The correlation r=0.063 indicates that there is a weak linear correlation between the institutional ownership of both the large cap firms and the small cap firms. Coefficient of Determination (r^2) indicates that 0.406% of the variation in the institutional ownership between small cap firms and large cap firms has been accounted due to the size of the firm.

As calculated F value is less than the significant F value at 5% level of significance it belongs to critical region, therefore H_0 is accepted. That means there is no significant difference in institutional ownership of small capital and large capital firms. Therefore there is no size effect that differentiates small cap firms with large cap firms.

Findings and Conclusion

Including India, in many of the countries in the world the extensively documented in capital markets is the size effect. Generally small firms are considered to be more dangerous than large cap firms for speculators to contribute as result of numerous components like low volume of operations, targeting only one market, no proper access to capital market, low liquidity, low standards, depends totally on proprietor and so forth. It has been seen that small firms have less liquidity position and they are ignored more by the institutional financial specialists and analysts. Normally it has been viewed that small firms are exposed to more risk and because of their poor performance small firms lost their market value.

Small firms does not have proper customer database with outdated technology, less category of product lines and relatively lower access to financial markets. Small firm's stock prices tend to be more sensitive for the economic changes as they cannot survive in adverse situations. But if they run the business efficiently even small firms can perform well in the economy by growing slowly and less efficient firms may not survive with high growth rate.

A parametric test ANOVA has been used to test the difference among the means of various measures. Out of 13 measures, it is found that 9 measures acknowledge alternative hypothesis that tells there is a significant difference between the small cap firms and the large cap firms. It is clear from this research that there is the presence of size effect in stock market that affects operating, financial and liquidity characteristics. Remaining measures are return on capital employed, book to market value in the operating and financial characteristics and also distress level that stated there is no substantial difference between the small cap and large cap firms. It is clear that even there is no substantial difference in the stock liquidity of both the large cap and small cap firms. There is no size effect on the average daily traded volume of the stocks.

The institutional ownership also stated that there is no substantial difference between the neglect of large cap and small cap firms. The measures that state that there is a significance difference between the firms are operating profit ratio, asset turnover, debt equity, interest coverage ratio, current ratio, dividend yield out, earnings yield out and cash flow yield.

The results of this research might have implications on the choices of investment strategists and the mutual fund directors while picking the stock. This size premium actually what they perceive as arbitrage opportunity could become a reward for unaccounted risk.

There is size effect on stock market in India may be due to under reaction of investors regarding the financial information of the small companies. This happens because of inadequate information provided by the company, investors not having clarity on the information they have or may be due to investors neglecting nature of the small companies. Along with this investors are not considering the past data of the large cap companies as they are presently successes and over reacting to the information of small cap companies as they are losers.

Suggestions:

- Small cap companies should ensure that the data regarding the company should be made available readily to the investors. This creates more awareness about the company

and its transparency that makes the stocks easily picked by the investors.

- Usually Investors don't want to take more risk so they prefer to invest in less risky stocks. So there is a need on the part of small cap firms to minimize the risk associated with them by reducing the unnecessary costs.
- Small cap enterprises should improve their corporate earnings from which they can outperform better than large cap stocks. Because both the potential and current investors can see the performance of a company through this corporate earnings.
- By including small cap stocks in portfolio investor can diversify and manage the risk as small cap stocks do not move in lock steps with the overall market.
- Investors should choose the stocks by considering the factors that are associated with the company's risk.

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Annexure

Table Showing Summary of all the measures of the Operating and Financial Characteristics

Firms	Average Operating Profit Ratio	Average Asset Turnover	Average Return on Capital Employed	Average Debt Equity Ratio
Small Cap Firms				
Dhanlaxmi Bank	0.008	0.089	0.091	120.313
ANG Industries	0.104	0.648	-0.001	9.071
Alpa Labs	-0.003	0.565	-0.333	0.789
MTNL	-0.736	0.258	0.111	18.846
Reliance Capital	0.807	0.114		69.753
Large Cap Firms				
HDFC Bank	0.350	0.089	0.034	570.622
Bosch	0.188	1.537	0.437	4.287
Sun Pharmaceuticals	0.231	0.370	0.123	6.830
Bharti Airtel	0.225	0.651	0.206	6.813
Bajaj Finserv	0.753	0.075	0.059	0.000

Firms	Average Interest Coverage Ratio	Average Current Ratio	Average Dividend Payout Ratio
Small Cap Firms			
Dhanlaxmi Bank	0.0132	29.8352	0.027
ANG Industries	0.8508	3.1188	0

Alpa Labs	0.8706	3.8678	0
MTNL	-2.8266	1.1632	0
Reliance Capital	1.2654	5.8018	0.438
Large Cap Firms			
HDFC Bank	0.663	8.6922	0.1614
Bosch	979.108	2.384	0.1918
Sun Pharmaceuticals	1737.71	2.1582	0.1574
BhartiAirtel	11.6692	0.916	0.0768
Bajaj Finserv	0	0.5916	0.2808

Table Showing Summary of all the measures of the Distress Level Characteristics

Firms	Average Book Equity to Market Equity Ratio	Average Earnings yield	Average Dividend Yield	Average Cash Flow Yield
Small Cap Firms				
Dhanlaxmi Bank	4.1204	-0.4884	0.0056	-0.345
ANG Industries	3.2548	-0.1106	0	0.125
Alpa Labs	1.331	-0.0272	0	0.0358
MTNL	2.382	-0.6404	0	-0.1048
Reliance Capital	1.0512	0.0502	0.0216	0.053
Large Cap Firms				
HDFC Bank	0.2112	0.0356	0.0072	0.0392
Bosch	0.091	0.0162	0.0036	0.0222
Sun Pharmaceuticals	0.0874	0.0036	0.0042	0.0048
BhartiAirtel	0.428	0.056	0.005	0.103
Bajaj Finserv	0.072	0.0038	0.001	0.0036