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## *Evidence of Size Effect on Stock Returns in India*

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*Abstract: Research focus on the size of companies. The company's market values depends on the how scrip of the companies have been demanding. The main focus of researchers had done the significant work in this area and their research provokes another research. There are many variables we use to find stock return. It is important to note first that there is no consensus among academicians about the extent way these variables influence stock return. Earning to price ratio, Price to book value ratio, Price to sales per share ratio, Price to cash flow per share ratio, Beta, Size, and Leverage. Hypothesis testing research studies are those where the researcher tests the hypotheses of causal relationships between all variables.*

### I. INTRODUCTION – CAPITAL MARKET IN INDIA

Capital market it is a place where people buy and sell financial instruments. Capital markets provide for the buying and selling of long term debt or equity backed securities. Since 2003, Indian capital markets have been receiving global attention, especially from sound investors, the global ratings agencies Moody's and Fitch have awarded India with investment grade ratings, indicating comparatively lower sovereign risks. 21st century capital markets are almost invariably hosted on computer based Electronic trading systems. A key division within the capital markets is between the primary markets and secondary markets. The list includes subscribers to primary market issues, investors who buy in the secondary market, traders, speculators, FIIs/ sub accounts, mutual funds, venture capital funds, NRIs, ADR/GDR investors, etc.

Intermediaries are service providers in the market, including stock brokers, sub-brokers, financiers, merchant bankers, underwriters, depository participants, registrar and transfer agents, FIIs/ sub accounts, mutual Funds, venture capital funds, portfolio managers, custodians, etc.

### II. REVIEW OF LITERATURE

Many researchers had done the significant work in this area and their research provokes another research. There are many variables we use to find stock return. It is important to note first that there is no consensus among academicians about the extent way these variables influence stock return.

Earning to price ratio, Price to book value ratio, Price to sales per share ratio, Price to cash flow per share ratio, Beta, Size, Leverage

Graham, Dodd and Cottle (1962), Boatsman and Baslcin (1981), and Alford (1992) interpret PE (inverse of EP) as the earnings capitalization rate. If one uses the Gordon's valuation method (1962), one will realize that this interpretation is correct only if the net present value of growth opportunities for a firm is equal to zero.

Graham, Dodd, and Cottle (1962) interpret PBV as an indicator of expected return on equity. This follows directly from Gordon's valuation model. They also interpret PBV as being determined by the Leverage of a company. If we divide the market leverage ratio with the book leverage ratio of any Company, we directly get PBV.

Fama and French (1995) find that, after controlling for PBV, small stocks tend to have lower earnings on book equity than big stocks.

### III. RESEARCH DESIGN

Research design stands for advance planning of methods adopted for collecting the relevant data & techniques. There are three types of research design but we adopt hypothesis testing research design. Hypothesis testing research studies are those where the researcher tests the hypotheses of causal relationships between all variables.

### IV. OBJECTIVE OF THE STUDY

The objective in writing this survey is to provide an overview of the work that has been done in an important area of financial markets research-explaining the behavior of common stock returns.

- To know truth which is hidden and which has not been discovered as yet.
- To know about test a hypothesis of a causal relationship between variables
- To know the dependence of stock returns in India on beta and company attributes. Six variables used were size (market capitalization), earnings yield, cash earnings yield, and book to market ratio.
- To know forces that contribute to variations of stock return is probably one of the most researched areas in financial economics. The influence may be systematic, such as economic, political or sociological changes or unsystematic

**Sample Design** Sample design is a definite plan for obtaining sample from a given population. It refers to the technique or the procedure the researcher would adopt in selecting items for the sample. There are many sample design also from which researcher can choose one of it

**Sample Univers** The universe can be finite or infinite. In finite universe the no of items is certain, but in case of an infinite universe no of items are infinite. In our research topic we take total listed companies on stock exchange BSE.

#### Sample List

It is also known as 'sample frame' from which sample is to be drawn. It contains the name of all items of a universe. Sample list is important list representative of the population as possible. In our study we take BSE 5 companies

Serial No.	Companies Name	Sector
1	Federal bank	Banking
2	Hero moto corp.	Automobile
3	Tata steel ltd	Steel
4	Wipro	IT
5	Sun Pharma	Pharma

**Sample Period** Sample period means a time period during a load test during which data is aggregated. The statistics calculated by are calculated for each sample period. In our research project we take sample period of last 10 years (2003-2012).

**Sample Size** Sample size means the number of items to be selected from the universe to constitute a sample. This major problem before a researcher the size of sample should neither be excessively large, nor too small. It should be optimum. In our research project we take 10 companies as a sample size.

**Significance Of Research** To know in actual size affect or not in stock returns In our research we take sample size is BSE companies. So to know Indian stock given more return or not.

**Hypothesis Of Study**  $H_0$  = Size not effect on stock return in India

**Data Collection** is any process of preparing and collecting data of similar project. The purpose of data collection is to obtain information to keep on record, to make decisions about important issues, or to pass information on to others. Data are primarily collected to provide information regarding a specific topic. We use secondary data for the research on size effect on stock return in India from BSE sites.

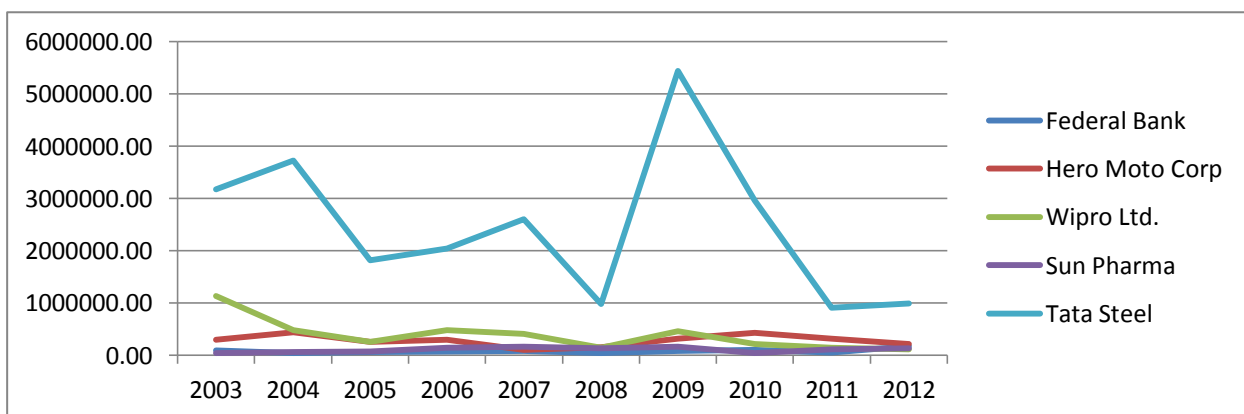
#### V. PERIOD OF STUDY

Period of study is the length of time that you are enrolled yourself in research work. During this period we collect data, calculate & analysis it and give final conclusion of research in our research project study period is 6 weeks.

Prof. R. A. Fisher was the first man to use the term 'variance' and, in fact, it was he who developed a very elaborate theory concerning ANOVA, explaining its usefulness in practical field. Later on Prof. Snedecor and many others contributed to develop this technique. "The essence of ANOVA is that the total amt. of variation in a set of data is broken down into two types, that amt. which can be attributed to chance and that amt. which can be attributed to specified causes."

The Indian IT sector has played a major role in placing India on the international map. It can be divided into five main components, viz. software, IT services, engineering and R&D services, ITES (IT-enabled services) & hardware. India has been the most favorable outsourcing hub due to its reasonably priced high quality labor.

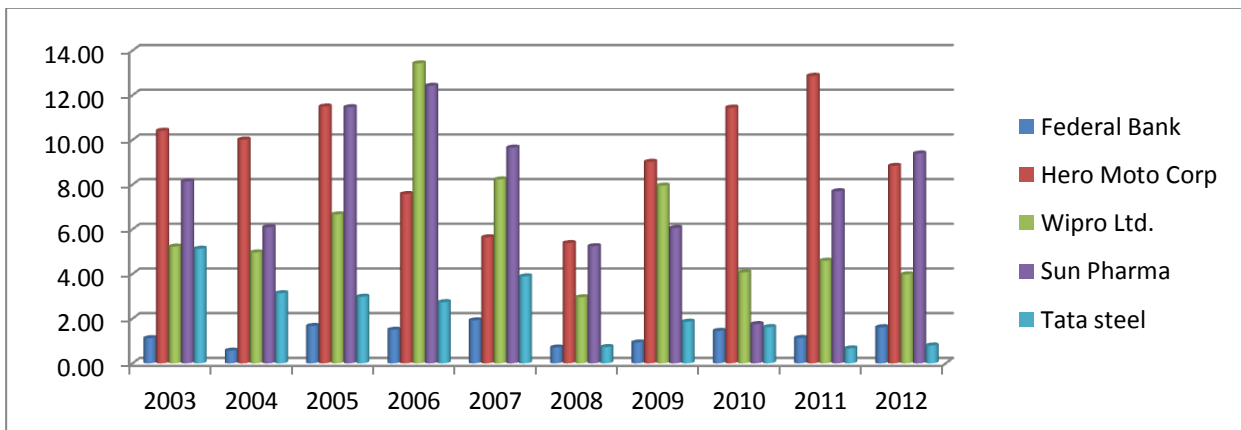
Market Capitalization Of The Companies In 2012(Amt In Lacs)					
Year	Federal Bank 500469	Hero Motocorp Ltd. 500182	Wipro Ltd. 507685	Sun Pharma 524715	Tata Steel Ltd. 500470
2003	95833.45	297352.69	1134892.90	36142.82	3170697.43
2004	41101.24	435364.82	481237.77	61597.22	3728622.23
2005	60686.04	254369.48	254588.00	75136.42	1812365.57
2006	72721.00	293047.52	481780.17	139970.82	2041484.20
2007	82626.36	101570.06	411983.00	167060.31	2604129.90
2008	42023.07	152902.03	147446.33	128973.45	975695.69
2009	79836.24	311577.16	463605.13	159351.59	5443971.55
2010	106395.92	426581.53	216267.47	37678.89	2962806.19
2011	47149.32	311743.39	144400.12	113471.89	909886.78
2012	171587.36	213887.63	117121.54	128835.86	986385.67



Source Of Variation	Sum Of Square	Degree Of Freedom	Mean Square	F-Ratio	F Critical
Within Groups	19619816605425.30	45	435995924565.01		
Between Groups	41175439201711.20	4	10293859800427.80	23.61	2.57
Total	60795255807136.50	49			

Highest market capitalization of federal bank was 171587.36 in 2012 when lowest market capitalization was 41101.24 in 2004. Hero MotoCorp Ltd. Highest market capitalization was 435364.82 in 2004 when lowest market capitalization was 101570.06 in 2007. Tata Steel's Highest market capitalization was 5443971.55 in 2009 when the lowest market capitalization was 909886.78 in 2011. Another Wipro IT based company's highest market capitalization was 1134892.9 in 2003 when the lowest market capitalization was 117121.54 in 2012 this company's market cap. Decrease year by year. In last Sun Pharm company's highest market capitalization was 167060.31 in 2007 when lowest market capitalization was 36142.82 in 2003. The above table shows that calculated value of F is 23.60 is higher than the table value of 2.58. being  $V_1 = 45$  &  $V_2 = 4$ . This analysis supports the alternate ( $H_1$ ) hypothesis size affects stock return in India.

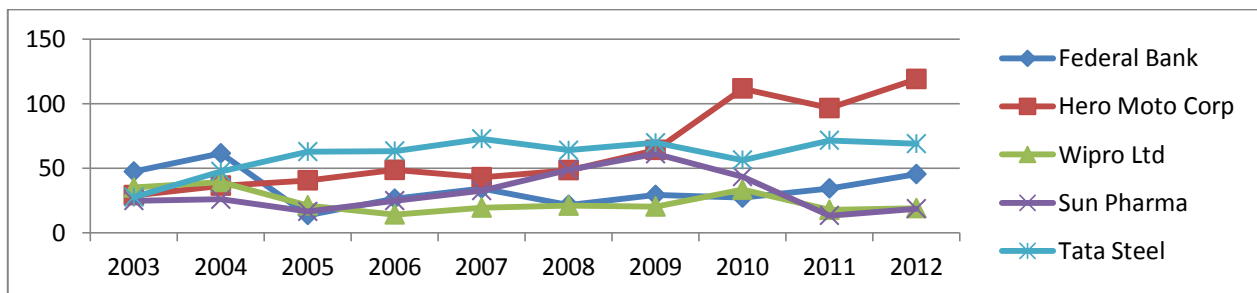
Price To Book Value Of The Companies In 2012					
Year	Federal Bank	Hero Motocorp Ltd.	Wipro Ltd	Sun Pharma	Tata Steel Ltd.
	<b>500469</b>	<b>500182</b>	<b>507685</b>	<b>524715</b>	<b>500470</b>
2003	1.12	10.41	5.22	8.14	5.13
2004	0.57	10.01	4.96	6.09	3.14
2005	1.67	11.49	6.66	11.46	2.98
2006	1.50	7.58	13.43	12.42	2.74
2007	1.92	5.64	8.23	9.65	3.89
2008	0.71	5.38	2.95	5.24	0.73
2009	0.93	9.02	7.95	6.06	1.86
2010	1.45	11.45	4.07	1.76	1.62
2011	1.13	12.87	4.59	7.70	0.67
2012	1.62	8.84	3.98	9.39	0.80



Source Of Variation	Sum Of Square	Degree Of Freedom	Mean Square	F-Ratio	F Critical
Within Groups	252.18	45	5.60		
Between Groups	477.30	4	119.32	21.29	2.58
Total	729.48	49			

Highest price to book value ratio of federal bank was 1.92 in 2007 when lowest price to book value ratio was 0.57 in 2004. Hero MotoCorp Ltd. Highest price to book value ratio was 12.87 in 2011 when lowest price to book value ratio was 5.38 in 2008. Tata Steel's Highest price to book value ratio was 5.13 in 2003 when the lowest price to book value ratio was 0.67 in 2011. Other Wipro company's highest price to book value ratio was 13.43 in 2006 when the lowest price to book value ratio was 2.95 in 2008. In last Sun Pharma company's highest price to book value ratio was 12.42 in 2006 when lowest price to book value ratio was 1.76 in 2010.

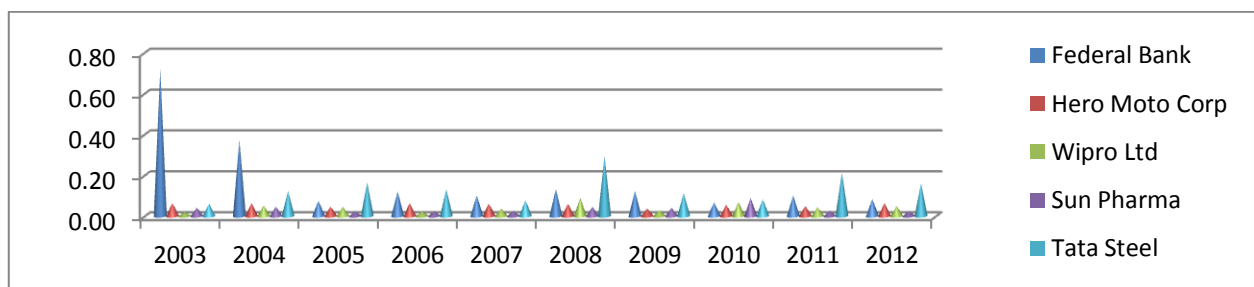
EPS Of Companies					
Year	Federal Bank 500469	Hero Motocorp Ltd. 500182	Wipro Ltd. 507685	Sun Pharma 524715	Tata Steel Ltd. 500470
2003	47.37	29.08	34.97	24.83	27.53
2004	61.48	36.47	39.31	25.84	47.48
2005	13.73	40.59	21.25	16.48	62.77
2006	26.31	48.64	14.17	24.83	63.35
2007	34.2	42.96	19.48	32.52	72.74
2008	21.52	48.47	20.96	48.96	63.85
2009	29.26	64.19	20.3	61.09	69.7
2010	27.16	111.77	33.36	43.39	56.37
2011	34.32	96.55	17.74	13.36	71.58
2012	45.41	119.09	19.05	18.62	68.95



Source Of Variation	Sum Of Square	Degree Of Freedom	Mean Square	F-Ratio	F Critical
Within Groups	16122.31	45	358.27		
Between Groups	13177.65	4	3294.41	9.19	2.57
Total	29299.96	49			

Highest EPS of federal bank was 61.48 in 2004 when lowest EPS was 13.73 in 2005. Hero MotoCorp Ltd. Highest EPS was 119.09 in 2012 when lowest EPS was 29.08 in 2003. Tata Steel's Highest EPS was 72.74 in 2007 when the lowest EPS was 27.53 in 2003. Other Wipro company's highest EPS was 39.31 in 2004 when the lowest EPS was 14.17 in 2006. In last Sun Pharma company's highest EPS was 61.09 in 2009 when lowest EPS was 13.36 in 2011.

Earning To Price Ratio Of The Companies					
Year	Federal Bank	Hero Motocorp Ltd.	Wipro Ltd.	Sun Pharma	Tata Steel Ltd.
	500469 A	500182 A	507685	524715	500470 A
2003	0.72	0.06	0.02	0.04	0.06
2004	0.37	0.06	0.05	0.05	0.12
2005	0.08	0.05	0.05	0.02	0.17
2006	0.12	0.06	0.02	0.03	0.13
2007	0.10	0.06	0.04	0.03	0.08
2008	0.13	0.06	0.09	0.05	0.29
2009	0.12	0.04	0.03	0.04	0.11
2010	0.07	0.06	0.07	0.09	0.08
2011	0.10	0.05	0.04	0.03	0.21
2012	0.08	0.06	0.05	0.03	0.16

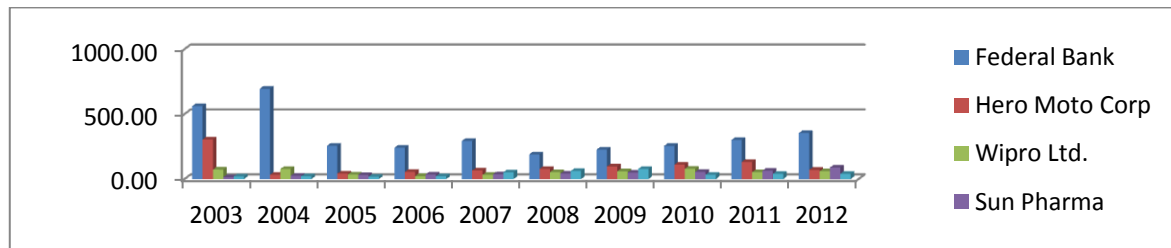


Source Of Variation	Sum Of Square	Degree Of Freedom	Mean Square	F-Ratio	F Critical
Within Groups	6.14	45	0.13		
Between Groups	0.88	4	0.22	1.61	2.57
Total	7.03	49			

Highest earning to price ratio of federal bank was 0.72 in 2003 when lowest earning to price ratio was 0.07 in 2010. Hero MotoCorp Ltd. highest earning to price ratio was 0.06 in 7 years within 10 years. when lowest earning to price ratio was 0.04 in 2009. Tata Steel's highest earning to price ratio was 0.29 in 2008 when the lowest earning to price ratio was 0.06 in 2003. Other Wipro company's highest earning to price ratio was 0.09 in 2008 when the lowest earning to price ratio was 0.02 in 2003 & 2006 in last Sun Pharma company's highest earning to price ratio was 0.09 in 2010 when lowest earning to price ratio was 0.02 in 2005.

Book Leverage Of The Companies In 2012					
Year	Federal Bank	Hero Motocorp Ltd.	Wipro Ltd.	Sun Pharma	Tata Steel Ltd.
	500469 A	500182 A	507685	524715	500470 A
2003	561.77	305.50	73.10	14.97	20.14
2004	694.59	32.89	77.51	25.27	21.37
2005	256.42	42.44	35.22	31.48	17.70
2006	241.16	54.96	22.72	34.57	22.16
2007	293.11	65.98	32.76	36.38	52.09
2008	190.06	78.07	52.80	41.62	62.02
2009	227.16	97.13	59.83	49.97	77.52

2010	255.37	111.35	79.10	55.50	32.87
2011	300.83	132.32	53.11	65.00	40.42
2012	354.44	71.00	60.19	89.02	39.98



Source Of Variation	Sum Of Square	Degree Of Freedom	Mean Square	F-Ratio	F Critical
Within Groups	304822.7	45	6773.83		
Between Groups	642169.1	4	160542.3	23.70	2.57
Total	946991.8	49			

Highest book leverage of federal bank was 694.59 in 2004 when lowest book leverage was 190.06 in 2008. Hero Moto Corp Ltd. highest book leverage was 305.50 in 2003 when lowest book leverage was 32.89 in 2004. Tata Steel's highest book leverage was 77.52 in 2009 when the lowest book leverage was 17.70 in 2005. Other Wipro company's highest book leverage was 79.10 in 2010 when the lowest book leverage was 22.72 in 2006. In last Sun Pharma company's highest book leverage was 89.02 in 2012 when lowest book leverage was 14.97 in 2003. The above table shows that calculated value of F is 23.71 is higher than the table value of 2.58. being  $V_1 = 45$  &  $V_2 = 4$ . This analysis supports the alternate ( $H_1$ ) hypothesis size affects stock return in India.

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