Mathematical Modeling Using Multivariate Statistics- (Factor Analysis and Multiple Linear Regression Model): Determinants of Equity Shares Of Companies Listed at BSE

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INTRODUCTION

Due to liberalization, privatization and globalization, Indian capital market has witnessed far-reaching change and bull runs in 1990s and 2000s. The key contribution to this progress was by FIIs and MFs and then a strong growth in economy. The corporate sectors were also churning out good results. That is why Equity shares are being the most favored investment vehicle for investors who like better a professionally managed diversified portfolio in the stock market. Stock market is highly volatile and is a high risk and high-return investment. Sentiments worldwide persisted to be negative in 2008 with a series of blows dampening the enthusiasm of the markets. Indo -US nuclear deal, violence in the Middle East, the upward trend in the interest rates of the bank of Japan, Iran nuclear crisis, the serial bomb blasts in Mumbai, inflationary pressure, hurricanes affecting major oil fields have left investors buoyancy in a hash. However, there is a possibility of the federal Reserves' confidence in control over inflationary pressures and a UN brokered truce bringing an end to the Lebanon conflict etc. After winning a confidence vote by Manmohan Singh's Government, volumes of shares traded have improved and the positive momentum can boost the market further. A sudden volatility in the short run is probable which need not agonize investors with a medium to long term perception. Confidence in fundamentals and value picks will go along with attractive rewards and will corroborate the sign of recovery.

As a consequence, the relative importance of fundamental variables determining the share prices has also undergone some changes. All these developments have increased the importance of striving towards the basic goal of financial management. i.e., maximizing the price of firm's common stock and thereby shareholders wealth. Hence, the present study makes an attempt to probe the determinants of the market price by using factor analysis and Multiple Linear Regression Model.

REVIEW OF LITERATURE

A brief review of literature would be of immense help to the researcher in gaining an insight into the selected problem. The researcher would gain good background knowledge of the problem by reviewing certain studies. A reference to these earlier studies will be relevant in the context of shaping the present study.

STUDIES IN THE EIGHTIES

During this decade, the major thrust of research was to identify the parameters of stock market returns and degree of influence exerted by them on the share prices. The critical factors identified were Dividend, Return on Investment, Book value of share and Price to Earning Ratio. The studies were conducted on a wide number of companies and some contradictions have emerged over the possible impact of different factors on share price movements.

Zahir and Yakesh (1982) found the dividend per share to be the most important variable affecting the share price followed by dividend yield, Book value per share, Dividend coverage and the Return on Investment in that order.

Balakrishnan (1984) also found that the current Dividend and Book values per share were more important determinants of market price as compared to EPS and Dividend coverage.

Dixit (1983) conducted a study of 42 companies for the period (1961-82) and found dividend and earning to be significant predictive variables whereas Growth and Leverage appear to be redundant variables. **Chandra (1989)** conducted a study on 50 shares drawn at random from a group of 110 shares of firms in all industries except banking ,insurance and textiles and found that returns, growth and size have a positive influence on share price while risk and leverage have no influence on share price.

STUDIES IN THE NINETIES

During this decade, comparative studies were undertaken for Indian and International stock markets which revealed that no meaningful relationship existed between them.

Bansal (1996) analyzed the behaviour and determinants of Equity prices in India during the period (1987-95) and found that Book value, Dividend per share,EPS and Dividend Cover were the variables which contributed the

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most in determining equity share prices followed by Price-Earning Ratio and Dividend Yield.

Vaidynathan and Chawa (1998) tested the role of high and low P/E ratios on stock returns and found that low P/E ratios yielded higher returns than higher P/E ratios from 1990-96.

Chaturvedi (2000) used event study methodology to analyze the ability of P/E ratio to discriminate under performing and over performing stocks.

RECENT STUDIES

Gupta (2000) has tracked the returns of Sensex from 1980-99 and found that P/E, Growth rate of EPS and the duration of holdings period of investment to be important determinants of future equity returns.

Tuli Nisl and Mittal (2001) made an attempt to determine the P/E of 105 companies in India for the period 1989-93 and found that variability in market price and Dividend Payout Ratio and EPS to be significant variables whereas Size, D/E ratio and Growth were insignificant.

Pandey (2002) analyzed the monthly return data of BSE from 1991 to 2002 and found the existence of seasonality in the monthly stock returns in India. The analysis showed the maximum average return occurred in February and the lowest in March .The positive average returns arose for six months and negative for the next six months.

Malakar and Gupta (2002) tested data on the determinants of share price of 8 major cement companies from 1968 to 1988 and found EPS and Investment Expenditure to be the significant determinants of share prices.

Even though many studies are made in this area, they did not provide authenticate theoretical framework and no one suggested specific factors that determine share prices. Hence, the researcher tries to identify the determinants from 11 fundamentals with a sample of 30 companies from about 8 industrial sectors in this present study.

DATABASE AND RESEARCH METHODOLOGY

Objectives of the study

The important objective of the current study is to have a deep insight into the determinant of share price in Indian corporate sector.

Sample and period of study

The sample was drawn from the list of companies listed at Bombay Stock Exchange (BSE IT). For the present study, top 30 companies have been selected out of eight industries listed at Bombay Stock Exchange, which are

1	IT &TELECOM	SATYAM	5	BANKING & FINANCE	ICICI BANK
		INFOSYS			HDFC BANK
		WIPRO			SBI
		TCS			HDFC
		AIRTEL	6	DIVERSIFIED	ITC
2	CEMENT	ACC			L&T
		GRASIM			RIL
		GUJARAT	7	POWER	TATA POWER
		AMBUJA			
3	PHARMA	CIPLA			RELIANCE ENERGY
		RANBAXY			NTPC
		DR.REDDY'S	8	OTHERS	HINDALCO
4	AUTOMOBILE	HERO HONDA			TATA STEEL
		BAJAJ AUTO			ONGC
		TATA MOTORS			BHEL
		MARUTI UDYOG			HLL

SENSEX - SCRIP SELECTION CRITERIA:

The general guidelines for selection of constituents in SENSEX are as follows:

- **Listed History:** The scrip should have a listing history of at least 3 months at BSE. Exception may be considered if full market capitalization of a newly listed company ranks among top 30 in the list of BSE universe. In case a company is listed on account of merger/ demerger/ amalgamation, minimum listing history would not be required.
- **Trading Frequency:** The scrip should have been traded on each and every trading day in the last three months. Exceptions can be made for extreme reasons like scrip suspension etc.
- **Final Rank:** The scrip should figure in the top 100 companies listed by final rank. The final rank was arrived at

by assigning 75% weightage to the rank on the basis of three-month average full market capitalization and 25% weightage to the liquidity rank based on three-month average daily turnover & three-month average impact cost.

• **Market Capitalization Weightage:** The weightage of each scrip in SENSEX based on three-month average free-float market capitalization should be at least 0.5% of the Index.

• **Industry Representation:** Scrip selection would generally take into account a balanced representation of the listed companies in the universe of BSE.

• **Track Record:** In the opinion of the Committee, the company should have an acceptable track record.

DATABASE

The basic data for this current study has been collected from the official directory of the Bombay Stock Exchange and the Electronic Data base, PROWESS provided by Center for Monitoring Indian economy (CMIE). In addition to this, sufficient financial information has been collected from respective company websites and from popular websites such as www.moneypore.com, www.bseindia.com, www.Indiainfoline.com, www.indiabulls.com and www.yahoofinance.com.

A brief description of fundamental variables determining the stock price:

Various factors contribute to the fluctuations in share prices which include fundamental and technical factors. The factors which were well thought-out for the study are:

1. Earnings per share.
2. Price to Earning Ratio
3. Return on Capital Employed
4. Return on Net Worth
5. Debt to Equity Ratio
6. Price to Book value Ratio
7. Beta
8. Dividend Percentage
9. Average Return
10. Cash EPS
11. Trading Proportion.

I).EARNINGS PER SHARE (EPS)

Earnings per share is generally considered to be the single most variable in determining the share prices. EPS represents the portion of company's earnings after taxes and preferred stock dividend that is allocated to each share of common stock and measures after tax earnings. EPS serves as an indicator of a company's profitability.

$$\text{EPS} = \frac{\text{(Net income - Dividends on preference shares)}}{\text{Average shares outstanding}}$$

EPS is the most important factor for deciding the health of any company and influences the buying tendency in the market resulting in the increase in the price of that particular stock. EPS is a key driver of share prices.

II).PRICE TO EARNINGS RATIO (P/E)

P/E is an evaluation ratio of a company's current share price as compared to its per share basis .P/E is the ratio between the market price of a share and the earnings per share .P/E ratio can be used to compare a stock against other company's stock in the same industry or against company's own historical P/E ratio. A company with high P/E ratio is expensive against the company with a low P/E ratio, since with a high P/E ratio, the investor is paying a large multiple as against the company's earnings.

$$\text{P/E} = \frac{\text{Market price per share}}{\text{Earnings per share}}$$

High P/E ratio means high projected earnings in future. P/E ratio indicates market's fancy for any particular share. P/E ratio is commonly used as a tool for determining the value of a stock. Higher the P/E ratio, higher is the price of the stock.

III) RETURN ON CAPITAL EMPLOYED (ROCE)

ROCE is a financial measure that quantifies how well a company generates cash flow relative to the capital it has invested in its business. ROCE is a second type of ROI. ROCE is the ratio that indicates the efficiency and profitability of a company's capital investment. ROCE should normally be higher than the rate at which the company borrows; otherwise any increase in borrowings will reduce shareholder's earnings. ROCE is

commonly used as a measure for comparing the performance between businesses and for assessing whether business generates enough returns to pay for the cost of capital.

$$\text{ROCE} = \frac{\text{Profit before interest and tax}}{\text{Total Capital Employed}}$$

ROCE is the most important accounting indicator of value creation. The ratio measures the return on all sources of finance used by the company (ie equity plus debt).

IV) RETURN ON NET WORTH (RONW)

It is a measure of how profitably the company is utilizing shareholders' funds. It is the ratio that measures the ability of a company's management to realize an adequate return on the capital invested by the owner.

$$\text{RONW} = \frac{\text{Net profit after Tax}}{\text{Net worth}}$$

It reflects the productivity of equity capital invested in the firm.

V) DEBT TO EQUITY RATIO (D/E)

It indicates the amount of leverage. The higher the debt component in the capital structure, the higher is the leverage and greater is the risk.

$$\text{Debt to Equity Ratio} = \frac{\text{(Long term Debt + Short term debt)}}{\text{Shareholder's Equity}}$$

VI) PRICE TO BOOK VALUE RATIO (P/B)

It is a popular valuation statistic which reflects the price investors are willing to pay for every rupee of book value per share.

$$\text{Price to Book Value} = \frac{\text{Market price per share}}{\text{Book value per share}}$$

VII) BETA

It reflects the risk of a stock and measures how sensitive are the returns on the stock to variations in the market return. A security of beta equal to 1 means that the security is moving along with the market. A security with beta value of greater than 1 is referred to as an aggressive security and one with beta value of less than 1 is referred to as a defensive security.

$$\text{Beta} = \frac{\text{Covariance between market and security}}{\text{Market Variance}}$$

VIII) DIVIDEND PERCENTAGE

It is the percentage of dividend provided by the company on the face value of the company's share. Dividend percentage helps in calculating the dividend per share given to the shareholder which in turn determines the investor's attraction towards the shareholder.

$$\text{Dividend percentage} = \frac{\text{Dividend per share}}{\text{Face value per share}} \times 100$$

IX) AVERAGE RETURN (AR)

Average Return refers to the percentage return on a stock invested and the cash dividend obtained. Higher the average return, higher is the income received by investing on the stock.

$$\text{AR} = \frac{\text{(Closing Price of the stock-Opening price of the stock)}}{\text{(Opening price of the stock)} + \text{(Dividend per share)}} \times 100$$

X) CASH EPS

It is a measure of financial performance that looks at the cash flow generated by a company on a per share basis. It is obtained by adding non-cash expenses such as depreciation to the profit after taxes minus the preference dividend. Cash earnings are significant because they give an estimate of discretionary funds over which management has control.

$$\text{Cash EPS} = \frac{\text{Profit after Tax + Depreciation}}{\text{Number of shares outstanding}}$$

The higher a company's cash EPS, the better it is considered to have performed over a period.

XI) TRADING PROPORTION

Trading Proportion refers to the number of times a particular stock has been traded. Higher the trading proportion, higher is the frequency with which it is traded.

$$\textbf{Trading Proportion} = \frac{\textbf{Volume of shares traded}}{\textbf{Number of shares}} \times 100$$

It signifies the demand and supply of the shares of a particular company.

ANALYSIS AND INTERPRETATION

II) FACTOR ANAYSIS USING SPSS

Preliminary analysis:

Descriptive statistics and an abridged version of the R-matrix are shown by SPSS output 1-1. The Pearson correlation coefficients between all pairs of variables are contained in the top half of correlation matrix table whereas the one tailed significance of these coefficients are contained in the bottom half. Correlation matrix is

SPSS OUTPUT -1-1

Descriptive Statistics

	Mean	Std. Deviation	Analysis N	Missing N
EPS	42.1355	32.93474	144	0
PE	17.1375	11.59363	144	0
ROCE	25.6611	21.02514	144	0
RONW	25.0378	16.24000	144	0
D/E	1.0459	1.74641	144	0
P/BV	4.3792	4.23028	144	0
BETA	.9365	.43131	144	0
DIVID	255.2535	356.80840	144	0
AR	4.5330	3.28763	144	0
Cash EPS	51.0737	38.99556	144	0
TRDGPRO	46.3333	119.52792	144	0

Correlation Matrix (a)

		EPS	PE	ROCE	RONW	D/E	P/BV	BETA	DIVID	AR	Cash EPS	TRDG PRO
Correlation	EPS	1.000	-.286	.105	.040	-.051	-.213	.040	.303	.221	.951	-.074
	PE	-.286	1.000	-.067	.023	.155	.474	-.013	-.023	-.245	-.255	-.122
	ROCE	.105	-.067	1.000	.898	-.048	.618	-.274	.525	-.150	.046	-.038
	RONW	.040	.023	.898	1.000	.118	.770	-.295	.510	-.188	-.027	-.068
	D/E	-.051	.155	-.048	.118	1.000	.179	.019	-.020	.076	-.071	-.035
	P/BV	-.213	.474	.618	.770	.179	1.000	-.325	.302	-.280	-.252	-.126
	BETA	.040	-.013	-.274	-.295	.019	-.325	1.000	-.237	.305	.070	.149
	DIVID	.303	-.023	.525	.510	-.020	.302	-.237	1.000	.067	.253	-.059
	AR	.221	-.245	-.150	-.188	.076	-.280	.305	.067	1.000	.243	.009
	Cash EPS	.951	-.255	.046	-.027	-.071	-.252	.070	.253	.243	1.000	-.052
	TRDGPRO	-.074	-.122	-.038	-.068	-.035	-.126	.149	-.059	.009	-.052	1.000
Sig. (1-tailed)	EPS		.000	.105	.318	.273	.005	.317	.000	.004	.000	.189
	PE	.000		.211	.390	.032	.000	.436	.391	.002	.001	.073
	ROCE	.105	.211		.000	.285	.000	.000	.000	.036	.292	.327
	RONW	.318	.390	.000		.080	.000	.000	.000	.012	.374	.208
	D/E	.273	.032	.285	.080		.016	.410	.406	.182	.199	.338
	P/BV	.005	.000	.000	.000	.016		.000	.000	.000	.001	.066
	BETA	.317	.436	.000	.000	.410	.000		.002	.000	.204	.038
	DIVIDEND	.000	.391	.000	.000	.406	.000	.002		.214	.001	.241
	AR	.004	.002	.036	.012	.182	.000	.000	.214		.002	.456
	Cash EPS	.000	.001	.292	.374	.199	.001	.204	.001	.002		.270
	TRDGPRO	.189	.073	.327	.208	.338	.066	.038	.241	.456	.270	

a. Determinant = .001

used to check the pattern of relationships. Significance values are scanned first and then looked for any variable for which the majority of values are greater than 0.05. Next, any variable in the correlation matrix is greater than 0.9. In this present study, the correlation matrix in majority of the cases shows more than 0.9 which indicates a chance of singularity in the data. However, the determinant (which is listed at the bottom of the matrix) is 0.001, which is greater than the necessary value of 0.00001 and then multicollinearity is not a problem for this data. In a nutshell, all variables selected in the study correlate fairly well and none of the correlation coefficients are particularly large and hence there is no need to eliminate any variables at this stage.

MEASURES OF SAMPLING ACCURACY

SPSS output 1-2 shows Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KOM) and Bartlett's Test of Sphericity. The KMO statistic varies between 0 and 1. A value close to 1 indicates that patterns of correlations are relatively compact and so factor analysis should yield distinct and reliable factors. KOM statistics in this present study is 0.594. Since it lies between 0.5 and 1 and it is assumed that values are mediocre (see Hutcheson and Sofroniou, 1999,pp 224-225 for more detail). So factor analysis is more appropriate for this data. Further, Bartlett's measure tests the null hypothesis that the original correlation matrix is an identifying matrix. There should be some relationship between variables to do the factor analysis. If correlation matrix is zero, then R-matrix is assumed to be the identified matrix. Since p <0.001, Bartlett's Test in the current study is significant. Hence R-matrix is also not an identifying matrix and there are some relationships between the variables. Therefore, factor analysis is appropriate.

SPSS OUTPUT - 1-2
KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.594
Bartlett's Test of Sphericity	Approx. Chi-Square	970.867
	df	55
	Sig.	.000

FACTOR EXTRACTION

SPSS output 1-3 enlists the eigenvalues allied with each linear component (factors) before extraction, after extraction and after rotation. SPSS has identified 11 linear components within the data set. The eigenvalues coupled with each factor portray the variance explained by that particular linear component. Factor 1 and factor 2 describe 28.615% and 22.241% respectively. The first few factors show relatively large amount of variance whereas subsequent factors depict only small amount of variance. SPSS extracts all factors with eigenvalues greater than 1 which leaves us with four factors. The eigenvalues associated with four factors whose value is

SPSS OUTPUT - 1- 3
Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.148	28.615	28.615	3.148	28.615	28.615	2.913	26.480	26.480
2	2.447	22.241	50.856	2.447	22.241	50.856	2.304	20.947	47.427
3	1.198	10.894	61.749	1.198	10.894	61.749	1.397	12.702	60.129
4	1.125	10.224	71.974	1.125	10.224	71.974	1.303	11.845	71.974
5	.873	7.936	79.909						
6	.829	7.533	87.442						
7	.655	5.952	93.394						
8	.469	4.264	97.658						
9	.157	1.430	99.088						
10	.055	.502	99.590						
11	.045	.410	100.000						

Extraction Method: Principal Component Analysis.

greater than 1 are restated in the column Extraction Sums of Squared Loadings, except the discarded factors which are ignored. Rotation Sums of Squared Loadings .ie., eigenvalues of the factors after rotation are given in the last column. However factor 1 and factor 2 (28.615% and 22.241%), before rotation exhibit higher variance than the remaining two factors (10.894% and 10.224%) and then they account for only 26.480% and 20.947% of variance respectively after extraction as compared to the remaining 12.702% and 11.845%.

COMMUNALITIES BEFORE AND AFTER EXTRACTION

SPSS output 1-4 describes Communalities before and after extraction. The principal component analysis is employed on the initial assumption that all variances are common .i.e. before extraction all communalities are all 1. The last column of communalities labelled extraction represents the common variance in the data structure. 90% of the variance stated in the first factor is common variance. After extraction some of the factors are discarded. SPSS exhibits all loadings which are less than 1. So there are blank spaces for many of the loadings. Using Kaiser's criterion actually four factors were extracted. Kaiser's criterion states that if there are less than 30 variables, communalities after extraction are greater than 0.7.

SPSS OUTPUT -1-4

Communalities

	Initial	Extraction
EPS	1.000	.900
PE	1.000	.610
ROCE	1.000	.873
RONW	1.000	.921
D/E	1.000	.619
P/BV	1.000	.855
BETA	1.000	.531
DIVIDEND	1.000	.571
AR	1.000	.562
Cash EPS	1.000	.883
TRDGPRO	1.000	.593

Extraction Method: Principal Component Analysis.

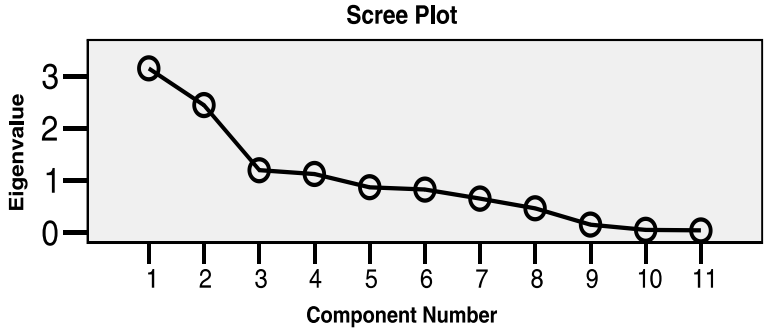
Component Matrix (a)

	Component			
	1	2	3	4
RONW	.913			
P/BV	.877			
ROCE	.843			
DIVID	.556	.504		
BETA	-.498			.482
EPS		.910		
Cash EPS		.888		
D/E			.694	
PE		-.497	.504	
TRDGPRO			-.440	.611
AR				.457

Extraction Method: Principal Component Analysis.
a . 4 components extracted

The scree plot is exhibited below with a thunderbolt that indicates the point of inflexion on the curve. Since the curve starts to tail off after 3 factors before a stable plateau, it is very difficulty to generalize.

SPSS OUTPUT -1-5



FACTOR ROTATION

SPSS output 1-6 shows the Rotated Component Analysis. It is a matrix of the factor loadings for each variable onto each factor. Factor loadings less than 0.4 have not been displayed.

SPSS OUTPUT - 1-6
Rotated Component Matrix (a)

	Component			
	1	2	3	4
RONW	.955			
ROCE	.914			
P/BV	.765		.409	
DIVID	.664			
EPS		.942		
Cash EPS		.935		
PE			.696	
TRDGPRO			-.664	
AR				.647
BETA				.635
D/E			.472	.601

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a . Rotation converged in 9 iterations.

The next step is to see the factor that load onto the same factor. The factor that loads highly on factor 1 is RONW, Factor 2 is EPS, Factor 3 is PE, and Factor 4 is AR. This Factor Analysis seems to reveal that the share prices, in reality, are determined by four factors namely, ROCW, EPS, PE and AR. Further examining the existence of significant relationship between share price and individual variables identified, Multiple Linear Regression analysis is carried out.

II). MULTIPLE LINEAR REGRESSION MODEL USING SPSS

The present research uses the multiple linear regression analysis for identifying various factors that determines share price of the sample companies.

The process of analysis covers F- test for the slope and Statistical validity using determination of correlation R^2 and Adjusted R^2.

SPSS output 1-1 interprets the correlation coefficient, coefficient of determination R^2, Adjusted R^2, standard Error of estimate, F statistic and level of significance. To determine the factors that are more relevant in deriving the share price, multiple regression method has been developed. The researcher postulates the model in the standard form as follows.

$Y = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_6x_6 + b_7x_7 + b_8x_8 + \mu$

Where Y = Share Price, a= constant term, $b_1, b_2 \ldots\ldots b_8$ are the regression coefficient for the respective variable. X_1 = EPS, X_2 = P/E, X_3 = ROCE, X_4 = D/E, X_5 = DIV% , X_6 = BETA , X_7 = AR , X_8 = TRADING PRO and μ = error term. The results of the regression are used to estimate the appropriate value of share price for the companies on the list. The regression equation of share price (Y) of

Automobile industry= $-1367.18 + 23.108\ x_1 + 52.863\ x_2 + 7.971\ x_3 - 32.430\ x_4 - 0.267x_5 + 1.508\ x_6 - 3.956\ x_7 + 0.314\ x_8 + \mu$.

Banking and Finance = $-774.517 + 18.479\ x_1 + 27.376\ x_2 - 101.266\ x_3 + 147.330\ x_4 - 3.284\ x_5 + 218.258\ x_6 + 79.406\ x_7 - 5.636\ x_8 + \mu$.

Cement = $-650.919 + 12.247\ x_1 + 20.683\ x_2 - 11.195\ x_3 - 221.562\ x_4 + 5.960\ x_5 - 118.035\ x_6 + 38.118\ x_7 + 4.237\ x_8 + \mu$.

Diversified = $7.530 + 19.240\ x_1 + 49.505\ x_2 - 29.698\ x_3 - 56.505\ x_4 - 0.002\ x_5 - 133.497\ x_6 + 13.845\ x_7 - 5.368\ x_8 + \mu$.

Information Technology and Telecommunication = $296.280 + 5.649\ x_1 + 16.599\ x_2 + 7.237\ x_3 - 306.338\ x_4 - 0.158\ x_5 - 254.543\ x_6 - 1.880\ x_7 - 1.086\ x_8 + \mu$.

Pharma = $469.644 + 6.722\ x_1 + 5.526\ x_2 - 12.497\ x_3 - 96.744\ x_4 + 1.449\ x_5 - 422.488\ x_6 + 21.301\ x_7 + 0.864\ x_8 + \mu$.

Power = $-324.163 + 15.822\ x_1 + 15.473\ x_2 - 3.888\ x_3 + 44.798\ x_4 - 1.950\ x_5 + 181.682\ x_6 - 8.436\ x_7 - 0.056\ x_8 + \mu$.

Other Sector = $-819.275 + 10.354\ x_1 + 35.947\ x_2 - 0.367\ x_3 + 222.402\ x_4 - 0.608\ x_5 + 133.031\ x_6 + 20.723\ x_7 - 0.152\ x_8 + \mu$.

This analysis is an attempt to test the null hypothesis that all the coefficients are equal to zero.

H_0: ß1 = ß2 = …. ßk = 0 (No linear relationship between share price and the explanatory variables.)

H_1: At least one ßj ≠ 0 (Linear relationship between the share price and at least one of the explanatory variables.)

SPSS OUTPUT -2-1

Coefficient of determination of various industries regression results

INDUSTRY	F TEST			STATISTICAL VARIANTS		
	S.E. of Estimate	F Statistic	Sig	R	R^2	Adjusted R^2
AUTO	102.65123	92.052	0.00	0.993	0.987	0.976
BANKING & FINANCE	146.12573	25.034	0.00	0.976	0.952	0.914
CEMENT	180.58203	38.936	0.00	0.991	0.981	0.956
DIVERSIFIED	162.62157	37.161	0.00	0.988	0.977	0.951
IT& TELECOMMUNICATION	374.49634	2.889	0.047	0.789	0.623	0.407
PHARMA	125.68676	3.453	0.123	0.935	0.874	0.621
POWER	55.72376	26.279	0.037	0.995	0.991	0.953
OTHER SECTOR	258.98313	4.973	0.003	0.844	0.713	0.570

a. Predictors: (constant), trading prop,AR,BETE,D/E,P/E,EPS,DIV%,ROCE

b. Dependent variable: share price.

Since the P- value in the ANOVA table of all industrial sectors except pharmaceutical industry selected for the study is less than the level of significance 0.05, null hypothesis is rejected and recommended that the regression as a whole is significant. It implies that Share price of all industrial sectors except pharmaceutical industry under study depends on at least one of the factors EPS, P/E, ROCE, D/E, DIV%, BETA, AR and TRADING PRO. From the regression statistics, the Value of R^2 closer to 1 shows that EPS, P/E, ROCE, D/E, DIV%, BETA, AR and TRADING PRO can predict the actual value of share price. So the model fitted is fairly accurate.

CONCLUSION

The main thing to keep in mind when selecting the equity is how various holdings are performing well and an appetite for risk. Overall market sentiment is looking bullish and this trend will continue along with huge fund-flow, strong economic growth and considerable inflation rate. However, fundamentally strong company shares can be viewed for further investment and may witness further buying interest due to negative sentiments in the share market even now. The present study has identified about four factors which have major influence on share prices such as ROCW, EPS, PE and AR. In addition to this, D/E, DIV%, BETA, and TRADING PRO also show a considerable influence on share price of selected companies. Let us sit back with confidence and patiently watch out for opportunities based on the performance of above said fundamentals to have better returns in equity in the medium and long run.

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CONCLUSION

The Indian accounting guidelines in this area need to be carefully reviewed. The international trend is moving towards marking the underlying securities as well as associated derivative instruments to market. Such a practice would bring into accounts a clear picture of the impact of derivatives related operations. Indian accounting is based on traditional prudence where profits are not recognised till realisation. So this new step of ICAI needs to be welcomed by the Accounting fraternity as it is a move towards internationalization & moreover rationalization of Indian Accounting Framework.

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