INTERNATIONAL JOURNAL OF RESEARCH IN COMPUTER APPLICATION & MANAGEMENT

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INTRODUCTION

REVIEW OF LITERATURE

NEED/IMPORTANCE OF THE STUDY

STATEMENT OF THE PROBLEM

OBJECTIVES

HYPOTHESIS (ES)

RESEARCH METHODOLOGY

RESULTS & DISCUSSION

FINDINGS

RECOMMENDATIONS/SUGGESTIONS

CONCLUSIONS

LIMITATIONS

SCOPE FOR FURTHER RESEARCH

REFERENCES

APPENDIX/ANNEXURE

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BOOKS

- Bowersox, Donald J., Closs, David J., (1996), "Logistical Management." Tata McGraw, Hill, New Delhi.

- Hunker, H.L. and A.J. Wright (1963), "Factors of Industrial Location in Ohio" Ohio State University, Nigeria.

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- Schemenner, R.W., Huber, J.C. and Cook, R.L. (1987), "Geographic Differences and the Location of New Manufacturing Facilities," Journal of Urban Economics, Vol. 21, No. 1, pp. 83-104.

CONFERENCE PAPERS

- Garg, Sambhav (2011): "Business Ethics" Paper presented at the Annual International Conference for the All India Management Association, New Delhi, India, 19–23

UNPUBLISHED DISSERTATIONS

- Kumar S. (2011): "Customer Value: A Comparative Study of Rural and Urban Customers," Thesis, Kurukshetra University, Kurukshetra.

ONLINE RESOURCES

- Always indicate the date that the source was accessed, as online resources are frequently updated or removed.

WEBSITES

- Garg, Bhavet (2011): Towards a New Gas Policy, Political Weekly, Viewed on January 01, 2012 http://epw.in/user/viewabstract.jsp

FUNDAMENTAL ANALYSIS OF SENSEX COMPANIES

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ABSTRACT

BSE sensex is considered as barometer of Indian economy. It is important to note loosing or winning in politics affects sensex. Speculators try to gain on immediately with every information. Analysts and investors use the Sensex to observe the overall growth, development of particular industries, and booms and busts of the Indian economy. The BSE is the world's 11th largest stock exchange with an overall market capitalization of more than $ 2 Trillion as of July, 2017. More than 5500 companies are publicly listed on the BSE. Of these, as of November 2016, there are only 7,800 listed companies of which only 4000 trade on the stock exchanges at BSE and NSE. Hence, the stocks trading at the BSE and NSE account for only about 4% of the Indian economy.

KEYWORDS

Sensex, Bombay Stock Exchange, Earnings per share, Net Profit Margin, Operating Profit Margin.

JEL CODE

G10.

INTRODUCTION

Sensex, otherwise known as the S&P BSE Sensex index, is the benchmark index of the Bombay Stock Exchange (BSE). It is composed of 30 of the largest and most actively-traded stocks on the BSE, providing an accurate gauge of India's economy. Initially compiled in 1986, the Sensex is the oldest stock index in India. The term Sensex was coined by Deepak Mohoni, a stock market analyst. It is a portmanteau of the words Sensitive and Index The Bombay Stock Exchange (BSE) is an Indian stock exchange located at Dalal Street, Kala Ghoda, Mumbai (formerly Bombay), Maharashtra, India. Established in 1875, the BSE is Asia's first stock exchange, It claims to be the world's fastest stock exchange, with a median trade speed of 6 microseconds, The BSE is the world's 11th largest stock exchange with an overall market capitalization of more than $ 2 Trillion as of July, 2017. More than 5500 companies are publicly listed on the BSE. Of these, as of November 2016, there are only 7,800 listed companies of which only 4000 trade on the stock exchanges at BSE and NSE. Hence the stocks trading at the BSE and NSE account for only about 4% of the Indian economy. SENSEX is a free-float market-weighted stock market index of 30 well-established and financially sound companies listed on Bombay Stock Exchange. The 30 component companies which are some of the largest and most actively traded stocks, are representative of various industrial sectors of the Indian economy. Published since 1 January 1986, the S&P BSE SENSEX is regarded as the pulse of the domestic stock markets in India. The base value of the S&P BSE SENSEX is taken as 100 on 1 April 1979, and its base year as 1978–79. On 25 July 2001 BSE launched DOLLEX-30, a dollar-linked version of S&P BSE SENSEX.

REVIEW OF LITERATURE

Literature review is a study involving a collection of literatures in the selected area of research in which the researcher has limited experience, and critical examination and comparison of them to have a better understanding. It also helps the researchers to update the past data, data sources and results and identify the gaps, if any in the researches. Thus, the reviews in the present study consist of the ones discussed below and they reveal that there are very scant studies in India emphasizing on the fundamental analysis of the industry sector.

- Jim Berg (1999) conducted a study – "Fundamental Analysis Using Internet". This study examined that fundamental analysis looks at the fundamental issues that drive the value of the particular company. These issues include its financial position, its industry sector, and the current economic environment. The objective was to identify companies that may be considered undervalued in the market with a view to investing when the time is right. In this study, Jim Berg outlined more about what fundamental analysis is and how it could be used.
- In this study, John Colnan (1994), senior Research Analyst from SHAN Stockbroking's Research Department provides some briefs pointers on what information to look for and how to make sense of what is available.
- Mark P. Bauman (1996) conducted a study named, "A Review of Fundamental Analysis Research in Accounting". This paper has outlined the development of fundamental valuation model and reviewed related empirical work.
- First, an accounting-based expression for a firm's equity value has been developed into a rich theoretical framework. They verified its descriptive validity regarding them apping of accounting numbers into stock prices. This paper identified three major issues associated with practical implementation of the model; the prediction of future profitability, the length of appropriate forecast horizon, and the determination of the appropriate discount rate.
- Dr. Maria Nevis Soris and Dr. V.Sornaganesh (2012) conducted a study entitled- "Fundamental Analysis of NBFC in India" This study conducted to examine the economic sustainability of the five major NBFC in Indian NBFC sector and its financial performance.
- Dr. V.Sornaganesh and D. Maheswari (2014) TCS as a welcome game changer that offers significantly lower pricing, better service levels, more sophisticated offerings, a customer-centric mindset and a global footprint.
- K. Sivagnana Sankari and Dr.V.Sornaganesh (2016): There are still challenges in the current economic environment like inflation, interest burden and pressure on margins etc., To counter the falling income growth, the retailers have been re-locating the existing stores in view of the consumer mix relevant to the particular store format or closure of unviable stores unable to attract footfalls or generate desired revenues on per square feet basis.

➢ Dr. V. Sornaganesh and A.V.Chellamma (2016): Speculations being present invariably in all fields of business, investors, at times, await some inspiration or motivation from reliable sources. Inspite of continuous recommendation of FDI from 2011, investors have not come forward to invest in M&E field because the reforms undertaken by the Government are much challenging. Further in order to attract the foreign investors, the government has to ensure stable currency environment and consistency in taxation and policy. Gradually the field is witnessing investment from various people in the past one year, which is also expected to gather momentum in forthcoming decades. Based on forecasts for 138 countries, global digital TV penetration is likely to reach 98% of television households in 2020, up from 40% in 2010 and 68% in 2014. By 2020, 94 countries are expected to be completely digital compared with only 12 in 2013.

OBJECTIVES OF THE STUDY

1. To test the financial efficiency of the Sensex Companies.
2. To acquire practical exposure of financial analysis of Companies.
3. To analyses the profitability position of the Sensex Companies.
4. To analysis the efficient company in controlling costs and expenses of sensex companies.
5. To reveals the effective company in the terms of generating Earnings per share.
6. To find out most efficient company in generating yield over assets and hence their overall efficiency.
7. To take decisions cautiously after studying risks involved in the same.
8. To offer suggestions on the basis of findings of the study.

HYPOTHESES FORMULATED

➢ H_1: The Operating Profit Margin (OPM) position of 30 Sensex companies does not differ significantly.
➢ H_2: The Net Profit Margin (NPM) position of 30 Sensex companies does not differ significantly.
➢ H_3: The Earning Per Share (EPS) position of 30 Sensex companies does not differ significantly.
➢ H_4: The Return on Assets (ROA) position of 30 Sensex companies does not differ significantly.
➢ H_5: The Return on Networth (RONW) position of 30 Sensex companies does not differ significantly.

RESEARCH METHODOLOGY

The present study adopts an analytical and descriptive research design. The data of the30 Sensex Companies (for a period of five years from 2012 to 2017) has been collected from the annual reports published by the Sensex Companies. A finite sample size of 30 sensex companies has been selected for the purpose of the study. They are TCS, Reliance Industries, HDFC Bank, Infosys, Oil & Natural Gas Corporation, HDFC Housing Development, Coal India, State Bank of India, ITC, Hindustan Unilever, Tata Motors, Maruti Suzuki, Sun Pharmaceuticals, ICICI Bank, Larsen & Toubro, Bharti Airtel, Axis Bank, NTPC, Asian Paints, Wipro, Mahindra & Mahindra, Power Grid, Bajaj Auto, Hero Motors, Lupin, Adani Ports, GAIL, Dr.Reddys Laboratories, Cipla and Tata Steel. The variables used in the analysis of the data are Earning Per Share (EPS), Operating Profit Margin (OPM), Net Profit Margin (NPM), Return On Assets (ROA), Return On Networth (RONW).While interpreting the results, the statistical tool of one-way Analysis of Variance (ANOVA) has been used. In view of the objectives of the study listed above, exploratory research design has been adopted. Exploratory research is one, which largely interprets the already available information, and it lays particular emphasis on analysis and interpretation of the existing and available information, and it makes use of secondary data.

TIME PERIOD FOR THE STUDY

The study is conducted based on the audited financial statements of Sensex Companies for a period of 6 years (Mar 2012 to Mar 2017).

LIMITATIONS OF THE STUDY

• Only limited tools were used.
• Due to constraint of time, the researcher is not able to cover all the shares listed in BSE

TOOLS USED FOR ANALYSIS

1. **Financial Tools:** The Financial tool that is used for the purpose of analysis is Earning Per Share (EPS), Operating Profit Margin (OPM), Net Profit Margin (NPM), Return On Assets (ROA), Return On Net Worth (RONW).
2. **Statistical Tools:** The statistical tool that is used for testing hypothesis is One –way Analysis Of Variance (ANOVA).

ANALYSES AND INTERPRETATION

RATIOS USED FOR ANALYSIS

The ratios being calculated for the purpose of analysis of financial performance are:

• Operating Profit Margin (OPM)
• Net Profit Margin (NPM)
• Earnings per Share (EPS)
• Return on Assets (ROA)
• Return on Net worth (RONW)

OPERATING PROFIT MARGIN (OPM)

Operating Profit Margin indicates how effective a company is at controlling the costs and expenses associated with their normal business operations. A rise in the operating profit margin indicates a decline in efficiency. This ratio is used to test the efficiency of the business. This ratio is found out using the following formulae and expressed in percentage terms.

$$OPM = \frac{\text{Operating Profit}}{\text{Net Sales}} \times 100$$

The Operating Profit Margin position of the sensex companies is depicted in Table 1 and discussed below:

TABLE 1: OPERATING PROFIT MARGIN (OPM) (IN %) POSITION OF SENSEX COMPANIES

SENSEX	OPM						Average
COMPANY	2012	2013	2014	2015	2016	2017	
TCS	34.43	32.49	36.44	32.75	33.92	32.45	33.74
Reliance Industries	8.61	8.13	7.95	9.67	16.36	17.97	11.44
Hdfc Bank	-0.28	-0.36	1.35	2.51	2.56	3.25	1.505
Infosys	35.5	33.38	31.57	34.64	32.7	31.94	33.28
Oil & Natural Gas Corporation	43.8	36.86	38.05	32.51	33.83	34.02	36.51
Housing Development	97.05	96.92	97.21	97.07	95.39	95.5	96.52
Coal India	2,158.95	3041.53	4989.41	3589.71	10042.67	4959.1	4796.89
State Bank Of India	-2.48	-1.61	-5.61	-6.21	-11.12	-14.23	-6.87
ITC	35.65	36.02	38.09	38.49	40.73	38.72	37.95
Hindustan Unilever	15.15	16.94	17.25	17.98	18.47	19.36	17.52
Tata Motors	5.79	4.42	2.48	-5.39	4.7	-1.67	1.72
Maruti Suzuki	6.18	7.29	8.77	10.15	11.45	14.74	9.76
Sun Pharmaceuticals	50.45	27.27	3.28	-12.56	-6.13	2.48	10.79
Icici Bank	-3.09	-0.05	-1.39	-2.03	-10.61	-17.91	-5.84
Larsen & Toubro	13.01	12.22	13.7	13.61	12.67	10.92	12.68
Bharti Airtel	20.07	17.87	19.87	30.74	23.67	18.74	21.82
Axis Bank	-5.35	-5.04	-3.87	-2.83	-2.8	-17.98	-6.31
NTPC	26.61	30.73	28.41	24.39	26.24	28.55	27.48
Asian Paints	17.5	17.23	16.68	16.94	19.5	21.16	18.16
Wipro	20.59	22.74	25.75	26.49	24.63	24.06	24.04
Mahindra & Mahindra	11.49	11.24	11.29	10.39	10.55	10.92	10.98
Power Grid	64.53	63.92	62.05	60.05	60.45	61.45	62.07
Bajaj Auto	21.41	21.33	22.99	20.5	23.73	24.51	22.41
Hero Moto	12.23	10.69	11.39	12.66	15.37	16.38	13.12
Lupin	19.19	24.66	35.35	32.98	34.75	32.99	29.98
Adani Ports	59.56	69.35	68.2	73.07	80.89	87.95	73.17
GAIL	13.5	13.15	11.16	8.07	7.34	12.85	11.01
Dr.Reddys Laboratories	19.62	21.51	26.03	21.21	19.59	16.47	20.73
Cipla	20.75	24.93	20.74	16.54	15.55	11.17	18.28
Tata Steel	33.21	27.19	27.99	20.56	23.99	18.22	25.19

As shown in the table, among all the sensex companies, Coal India has sustained the highest Operating profit margin followed by HDFC Housing Development, which has registered a reasonably higher margin. On an aggregate basis, Coal India is highly successful in controlling the expenses by registering the six years OPM of 4796.90. Thus it is found that Coal India is the most efficient company in controlling costs and expenses when compared to Sensex companies. The OPM position of sensex companies are compared and tested using the following hypothesis.

a)   Hypothesis Testing

H_0: OPM of 30 sensex companies does not differ significantly.

H_1: OPM of 30 sensex companies differ significantly.

TABLE 2: ONE-WAY ANOVA FOR OPM

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1295470	5	259093.9	0.265086	0.931631	2.266062
Within Groups	1.7E+08	174	977395.1			
Total	1.71E+08	179				

b)   Interpretation

Since the calculated value of P is 0.931631 which is greater than the table value ;.< of 0.005 (CV>TV at 5% significant level), the null hypothesis is accepted and the alternative hypothesis is rejected. Hence, it is concluded that the OPM of sensex companies, does not differ significantly.

NET PROFIT MARGIN (NPM)

Net Profit Margin indicates how much a company is able to earn after accounting for all the direct and indirect expenses to every rupee of revenue. The ratio is designed to focus attention on the net profit margin arising from business operations before interest and tax is deducted. The convention is to express profit after tax and interest as a percentage of sales. This ratio is calculated by using the following formula and is expressed in percentage terms.

$$NPM = \frac{\text{Net Profit}}{\text{Net Sales}} * 100$$

The Net profit Margin position is the sensex companies is depicted in table 2 and its discussed below:

TABLE 3: NET PROFIT MARGIN (NPM) OF THE SENSEX COMPANIES

SENSEX COMPANY	NPM						Average
	2012	2013	2014	2015	2016	2017	
TCS	28.24	26.4	28.56	26.17	26.64	25.51	26.92
Reliance Industries	6.07	5.82	5.63	6.9	11.75	12.98	8.19
Hdfc Bank	18.93	19.18	20.61	21.07	20.41	20.99	20.19
Infosys	27.1	24.79	22.99	25.71	29.24	23.3	25.52
Oil & Natural Gas Corporation	32.83	25.21	26.33	21.39	20.42	23.03	24.86
Housing Development	23.78	22.96	22.53	21.86	22.95	22.47	22.75
Coal India	1,939.37	2780.5	4775.98	3457.16	9873.45	5002.3	4638.11
State Bank Of India	10.99	11.78	7.98	8.59	6.07	5.97	8.56
ITC	24.47	24.8	26.43	26.31	26.72	25.44	25.69
Hindustan Unilever	12.16	14.7	13.8	14	12.76	14.07	13.58
Tata Motors	2.28	0.67	0.97	-13.05	0.55	-5.59	-2.36
Maruti Suzuki	4.59	5.48	6.36	7.42	7.91	10.78	7.09
Sun Pharmaceuticals	42.27	21.23	-100	-18.38	-14.09	-0.42	-11.56
Icici Bank	19.27	20.77	22.2	22.76	18.44	18.09	20.25
Larsen & Toubro	8.38	8.06	9.7	8.86	8.88	8.29	8.69
Bharti Airtel	13.77	11.23	13.22	23.78	12.51	-15.93	9.76
Axis Bank	19.28	19.05	20.29	20.73	20.06	8.26	17.94
NTPC	14.86	19.21	15.23	14.04	14.52	11.99	14.97
Asian Paints	12.03	11.7	11.22	11.39	12.63	14.25	12.20
Wipro	14.78	17	19.06	19.88	18.12	17.72	17.76
Mahindra & Mahindra	9.03	8.29	9.27	8.52	7.74	9.03	8.64
Power Grid	32.02	33.19	29.52	28.98	28.97	29.24	30.32
Bajaj Auto	15.38	15.21	16.09	13.01	16.09	17.58	15.56
Hero Moto	10.08	8.91	8.34	8.64	10.95	11.85	9.79
Lupin	14.93	17.69	25.99	24.58	25.57	24.63	22.23
Adani Ports	47.43	52.19	46.39	55.84	61.36	63.55	54.46
GAIL	9.04	8.46	7.6	5.35	4.42	7.27	7.02
Dr.Reddys Laboratories	13.53	15	19.86	16.77	13.26	14.24	15.44
Cipla	16.1	18.37	14.8	11.65	11.61	8.88	13.56
Tata Steel	19.73	13.25	15.37	15.41	12.82	7.17	13.95

As shown in table 3, among all the sensex companies, Coal India has sustained the highest. Net profit margin followed by Adani Ports which has registered a reasonably higher margin.

a)   Hypothesis Testing

H_0: NPM of 30 sensex companies does not differ significantly.

H_1: NPM of 30 sensex companies differ significantly.

TABLE 4: ONE-WAY ANOVA FOR NPM

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1309022	5	261804.4	0.280623	0.923272	2.266062
Within Groups	162331351	174	932938.8			
Total	163640373	179				

b)   Interpretation

Since the calculated value of P is 0.923272 which is greater than the table value of 0.005 (CV>TV at 5% significant level), the null hypothesis is accepted and the alternative hypothesis is rejected. Hence, it is concluded that the NPM of sensex companies does not differ significantly.

EARNINGS PER SHARE (EPS)

Earnings per Share are the measure of a company's ability to generate after tax profits per share held by the investors. In practice, the performance of a corporation is better judged in terms of its earnings per share. The flow of capital to the companies, under the present imperfect capital market conditions, would be made on the evaluation of EPS. Investors lacking inside and detailed information would look upon the EPS as the best base to take their investment decisions. A higher EPS means better capital productivity. This ratio is computed with the help of the following formula as expressed in rupee terms:

$$EPS = \frac{\text{Earnings after taxes and preferred Dividend}}{\text{Total number of equity shares outstanding}}$$

The Earnings per Share position of the sensex companies is summarized in Table 5 and discussed below:

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TABLE 5: EPS (IN RUPEES) POSITION OF SENSEX COMPANIES EARNINGS PER SHARE (EPS)

SENSEX	EPS						Average
COMPANY	2012	2013	2014	2015	2016	2017	
TCS	55.95	65.22	94.15	98.31	116.13	120.04	91.63
Reliance Industries	61.21	64.82	68.05	70.25	84.66	96.9	74.31
Hdfc Bank	22.11	28.49	35.47	42.15	48.84	57.18	39.04
Infosys	147.51	158.76	178.4	105.9	68.73	60.16	119.91
Oil & Natural Gas Corporation	29.36	24.46	25.83	20.73	18.71	13.95	22.17
Housing Development	27.97	31.84	34.89	38.13	44.43	46.08	37.22
Coal India	12.83	15.65	23.76	21.19	25.87	23.13	20.40
State Bank Of India	184.31	210.06	156.8	17.55	12.98	13.43	99.18
ITC	7.93	9.45	11.09	12.05	12.26	8.43	10.20
Hindustan Unilever	12.46	17.56	17.88	19.95	18.87	20.75	17.91
Tata Motors	3.9	0.93	1.03	-14.72	0.68	-7.3	-2.58
Maruti Suzuki	56.6	79.19	92.13	122.9	151.33	242.97	124.17
Sun Pharmaceuticals	16.4	5	-13.7	-6.1	-4.5	-0.1	-0.5
Icici Bank	56.11	72.2	84.99	19.32	16.75	16.84	44.36
Larsen & Toubro	72.92	79.99	59.36	54.46	57.07	58.49	63.71
Bharti Airtel	15.09	13.42	16.69	33.02	18.88	-24.84	12.04
Axis Bank	102.94	119.67	132.6	31.18	34.59	15.4	72.72
NTPC	11.19	15.3	13.31	12.48	12.42	11.38	12.68
Asian Paints	99.92	109.47	12.19	13.84	16.65	18.8	45.14
Wipro	19.13	23.03	30.09	33.38	32.97	33.61	28.70
Mahindra & Mahindra	48.97	56.85	63.67	56.23	53.51	66.64	57.64
Power Grid	7.03	9.15	9.36	9.52	11.52	14.37	10.15
Bajaj Auto	103.8	105.2	112.1	97.2	126.2	132.3	112.8
Hero Moto	119.09	106.07	105.6	119.5	156.86	169.12	129.36
Lupin	18.02	28.19	51.88	53.41	64.1	69.63	47.53
Adani Ports	5.88	8.76	9.8	10.55	13.72	14.97	10.61
GAIL	28.8	31.71	34.49	23.96	18.12	20.71	26.29
Dr.Reddys Laboratories	53.83	74.54	113.7	98.6	79.42	83.05	83.85
Cipla	14	18.77	17.29	14.71	17.41	12.13	15.71
Tata Steel	67.84	50.28	64.21	64.49	48.67	33.67	54.86

This table 5 shows that the EPS of Hero Motors is substantially higher than Maruti Suzuki as per data taken from the year 2012 to year 2017. On Average, Hero Motors has generated EPS of Rs.129.36 highest than other sensex companies. The analysis reveals that Hero Motors is the most efficient company in the terms of generating Earnings per share.The EPS position of sensex companies is compared and tested using the following hypothesis.

a)   Hypothesis Testing

H0: EPS of 30 sensex companies does not differ significantly.

H1: EPS of 30 sensex companies differ significantly.

TABLE 6: ONE-WAY ANOVA FOR EPS

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	3383.802	5	676.7603	0.297588	0.913723	2.266062
Within Groups	395702.2	174	2274.15			
Total	399086	179				

b)   Interpretation

Since the calculate value of P is 0.913723which is more than the P value of 0.005(CV>TV at 5% significance level), the null hypothesis is accepted and the alternative hypothesis is rejected. Hence, it is concluded that the EPS of sensex companies does not differ significantly.

RETURN ON ASSETS

Return on assets measures the overall efficiency of capital invested in business. The profitability of the firm is measured by establishing relation of net profit with the total assets of the organization. It indicates what the yield is for every rupee invested in assets. This is computed using the following formula and is expressed in percentage terms.

$$\text{Return on asset} = \frac{\text{Earnings after taxes and preferred dividends}}{\text{Total Assets}} * 100$$

TABLE 7: RETURN ON ASSET (ROA) (IN %) POSITION OF SENSEX COMPANIES

SENSEX	ROA						Average
COMPANY	2012	2013	2014	2015	2016	2017	
TCS	32.03	29.72	32.07	30.53	29.46	26.35	30.02
Reliance Industries	6.78	6.59	5.98	5.71	5.98	5.74	6.13
Hdfc Bank	1.52	1.68	1.72	1.73	1.73	1.68	1.67
Infosys	23.64	21.18	19.33	19.67	21.69	17.29	20.46
Oil & Natural Gas Corporation	14.62	11.74	11.08	8.52	7.27	7.23	10.07
Housing Development	2.46	2.48	2.4	2.35	2.45	2.21	2.39
Coal India	26.26	28.77	59.93	60.42	78.34	76.78	55.08
State Bank Of India	0.87	0.9	0.6	0.63	0.44	0.38	0.63
ITC	21.27	21.8	22.39	21.73	19.88	18.81	20.98
Hindustan Unilever	24.56	32.97	29.75	31.65	28.81	30.43	29.69
Tata Motors	2.27	0.57	0.67	-9.48	0.44	-4.23	-1.62
Maruti Suzuki	7.33	8.94	9.11	11.06	11.66	14.38	10.41
Sun Pharmaceuticals	18.58	5.58	-20.4	-3.93	-3.13	-0.1	-0.57
Icici Bank	1.36	1.55	1.64	1.72	1.34	1.26	1.47
Larsen & Toubro	6.58	6.8	7.01	5.81	5.47	5.33	6.16
Bharti Airtel	7.13	5.79	6.72	10.44	4.66	-5.2	4.92
Axis Bank	1.48	1.52	1.62	1.59	1.56	0.61	1.39
NTPC	6.54	7.83	6.11	5.22	4.77	3.96	5.73
Asian Paints	19.24	18.58	17.49	18.25	19.09	17.65	18.38
Wipro	12.13	13.88	16.15	15.34	13.68	12.92	14.01
Mahindra & Mahindra	12.03	12.21	12.01	10.08	8.69	10.05	10.84
Power Grid	3.6	3.81	3.22	3.14	3.37	3.86	3.5
Bajaj Auto	27.1	24.39	21.99	18.08	23.3	18.38	22.20
Hero Moto	24.04	21.96	20.88	22.67	25.38	22.98	22.98
Lupin	13.06	17.88	26.41	21.77	20.29	17.6	19.50
Adani Ports	8.93	9.6	9.64	8.45	8.99	7.9	8.91
GAIL	9.34	9	8.78	5.74	4.33	6.22	7.23
Dr.Reddys Laboratories	8.82	10.55	13.32	10.2	7.71	8.41	9.83
Cipla	12.49	13.11	10.74	7.77	8.72	6.24	9.84
Tata Steel	6.96	4.96	5.77	5.56	3.97	3.09	5.05

As per the data taken from year 2012 to 2017, Coal India has achieved the highest yield of 55.08333%. The data reveals that TATA Motors registered the lowest ROA of -1.62667%. On the six years average, Coal India has sustained he higher ROA followed by TCS which has registered a reasonably higher yield. Thus, Coal India is the most efficient company ingenerating yield over assets and hence their overall efficiency is better than other Sensex companies. The ROA positions of sample companies are compared and tested by using the following Hypothesis.

a) Hypothesis Testing

Ho: ROA of 30 sensex companies does not differ significantly.

H1: ROA of 30 sensex companies, differ significantly.

TABLE 8: ONE-WAY ANOVA FOR ROA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	21.26547	5	4.253094	0.025285	0.999705	2.266062
Within Groups	29267.32	174	168.203			
Total	29288.59	179				

b) Interpretation

Since the calculated value of P value is 0.999705 which is more than the table value of 0.05 (CV>TV at 5% significance level), the null hypothesis is accepted and the alternative hypothesis is rejected. Hence, it is concluded that the ROA of sensex companies does not differ significantly.

RETURN ON NETWORTH EXPENSES (RONW)

Return on net worth expresses the net profit in terms of the equity shareholders' funds.

This ratio is an important yardstick of the performance of equity shareholders since it indicates the return on the funds employed by them. The factor which motivates shareholders to invest in a company is the expectation of an adequate rate of return on their funds and periodically, they will want to assess the rate of return earned in order to decide whether to continue with their investment. This ratio is useful in measuring the rate of return as a percentage of the book value of shareholders equity. It is computed with the help of the following formula and expressed in percentage:

$$\text{Return on Net Worth} = \frac{\text{Net Profit After Interest and Tax}}{\text{Net Worth}} * 100$$

Where, Net Worth= Equity capital + Reserves and surplus

The Return on Net Worth position of the sample companies is depicted in Table 11 and is discussed below:

TABLE 9: RETURN ON NET WORTH (RONW) (IN %) POSITION OF SENSEX COMPANIES

Sensex	RONW						Average
COMPANY	2012	2013	2014	2015	2016	2017	
TCS	44.33	39.38	41.93	42.4	38.87	30.31	39.53
Reliance Industries	12.29	11.73	11.15	10.51	11.41	10.89	11.33
Hdfc Bank	17.26	18.57	19.5	16.47	16.91	16.26	17.49
Infosys	28.46	25.28	24.21	25.3	27.61	20.31	25.19
Oil & Natural Gas Corporation	22.24	16.81	16.16	12.26	10.53	9.64	14.60
Housing Development	21.6	19.52	19.46	19.34	20.78	18.77	19.91
Coal India	41.22	47.73	91.26	79.97	105.21	104.17	78.26
State Bank Of India	13.94	14.26	9.2	10.2	6.89	6.69	10.19
ITC	32.88	33.36	33.51	31.31	29.94	22.49	30.58
Hindustan Unilever	76.62	142.01	118	115.9	110.73	69.18	105.40
Tata Motors	6.33	1.57	1.74	-31.93	1.04	-11.91	-5.52
Maruti Suzuki	10.76	12.87	13.26	15.65	16.92	20.28	14.95
Sun Pharmaceuticals	21.54	6.63	-38.2	-6.48	-4.99	-0.16	-3.60
Icici Bank	10.7	12.48	13.39	13.89	11.19	10.11	11.96
Larsen & Toubro	17.68	16.86	16.32	13.63	13.04	11.85	14.89
Bharti Airtel	11.59	9.41	9.89	16.86	8.93	-9.8	7.81
Axis Bank	18.59	15.64	16.26	16.46	15.46	6.59	14.83
NTPC	12.58	15.69	12.78	12.6	11.53	9.75	12.48
Asian Paints	38.52	34.74	32.46	31.37	32.18	25.94	32.53
Wipro	19.23	23.31	25.16	23.66	19.79	17.47	21.43
Mahindra & Mahindra	24.08	22.88	22.39	17.25	14.59	15.4	19.43
Power Grid	13.85	16.13	13.05	13.04	14.1	15.09	14.21
Bajaj Auto	49.72	38.51	33.75	26.31	29.71	22.46	33.41
Hero Moto	55.43	42.31	37.66	36.47	39.42	33.39	40.78
Lupin	21.53	26	33.3	26.55	24.88	21.25	25.58
Adani Ports	22.55	26.17	21.6	19.49	20.85	18.38	21.50
GAIL	16.89	16.6	16.16	10.43	7.51	9.18	12.79
Dr.Reddys Laboratories	13.58	16.25	20.71	15.79	11.67	11.93	14.98
Cipla	14.9	17	13.76	10.65	11.33	7.61	12.54
Tata Steel	12.72	9.17	10.48	9.65	6.95	6.93	9.31

Among all the 30 companies, Hindustan unilever has made the highest RONW of 105.4083% followed by Coal India (78.26 %), which has registered a reasonably yield. The RONW position of sample companies are compared and tested using the following hypothesis:

a) Hypothesis Testing

Ho: RONW of 30 sensex companies,does not differ significantly.

H1: RONW of 30 sensex companies, differ significantly.

TABLE 10: ONE-WAY ANOVA FOR RONW SOURCE

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	833.1175	5	166.6235	0.304171	0.909904	2.266062
Within Groups	95316.37	174	547.7953			
Total	96149.49	179				

b) Interpretation

Since the calculated value of P value is 0.909904 which is more than the table value of 0.05(CV>TV at 5% significance level), the null hypothesis is accepted and the alternative hypothesis is rejected. Hence, it is concluded that the RONW of sensex companies does not differ significantly.

FINDINGS

- Coal India is highly successful in controlling the expenses by registering the six years (2012 -2017) Operating Profit Margin of 4796.90. It is found that Coal India is the most efficient company in controlling costs and expenses when compared to other Sensex companies.
- Coal India has sustained the highest Net profit margin (NPM) of 4638.11. Thus it is found that Coal India is the most efficient company when compare other Sensex Companies.
- The Earning per Share of Hero Motors is substantially higher than other Sensex Companies for which the data taken from 2012-2017, Hero Motors has generated EPS of 129.36, making Hero Motors is one of the efficient company's in terms of generating earnings.
- Coal India has achieved the highest ROA 55.08 and it is most efficient company in generating yield over assets and hence their overall efficiency is better than that of other Sensex Companies.
- Hindustan Unilever has sustained highest Return on Networth (RONW) of 105.40. Thus it is found that Hindustan Unilever is the most efficient company when compare to other Sensex Companies.

CONCLUSION

There are still challenges in the current economic environment like inflation, interest burden and pressure on margins etc. The role of Sensex companies in the economic development of a country is very important. It is said that a country is a developing country when it has industrial development and its share in the country's national output is very meager. The industrial development is necessary to develop the other sectors of an economy since they are mutually interrelated with one another. As far as developing countries like India is concerned, there is greater opportunity of raising capital resources after liberalization and reforms in capital market especially encouraging of foreign investment. But, there exists the greater degree of risk associated with this investment that there is scope for big gain or big loss. The present study analyzed the fundamentals of Sensex companies for last six years. Here we analyze the operating profit margin, net profit margin, earning per share, return on assets and return on net worth of these companies. The result of the analysis shows that especially in between 2012 to 2014 results are encouraging, after 2014 the political stability is encouraging the Sensex. In 2017 the ratio results are negative because of demonetization. From this analysis there has been ups and downs in the stability of returns on the share and stocks. But in the long term the results are encouraging. The present study concludes that the volatility and seasonality of market return and stock return of Sensex companies are not the same in all the days of a week, in all the months of the year. This is due to the changes in the socio, economic and political factors within the country and outside the country.

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