Can Share Price be Forecasted

Anshul Jain
Indian Institute of Technology, Hauz Khas, New Delhi
E-mail: anshuljainj@gmail.com

Abstract
I have recently opened a trading account in stock market of India. Seeing the ever fluctuating prices of share, I was clueless in how to trade shares using my understanding of financial ratios that I have learnt. This study helps to analyse how the market reacts to the fundamentals of operating performance specified as ratios. The concept of correlation factor is used as it closely predicts the relation between variables. I am looking forward to extend this work to establish general behaviour of unpredictable share prices and to use the interpretation of this work to increase my understanding about fundamentals of operating tools like ratios.
Keywords: Correlation Analysis, Share Price, Financial ratios, ROCE, RONW

INTRODUCTION

Financial ratios represents the financial condition of a company. They are the simplest yet practical representation of company often utilised by investors, shareholders, lenders, accounting and financial analysts to take a quick look at company's assets and status. There were many financial and accounting models developed in past but financial ratios still kept their importance in analysis of company's dataset. Hence, to further increase the potential of financial ratios, I want to analyse its impact on share prices in previous 10 financial years in one of the major contributing sector of India – Oil Exploration & Refineries sector.

The reason to choose Oil Exploration & Refineries sector is that it has been one of the most vital sector in Indian market when investment and government initiatives are considered. Also, there are many companies working in this sector including public and private players. Hence, it was easier to compare the dependency of the share prices status, its change with change in financial ratios and the effect of public/private player in this sector. Considering the vast space of analysis, it was the best sector to get an insight of Indian market and National Stock Exchange.

A share price is the cost of a single stock of a company, which after buying contributes toward the equity fund. It is an important element of financial state of company, changing of which concerns shareholders, investors, government and financial institutions associated with the company. The value of a share is indeed a random variable and is affected by each and every financial information of a company. Any new financial information will have an influence on the share price, which makes it one of the difficult variable to analyse its behaviour.

Therefore, any financial model explaining correlation of stock prices will be extremely beneficial to monitor company's progress and lessen risks. Every year company releases its financial ratios and which has remarkable impact on share prices, prompting to analyse their relation. The following chapters of this paper will focus to establish their relationship and the influence of other factors like public/private companies in building this correlation. The correlations with the financial ratios are justified with logical reasoning and concepts of "Fundamentals of Financial Accounting" and economic concepts. Many general trends are established after detailed study of share prices and all financial ratios on a span of 10 years. I hope the findings of this paper will contribute towards wiser investments.

METHODOLOGY

To understand the company correlation and time evolution associated with this correlation, the accuracy of data collection, analyse and data processing is very important. The paper begin with the sources and techniques of data collection, assumptions associated and then describes the correlation factors. Later on, a detailed discussion of findings is followed by general trends observed and concluded.

DATA COLLECTION

To understand the correlation following data was required: Share Prices, Financial Ratios, Market Capitalization and volume. Several websites were visited and the data was cross checked to come up with exact market in previous 10 years. Other statistics like its share evolution, market share and company specific incidents were also searched online to set up the general trends and any major company specific factor in any year. The following table gives the sources of information for data collection.
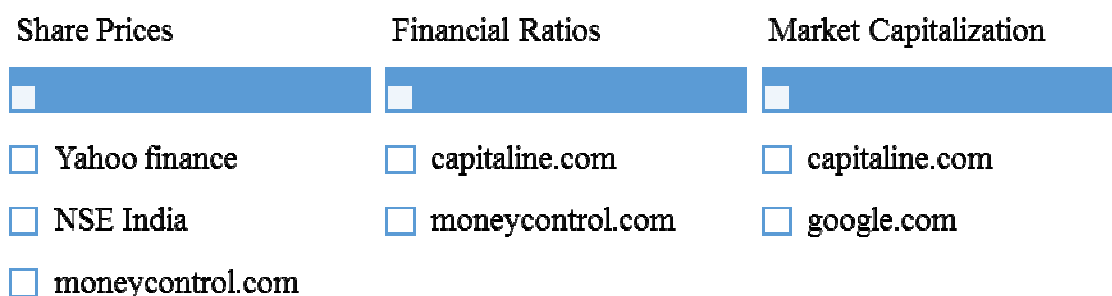
Share Prices	Financial Ratios	Market Capitalization
☐ Yahoo finance	☐ capitaline.com	☐ capitaline.com
☐ NSE India	☐ moneycontrol.com	☐ google.com
☐ moneycontrol.com		

Fig1 Sources of Data Collection

This data collection is an experimental research with practical applications. The data collection is to test the hypotheses that we are considering regarding relation between stock prices and financial conditions of company. Hence, this data collection is an illustrative survey to gather required information. The following steps were taken to complete this data collection:

Firstly, several companies were selected in Oil Exploration and Refinery Sector, based on their market share and volume. Several public as well as private players were selected for more broadened analysis.

Secondly, the share prices and financial ratios of companies selected were found out using above mentioned sources. The data was arranged in chronological order and was tabulated for further analysis.

However, there was an inbuilt inconsistency as the share price data is available on per day basis due to its frequent fluctuations whereas the financial ratios are released annually by the company. Hence, to bring them on same platform to run the correlation analysis, it was important to get an average share price of a year. To resolve this, the average share price of each year of each company was calculated. Also, as the release of financial ratios considerably affects the share price then, hence the closing share price at the end of accounting period was also noted down. The correlation analysis was run by using both the share prices, and then the average of the two values was considered as final correlation factor.

Finally, after tabulating the above data, the correlation was found out using EXCEL wherein the movement of share price with respect to financial ratio was observed.

COMPANIES SELECTED
o   **Public Sector:** Bharat Petroleum Corporation Ltd.
o   Oil & Natural Gas Corporation Ltd.
o   Oil India Ltd.
o   Hindustan petroleum Corporation Ltd.
o   **Private Sector:** Cairn India Ltd.
o   Essar Oil Ltd.
o   Reliance Industries Ltd.

FINANCIAL RATIOS OF PRIVATE SECTOR COMPANIES

Cairn India Ltd
Industry :Oil Exploration / Allied Services

	Mar 14	Mar 13	Mar 12	Mar 11	Mar 10	Mar 09	Dec 07	Dec 06
Key Ratios								
Debt-Equity Ratio	0.00	0.02	0.04	0.04	0.02	0.00	0.00	0.00
Long Term Debt-Equity Ratio	0.00	0.00	0.02	0.04	0.02	0.00	0.00	0.00
Current Ratio	0.79	0.71	0.84	3.13	10.62	10.21	1.69	1.75
Turnover Ratios								
Fixed Assets	1.56	3.05	3.31	1.77	30.48	59.68	0.00	0.00
Inventory	73.46	171.92	0.00	4.88	6.53	0.00	0.00	0.00
Debtors	7.44	15.73	27.50	2.75	1.90	1.95	2.00	0.00
Interest Cover Ratio	1,206.50	102.57	-0.03	-0.14	-0.11	-35.76	-2,337.50	-170.88
PBIDTM (%)	90.29	84.48	-31.36	-1,085.77	-219.69	-324.93	-3,681.10	0.00
PBITM (%)	78.39	74.03	-31.70	-1,087.03	-221.25	-326.01	-3,681.10	0.00
PBDTM (%)	90.23	83.76	-1,297.84	-8,897.07	-2,290.94	-334.05	-3,682.68	0.00
CPM (%)	86.99	80.89	-1,297.84	-8,897.07	-2,153.13	-426.54	-6,206.30	0.00
APATM (%)	75.09	70.43	-1,298.18	-8,898.33	-2,154.69	-427.61	-6,206.30	0.00
ROCE (%)	20.53	19.79	-0.01	0.00	0.00	-0.03	0.00	0.00
RONW (%)	20.48	19.56	-0.36	0.00	0.00	-0.04	0.00	0.00

Essar Oil Ltd
Industry :Refineries

	Mar 14	Mar 13	Mar 12	Mar 11	Mar 10	Mar 09	Mar 08	Mar 07	Mar 06
Key Ratios									
Debt-Equity Ratio	13.71	12.92	3.70	2.22	2.47	2.76	2.79	2.65	2.27
Long Term Debt-Equity Ratio	8.15	8.13	3.07	2.22	2.45	2.82	2.93	2.74	2.27
Current Ratio	0.74	0.77	0.88	0.96	0.85	0.91	1.01	1.11	1.00
Turnover Ratios									
Fixed Assets	4.14	3.89	3.31	3.82	3.12	6.01	1.52	1.63	2.48
Inventory	10.80	10.63	9.45	10.93	13.63	11.71	0.16	0.27	7.44
Debtors	18.18	22.28	19.93	24.57	27.16	42.48	1.33	3.67	6.95
Interest Cover Ratio	1.04	0.66	0.96	1.68	1.02	0.50	-6.27	-4.12	-2.76
PBIDTM (%)	4.38	3.65	3.30	5.23	4.57	2.88	-5.44	-8.31	-8.42
PBITM (%)	3.12	2.31	2.10	3.86	2.85	1.31	-5.83	-9.26	-9.15
PBDTM (%)	1.38	0.12	1.12	2.94	1.79	0.27	-6.37	-10.56	-11.74
CPM (%)	1.38	0.12	1.12	2.61	1.79	0.34	-5.93	-13.29	-12.02
APATM (%)	0.12	-1.22	-0.09	1.23	0.07	-1.23	-6.32	-14.24	-12.75
ROCE (%)	10.96	0.00	0.00	11.17	8.29	0.00	0.00	-0.44	-0.72
RONW (%)	2.87	0.00	0.00	11.13	0.67	0.00	0.00	-2.53	-3.30

Reliance Industries Ltd
Industry :Refineries

	Mar 14	Mar 13	Mar 12	Mar 11	Mar 10	Mar 09	Mar 08	Mar 07	Mar 06
Key Ratios									
Debt-Equity Ratio	0.43	0.41	0.44	0.47	0.56	0.57	0.45	0.47	0.49
Long Term Debt-Equity Ratio	0.28	0.27	0.32	0.39	0.51	0.49	0.34	0.34	0.38
Current Ratio	1.07	1.25	1.15	1.03	1.07	1.06	0.98	0.90	1.03
Turnover Ratios									
Fixed Assets	1.85	1.79	1.63	1.22	1.16	1.21	1.39	1.34	1.34
Inventory	9.37	9.43	10.33	9.11	9.58	10.06	10.56	10.64	10.17
Debtors	35.60	24.49	18.95	17.78	24.69	27.10	27.97	29.98	22.03
Interest Cover Ratio	9.68	9.66	10.66	11.84	11.29	11.56	17.86	13.21	13.20
PBIDTM (%)	9.92	10.45	11.72	15.92	16.49	17.34	17.29	17.34	16.81
PBITM (%)	7.73	7.90	8.36	10.66	11.25	13.79	13.81	13.27	12.99
PBDTM (%)	9.12	9.63	10.93	15.02	15.49	16.15	16.52	16.34	15.83
CPM (%)	7.67	8.21	9.25	13.10	13.34	14.01	14.50	14.16	13.99
APATM (%)	5.48	5.66	5.90	7.84	8.10	10.46	11.02	10.09	10.18
ROCE (%)	11.52	12.15	12.77	13.63	11.89	13.21	18.66	20.12	18.76
RONW (%)	11.69	12.28	12.97	14.78	13.37	15.69	21.64	22.45	21.90

FINANCIAL RATIOS OF PUBLIC SECTOR COMPANIES

Bharat Petroleum Corporation Ltd
Industry :Refineries

	Mar 14	Mar 13	Mar 12	Mar 11	Mar 10	Mar 09	Mar 08	Mar 07	Mar 06
Key Ratios									
Debt-Equity Ratio	1.22	1.48	1.45	1.52	1.72	1.52	1.18	0.99	0.79
Long Term Debt-Equity Ratio	0.48	0.24	0.17	0.32	0.38	0.32	0.32	0.29	0.25
Current Ratio	0.82	0.73	0.67	0.66	0.60	0.60	0.70	0.73	0.81
Turnover Ratios									
Fixed Assets	7.55	7.66	7.29	5.97	5.49	6.61	5.94	5.83	5.67
Inventory	15.16	15.36	14.21	11.92	13.95	16.69	12.63	12.14	11.13
Debtors	66.88	48.19	49.94	62.87	64.33	95.83	77.82	75.81	78.46
Interest Cover Ratio	5.38	3.21	2.05	3.14	3.34	1.70	4.86	6.19	2.64
PBIDTM (%)	3.53	3.11	2.50	3.16	3.51	3.28	3.59	3.91	1.67
PBITM (%)	2.70	2.34	1.66	2.15	2.57	2.54	2.69	3.07	0.77
PBDTM (%)	3.02	2.38	1.69	2.48	2.74	1.79	3.04	3.42	1.38
CPM (%)	2.33	1.82	1.44	1.96	2.11	1.43	2.20	2.52	1.24
APATM (%)	1.50	1.05	0.59	0.95	1.17	0.69	1.30	1.68	0.34
ROCE (%)	17.69	14.65	10.21	10.17	9.84	12.29	13.68	17.09	4.71
RONW (%)	22.50	16.75	9.05	11.40	12.20	8.41	14.40	18.66	3.77

Hindustan Petroleum Corporation Ltd
Industry :Refineries

	Mar 14	Mar 13	Mar 12	Mar 11	Mar 10	Mar 09	Mar 08	Mar 07	Mar 06
Key Ratios									
Debt-Equity Ratio	2.29	2.37	2.14	1.92	1.98	1.86	1.35	0.94	0.52
Long Term Debt-Equity Ratio	0.85	0.57	0.46	0.70	1.36	1.45	1.00	0.69	0.27
Current Ratio	0.82	0.76	0.71	0.70	0.81	0.98	0.94	0.88	0.94
Turnover Ratios									
Fixed Assets	5.88	6.16	6.01	5.27	5.13	6.66	6.42	6.71	5.99
Inventory	13.28	12.10	10.51	9.85	10.85	12.74	11.23	12.28	11.49
Debtors	44.96	51.11	57.06	52.18	49.59	67.08	68.73	65.75	63.49
Interest Cover Ratio	2.96	2.04	1.55	3.92	3.35	1.34	2.71	5.65	2.62
PBIDTM (%)	2.63	2.24	2.72	3.41	3.62	2.85	2.59	3.17	1.49
PBITM (%)	1.69	1.33	1.82	2.43	2.61	2.11	1.84	2.45	0.59
PBDTM (%)	2.06	1.59	1.55	2.79	2.84	1.28	1.92	2.74	1.26
CPM (%)	1.68	1.33	1.38	2.17	2.13	1.17	1.88	2.33	1.41
APATM (%)	0.74	0.42	0.48	1.19	1.12	0.43	1.13	1.61	0.52
ROCE (%)	7.24	5.60	7.54	9.28	9.13	9.19	8.76	13.46	3.54
RONW (%)	12.07	6.74	7.10	14.21	11.68	5.40	12.61	17.14	4.72

Oil India Ltd
Industry :Oil Exploration / Allied Services

	Mar 14	Mar 13	Mar 12	Mar 11	Mar 10	Mar 09	Mar 08	Mar 07	Mar 06
Key Ratios									
Debt-Equity Ratio	0.27	0.03	0.03	0.04	0.00	0.01	0.07	0.09	0.06
Long Term Debt-Equity Ratio	0.04	0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.04
Current Ratio	1.77	2.87	2.76	2.73	2.43	2.12	2.05	1.87	1.83
Turnover Ratios									
Fixed Assets	1.32	1.43	1.46	1.74	1.48	1.31	1.26	1.22	1.38
Inventory	11.21	15.63	17.36	22.21	18.05	14.11	13.72	13.16	16.75
Debtors	14.05	10.18	9.94	14.59	17.80	14.29	11.59	10.66	9.86
Interest Cover Ratio	65.12	2,033.01	545.49	329.50	1,068.14	388.52	79.97	178.84	166.19
PBIDTM (%)	58.84	61.56	60.80	44.31	43.49	49.11	46.63	47.75	51.00
PBITM (%)	46.60	53.14	51.82	37.25	41.17	46.80	45.12	46.24	48.42
PBDTM (%)	58.13	61.53	60.70	44.20	43.45	48.99	46.06	47.50	50.71
CPM (%)	43.26	44.50	43.92	31.92	29.89	32.11	30.88	31.89	32.99
APATM (%)	31.01	36.08	34.95	24.86	27.56	29.79	29.37	30.37	30.41
ROCE (%)	17.24	27.20	29.13	28.15	33.65	38.81	34.84	36.06	47.99
RONW (%)	14.94	19.44	20.69	19.67	22.60	25.04	24.20	25.83	31.91

Oil & Natural Gas Corpn Ltd
Industry :Oil Exploration / Allied Services

	Mar 14	Mar 13	Mar 12	Mar 11	Mar 10	Mar 09	Mar 08	Mar 07	Mar 06
Key Ratios									
Debt-Equity Ratio	0.00	0.02	0.02	0.09	0.20	0.19	0.21	0.24	0.22
Long Term Debt-Equity Ratio	0.00	0.00	0.00	0.09	0.20	0.19	0.21	0.24	0.22
Current Ratio	0.93	0.99	0.95	1.31	1.73	1.78	1.55	1.41	1.44
Turnover Ratios									
Fixed Assets	0.52	0.58	0.59	0.58	0.58	0.69	0.71	0.72	0.68
Inventory	13.38	14.25	15.36	14.41	12.71	15.42	16.55	17.70	17.77
Debtors	11.21	12.76	15.09	19.47	16.86	15.15	16.89	17.61	12.98
Interest Cover Ratio	90,089.72	1,106.08	1,053.04	1,100.82	1,733.43	202.64	428.96	1,101.85	733.44
PBIDTM (%)	51.49	46.75	57.45	43.53	43.54	39.94	44.38	44.45	49.93
PBITM (%)	38.52	36.70	47.70	40.27	41.54	37.68	42.06	41.62	45.32
PBDTM (%)	51.49	46.72	57.41	43.49	43.52	39.75	44.28	44.42	49.86
CPM (%)	39.22	35.17	42.42	30.83	29.88	27.48	30.10	30.31	34.52
APATM (%)	26.24	25.12	32.68	27.57	27.85	25.22	27.77	27.49	29.91
ROCE (%)	20.83	21.30	28.41	24.93	25.38	27.30	31.82	33.17	35.68
RONW (%)	16.92	17.63	23.87	20.48	20.20	21.59	25.20	27.00	28.63

SHARE PRICE DATA

Date	Open	High	Low	Close	Avg Vol	Adj Close*
Apr 1, 2015	810.95	818.00	796.50	804.20	2,131,800	804.20
Mar 2, 2015	759.90	815.90	713.10	810.80	1,498,100	810.80
Feb 2, 2015	746.00	772.80	689.00	744.25	1,511,700	744.25
Jan 1, 2015	648.90	763.25	630.00	748.85	1,528,800	748.85
Dec 1, 2014	760.00	761.50	625.00	646.00	1,420,600	646.00
Nov 3, 2014	730.50	785.00	705.05	746.25	2,099,400	746.25
Oct 1, 2014	660.05	728.90	644.35	724.35	1,167,400	724.75
Sep 5, 2014			17.00 Dividend			
Sep 1, 2014	701.00	722.85	597.35	655.40	1,451,800	655.40
Aug 1, 2014	582.50	699.30	560.50	694.30	1,606,400	677.46
Jul 1, 2014	610.05	613.00	556.50	580.15	1,420,300	566.08
Jun 2, 2014	525.00	650.00	523.75	600.40	2,530,400	585.83
May 1, 2014	454.90	589.00	454.90	521.90	1,587,700	509.24
Apr 1, 2014	459.10	493.70	431.65	454.90	1,547,100	443.86
Mar 3, 2014	377.00	469.35	372.20	460.05	1,781,300	448.89
Feb 3, 2014	366.00	385.00	342.20	378.00	981,000	368.83
Jan 1, 2014	350.10	365.00	316.05	362.70	1,257,400	353.90
Dec 2, 2013	342.00	374.90	332.20	347.90	1,121,300	339.46
Nov 1, 2013	359.95	381.45	321.70	340.00	1,380,800	331.75
Oct 1, 2013	328.55	371.60	320.45	359.55	1,253,500	350.83
Sep 6, 2013			11.00 Dividend			
Sep 2, 2013	278.00	346.55	261.55	331.25	2,244,300	323.21
Aug 1, 2013	327.65	327.65	255.95	273.00	2,043,400	266.18
Jul 1, 2013	370.00	380.05	288.75	323.75	1,176,900	303.80
Jun 3, 2013	380.00	381.30	334.80	366.95	1,041,600	344.34
May 1, 2013	414.25	428.30	373.20	376.85	1,037,300	353.63
Apr 1, 2013	377.00	422.30	365.00	414.25	809,500	388.73
Mar 1, 2013	373.00	410.45	361.40	377.70	944,500	354.43
Feb 1, 2013	412.00	429.15	368.50	371.95	1,398,000	349.03
Jan 1, 2013	357.50	449.00	353.30	410.45	2,108,700	385.16
Dec 3, 2012	345.00	365.90	340.55	356.35	798,000	334.39

As per Yahoo! Finance, share price data was collected as shown in above figure. Monthly figures were averaged out and closing figures at the end of accounting period were noted

CALCULATED SHARE PRICE OF CONCERNED COMPANIES

YEAR	BPCL	ONGC	Oil India Ltd.	HPCL	Cairn India	Essar Oil	RIL
	Avg/Closing	*Avg/Closing*	*Avg/Closing*	*Avg/Closing*	*Avg/Closing*	*Avg/Closing*	*Avg/Closing*
2015	731/798	331/330	507/519	611/634	236/230	109/108	875/927
2014	552/646	366/341	548/576	400/547	319/240	90/106	954/891
2013	360/348	301/289	570/486	254/237	309/324	68/54	848/895
2012	339/356	271/267	477/466	300/290	337/319	58/70	772/889
2011	308/240	276/257	514/477	354/252	317/313	106/50	888/693
2010	*317/329*	*304/323*	*525/563*	*410/391*	*309/332*	136/138	1037/1058
2009	233/316	250/294	482/496	324/390	227/281	129/140	927/1089
2008	179/188	235/167	N/A	244/273	219/172	193/87	1054/615
2007	173/262	238/309	N/A	270/370	159/258	80/325	953/1441
2006	193/168	201/218	N/A	293/278	N/A	49/55	501/635

Source: Yahoo! Finance

This table gives the final averaged out annual value as well as closing share price at end of each accounting period of the oil sector companies we have considered. The first four are public companies while the next three are privately owned companies.

Now, we have the data of financial ratios and share price (at the same intervals), correlation analysis was run in Excel2013 by forming matrices of share prices and all the concerned ratios.

SAMPLE CALCULATION

Let us consider HPCL for performing correlation analysis of available parameters. The step wise calculation can be proceeded as:

1. Fill in the data of share price (Avg & Closing) and all the financial ratios related to company.
2. Pick up columns "Share Avg" and "D/E Ratio" and run the correlation analysis between them by the function "**CORREL(Array1, Array2)**". Repeat the same with "Share Closing" & "D/E ratio". The corresponding values as shown in figure are 0.4 & 0.21.
3. The same function is run for other financial ratios by changing the array and correlation with Share Avg & Share Closing is noted down.
4. The financial correlation factor is obtained by taking the average value of both correlation values for each ratio.

	fx	= CORREL(C3:C12,B3:B12)															
	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
	YEAR	SHARE AVG	SHARE CLOSE	D/E	LONG TERM D/E	CR	FIXED ASSETS	INVENTORY	DEBTORS	ICR	PBIDTM	PBITM	PBDTM	CPM	APATM	ROCE	RONW	
	2014	400	547	2.29	0.85	0.82	5.88	13.28	44.96	2.96	2.63	1.69	2.06	1.68	0.74	7.24	12.07	
	2013	254	237	2.37	0.57	0.76	6.16	12.1	51.11	2.04	2.24	1.33	1.59	1.33	0.42	5.6	6.74	
	2012	300	290	2.14	0.46	0.71	6.01	10.51	57.06	1.55	2.72	1.82	1.55	1.38	0.48	7.54	7.1	
	2011	354	252	1.92	0.7	0.7	5.27	9.85	52.18	3.92	3.41	2.43	2.79	2.17	1.19	9.28	14.21	
	2010	410	391	1.98	1.36	0.81	5.13	10.85	49.59	3.35	3.62	2.61	2.84	2.13	1.12	9.13	11.68	
	2009	324	390	1.86	1.45	0.98	6.66	12.74	67.08	1.34	2.85	2.11	1.28	1.17	0.43	9.19	5.4	
	2008	244	273	1.35	1	0.94	6.42	11.23	68.73	2.71	2.59	1.84	1.92	1.88	1.13	8.76	12.61	
	2007	270	370	0.94	0.69	0.88	6.71	12.28	65.75	5.65	3.17	2.45	2.74	2.33	1.61	13.46	17.14	
	2006	293	278	0.52	0.27	0.94	5.99	11.49	63.49	2.62	1.49	0.59	1.26	1.41	0.52	3.54	4.72	
	CORRELATION WITH SHARE AVG			0.4	0.42	-0.25	-0.6	-0.004	-0.67	0.06	0.48	0.38	0.41	0.22	0.05	0.03	0.15	
	CORRELATION WITH SHARE CLOSE			0.21	0.44	0.2	0.01	0.66	-0.32	0.13	0.24	0.24	0.17	0.08	0.08	0.23	0.22	
	CORRELATION FACTOR			0.305	0.43	-0.025	-0.295	0.328	-0.495	0.095	0.36	0.31	0.29	0.15	0.065	0.13	0.185	

Calculation of correlation factor for HPCL

The above table shows the analysis done for HPCL in Excel2013. The same table is formed for every company selected and correlation factor is found out.

The detailed results and inferences are presented in the next section.

RESULT

The following table presents the result of this study establishing correlation factor of the public/private oil refineries chosen.

		A	COMPANY	D/E	LONG TERM D/E	CR	FIXED ASSETS	INVENTORY	DEBTORS	ICR	PBIDTM	PBITM	PBDTM	CPM	APATM	ROCE	RONW
3			BPCL	0.29	0.53	0.26	0.7	0.56	-0.39	0.15	0.2	0.23	0.18	0.2	0.28	0.46	0.57
4	PUBLIC		HPCL	0.305	0.43	-0.025	-0.295	0.328	-0.495	-0.25	0.36	0.31	0.29	0.15	0.065	0.13	0.185
5	SECTOR		OIL INDIA LTD.	0.655	0.66	-0.603	-0.49	-0.64	0.31	-0.6	0.205	0.055	0.18	0.24	0.04	-0.73	-0.75
6			ONGC	-0.67	-0.485	-0.545	-0.95	-0.85	-0.81	0.94	0.112	0.5	0.11	0.27	-0.515	-0.75	-0.755
8	PRIVATE		CAIRN INDIA	-0.522	-0.35	0.036	0.532	-0.368	0.53	0.56	0.13	0.08	0.121	-0.121	-0.12	0.572	-0.578
9	SECTOR		ESSAR OIL	-0.19	-0.15	-0.15	0.49	0.4	-0.25	0.308	0.46	0.48	0.343	0.37	0.38	0.64	0.3
10			RIL	-0.411	-0.51	0.072	0.532	-0.123	0.627	0.54	-0.52	-0.49	-0.52	-0.52	-0.47	0.6	-0.56

Consolidated correlation factors

INFERENCE

To infer from the above data, each ratios or the group of similar ratios are considered separately. Graphical representation is used with different graphs of public and private sector companies. In the graphs to follow, the first part of each graph is of public sector companies while the second half is of private sector companies. This is done to comment on correlation as well as difference in correlation factor for both the sectors.

Debt-Equity Ratio/ Long term Debt Equity Ratio:
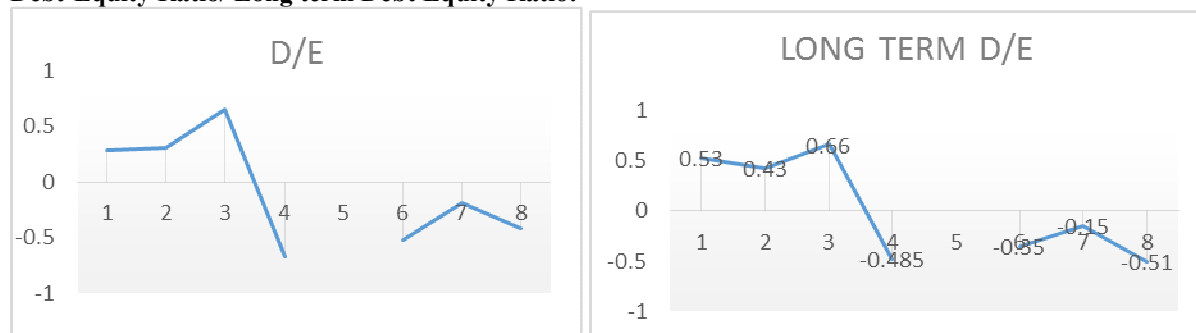
As can be seen in graph, Debt-Equity ratio is having correlation with private sector companies. The negative correlation can be justified as decrease in debt % will ensure that there will be dividends even in case of low profit as the interest will be reduced. Similar observation is seen for the long term Debt-Equity ratio for both public and private players.

Another perspective can also be seen. If the debt % of a company is increasing, then the company will be more indulged in debt and hence priority of investor will be reduced. Hence, D/E ratio is having negative correlation with share price. Higher the ratio, greater the dip in share price can be expected. No general trend can be observed in public sector companies as they are showing wide range of correlation factors.

Current Ratio:
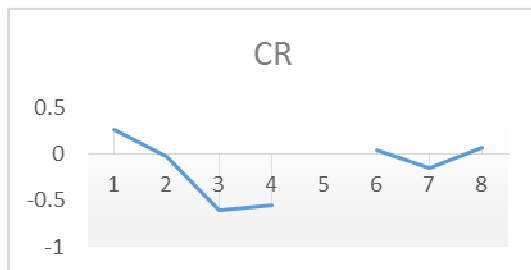
Very less correlation is seen with Current Ratio for both Public sector companies (-0.5 to 0.5) and private sector companies (-0.2 to 0.1). This can be attributed to the fact that Oil Refineries are having large bulk of long term assets as compared to current assets.

Interest Coverage Ratio
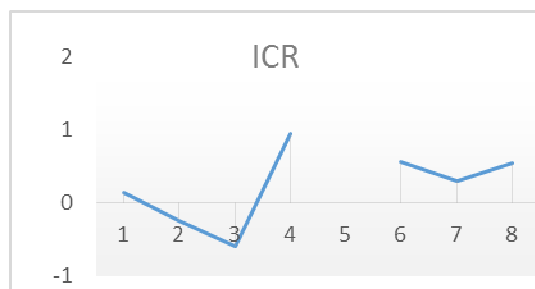
Interest Coverage Ratio is having a positive correlation factor which was expected logically. As this ratio increases, the investors will be more attracted expecting huge returns. It also send a safer message to investors as the company is doing fairly well. Hence, with increase in its value, the share price will take a leap in case of private sector companies

For Interest Coverage Ratio, all the private companies are equally correlated having similar correlation factors. But, in case of public sector companies, only ONGC is having high correlation factor, rest all are very less and even negatively correlated. Public sector companies are generally less reliable on this ratio as government is having sufficient assets to cover the required interest. Hence, the security of investors is less certain here

Return on Capital Employed
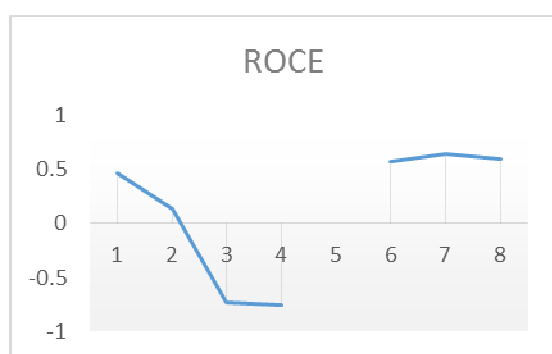
ROCE has strong positive correlation with private sector companies as expected as it is a direct indicator of high profits for company and high returns for investors. This will increase the demand of shareholding and thus increases the share price.

In case of public companies, mainly capital is employed by government and thus there will be investment independent of profitability ratios as it is one of the most important country for country's growth. Since, ONGC is the market leader in Oil Refineries hence its share price is independent of this ratio (even negative in this case). Hence, ROCE does not have significant impact in share prices of private companies.
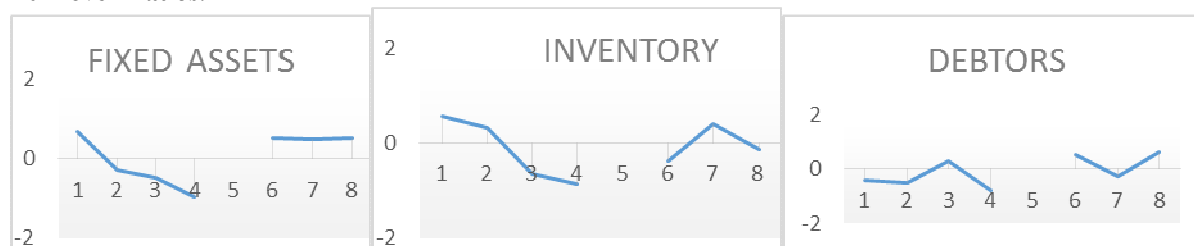
Return on Net Worth

In this case, it is having negative correlation for most of the companies including both public and private players. This is in contrast to the hypotheses that it should be directly related to market share price.
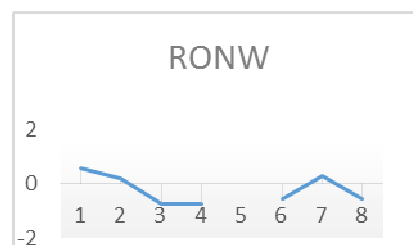

Turnover Ratios:

No specific pattern was seen in turnover ratios as these ratios are not of much importance in sector of oil and refineries where solvency and profitability ratios plays a major role. Opposite trends are observed within public and private sector companies having both positive and negative correlation. Even high negative correlation was observed in case of ONGC in all turnover ratios namely Fixed Assets, Inventory & Debtors turnover ratio. Hence, it can be stated that turnover ratios doesn't hold much importance for change in share prices.

Net Income
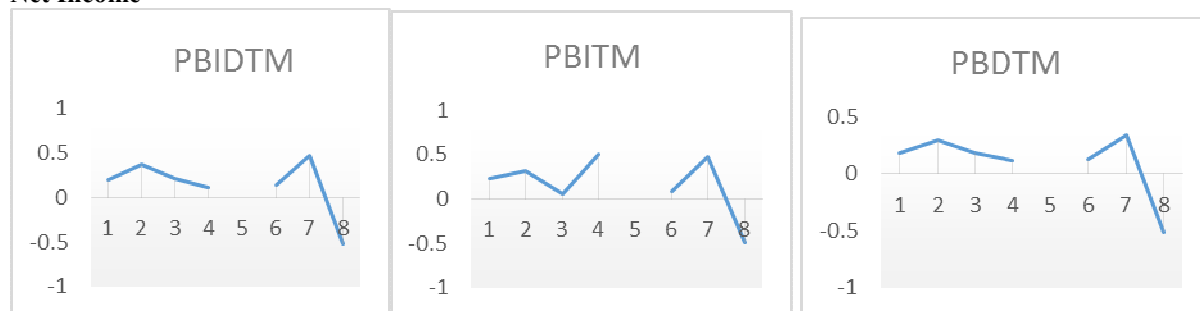
A significant positive correlation can be seen in case of net income governing ratios which was expected. Higher the returns for shareholders or more the profitability ratios, there will be more hike in share prices.

However, Reliance Industries Ltd. is a special case here. It has shown a negative behaviour in all these ratios. It can be attributed to the fact that RIL is an established company and has a large number of shareholders to manage than other private players in this sector namely Cairn India & Essar Oil Ltd. This larger total shareholder's fund makes new investors hesitant to buy their shares as they will not collect a good deal.

FUTURE SCOPE & SOURCES OF ERROR

I have taken the averaged out values of monthly share prices which can give false results if there is any financial calamity or economic recession as of year 2008. In such case, the correlation might give negative results. Hence the background of each company should be checked to derive any concrete conclusion. Also, the financial ratios presented by a company might be false or misleading if it has been manipulated for company's future plans. Hence, a detailed observation should be done for the accuracy of information for any investment/trading purposes.

It may be possible to correlate the share price by taking two ratios simultaneously, which can result in more general trends. It is also possible, to use other averages of share value to see better correlations. This study can be extended to other important sectors of Indian market for a detailed analysis of operating ratios and stock prices.

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