Financial analysis of selected Indian gas distribution companies during 2009-2013

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ABSTRACT

Natural gas is fast becoming the main component in India's vast energy sector. Due to its ease of handling and greater efficiency, natural gas is proving its utility both as fuel and feedstock. It has helped to attract investments and catalyse new demand and supply. This sector has witnessed significant developments over the years. The objective of this paper is an analysis done to see the extent to which a company has implemented using rules financial performance is good and right. Data has been taken from 2009 to 2013 in this study. Financial statements of GAIL, EGL, IGL and GGC for the indicated periods were obtained from websites such as prowess, CMIE, money control and yahoo finance. Necessary information derived from these financial statements were summarized and used to compute the financial ratios for the five-year period. Financial ratios are tools used to measure the profitability, liquidity and solvency performance of four major Indian gas distribution companies. This research is to analyze the financial statements of these companies using liquidity ratios, activity ratios, leverage ratios, profitability ratios, and market value ratios. For liquidity, the following ratios were used: current ratio, quick or acid-test ratio. For activity, Inventory turnover ratio, debtor turnover ratio and working capital turnover ratios were used. For leverage, the following ratios were used i.e. debt ratio, equity ratio, and interest coverage ratio. For profitability, net profit margin, return on assets, return on shareholder's equity, and earnings per share were used. For market value, price-earnings ratio and earning par share ratios were used.

Introduction

Natural gas is fast becoming the main component in India's vast energy sector. Due to its ease of handling and greater efficiency, natural gas is proving its utility both as fuel and feedstock. It has helped to attract investments and catalyse new demand and supply. This sector has witnessed significant developments over the years. Natural gas is the cleanest burning fossil fuel and an extremely important source of energy for reducing pollution and maintaining a clean and healthy environment. The environment friendly characteristics of natural gas make it more popular than other hydrocarbon fuels. India witnessed consistent growth in demand for energy resources even during the period of global downturn. The primary energy mix of India is also set to alter on account of the substitution of oil by natural gas. The share of natural gas in the energy mix is expected to increase enormously in the coming years. Power and Fertilizer sectors remain the two biggest contributors to natural gas demand in India and expected to remain the anchor segments for natural gas demand in India in future as well.

The present supply of natural gas in India is mainly from the nominated blocks, operated by ONGC and OIL, private and joint venture fields like Panna –Mukta & Tapti (PMT) and from the fields awarded under NELP like RIL's KG D-6. The significance of continuous efforts to push domestic gas production has increased even more after the recent decline in KG D6 production. With the growing demand for natural gas in India and the fact that existing gas fields are in decline, shale gas could contribute towards bridging the demand – supply gap in the future. Apart from other sources, a significant contribution in gas supply is expected from LNG imports, with plan to augment and add capacities both on the west and east coast of India.

Ohlso (1980) concluded from his research that firm size was directly related to firm financial performance with smaller firms more likely to fail than larger ones. Following the preceding studies, many additional research projects were undertaken in an attempt to validate the use of financial ratios for predicting financial performance of a firm. Some of the better known studies include Altman, Haldeman and Narayanan (1977), Norton and Smith (1979), and Mensah (1983). These studies, like their predecessors, fail to demonstrate that normality of distribution or those necessary sample assumptions have been met prior to analysis. Some notable studies in this area include those of Boardman and Vining (1989), Commander, Fan and Schaffer (1996) and La Porta and Lopez-de-Silanes (1997). In the historical approach, *ex ante* and *ex post* privatization performance of the same enterprise is compared. Notable studies that followed this approach include those by Megginson, Nash and Randenborgh (1994), Earle and Estrin (1997), and Dewenter and Malatesta (1998). This was not the case in countries like Mexico, Chile, and Mozambique where a few years after privatization, the institutions were experiencing financial problems which quickly spread into a systemic crisis (Dammert and Lasagabaster, 2002).

The paper proceeds as follows. In section 2, we explain the literature review detailed about the accounting and financial performance of gas distribution sector. Section 3 applies the research problem, objectives and detailed methodology. Section 4 concludes the insights and result for all financial ratios has been applied to measure the performance of gas distribution.

Indian Gas Distribution Sector
Gas Authority of India Limited (GAIL)

Gas authority of India limited (GAIL) is the largest state-owned natural gas processing and distribution company in India; it is headquartered in New Delhi. GAIL in one of the seven Maharatna companies of India and is a large cap company on the stock exchange. Gail is active in these business verticals, namely, natural gas, liquid hydrocarbon, Liquefied petroleum gas transmission, Petrochemical, City gas distribution, Exploration and production, GAILTEL and electricity generation. Founded in August 1984 as a central public sector undertaking (PSU) under the Ministry of Petroleum & Natural Gas (MOPNG). It is India's principal gas transmission and marketing company. Supplier of *petroleum*, solar energy, petrochemicals, bitumen, LPG, lubricants, aviation fuels and fuel cards has been included in their portfolio. Activities also generate jobs, investment, infrastructure and revenues for governments and local communities. Its operation expands in over 80 countries.

Eastern Gases Limited (EGL)

Eastern Gases Limited (EGL) is an India-based company. The company deals with liquefied petroleum gas (LPG). It is situated in the eastern region of India in West Bengal and has its headquarters in kolkata. The company has tie up with the Indian Oil Petronas Pvt. Ltd, for the supply of LPG. Its LPG bottling production plant is located at Durgapur, West Bengal. The company has a licensed capacity of 30,000 million tons LPG refilling per month. The company is engaged primarily in the business of distribution of LPG. It trades only on BSE and is a small cap company.

Indraprastha Gas Limited (IGL)

Indraprastha Gas Limited (IGL) is one of India's leading natural gas distribution companies. Established in 1998, the company operates primarily in the national capital region (NCR) of New Delhi. IGL was incorporated to take over and operate the Delhi city gas distribution project from GAIL for laying a network of gas distribution pipelines in the NCR. The company started as a joint venture between GAIL and Bharat Petroleum. The company went public in 2003, listing on the Bombay stock exchange (BSE) and the National stock exchange (NSE). As of march 2011, IGL supplied piped natural gas to over 250,000 homes and hundreds of commercial and industrial establishments in the NCR. It also operated 278 CNG filling stations for natural gas vehicles. IGL sources gas via the HVJ gas pipeline of GAIL.

The company has been showing consistently good financial performance both in terms of turnover and profitability. During the year, gross turnover of the company increased by 16% from Rs. 3724.06 crores in year 2012-13 to Rs. 4327.74 crores in the year 2013-14. Profit after tax also went up by 2% from Rs. 354.13 crores in 2012-13 to Rs. 360.26 crores in 2013-14. The company is in the business of supplying compressed natural gas (CNG) to transport sector and piped natural gas (PNG) to domestic, industrial and commercial sectors in Delhi and NCR. CNG is a safe, economical and environment friendly fuel for transport sector. It is replacing traditional fossil fuels i.e. petrol and diesel. The running cost of the vehicles is currently around 63% cheaper than petrol and 34% cheaper than diesel. PNG, the other fuel supplied by the company is a safe, convenient, environment friendly and reliable fuel for domestic, commercial and industrial consumers. Its demand continues to grow with potential consumers in new areas eagerly awaiting the network to connect them. Natural gas is the cleanest burning fossil fuel and an extremely important source of energy for reducing pollution and maintaining a clean and healthy environment. The environment friendly characteristics of natural gas make it more popular than other hydrocarbon fuels.

India witnessed consistent growth in demand for energy resources even during the period of global downturn. The primary energy mix of India is also set to alter on account of the substitution of oil by natural gas. The share of natural gas in the energy mix is expected to increase enormously in the coming years. Power and fertilizer sectors remain the two biggest contributors to natural gas demand in India and expected to remain the anchor segments for natural gas demand in India in future as well. The present supply of natural gas in India is mainly from the nominated blocks, operated by ONGC and OIL, private and joint venture fields like Panna – Mukta & Tapti (PMT) and from the fields awarded under NELP like RIL's KG D-6. The significance of continuous efforts to push domestic gas production has increased even more after the recent decline in KG D6 production. With the growing demand for natural gas in India and the fact that existing gas fields are in decline, shale gas could contribute towards bridging the demand-supply gap in the future. Apart from other sources, a significant contribution in gas supply is expected from LNG imports, with plan to augment and add capacities both on the west and east coast of India.

Gujarat Gas Company Limited (GGCL)

Gujarat Gas Company Limited (GGCL) is an Indian natural gas distribution company. Established in 1980, and headquartered in Ahmadabad, the company operates primarily in Gujarat. GGCL was incorporated in 1980, and is in the business of procurement and distribution of natural gas. The company went public in October 1991, listing on the Bombay stock exchange and the National stock exchange. The BG group acquired a majority stake in the company in 1997. As of 2010, GGCL supplied piped natural gas to over 300,000 homes, commercial and industrial establishments across Gujarat. It operated over 3,700 kilo meters (2,300 mi) of gas pipelines. It also operates dozens of CNG filling stations for natural gas vehicles. In October 2012, the majority owner in the firm, BG group, sold its 65% stake for a fee of around $470 million. The buyer was a unit of the state-run Gujarat state petroleum corporation.

The company met the challenges of gas sourcing through the year by successfully procuring RLNG at competitive prices through medium term and short term contracts with various suppliers to ensure uninterrupted gas supplies to customers, and will continue to make concerted efforts to secure such supplies so as to maintain an efficient balance of medium and short term RLNG in its gas sourcing portfolio. This will ensure supply security for your Company's customers and generate flexibility in managing the variations in gas requirements of our various market segments. Over 34,000 new household customers were connected on natural gas during the year, taking the total number of domestic customers of your company to over 366,000. More than 192,000 vehicles now ply in your company's operating areas on CNG. Your company has 375,000 customers, including industrial and commercial units. Sales volumes grew by 6.2% in the residential segment and 5.8% in the CNG segment. Gujarat gas trading company limited (GTCL) and Gujarat gas financial services limited (GFSL) are the major subsidiaries of this company.

Literature Review

Some notable studies in this area include those of Boardman and Vining (1989), Commander, Fan and Schaffer (1996) and La Porta and Lopez-de-Silanes (1997) reviewed the historical approach, *ex ante* and *ex post* privatization performance of the

same enterprise is compared. Notable studies that followed this approach include those by Megginson, Nash and Randenborgh (1994), Earle and Estrin (1997), and Dewenter and Malatesta (1998). Beginning with Beaver's (1966) contented that standard financial ratios can predict the financial performance of firms, many subsequent studies have attempted to demonstrate the predictive value of various techniques for estimating actual business performance.

Foster, (1986) reviewed of the literature describing methods and theories for evaluating and predicting financial performance reveals that although methods have become increasingly complex, few researchers adequately address the problems associated with the sample used. For example, most ratio analysis studies use multivariate analysis that is based on the assumption of a normal distribution of the financial ratios. Without confirming the approximation of normality of ratio distribution, the researcher is at risk of drawing erroneous inferences. When considering the distribution of financial ratios in any database, the normality of the distribution can be skewed by data recording errors, negative denominators and denominators approaching zero.

Malhorta and McLeod, (1994) argued that the only way to assess future financial performance is through the inclusion of subjective measures.

Ross *et al.*, (2007) argued that the most researchers divide the financial ratios into four groups i.e profitability, solvency, liquidity and activity ratios. Lasher, (2005) explained dept ratios show how effectively the organization uses other people's money and whether it is using a lot of borrowed money. Tarawneh, (2006) described the nature of the organization influences the ratios employed. For example, in the case of a bank, the liquidity ratio is used to determine the amount of liquidity that a bank needs in order to meet its liabilities; a bank also uses profitability ratios. Lermack, (2003) implied about the benefits of financial ratios analysis, such as, financial ratios are an important and well-established technique of financial analysis. The following are the benefits of financial ratios analysis.

Brigham and Ehrhardt (2010) stated that "financial ratios are designed to help evaluate financial statements". Financial ratios are used as a planning and control tool. Financial ratios analysis is used to evaluate the performance of an organization.

Accounting Statements
The Income Statement

While the balance sheet takes a snapshot approach in examining a business, the income statement measures a company's performance over a specific time frame. Technically, you could have a balance sheet for a month or even a day, but you'll only see public companies report quarterly and annually. The income statement presents information about revenues, expenses and profit that was generated as a result of the business' operations for that period.

The Balance Sheet

The balance sheet represents a record of a company's assets, liabilities and equity at a particular point in time.

$$Assets = Liabilities + Shareholder's\backslash Equity \ .... \ Eqn \ (1)$$

Assets represent the resources that the business owns or controls at a given point in time. This includes items such as cash, inventory, machinery and buildings. The other side of the equation represents the total value of the financing the company has used to acquire those assets. Financing comes as a result of liabilities or equity. Liabilities represent debt (which of course must be paid back), while equity represents the total value of money that the owners have contributed to the business -

including retained earnings, which is the profit made in previous years.

Key financial ratios:

There are four categories of ratios used in financial statement analysis. These are:

(1) Liquidity ratios, which measure a firm's ability to meet cash needs as they arise.

(2) Profitability ratio, which measure the overall performance of a firm and its efficiency in managing assets, liabilities, and equity.

(3) Activity ratios or turnover ratio, which measures the liquidity of specific assets and the efficiency of managing assets.

(4) Long term debt of leverage ratios, which measure the extent of a firm's financing with debt relative to equity and its ability to cover interest,

(5) Market value ratios bring to the stock price and give an idea of what investors think about the firm and its future prospects (Brigham & Houston, 2009).

Liquidity Ratio
Current ratio

Liquidity ratios, that measures a company's ability to pay short-term obligations. If the current assets of a company are more than twice the current liabilities, then that company is generally considered to have good short term financial strength and vice versa. The current ratio formula is: **Current ratio= Current assets/Current liablities ....…...….... Eqn (1.1)** Also known as "liquidity ratio", "cash asset ratio" and "cash ratio". The ideal ratio is 2:1

Quick ratio or acid test ratio

Quick ratio is an indicator of a company's short-term liquidity. The quick ratio measures a company's ability to meet its short-term obligations with its most liquid assets. For this reason, the ratio excludes inventories from current assets; the ideal ratio is 1:1 and is calculated as follows:

Quick ratio = current assets − (cash and equivalents + marketable securities + accounts receivable) / current liabilities …………..............................……… Eqn. (1.2)

Profitability Ratio
Profit margin

A ratio of profitability calculated as profit after tax by net sales. Profit margin is very useful when comparing companies in similar industries. A higher profit margin indicates a more profitable company that has better control over its costs compared to its competitors. It is calculated as**:**

Profit margin = Profit after tax / Net sales ………..……... (1.3)

Net profit margin

A ratio of profitability calculated as net income divided by revenues, or net profits divided by sales. It measures how much out of every rupee of sales a company actually keeps in earnings. Profit margin is very useful when comparing companies in similar industries. A higher profit margin indicates a more profitable company that has better control over its costs compared to its competitors. It is calculated as:

Net income or Net profit / Net Sales ….…………………... (1.4)

Return on shareholder's equity (RONW)

Net income is for the full fiscal year (before dividends paid to common stock holders but after dividends to preferred stock.) Shareholder's equity does not include preferred shares. It is also known as "return on net worth" (RONW).

RONW = Net Income / Shareholder's Equity …………... (1.5)

Return on assets

An indicator of how profitable a company is relative to its total assets. ROA gives an idea as to how efficient management

is at using its assets to generate earnings. The formula for return on assets is:

Net Income / Avg. total assets ……………………….…… (1.6)

Market Based Ratios

Earning per share

The portion of a company's profit allocated to each outstanding share of common stock. Earnings per share serve as an indicator of a company's profitability. It is calculated as:

EPS = Earning available / No. of share issued to shareholders ………..........…........….......................................….…..…. (1.7)

Price earning ratio

A valuation ratio of a company's current share price compared to its per-share earnings. It is calculated as:

P/E Ratio = Market price per share/ EPS ……………… (1.8)

Solvency Ratio

Inventory turnover ratio

A ratio showing how many times a company's inventory is sold and replaced over a period. The days in the period can then be divided by the inventory turnover formula to calculate the days it takes to sell the inventory on hand or "inventory turnover days. It is calculated as:

Inventory turnover ratio = Cost of goods sold / Average inventory ……………..………….. (1.9)

Debtor turnover ratio

An activity or turnover ratio is calculated as credit sales by average debtors. A high debtor turnover ratio is not good for a company. It is calculated as:

Debtor turnover ratio = Credit sales / Average debtors . (1.10)

Working capital turnover

A measurement comparing the depletion of working capital to the generation of sales over a given period is known as working capital turnover. This provides some useful information as to how effectively a company is using its working capital to generate sales. It is calculated as:

Working capital turnover = Sales / Working capital …. (1.11)

Total asset turnover

It can be calculate as net sales divided by total assets. This is a measure of how well assets are being used to produce revenue. A high total asset turnover is beneficial for a company. It is calculated as:

Total asset turnover = Net sales / Total assets ....…..……… (1.12)

Leverage Ratios

Debt to equity

A measure of a company's financial leverage is calculated by dividing its total liabilities by stockholders' equity. It indicates what proportion of equity and debt the company is using to finance its assets. It is calculated as:

Debt to equity = Long term debt or liabilities / Total equity ………………………………………...........…….. (1.13)

Interest coverage ratio

A ratio used to determine how easily a company can pay interest on outstanding debt. The interest coverage ratio is calculated by dividing a company's earnings before interest and taxes (EBIT) of one period by the company's interest expenses of the same period: It is calculated as:

Interest coverage ratio = EBIT / Interest expenses …….. (1.14)

Dupont Analysis

A method of performance measurement has started by the DuPont Corporation in the 1920s. With this method, assets are measured at their gross book value rather than at net book value in order to produce a higher return on equity (ROE). Higher is the result, higher is the return on the equity.

The DuPont system helps the analyst see how the firm's decisions and activities over the course of an accounting period

interact to produce an overall return to firm's shareholders, the return on equity (Fraser & Ormiston, 2004). Moreover, according to Brigham and Houston (2009), it is a formula that shows that the rate of return on equity can be found as the product of profit margin, total assets turnover, and the equity multiplier. It shows the relationships among activity, leverage, and profitability ratios. It is calculated as:

DuPont analysis = Profit after tax / Total assets ……… (1.15)

Research Methodology

Research problem and objectives

This research paper aims to measure the financial performance of Indian gas distribution companies such as, GAIL, EGL, IGL and GGC during April-2009 to March- 2013 period, using comparative financial ratios. As a research procedure, the researcher obtained the audited financial statements for the five periods (2009 to 2013) of Indian gas distribution companies from Prowess and company's website. Financial information necessary for financial ratios were derived from these financial statements. These were then summarized and processed to come up with comparative financial ratios that were used in the analysis phase. As applied in this study, financial ratios were grouped into five categories i.e liquidity, profitability, solvency, market based ratio, and leverage ratio. This find out to provide an answer to the question: *what are the norms, industry figures, and peculiarities in the* gas distribution *sector of the Indian market using liquidity, activity, leverage, profitability, and market value ratios?*

Moreover, this study specifically aims to meet the following objectives:

1. To determine the liquidity, activity, leverage, profitability, and market value ratios of GAIL, EGL, IGL and GGC.

2. To find comparative financial analysis among these gas distribution companies.

3. To evaluate financial performance using DuPont analysis.

Descriptive Statistics

Table explains the result of several financial ratios of GAIL from 2009 to 2013. It contains liquidity ratio i.e. current ratio and acid test ratio, profitability ratio i.e. return on assets (ROA), return on net worth (RONW), return on capital employed (ROCE), earning per share (EPS), price earning ratio (P/E), net profit margin, and profit margin, activity ratio i.e. inventory turnover ratio, debtor turnover ratio, and working capital turnover assets turnover ratio i.e. fixed assets and total assets turnover. Leverage ratio i.e. debt to equity, interest coverage ratio, shareholder's equity ratio, and return on total asset and finally, DuPont analysis have been employed in this paper to measured the financial performance of the company.

Table explains the result of several financial ratios of EGL from 2009 to 2013. It contains liquidity ratio i.e. current ratio and acid test ratio, profitability ratio i.e. return on assets (ROA), return on net worth (RONW), return on capital employed (ROCE), earning par share (EPS), price earning ratio (P/E), net profit margin, and profit margin, activity ratio i.e. inventory turnover ratio, debtor turnover ratio, and working capital turnover assets turnover ratio i.e. fixed assets and total assets turnover. Leverage ratio i.e. debt to equity, interest coverage ratio, share holder's equity ratio, and return on total asset has been used.

Table explains the result of several financial ratios of IGL from 2009 to 2013. It contains liquidity ratio i.e. current ratio and acid test ratio, profitability ratio i.e. return on assets (ROA), return on net worth (RONW), return on capital employed (ROCE), earning par share (EPS), price earning ratio (P/E), net profit margin, and profit margin, activity ratio i.e. inventory

turnover ratio, debtor turnover ratio, and working capital turnover assets turnover ratio i.e. fixed assets and total assets turnover. Leverage ratio i.e. debt to equity, interest coverage ratio, share holder's equity ratio, and return on total asset has been used.

Table explains the result of several financial ratios of GCC from 2009 to 2013. It contains liquidity ratio i.e. current ratio and acid test ratio, profitability ratio i.e. return on assets (ROA), return on net worth (RONW), return on capital employed (ROCE), earning par share (EPS), price earning ratio (P/E), net profit margin, and profit margin, activity ratio i.e. inventory turnover ratio, debtor turnover ratio, and working capital turnover assets turnover ratio i.e. fixed assets and total assets turnover. Leverage ratio i.e. debt to equity, interest coverage ratio, share holder's equity ratio, and return on total asset and finally, DuPont analysis have been employed in this paper to measured the financial performance of a company.

Results And Learning Insights

This part of the research paper is organized using the five categories of financial ratios. Specific ratios for each category are also presented and discussed. At the end of this part, the DuPont equation derived was also presented and discussed.

Liquidity Ratios

Current ratio: analysis and insights

This ratio shows the current assets available to cover current liabilities at the balance sheet date. There should be a reasonable buffer of current assets over current liabilities as an indication of the ability of the firm to pay its debts as and when they fall due. As inferred from the graph 1 that the current ratio is highest for the Eastern gas, which shows good short term financial strength of the company hence a good capability to settle off short term liabilities.

Graph 1: Comparative analysis of current ratio of selected companies
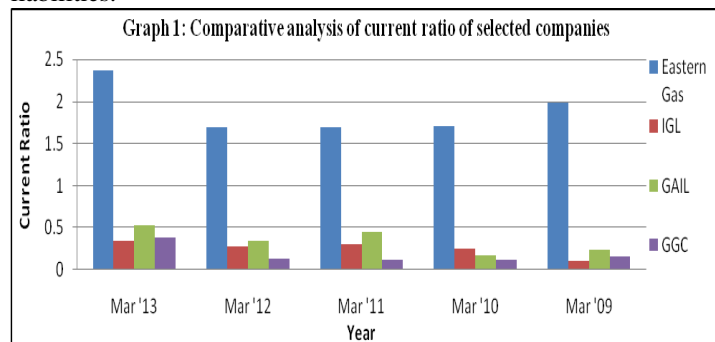
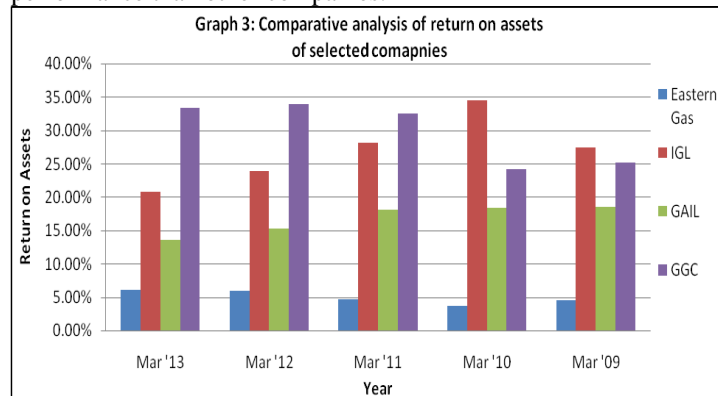### Quick ratio: analysis and insights

As a supplement to current ratio, quick or acid-test ratio aims to show the more liquid current assets available to pay the more immediately payable liabilities. With reference to current assets, the results are not significantly affected since only inventories are not considered here. From March'09 to March'13, the Eastern gas has higher ratio than other companies, which shows it has better liquidity position in concerned periods.

Graph 2: Comparative analysis of Acid test ratio/quick ratio of selected comapnies
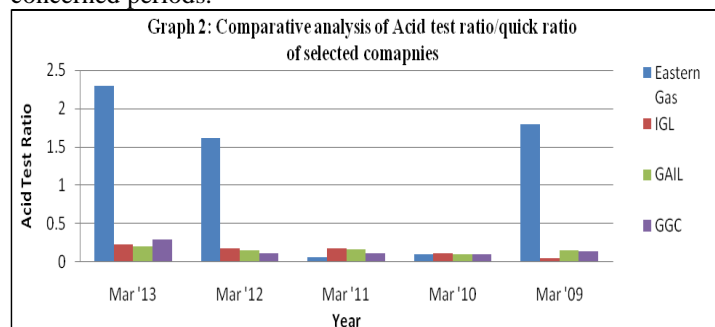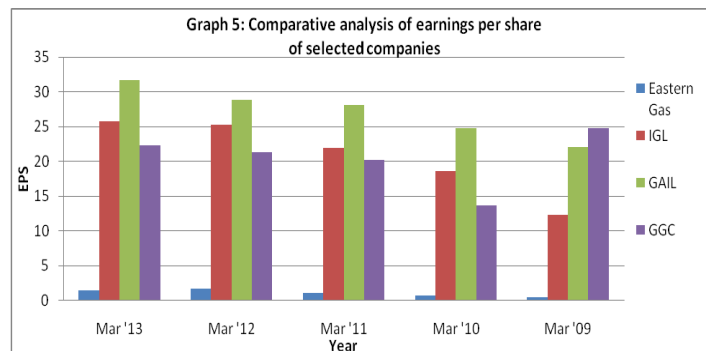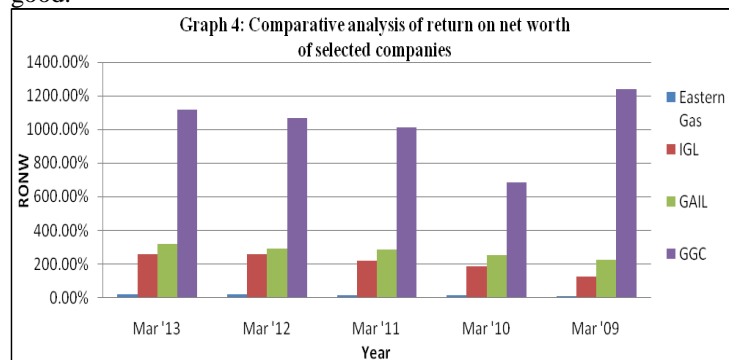
Profitability Ratio

Return on assets: analysis and insights

Generally, the higher this ratio is the more effective. This ratio indicates the effectiveness of using assets to generate revenues. Similar to the previous financial ratio, as a rule of thumb, to be considered effective, it should be at least 0.30 times. It can be said that all four firms keep an effective mechanism on utilizing their total assets. Gujarat gas company & Indraprastha Gas limited both have good ROA but IGL has a depreciating ROA in the consecutive years, while Gujarat gas company has a consistent trend over the period, which shows it has efficiently used its assets to generate earning and has better performance than other companies.

Graph 3: Comparative analysis of return on assets of selected comapnies

Return on net worth: analysis and insights

This ratio measures the rate of return on net worth's investment. This is considered as the most important financial ratio as this has something to do with the return on shareholder's equity. As a rule of thumb, the higher the RONW, the better is the firm's financial performance. As inferred from the graph, the Gujarat gas company has generated more profit on shareholder's equity compared to all other three companies, although there was a sudden drop down in the ratio in March '10 but it showed its overall efficiency in creating returns to the shareholders was good.

Graph 4: Comparative analysis of return on net worth of selected companies

Graph 5: Comparative analysis of earnings per share of selected companies

Earning per share: analysis and insights

This ratio indicates the ability of the firm's assets to generate operating income. As a rule of thumb, the higher this

ratio is the better. It is important to realize that this ratio shows the return shareholders are actually achieving on their investment, using current market value for listed shares. As inferred from the graph, earning per share of GAIL and IGL has constantly increased over the years, which shows an increasing profitability per share of the company.

Net profit margin: analysis and insights

This ratio measures operating income relative to peso revenue. As a rule of thumb, a higher operating margin is preferred since lower profit margin (as compared with similar firm) may mean higher accounting costs. This graph 6 showed that all the companies which showed similar profitability, which shows they all had better control over its costs and other operation activities.

Graph 6: Comparative analysis of net profit margin of selected companies
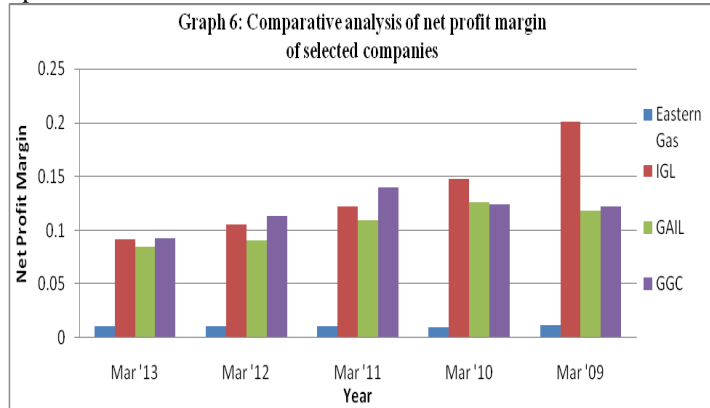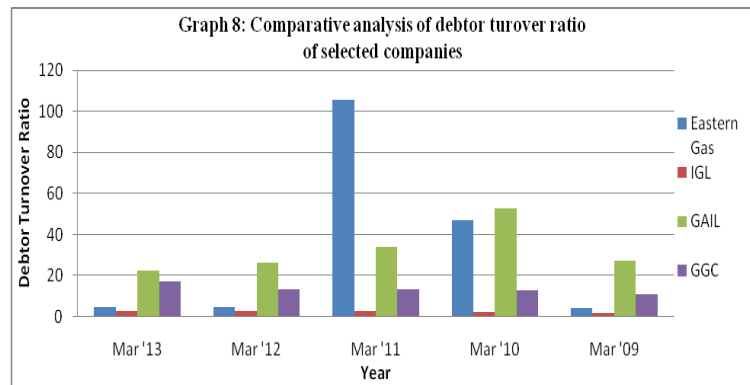
Activity Ratio

Inventory turnover ratio

A ratio showing how many times a company's inventory is sold and replaced over a period. The days in the period can then be divided by the inventory turnover formula to calculate the days it takes to sell the inventory on hand or "inventory turnover days." As observed from the graph 7, Eastern gas had a sudden higher inventory turnover ratio during the period march'13 which shows a probable increase in the sales or a probable expansion of business.


Graph 7: Comparative analysis of inventory turnover ratio of selected companies
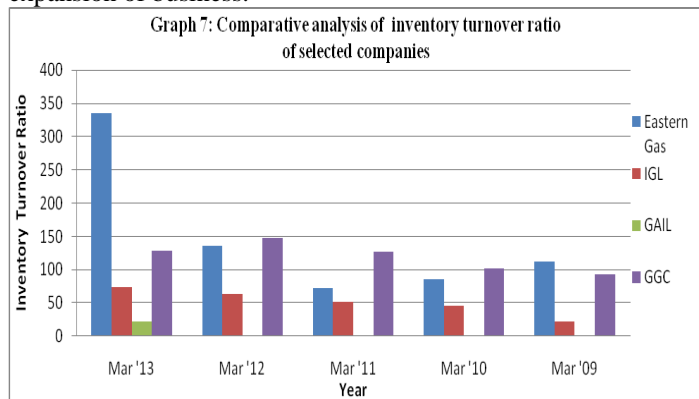
Debtor turnover ratio: analysis and insights

The debtor turnover ratio helps gauge the liquidity of accounts receivable, the ability of the firm to collect from customers. It is advisable to have a lower debtor turnover ratio and therefore as observed from the graph. Although all companies had a consistent record over the years eastern gas showed a sudden increase in March'14 which was further controlled in coming years. IGL over the years had a low debtor turnover ratio over the years which are a good point for the company.

Graph 8: Comparative analysis of debtor turover ratio of selected companies

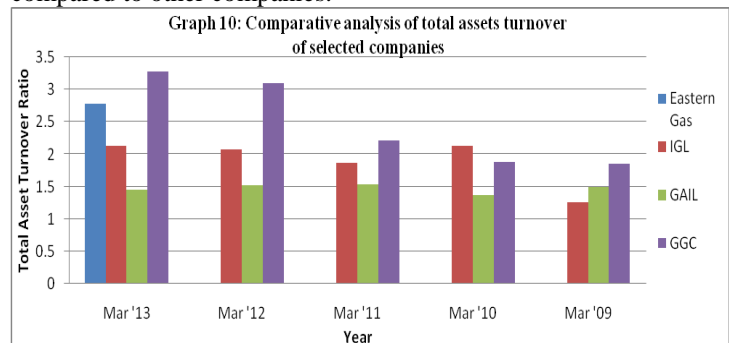**Working capital ratio: analysis and insights**

Working capital ratio has been used to find out the running or day to day financial activities. By used this ratio, one can easily find the required amount and monetary fund to meet the funds. As observed from the graph GAIL has the best working capital turnover which shows its efficiency in generating sales through its capital hence efficiently using the company's capital. Although all companies showed an increasing trend over the years which showed an increasing trend company's efficiency.

Graph 9: Comparative analysis of working capital turnover of selected companies
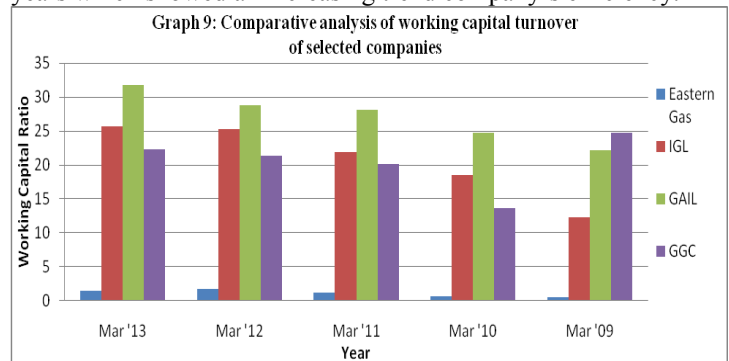
Assets turnover ratio

Total assets turnover: analysis and insights

Generally, the higher this ratio is the more effective. In other words, this ratio indicates the effectiveness of using total assets to generate revenues. Similar to the previous financial ratio, as a rule of thumb, to be considered effective, it should be at least 0.30 times. As inferred from the graph, Gujarat Gas and IGL have used their assets efficiently to generate revenue as compared to other companies.

Graph 10: Comparative analysis of total assets turnover of selected companies

Leverage ratio

Debt to equity ratio: analysis and insights

This ratio shows the dependence on debt (borrowing) finance compared with equity funding. The greater is the reliance on debt financing, the greater is the level of interest and the greater the risk from exposure to rising interest rates. Firms listed on stock exchange tend to follow a pattern of raising additional finance through borrowing for a number of years and then raise equity though issuing new shares.

Table 1. Financial ratios of Gas Authority of India Limited (GAIL)

Ratios	2008-09	2009-10	2010-11	2011-12	2012-13
Current Ratio	0.232	0.171	0.447	0.339	0.533
Acid Test Ratio	0.156	0.108	0.170	0.151	0.211
Return on Assets	0.185	0.183	0.180	0.153	0.136
Return on Shareholder's Equity	2.210	2.475	2.807	2.880	3.171
Earnings per Share	22.103	24.753	28.074	28.805	31.709
Price Earnings Ratio	13.954	14.239	16.562	14.472	11.062
Net Profit Margin	0.118	0.126	0.109	0.090	0.085
Inventory Turnover Ratio	32.327	31.574	34.555	28.904	26.186
Debtor Turnover Ratio	15.821	19.298	17.750	21.212	18.627
Working Capital Turnover	7.136	8.923	4.404	6.230	5.057
Total Asset Turnover Ratio	1.489	1.367	1.533	1.524	1.458
Debt to Equity	0.946	1.167	1.555	3.854	6.594
Interest Coverage Ratio	48.225	61.342	72.087	53.642	37.092
DuPont Analysis (Sales)	0.176	0.172	0.168	0.138	0.123
DuPont Analysis (Assets)	0.118	0.126	0.109	0.090	0.085

Table 2 Financial ratios of Eastern Gas Limited (EGL)

Ratios	2008-09	2009-10	2010-11	2011-12	2012-13
Current Ratio	1.989	1.709	1.692	1.688	2.373
Acid Test Ratio	1.791	0.102	0.059	1.614	2.289
Return on Assets	0.045	0.037	0.047	0.059	0.060
Return on Shareholder's Equity	0.067	0.084	0.124	0.172	0.145
Earnings per Share	0.548	0.735	1.155	1.715	1.453
Price Earnings Ratio	73.086	61.495	26.289	10.851	11.918
Net Profit Margin	0.012	0.010	0.011	0.011	0.010
Inventory Turnover Ratio	111.909	85.119	72.759	136.157	335.438
Debtor Turnover Ratio	3.998	46.593	105.565	4.147	4.440
Working Capital Turnover	1.295	0.902	0.904	0.814	0.907
Total Asset Turnover Ratio	2.781	3.095	4.105	4.870	4.719
Debt to Equity	0.881	1.533	1.449	1.222	1.262
Interest Coverage Ratio	1.759	1.922	2.077	2.188	2.284
DuPont Analysis (Sales)	0.034	0.031	0.045	0.053	0.049
DuPont Analysis (Assets)	0.012	0.010	0.011	0.011	0.010

Table 3. Financial ratios of Indraprastha Gas Limited (IGL)

Ratios	2008-09	2009-10	2010-11	2011-12	2012-13
Current Ratio	0.101	0.249	0.305	0.283	0.343
Acid Test Ratio	0.052	0.118	0.178	0.184	0.228
Return on Assets	0.274	0.344	0.282	0.239	0.208
Return on Shareholder's Equity	1.232	1.856	2.189	2.530	2.573
Earnings per Share	12.319	18.555	21.888	25.295	25.733
Price Earnings Ratio	9.004	8.842	13.482	14.877	9.721
Net Profit Margin	0.200	0.148	0.122	0.105	0.092
Inventory Turnover Ratio	21.643	45.367	52.076	63.913	73.805
Debtor Turnover Ratio	26.997	52.538	33.812	25.940	21.929
Working Capital Turnover	11.094	11.628	10.574	8.124	6.836
Total Asset Turnover Ratio	1.259	2.132	1.865	2.081	2.129
Debt to Equity	0.000	0.000	2.475	2.779	2.494
Interest Coverage Ratio	30.331	16.338	13.391	13.722	18.207
DuPont Analysis (Sales)	0.252	0.315	0.227	0.219	0.196
DuPont Analysis (Assets)	0.200	0.148	0.122	0.105	0.092

Table 4 Financial ratios of Gujarat Gas Company (GCC)

Ratios	2008-09	2009-10	2010-11	2011-12	2012-13
Current Ratio	0.164	0.124	0.121	0.138	0.390
Acid Test Ratio	0.144	0.107	0.109	0.121	0.301
Return on Assets	0.252	0.241	0.326	0.339	0.333
Return on Shareholder's Equity	12.378	6.828	10.087	10.678	11.175
Earnings per Share	24.766	13.655	20.174	21.355	22.351
Price Earnings Ratio	9.556	20.150	17.220	18.474	13.603
Net Profit Margin	0.122	0.124	0.140	0.113	0.093
Inventory Turnover Ratio	93.707	101.534	126.422	147.316	128.487
Debtor Turnover Ratio	10.449	12.446	13.081	13.137	16.855
Working Capital Turnover	4.947	5.707	5.333	3.731	3.961
Total Asset Turnover Ratio	1.856	1.879	2.211	3.099	3.283
Debt to Equity	0.000	0.000	0.000	0.000	0.000
Interest Coverage Ratio	98.018	89.697	87.401	63.255	57.641
DuPont Analysis (Sales)	0.227	0.232	0.310	0.351	0.304
DuPont Analysis (Assets)	0.122	0.124	0.140	0.113	0.093

Equity will be used more when the interest rate is too high, the share market perceives certain levels of debt funding to be bad, or market conditions favour a share issue just like in the case of rising share prices.

Graph 11: Comparative analysis of debt to equity of selected companies
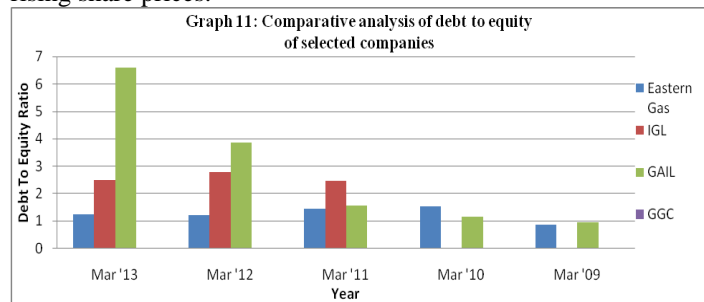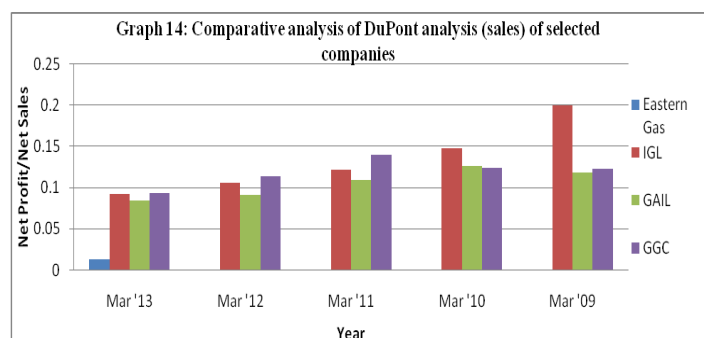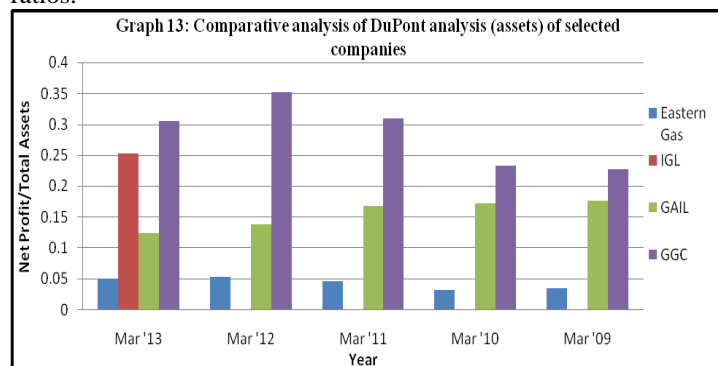
Interest coverage ratio: analysis and insights

The higher the times interest earned ratio the better; however, if a firm is generating high profits, but no cash flow from operations, this ratio is misleading. As we know, lower the interest coverage ratio, larger the debt burden on the company, therefore Eastern gas has highest debt burden over the period. For all the other companies also the trend is continuously decreasing which is a positive feature for the companies.

Graph 12: Comparative analysis of interest coverage ratio of selected companies
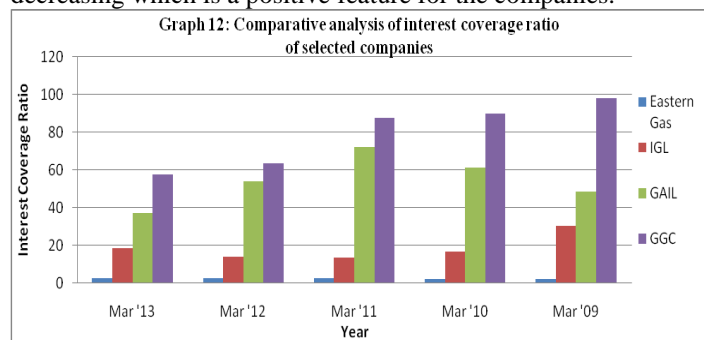
DuPont analysis: analysis and insights

Having considered individual financial ratios as well as groups of financial ratios measuring short-term liquidity, operating efficiency, capital structure and long-term solvency, and profitability, it is helpful to complete the evaluation of a firm by considering the interrelationship among the individual ratios.

Graph 13: Comparative analysis of DuPont analysis (assets) of selected companies

Graph 14: Comparative analysis of DuPont analysis (sales) of selected companies

Conclusion

After conducting a comprehensive financial ratio analysis of the above four companies, the following conclusions are made: If liquidity ratios of all the companies are compared then it is found that only Eastern Gas has the ideal current ratio of 2:1. However by comparing the profitability ratio, activity turnover ratio, assets turnover ratio, leverage ratio and DuPont analysis of all the companies, it is seen that GAIL has fairly stable asset turnover ratio which indicates its efficient utilization of resources in revenue generation. Also, the EPS of GAIL is the highest among all. The debt to equity ratio of GAIL shows that it keeps significantly highly assets to meet the debts. Therefore it is inferred that overall GAIL is the most financially stable company in comparison to others.

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