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**A STUDY ON ECONOMIC VALUE ADDED OF SELECTED OIL AND NATURAL GAS COMPANIES IN INDIA**

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**ABSTRACT**

*Now-a-days creating shareholders value has become essential objective of every business organisation. Economic value added is a new and fast growing concept used to assess the overall financial performance of an organisation. It helps to measure whether shareholders value has been created or not. It helps in ascertaining sufficiency or insufficiency of firm's profit to cover the cost of capital. EVA is widely accepted and extensively applied by all organisations to understand and evaluate financial performance effectively. For the present study the following formula **Economic Value Added = Net Operating Profit After Tax – Capital Charges** has been employed to ascertain Economic Value Added. If the EVA values are positive, the organisation is creating value to its shareholders wealth on the other hand if the values are in negative it reveals that value of shareholders are destroyed by the organisation. The study reveals that EVA of IOC, BPCL and HPCL were positive and they have created wealth to their shareholders during the study period whereas GAIL has created wealth for the last three years of the study period and OIL has created wealth to its shareholders only the last year of the study period. ONGC has to take effective measures to obtain positive EVA to create wealth to its shareholders.*

**KEYWORDS**

GAIL, cost of debt, shareholder's wealth, economic value added.

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G30, G32, G35.

**1.1 INTRODUCTION**

**E**conomic value added is a financial performance measure that tries to capture the true economic profit of an enterprise. Economic value added is also a performance measure which is linked to the creation of shareholder wealth over time. It is an estimate of true economic profit, or the amount which earnings exceed or fall short of the required minimum rate of return<sup>1</sup>. Economic value added can otherwise be called economic profit and residual income. It is calculated by deducting cost of capital employed in the business enterprise from the firms' net operating profit after taxes. If the result is positive, it reflects that the enterprise has created value to the shareholders wealth and if the result found to be negative it has been a value destroyer. The economic value added is a measure of financial performance of the company by representing the value added to the shareholders by generating operating profits over and above the cost of capital. It is a management tool that discloses the impact of both strategic and operational decisions. It is an effective tool for increasing shareholders wealth<sup>2</sup>. EVA is used to measure business performance, it guides in making managerial decision, aligning managerial incentives and it helps to improve the financial and business literacy.

**1.2 NEED OF THE STUDY**

The study aims to identify whether the selected sample companies have positive MVA. The study has used the financial facts of the selected companies from 2004-05 to 2013-14.

**1.3 SAMPLING DESIGN**

The companies which have invested more than 30,500 Crore in "Total Assets" during the year 2013-14 have been selected. They have been listed below.

**TABLE 1**

Sl. No.	Company Name	Total Assets as on 31.03.2014
1	GAIL (India) Limited	51,321.36
2	Oil and Natural Gas Corporation Limited	2,20,651.67
3	Indian oil corporation	1,58,016.09
4	Bharat Petroleum Corporation Limited	53,385.12
5	Hindustan Petroleum Corporation Limited	61,309.46
6	Oil India Limited	30,628.13

**1.4 STATEMENT OF PROBLEM**

The primary motive of equity shareholders is to invest their money in equity shares of a company where they get capital appreciation or profit, in addition to constant regular dividend yields. Before investing their funds in share, shareholders consider safety of principal and satisfactory return. So, based on the corporate performance of the concern, investment decisions are taken by the investors. Hence, it is essential to study the Economic value added. The present research is mainly focused on identifying EVA and the way and extent to which they influence it to create wealth to shareholders.

**1.5 OBJECTIVES OF THE STUDY**

The following are the main objectives of the study:

1. To ascertain Economic Value Added of selected oil and natural gas companies in India.
2. To analyse EVA of selected oil and natural gas companies in India.
3. To find out the impact of Economic Value Added against creating wealth to the shareholders.
4. To offer valuable suggestion to maximize the wealth of the shareholders of selected oil and natural gas companies in the competitive business world.

<sup>1</sup> Tools and tactics for operations managers (collection) by Randal Wilson, Arthur V.Hill, Hilel Glazer- 2013- business & Economics. Pg no.5.

<sup>2</sup> Financial management, principles and practice., Dr.S.N.Maheshwari., Sultan chand & sons publishers, New Delhi (2004) Pg.no.B.102.

## 1.6 METHODOLOGY

The present study is based on secondary data and is collected from the compilation made by the Capitaline, Prowess, moneycontrol, indiastata, annual reports of selected companies, annual report of ministry of oil and natural gas for a period of 10 years starting from 2004-05 to 2013-14. To analyse EVA of selected companies, following method is used.

**Economic Value Added = Net Operating Profit After Tax – Capital Charges.**

Capital Charge = Weighted average cost of capital \* Capital employed

Weighted Average cost of capital = Weighted Cost of Equity ( $K_e$ ) + Weighted Cost of Debt ( $K_d$ ).

### 1.6.1 WEIGHTED AVERAGE COST OF CAPITAL (WACC)

Cost of capital is calculated by combining cost of all sources of capital. Then to obtain the average cost of capital, component costs are combined according to the weight of each component capital. This overall cost of capital is called weighted average cost of capital. The following steps are needed to compute the weighted average cost of capital or overall cost of capital.

- First assigning weights to specific costs.
- Then the cost of each of the sources should be multiplied by the appropriate weights.
- Divide the total weighted cost by the total weights.

### 1.6.2 COST OF DEBT ( $K_d$ )

Cost of debt is measured to give an idea to the investors about the riskiness of the company compared to others. If the company has higher cost of debt which indicates that it is at risk. Cost of debt measure is useful for giving an idea as to the overall rate being paid by the company to use debt financing. To measure the cost of debt, multiply the cost of debt before-tax by one minus the effective tax rate (1-t). Here 't' denotes the effective tax rate. It is desirable to calculate Cost of debt by using pre-tax because it enjoys tax-shield.

$K_d$  = Interest and finance charges / Total of secured loans and unsecured loans.

### 1.6.3 COST OF EQUITY ( $K_e$ )

The cost of equity is the return that stockholders require for their investment in a company. A firm's cost of equity represents the compensation that the market demands in exchange for owning the asset and bearing the risk of ownership<sup>3</sup>. It is basically what it costs the company to maintain a share price that is theoretically satisfactory to investors. To calculate cost of equity the most accepted method from the Nobel prize-winning capital asset pricing model (CAPM) has been applied. According to this model, ( $K_e$ ) is the shareholders' expected rate of return.

$$K_e = R_f + (R_m - R_f) * \beta$$

Where,

$K_e$  = The required rate of return on equity

$R_f$  = The risk free rate

$R_m$  = Market rate of return

$\beta$  = Sensitivity of the shares price in relation to the market index.

The interest rate of weighted average of domestic term deposit of nationalized banks has been used as a proxy for the risk-free rate. Weight is calculated as per the number of months for which a particular rate of interest has remained valid in particular year. By using index numbers of security prices the market rate of return is calculated from year to year basis. The index number of security prices can be taken from the RBI Bulletin published monthly by the Reserve Bank of India. By using the following formula the yearly return of the index number can be ascertained.

$$R_m = (\text{Index number of current year} - \text{Index number for previous year} / \text{Index for previous year}) + 100$$

### 1.6.4 CAPITAL EMPLOYED

Capital employed refers to long-term funds supplied by the lenders and owners of the business. It can be computed in two ways. First, it is equal to non-current liabilities plus owners' equity. Alternatively, it is equivalent to net working capital plus long-term assets. Second, it is equal to long term funds minus investments made outside the firm<sup>4</sup>. It is used to ascertain how efficiently the long-term funds of owners and creditors are being used. If the ratio is higher, the use of capital employed is more efficient. Formula for calculating the capital employed is

**Capital employed = Total Borrowings + Net worth.**

### 1.6.5 NET OPERATING PROFIT AFTER TAX (NOPAT)

Net operating profit after tax is earnings before interest and taxes adjusted for the impact of taxes. It is used for determining the operating results of a business, inclusive of all applicable taxes. It is considered to be a better measure of the underlying performance of a business than its net income after tax<sup>5</sup>. It excludes the effect of excessive debt levels that might result in large interest charges and offsetting tax effects. It is calculated to compare the cost structures of the same industry.

## 1.7 ANALYSIS AND INTERPRETATION OF DATA

### ECONOMIC VALUE ADDED ANALYSIS OF SELECTED COMPANIES

Economic value added is a financial performance measure that tries to capture the true economic profit of an enterprise. It is calculated by deducting cost of capital employed in the business enterprise from the firms' net operating profit after taxes. If the result is positive, it reflects that the enterprise has created value to the shareholders wealth and if the result is found to be negative it has been a value destroyer.

TABLE 1.7.1: ECONOMIC VALUE ADDED OF SELECTED COMPANIES (Values rupees in Crore)

YEAR	GAIL	ONGC	IOC	BPCL	HPCL	OIL
2004-05	321.67	-15182.5	2186.3	1475.18	-466.46	-2278.62
2005-06	-430.11	-13699.2	3092.52	1001.77	661.36	-4731.04
2006-07	-1499.6	-12435.6	3298.4	1727.68	783.92	-2516.44
2007-08	-3001.07	-21075.7	6576.57	2327.42	1365.91	-11072.8
2008-09	-5318.17	-18621.7	352.55	213.55	361.01	-20624
2009-10	-5128.97	-21543.9	5448.89	1670.51	1379.56	-37945.9
2010-11	-1638.14	-186904	4831.06	1692.85	1550.16	-8518.35
2011-12	108.01	-100308	1878.52	1108.51	779.68	-76223.5
2012-13	1388.43	-251426	1939.27	1301.39	1598.38	-18124.5
2013-14	1010.69	-277876	4353.96	2389.76	2123.23	131.02

Source: Computed

<sup>3</sup> <http://www.investopedia.com/walkthrough/corporate-finance/5/cost-capital/cost-equity.aspx#ixzz3kZYg2h7w>.

<sup>4</sup> Management Accounting (2010) M.Y.Khan & P.K.Jain Tata McGraw-Hill Education pg no.6.21

<sup>5</sup> <http://www.accountingtools.com/questions-and-answers/net-operating-profit-after-tax-definition-and-usage.html>

**GAIL**

The above Table 1.7.1 presents Economic value added of GAIL. It is observed from the table Economic value added of the company is negative from the year 2005-06 to 2010-11. It reveals that it has destroyed the shareholders value during this period of study. In the year 2004-05, 2011-12 to 2013-14 Economic value added of GAIL registered positive value; it indicates that it has created wealth to the shareholder during this period only. In 2008-09 the EVA of the GAIL was -5318.17 crore, which was the highest negative value and during this period the wealth of the shareholders were highly destroyed. In 2012-13 the Economic value added of GAIL is 1388.43 crore, which is the highest positive value of EVA and the wealth of the shareholders is maximized during the year. From the above table it can be concluded that in 2004-05, 2011-12 to 2013-14 it has created value to shareholders wealth whereas remaining 6 years it has destroyed the value of shareholders wealth. During the study period, majority of the year's company destroyed the value of the shareholders, only for 4 years it has created value to the shareholders wealth.

**ONGC**

Economic value added (EVA) of ONGC has been depicted in Table 1.7.1. The table shows that Economic value added of the company is negative throughout the study period; it reveals that the net operating profit after tax is less than the capital charge and wealth of the shareholders are destroyed. In 2013-14 the EVA of ONGC was -277876 crore, which is the highest negative value of EVA and it indicates that the wealth of the shareholders is highly destroyed during the year. During the study period in 2006-07 the EVA was -12435.64 crore, which is the lowest negative value of EVA. It can be concluded from the EVA analysis of ONGC that the value creation of the company to shareholders has not been realized during the entire study period.

**IOC**

Economic value added (EVA) of IOC has been expressed in Table 1.7.1. The table shows that Economic value added of the company is positive throughout the study period; it reveals that the net operating profit after tax is more than the capital charge and wealth of the shareholders are maximized. In 2007-08 the EVA of IOC was 6576.57 crore, which is the highest positive value of EVA and it indicates that the wealth of the shareholders is highly maximized during this year. During the study period in 2008-09 the EVA was 352.55 crore, which is the lowest positive value of EVA. It can be concluded from the EVA analysis of IOC that the value creation of the company to shareholders was maximized and fluctuating during the entire study period. So, the financial performance of the company was satisfactory under the study period and the company had created wealth to its shareholders for the entire study period.

**BPCL**

Economic value added (EVA) of BPCL has been depicted in Table 1.7.1. The table reveals that Economic value added of the company is positive throughout the study period; it reveals that the net operating profit after tax is more than the capital charge and wealth of the shareholders are maximized. In 2013-14 the EVA of BPCL was 2389.76 crore, which is the highest positive value of EVA and it indicates that the wealth of the shareholders is highly maximized during the year. During the study period in 2005-06 the EVA was 1001.77 crore, which is the lowest positive value of EVA. It can be concluded from the EVA analysis of BPCL that the value creation of the company to shareholders was maximized and also registered the increasing trend from 2008-09 to till the end of the study period. The financial performance of the company was satisfactory and increasing under the study period and the company had created maximum wealth to its shareholders during the entire study period.

**HPCL**

Economic value added (EVA) of HPCL has been presented in Table 1.7.1. The table shows that Economic value added of the company is positive throughout the study period except in 2004-05; it reveals that the net operating profit after tax is more than the capital charge and wealth of the shareholders are maximized. In 2013-14 the EVA of HPCL was 2123.23 crore, which is the highest positive value of EVA and it indicates that the wealth of the shareholders is highly maximized during the year. In 2008-09 the EVA was 361.01 crore, which is the lowest positive value of EVA. During the study period year 2004-05 only the EVA of the HPCL was negative and the company was a wealth destroyer. It can be concluded from the EVA analysis of HPCL that the value creation of the company to shareholders was maximized and also registered the fluctuating trend. The financial performance of the company was satisfactory and increasing under the study period and the company had created maximum wealth to its shareholders during the entire study period except in 2005.

**OIL**

Economic value added (EVA) of OIL has been depicted in Table 1.7.1. The table shows that Economic value added of the company is negative and value destroyer throughout the study period except in 2013-14, it reveals that the net operating profit after tax is less than the capital charge and wealth of the shareholders is destroyed. In 2011-12 the EVA of OIL was -76223.5 crore, which is the highest negative value of EVA and it indicates that the wealth of the shareholders is highly destroyed during this year. In 2004-05 the EVA was -2278.62 crore, which is the lowest negative value of EVA. It can be concluded from the EVA analysis of OIL that the value creation of the company to shareholders has not been realized during the entire study period. Only during 2013-14 it has created value to the shareholders and in the remaining 9 years it has destroyed the value.

**1.8 CONCLUSION**

From the Economic Value Added analysis of selected companies, it reveals that most of the companies have created wealth to their shareholders, like IOC, BPCL and HPCL. GAIL and OIL have started to register positive EVA which shows that they have started to create wealth to its shareholders. ONGC has register negative EVA, they have to take measures to make it positive. EVA is an effective tool for increasing shareholder's wealth. The study reveals that IOC, BPCL and HPCL have positive EVA, they are creating wealth to their shareholders during the study period whereas GAIL has created wealth for the last three years of the study period and OIL has created wealth to its shareholders only the last year of study period. ONGC has to take effective measures to create wealth to its shareholders.

**1.9 LIMITATIONS OF THE STUDY**

The study is subject to the following limitations:

- The study period is restricted to 2004-05 to 2013-14 only.
- This study is based on secondary data; accuracy of findings entirely depends on the secondary data taken for the present study.
- The present study is largely based on ratio analysis which has its own limitations.
- There are different methods to evaluate the financial performance of companies, so experts' views differ from one another.
- This study has focused only on large scale oil and natural gas companies in India. So, the conclusion drawn from the present study could not be generalized to small and medium size oil and natural gas companies in India.
- However, these limitations do not affect the worth of this research work

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