IMPACT OF FINANCIAL RATIOS ON ECONOMIC VALUE ADDED IN INDIAN INDUSTRIES

Dr. Asha Sharma

Post Doctoral Fellow- UGC, Department of Accounting Faculty of Commerce Mahila P G Mahavidyalaya Jai Narain Vyas University, Jodhpur E-mail: drashasharma.sharma07@gmail.com

ABSTRACT

Majority of corporate finance theoreticians agree that the aim of a firm is to wealth maximization to shareholders. To create value for shareholder is demand of present time. It is focused in the Indian corporate sector. To measure shareholder value economic value-based models is adopted. It helps in decision-making with the firm preferences. Economic Value- Added is a technique to measure real financial performance of a company. It is a method of measuring a company's ability to create value. Now a day it is used to overcome shortcomings of traditional approach. The objective of this study is to examine the impact of financial performance on economic value added (EVA) by using five categories of financial ratios in various i.e. power, manufacturing and service selected Indian Industries. For it various statistical techniques like standard deviation, mean, correlation, regression and coefficient of variance are used. Result is analysed by taking various financial ratios EBIT and NOPAT as independent variables and EVA (economic value added) as dependent variable for selected Indian companies. The results show that profitability ratio and other factor has significant impact on economic value added and Net Worth.

Keywords: financial ratio, Earnings before Interest and tax, net operating profit after tax, Net worth, Economic Value Added

INTRODUCTION

Economic value added is an estimate of a firm's economic profit. It measures the value

addition to an organization. EVA is the profit earned by the firm less the cost of financing the firm's capital. The idea is that value is created when the return on the firm's economic Net worth is greater than the cost of that capital . EVA is popularized by and registered trademark of the US firm, Stern Stewart & Company. Just earning profit is not enough, a business should earn sufficient profit to cover its cost of capital and create surplus to grow. Stated simply, any profit earned over and above the cost of capital is Economic Value Added.

Financial Ratios - Common basis used for measurement of corporate performance are: - Net Profit Margin (NPM), Operating Profit Margin (OPM), Return on Investment (ROI), Return on Net Worth (RONW) etc. Profit after Tax (PAT) is an indicator of profit available to the shareholder and Profit Before Interest After Tax (PBIAT) is an indicator of the surplus generated using total funds. ROI is still recognized as the most popular yardstick of profitability measurement. However, the traditionally used profit indicators are ineffective parameters in explaining whether the reported profit covers the cost of capital. Old profit concept fails to indicate clear surplus. Infosys Technologies is the first Indian company to report its EVA.

INDUSTRY PROFILE
Power Industry
Indian power sector is one of the largest sectors in the economy of world. India stands now the eleventh largest economy in the world and fourth in terms of purchasing power. It is poised to make tremendous economic strides over the next ten years, with significant development already in the planning stages. In recent years, India has emerged as one of the leading destinations for investors from developed countries. India is emerging as the next energy hub of the world. The country has emerged as a repository of wealth, of crude oil, natural gas and lignite. The extensive occurrences of petroliferous basins in India have made it a large potential region for hydrocarbons. The selected company for the study is ONGC, BHEL, Coal India, Jindal power, Tata Power, NTPC.

Manufacturing Industry
Manufacturing has emerged as one of the high growth sectors in India. Prime Minister of India, The Government of India has set an ambitious target of increasing the contribution of manufacturing output to 25 per cent of Gross Domestic Product (GDP) by 2025, from 16 per cent currently. Improving the urban infrastructure, ensuring fair competition and access to markets, reduction of import duties, quality improvements

in vocational and higher education, increased investment in R&D and support of SMEs are need of Indian Manufacturing sector. . The selected company for the study is Hero Moto Corp, L & T, Bajaj Auto, Mahindra, Maruti Suzuki, Tata Motors, DLF.

Service Industry

Service Sector in India today accounts for more than half of India's GDP. According to data for the financial year 2006-2007, the share of services, industry, and agriculture in India's GDP is 55.1 per cent, 26.4 per cent, and 18.5 per cent respectively. The service sector now accounts for more than half the GDP marks a watershed in the evolution of the Indian economy and takes it closer to the fundamentals of a developed economy. Services or the "tertiary sector" of the economy covers a wide gamut of activities like trading, banking & finance, infotainment, real estate, transportation, security, management & technical consultancy among several others. The selected company for the study is TCS, Infosys, HUL, ITC, Bharti Airtel, Wipro.

LITERATURE REVIEW

EVA is a important technique to measure performance. It has become more popular in comparison to traditional approach. Till now various papers has been published on EVA. Last ten years research has been find to study further. Worthington and West(2001) reviewed the literature on EVA and provided a synoptic survey of EVA's conceptual underpinnings. They concluded that empirical evidences concerning EVA have been Pal and Sura (2007) reviewed 25 empirical studies published in various journals related to relationship of EVA and stock returns. They have only reviewed the results of the studies and have not considered other issues prevalent in EVA research such as EVA-MVA relationship, EVA and discounting techniques, other residual income (Note 3) based techniques, EVA implementation and EVA and managerial performance and control. Till date no other study has been conducted to cover the issues involved in research about EVA. In the present paper various issues on EVA by reviewing 112 studies on the concept, is taken. Apart from this, the studies have been categorized on the basis of methodologies used by various researchers, country and year-wise publication and breakup of literature reviewed on research related to EVA.

Dr. Anil Sharma ,Indian Institute of Technology Roorkee has reviewed 112 papers published on the EVA from 1994 to 2008in hid paper on Economic Value Added (EVA) - Literature Review and Relevant Issues. Classification scheme identifies the gaps in existing literature and suggests the direction for future Research has been included in the paper. The paper presents a comprehensive literature review and a critical analysis

the researchers and managers who wish to understand and implement EVA and carry out further research on the diverse issues of this interesting and value adding performance metric. Now it is require finding a comparative analysis between two industries to know industry performance. So here further research work is done.

OBJECTIVES OF STUDY

The objectives of the study are as under:
1. To determine Net worth and Economic value added of power, manufacturing and service industry.
2. To determine the financial performance of all three selected industries
3. To find out fluctuation in profitability, Net worth and Economic value added of various companies of three selected industries.
4. To find out correlation between profit and EVA.
5. Too know the impact of Net profit on Net worth and Economic value added of power, manufacturing and service industry.

HYPOTHESIS

In order to realize the above objectives, the following hypothesis has been formulated.
H01: There is no impact of financial performance on net worth and EVA of power industry
H02: There is no impact of financial performance on net worth and EVA of manufacturing industry
H03: There is no impact of financial performance on net worth and EVA of service industry
H04: There is consistency among financial performance, net worth and EVA of power industry
H05: There is consistency among financial performance, net worth and EVA of manufacturing industry
H06: There is consistency among financial performance, net worth and EVA of service industry

RESEARCH METHODOLOGY

Research methodology comprises the research design, sample design, sources of data, selection of data, various designs and techniques used for analyzing the data. The methodology used for the study at hand is as under:

Research Design: The research design used for the research problem in hand is causal research as the objective is to determine which variable might be causing certain behavior, i.e. whether there is a cause and effect relationship between variables. In order to determine cause and effect, it is important to hold the variable that is assumed to cause the change in the other variable(s), constant, and then measure the changes in the other variable(s). This type of research is very complex and the researcher can never be completely certain that there are not other factors influencing the causal relationship, especially when dealing with people's attitudes and motivations.

Independent Variables: earning capacity, evaluating operating performance, Earning before Interest and tax, Net profit after tax

Dependent Variables: Economic value added, Net worth

METHODS OF DATA COLLECTION
For the study in hand, both the secondary data was collected. The sources of collecting both the data is as follows:

Sources of Secondary Data: present study is mainly based on secondary data, which were collected from the corporate annual audited reports, company database, published research reports by ACC, related website, and annual report of the company.

TOOLS FOR ANALYSIS OF DATA
Along with the usual statistical tools such as tables, percentages, mean, standard deviation, coefficient of variation Karl Pearson's method for correlation was used for analyzing the data which helps in arriving at sound conclusions.

The present study is mainly intended to examine the comparative financial performance and EVA of selected companies of power, manufacturing and service industry of the year 2013

RESULT & DISCUSSIONS

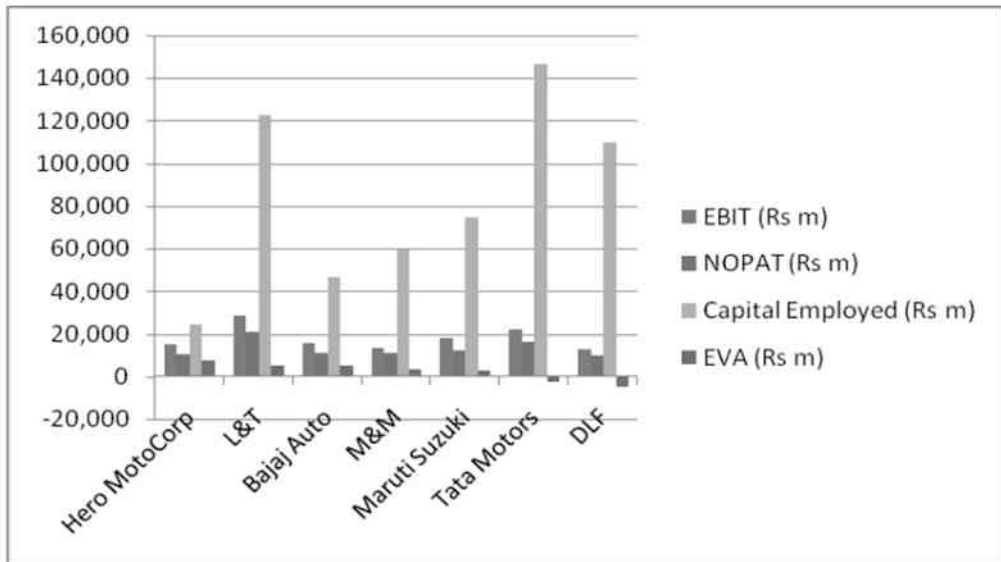| Table 1: CALCULATION OF EVA IN ENERY AND POWER INDUSTRY						
Company Name*	EBIT (Rs m)	Tax Rate (%)	NOPAT (Rs m)	Net worth (Rs m)	WACC (%)	EVA (Rs m)
ONGC	207,303	34.10%	136,633	713,573	13%	43,869
BHEL	35,787	35.70%	23,011	99,564	13%	10,068
Coal India	30,552	4.50%	29,177	153,911	13%	9,168
Jindal Power	13,086	20.50%	10,410	71,904	13%	1,062
Tata Power	11,554	17.40%	9,550	106,506	13%	-4,296
NTPC	95,840	14.40%	82,049	723,164	13%	-11,962
Mean	65,687	0	48,472	311,437	0	7,985
Standard Dev.	75,882	0	50,762	316,326	0	19,442
C V	116		105	102	0	243
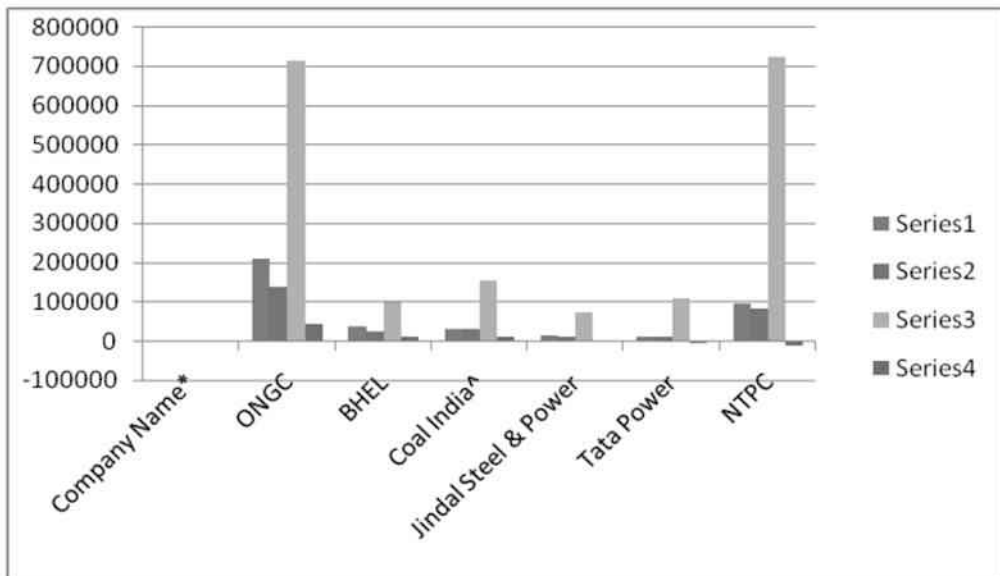
The table 1 shows average EBIT of all the six selected companies. Mean value of EBIT is 65687, mean of Net worth is 311437 and the least carry EVA. It is 7985. Standard deviation and coefficient of variance is calculated to know the consistency among companies. It is found that Net worth is more consistencies in comparison to EVA. EVA is fluctuating to 243 whereas Fluctuation and variation in CV is 102 only.

Company Name*	EBIT (Rs m)	Tax Rate (%)	NOPAT (Rs m)	Net worth (Rs m)	WACC (%)	EVA (Rs m)
Table 2 CALCULATION OF EVA INMANUFACTURING INDUSTRY						
Hero Motor corps	14,989	29.60%	10,552	24,591	13%	7,356
L & T	28,347	26.50%	20,846	122,545	13%	4,916
Bajaj Auto	15,454	29.00%	10,972	46,712	13%	4,900
M & M	13,593	18.70%	11,054	59,509	13%	3,318
Maruti Suzuki	17,820	30.30%	12,429	74,484	13%	2,746
Tata Motors	22,262	26.60%	16,331	146,474	13%	-2,710
DLF	12,572	23.40%	9,630	109,573	13%	-4,615
Mean	17,862	0	13,116	83,413	0	2,273
Standard Dev.	4,427	0	2,883	38,804	0	3,949
C V	25		22	47	0	174

The table2 shows average EBIT of all the selected companies of manufacturing company. Mean value of EBIT is 17862, mean of Net worth is 83413 and the least carry EVA. It is 2273. Standard deviation and coefficient of variance is calculated to know the consistency among companies. It is found that Net worth is more consistencies in comparison to EVA. EVA is fluctuating to 174 whereas Fluctuation and variation in CV is 47 only.

Table 3 CALCULATION OF EVA IN SERVICE INDUSTRY						
Company Name*	EBIT (Rs m)	Tax Rate (%)	NOPAT (Rs m)	Net worth (Rs m)	WACC (%)	EVA (Rs m)
TCS	43,538	15.40%	36,829	96,127	13%	24,332
Infosys	40,728	15.70%	34,321	109,331	13%	20,108
HUL	22,372	19.40%	18,034	28,632	13%	14,312
ITC	39,509	31.50%	27,052	100,501	13%	13,986
Bharti Airtel	44,470	6.20%	41,730	213,482	13%	13,978
Wipro	29,176	13.30%	25,298	112,810	13%	10,633
Mean	36,632	0	30,544	110,147	0	16,225
Standard Deviation	8,867	0	8,662	59,364	0	5,016
C V	24	49	28	54	0	31
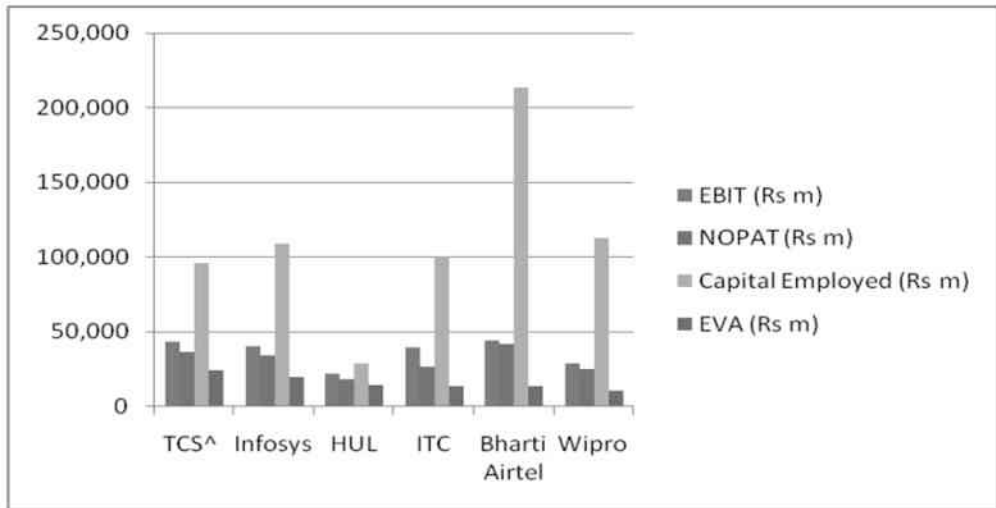
The table 3 shows average EBIT of all the six selected companies. Mean value of EBIT is 36,632, mean of Net worth is 110147 and the least carry EVA. It is 16225. Standard deviation and coefficient of variance is calculated to know the consistency among is fluctuating to 31 and variation in CV is 54.companies. It is found that Net worth is more consistencies in comparison to EVA. EVA

RESEARCH TOOL AND TECHNIQUE APPLIED

ANALYSIS

Table 4 correlation between EBIT & net worth and EBIT and EVA		
Power Industry	0.87426884	0.732778044
Manufacturing Industry	0.611792477	0.114724511
Service Industry	0.693254664	0.525283271

Table 4 and 5 shows **correlation between EBIT & net worth and EBIT and EVA. Power industry has the highest correlation between EBIT & net worth and** Service industry has moderate and second highest ratio and the least carry manufacturing industry. There is high impact of financial ratio i.e. EBIT and NOPAT on dependant variable net worth and EVA in power industry

Table 5 correlation between NOPAT & net worth and NOPAT and EVA		
Power Industry	0.931717392	0.64025367
Manufacturing Industry	0.65369	0.069005353
Service Industry	0.818461336	0.467580333

Power industry like Bharat Heavy Electricals (BHEL) and Oil and Natural Gas Corporation Ltd. ONGC has been the largest wealth creator. It can be seen that this sector has highest correlation between financial ratio (EBIT) with EVA and net worth which is 0.87426884 and 0.732778044 respectively. Then service industry which stand second and manufacturing sector stand at the last. Power companies have been a laggard here.

FINDINGS

The concept of EVA is applicable to measure their earnings potential and true financial position. But it seems EBIT, NOPAT and other financial ratio is not only factor to influence Economic Value Added. It may be size of organization, cost of capital, demand analysis, market potential and strategy

From tables 1-3, it is tried to find whether earning capacity of a firm influence its net worth and EVA and its extent of variation or consistence. It is found that impact of earning on EVA has more variation in selected companies of power and manufacturing companies but less influencing net worth. But it is reverse in the service industry. Impact on EVA is more consistence than net worth. It can said that companies under service industry are ideal and enjoy normal value addition, but other two industries have not equal earning and value addition. It is scattered. Some of the companies have high positive EVA while others have negative EVA.

CONCLUSION

EVA is now recognized as an important tool of performance measurement and management all over the world, particularly in advance economies by adopting it as corporate strategy. Still there are mixed evidences about the superiority of EVA over traditional performance measurement tools. In this paper, an attempt has been made to find if earning capacity of a firm influence its net worth and EVA and its extent of variation or consistence.   Correlation and compare tradition profit measurement method to EVA. Mainly coefficient of variance and correlation two techniques of statistics is used. On the basis of CV, it is conclude that EVA has more variation in selected companies of power and manufacturing companies but service industry has more consistency in EVA and net worth. On the basis of correlation, Power industry is found the highest correlated between EBIT & net worth and NOPAT & net worth, EVA. Service industry has moderate and second highest ratio and the least carry manufacturing industry. There is high impact of financial ratio on dependant variable net worth and EVA in power industry.

REFERENCES

- Abarbanell, J. S., & Bushee, B. J. (1998). Abnormal returns to a fundamental analysis strategy. *The Accounting Review, 73 (1)*.
- Beaver, W., & Dukes, R. (1972). Interperiod Tax Allocation, Earnings Expectations, and the Behavior of Security Prices. *The Accounting Review, 320-332*.
- Biddle, G. C., Bowen, R. M., & Wallace, J. S. (1996). Evidence on the Relative and Incremental Information Content of EVA, Residual Income, Earnings and Operating Cash Flow. *Working Paper Presented at 1996 AAA Annual Meeting: Chicago, IL*.
- Birchard, B. (1994). Mastering the New Metrics. CFO: The Magazine for Senior Financial Executives. *International Journal, 30-38*.
- Bowen, R. M., Burgstahler, D., & Daley, L. A. (1987). The Incremental Information Content of Accrual Versus Cash Flows. *The Accounting Review, 723-747*.
- Brossy, R., & Balkcom, J. E. (1994). Getting Executives to Create Value. *Journal of Business Strategy, 18-21*.
- Byrne, H. S. (1994). Harnischfeger Industries. *Barron's, 51-52*.
- Chen, S., & Dodd, J. L. (1997). Economic Value Added (EVA): An Empirical Examination of a New Corporate Performance Measure. *Journal of Managerial Issues, 318-333*.
- Cheng, C. S., Cheung, J. K., & Gopalakrish, V. (1993). On the Usefulness of Operating Income, Net Income and Comprehensive Income in Explaining Security Returns. *Accounting and Business Research, 195-203*.

- Davies, E. M. (1996). Eli Lilly Is Making Shareholders Rich. How? By Linking Pay to EVA. *Fortune, 173-174.*
- Dodd, J. L., & Chen, S. (1996). EVA: A New Panacea? *Business & Economic Review, 26-28.*
- Easton, P. D., & Harris, T. S. (1991). Earnings as a Explanatory Variable for Returns. *Journal of Accounting Research, 19-36.*
- Finegan, P. T. (1989). Financial Incentives Resolve the Shareholder-Value Puzzle. *Corporate Cashflow, 72-.*
- Foster, G. (1986). *Financial Statement Analysis Englewood Cliffs.* NJ: Prentice-Hall.
- Gapenski, L. C. (Healthcare Financial Management). *Using MVA and EVA to Measure Financial Performance. 1996: 56-60.*
- Horngren, C. T., Foster, G., & Datar, S. (1997). Cost Accounting: *A Managerial Emphasis. NJ: Prentice-Hall.*
- Lehn, K., & Makhija., A. K. (1996). EVA & MVA as Performance Measures and Signals for Strategic Change. *Strategy & Leadership , 34-38.*
- Ochsner, R. C. (1995). Welcome to the New World of Economic Value Added. *Compensation & Benefits Review, 30-32.*
- Patell, J., & Kaplan, R. (1977). The Information Content of Cash Flow Data Relative to Annual Earnings. *Working paper, Stanford University.*
- Rice, V. A. (1996). Why EVA Works for Varity. *Chief Executive, 40-41.*
- Rutledge, J. (1993). De-Jargoning EVA. *Forbes, 148.*
- Stewart, G. B. (1991). The Quest for Value: A Guide for Senior Managers. *New York, NY.*
- Stewart, S. (1993). The Stern Stewart Performance 1000 Database Package: *Introduction and Documentation.* New York, NY: HarperCollins, Publishers Inc.
- Stewart, S. (1997). The EVA Company. Menus: "About EVA; EVA Companies. *http://www.sternstewart.com.*
- Tully, S. (1993). The Real Key to Creating Wealth. *Fortune, 38-50.*
- Walbert, L. (1993). America´s Best Wealth Creators. *Fortune, 64-76.*
- Walter, I. S. (1992). Using Incentive Compensation to Create Shareholder Value. *Journal of Compensation and Benefits, 40-45.*
- White, J. A. (1994). Three Ways to Build Economic Value. *Modern Materials Handling , 31.*
- Zarowin, S. (1995). The Future of Finance. *Journal of Accountancy , 47-49.*
- business.mapsofindia.com