EVA - A STUDY OF SELECTED COMPANIES IN INDIA

Babli Dhiman[1] Shipra Pruthi[2]

ABSTRACT

Economic Value Added (EVA) is an improved measure of checking the company performance so that the stakeholders can decide that the company is generating or destroying their wealth. EVA is latest and modern measure technique to know the efficiency of the companies that whether they are maximizing or reducing the value of shareholders wealth. Therefore this paper is designed with an attempt to know that which companies is the wealth generator or destroyer for the shareholders. The main objective of the study is to rank the companies on the basis of EVA.

Therefore a sample of fifty companies has been taken from *NSE listed Companies for the period of 2005-2010* from Stock Market and ranked according to EVA as wealth generating companies or wealth destroying companies as in our fifty sample companies only three companies have disclosed Economic Value Added in their annual reports. This paper is mainly focuses on the shareholders benefit so that they can take decision to continue their investment with the same companies or not.

KEYWORDS

Economic Value Added, Wealth Generator, Wealth Destroyer, and Rank etc.

INTRODUCTION

Maximization of Shareholder's value has become the new corporate standard in India. Any company which gives less return to their shareholder is considered as low standard company. In a country like India where capital is still costly, the corporate management would try to get a maximum profit for every single buck of investment. EVA means economic value added, in another words addition in the returns of shareholder. EVA is the difference between a company's profit and the full cost of its capital.

A company should not only seek to make a profit from its business – it should also make enough profit to cover the cost of its capital, including equity invested by shareholders, which is very important for the survival of company. Idea of EVA has been given by Stern Stewart & Co, a New York based global financial consultant. Most of the companies consider the returns but not the entire cost they consider only the cost of debt and cost of preference shares, but they don't consider the equity cost, whereas equity share capital is also the cost which has to be considered. Most of the companies and shareholders believe in traditional measures like return on equity and return on assets. But these methods are not capable enough to tell the true profitability of a company because they don't consider the equity as cost. Management considers Equity as a cost free capital. In this situation shareholder returns are manipulative. Equity is a costly source of finance.

EVA: Evolution and Growth

EVA is not a new concept globally. It is based on residual concept that is calculated by deducting capital charges from the operating profits. One variation between EVA and residual income is to know how to work out on return and cost to get maximum return. Stern Stewart &Co. introduced this system in 1982.The list of some of the companies using EVA are Coca-Cola, Eliy Lily Monsanto and others. Companies adopted EVA by number of ways the initial interest was introduced a few years ago by a magazine article about EVA. Two senior executives came upon the article independently and sent it to each other. In Mid 1996 Joel Stern was invited to give a full dress presentation on EVA to the top management, and later that year the company signed up and formed an EVA steering Group for implementation EVA.

EVA in Indian Corporate Sector

Bennet Stewart and Joel Stern jointly founded Global Financial Consultancy firm based in New York under the name "Stern Stewart Co", This Company has a strong faith that EVA is a true economic measurement tool than any other financial measurement tool. In a study till 2008 just 37 companies in India have disclosed EVA in their financial report. There are irregularities in the study of EVA calculation so the companies avoid accepting EVA as performance measurement tool. EVA is based on the concept that a successful firm should earn at least its cost of capital. Firms that earn higher returns than financing costs enhance the wealth of shareholder.

The world is now a global economy and the size of business is increasing day by day. In order to compete in the business world and become the best player, organization must have resources and complete skill to be best player in using these resources. Many companies in the world are adapting EVA in these circumstances India is also not far behind for understanding and implementing the concept.

[1]Associate Professor, Department of Management, Lovely Professional University, Punjab, India,babli.dhiman2000@gmail.com
[2]Lecturer, Department of Management, Continental Group of Institute, Punjab, India, shipra_pruthy@yahoo.co.in

The corporate India should be fully equipped with solutions of ifs and buts of EVA not only for the reason of global competition but also for their own long understanding and continues existence. Though the EVA technique is very simple to understand but it is tricky to implement especially in a country where economic environment is in the process of alteration. Companies are trying to implement EVA and are asked to incorporate many more changes to their present financial books in India. The equity capital is not a free capital; rather it is expensive and risky. Any organization who is capable to generate profit for its investor can only survive in this competitive world.

Limitations of EVA

Although EVA has benefited the shareholder more than the traditional measures still it has some limitations like EVA cycle does not give any idea about the financial performance of companies which is affected by the business cycle. Possibility of error in estimating WACC (Weighted Average Capital Cost) is an important aspect and the calculation of cost of equity is also very difficult to compute.

With the help of NPV (Net Present Value) an individual project can be selected and rejected. It can happen that any project has positive NPV and the company selects that project. But for the initial year the project can give negative NPV so the starting EVA of the project can be negative so it can be a loss making project then it should not be taken but in future this project can give higher positive cash flow. Fast moving goods are less capital intensive so these companies has more EVA than any other company which is more capital intensive. This is the reason that inter-company comparison will get unrealistic.

REVIEW OF LITERATURE

Kroll (1997) depicted that a business can get success only when if it generates profit more than its cost of capital. A company which implements economic value added shows a great improvement in its performance. Many companies have adopted economic value added and improved its performance with the help of it. Economic value added also helps in acquisition of a company because manager can know that what the value of a firm is?

Dodd & Chen (2000) said economic value added is the most important performance measure. EVA has important effect on stock market. The study is about to prove the importance of EVA than any other traditional measures. Author used regression to prove the relationship and find out that economic value added alone cannot be taken as performance measure. Every method has its own importance for measuring the performance of the company.

Stewart (2003) expressed the implication of economic value added in Harsco Corporation. Stern has used four M for performance measure under EVA system. The EVA Implementation at Harsco was structured using Stern Stewart's Four Ms. Economic value added used in this company for these four M which mean measurement, management, motivation and mindset. By using economic value added Harsco started to perform well.

Beneda (2004) has worked about the company named Toll Brothers performance, which was in the home building industry. The study shows that the performance of the company increases after applying the economic value added into practice. Here market value added is also calculating with the help of difference between the book value of company's assets in place and the overall value of the firms operations. Economic value added and ROIC computes the changes in the company due to change in value of operating invested assets in place.

Geyse &Hall (2004) found that there are many methods to check the performance of the company but the best method amongst these methods are economic value added due to the performance value addition. These methods tell whether the company is creating or destroying the wealth of the shareholder. Economic value added can be calculated with the help of net operating profit after tax minus cost of capital. Here return on assets and return on equity has been taken as performance measures of economic value added. The result shows that Economic value added can be destroyed if more debt invested. This paper states that the traditional methods are not the good indicators of performance evaluation.

Russell (2005) found that there are several methods to measure the performance of the company but economic value added creates its own space worldwide as a performance measurement. Economic value added calculates the true economic profit of the company with the help of net operating profit after tax and cost of capital. If the profit is more than the cost of capital it means that the company is creating the wealth for the shareholder.

Fraker (2006) said that economic value added is a tool which helps the bankers to measure the performance of the bank. EVA is the invention of Stern Stewart & Co.EVA is equal to the net operating profit minus cost of equity. Cost of equity is equal to the company's equity capital (reported on its balance sheet) multiplied by a percentage return that the company's shareholders require on their investment. For the calculation of NOPAT Stern Stewart has given more then 120 adjustment. These adjustments should be done in NOPAT to find out the economic profit.

Percentage return of the shareholders can be calculated with the help of risk free rate of return and beta value. Treasury bill can be taken as risk free rate and beta is the volatility of the stock according to the market. The market risk premium is the risk associated with investing in the stock market as a whole. The bank can consider EVA as their performance measure and can improve the performance as in this study the given bank improved the performance after applying EVA as performance measure.

Mittal et al (2008) investigated a positive relationship between economic value added and corporate social responsibility. Company with code of ethics generally generates good profit and also has a positive economic value added. For the calculation of economic value added net operating profit and WACC is important. Corporate social responsibility and economic value added have a positive relation which is shown by regression. The study proves strong evidence that there is a positive relationship between economic value added and corporate social responsibility.

Holler (2008) expressed that Share holder value creation is an important part for modern business. If a firm has positive economic value added the stock return is also high. For the calculation of economic value added regression, WACC and NOPAT has been used. Economic value added gives a true profitability of the firm.EVA improves investor monitoring capacity, disclosure of return on investment and EVA are important in annual reports for the benefit of the shareholder.

Zaima (2008) said that economic value has gained popularity now days. In the firm which has been taken as an example for the calculation of economic value added, economic value added and market value added calculated in the firm and the firm is ranked according to their performance. The result generates surprising outcome the first portfolio annual return are more volatile than others.

Lin & Zhilin (2008) found that EVA performance measurement is more beneficial than any other performance metric. The study is based on listed companies of China. For the calculation of economic value added there are necessary adjustments made in the rules of accounting given by GAAP. EVA was developed by Stern Stewart & co. which can be calculated by the help of NOPAT and WACC. Here EVA is used with the help of neutral network which is a computer based system and is used in management field. Traditional methods have their own limitations but integrated economic value added proved its betterment than any other method.

Reddy et al (2011) expressed that EVA is an attempt to measure whether the company is destroying or creating the wealth of the shareholder. The traditional measures continue side by side. These traditional measures are unable to tell that the company is creating or destroying the wealth of the shareholder. From the analysis it is found that the economic value added is the best performance metrics than any other metrics.

Khairallah D. (2011) investigated that EVA is better measurement parameter over other performance measures. It can be use as employee motivator as well. For the calculation of economic value added Net operating profit after tax has taken and cost of capital deducted from it. They also highlighted that managers must take responsibility for decision-making, promote transparency of information and knowledge, and be accountable for their performance.

OBJECTIVES OF STUDY

The focus of the study is on the following objectives:

a) To calculate the important metric of financial performance that is EVA for a sample of 50 NSE listed Companies for the period of 2005-2010.
b) To rank the sample companies on the basis of EVA generated / lost.
c) To identify the companies which have cited the use of EVA in their annual reports for the financial year 2005-06 to 2009-10.

RESEARCH METHODOLOGY

Sample Size

Sample size of fifty companies has been taken to compute the EVA. All these companies are NSE listed.

Methodology

According to Stewart, Eva is a residual return measure that subtracts the cost of invested capital from NOPAT. At it's the simplest form and can be calculated by the following equation:

EVA=NOPAT-(WACC*IC),
NOPAT=Net operating profit after tax,
WACC=Weighted Average Cost of Capital,
IC = Invested Capital (total assets).

EVA is positive if NOPAT exceed the cost of financing. The authors of EVA state that, in this case, the company has created shareholder value. On the other hand when EVA is negative, the company is destroying the value of the shareholder.

To compute the NOPAT Stern Stewart has taken 160 adjustments. But in this study we are taking three adjustments to compute the EVA. He did these adjustments so that traditional accounting can be closer to the "Economic Profit".

NOPAT has been taken from the income statement of companies' refers to capita line data base:

Adjustment in NOPAT

- Interest Expenses
- Goodwill written off
- Research & Development expenses

The second step is to calculate WACC (weighted average cost of capital)

WACC=Ke*We+Kd*Wd+Kp*Wp

Cost of equity (ke) calculated by the CAPM model

Ke=Rf+Beta(Rm-Rf)

For calculation of cost of equity the beta has been calculated by following method:

Market return = Current day closing price of nifty-previous day closing price of nifty / Previous day closing price of nifty

Security return = Current day closing price of stock-previous day closing price of stock / Previous day closing price of stock

Use regression formula to check the dependency of security return on market return this is called beta.

Calculation of RM (Market return) or market premium

(Current day closing price of nifty-previous day closing price of nifty) * Number of trading days
Previous day closing price of nifty

Kd = Rate of interest rate paid by the company for debts

Calculation of cost of debt

Total interest expenses* (1-effective tax rate) / Average total borrowings*100

Calculation of cost of preference shares

Kp = (Preference dividend / Average Preference capital) *100

DATA ANALYSIS AND INTERPRETATION

It is depicted from the table 4.1 given below that average of economic value added created by the sample companies during the last five year that is 2005 to 2009. The table shows that in out of fifty company, thirty seven companies have generated positive economic value added and thirteen companies are destroying the wealth. The companies which are destroying the wealth are Voltas Ltd, Tamil Nadu Petroleum Ltd, B. A. G. Telefilms and Media Ltd, Madras Fertilizer Ltd, Noida Toll Bridge Ltd, Cipla Ltd, Tata Teleservices Maharashtra Ltd, Tata Chemical Ltd. Bharat Electronics Ltd. BHEL, NTPC and Tata Communications. Reliance Industry is the top most company which has generated the wealth of the shareholder within the fifty companies followed by ONGC, Grasim Industries Ltd, TCS,HPCL,IFCI Ltd. these are the top five wealth generated companies in this study.

Table-1: Eva Ranking of Selected Companies

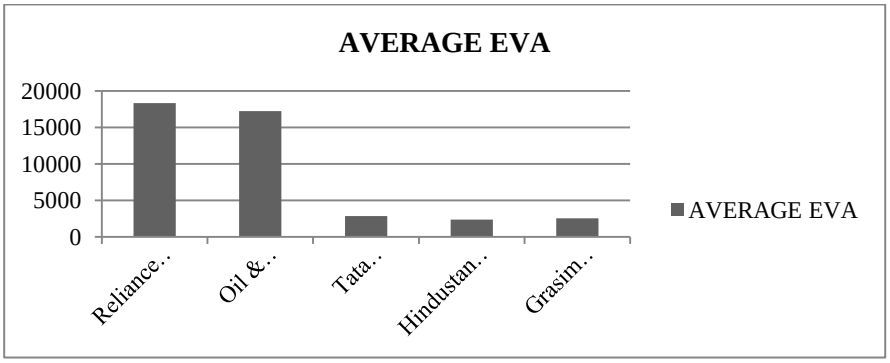
Name of the company	Average EVA (in Crore)	Rank	Name of the company	Average EVA (in Crore)	Rank
Reliance Industries Limited	18324.57201	1	TVS Motor Company Limited	144.2758776	26
Oil & Natural Gas Ltd.	17219.71506	2	Blue Star Limited	117.7686052	27
Tata Consultancy Services Limited	2856.551155	3	Godrej industries	98.81769009	28
Hindustan Petroleum Corporation Limited	2378.196855	4	Bombay Dyeing & Mfg Company Limited	82.38910491	29
Grasim Industries Limited	2544.330224	5	Tamil Nadu Newsprint & Papers Limited	82.73401934	30
Tata motors	2110.716965	6	Surya Roshni Limited	61.22699332	31
IFCI Ltd.	1464.636551	7	Apollo Hospitals Enterprise Limited	46.97118938	32
Hero Honda Motors Limited	1480.926111	8	CCL Products (India) Limited	49.57815037	33
UltraTech Cement Limited	1255.935676	9	Ashok Leyland Ltd.	26.58338228	34
Wipro Limited	969.0819805	10	NIIT Limited	14.75859292	35
India bulls Financial Services Limited	918.0194752	11	Aegis Logistics Limited	7.92392652	36

Chennai Petroleum Corporation Limited	829.6690377	12	Zodiac Clothing Company Limited	3.832382319	37
Adani Enterprises Limited	532.415484	13	Voltas Ltd.	-49.3683552	38
Maruti Suzuki India Limited	519.9510743	14	Tamilnadu Petro Products Limited	-51.59997869	39
Asian Paints Ltd.	460.3958403	15	Madras Fertilizers Limited	-101.777072	40
Bharat Forge Limited	351.9156171	16	B.A.G. telefilms and media	-157.9604555	41
Tata Global Beverages Limited	342.5240333	17	Noida Toll Bridge Company Limited	-188.2613802	42
Dabur india Ltd	312.7598334	18	Cipla Limited	-227.3487506	43
Usha Martin Limited	274.0564035	19	Tata Teleservices (Maharashtra) Limited	-771.2550348	44
Godrej consumer product ltd	245.7607877	20	Tata Chemicals Limited	-1038.809517	45
Bharati Shipyard Limited	203.790116	21	Bharat Electronics Limited	-1048.455781	46
Pidilite Industries Limited	216.0114564	22	Bharat Heavy Electricals Limited	-1738.948682	47
GAIL (India) Limited	163.5656894	23	ITC Limited	-2224.03887	48
Alembic Limited	168.5285691	24	NTPC Limited	-4110.238722	49
Apollo Tyres Limited	155.7598593	25	TATA Communications	-5088.577075	50

Five Wealth Generating Companies

Graph1 shows the position in economic value added of top five companies. Reliance industries are the top performer amongst them, followed by ONGC Ltd, Grasim Industries Ltd, Hindustan Petroleum Corporation Ltd and Tata consultancy. On an average reliance has generated the highest economic value added on average basis that is Rs.18324.57 Crores, which is a good indicator for the future performance. It means that reliance industries has been investing its finance in good projects and generating more profit than the cost of capital. The success is followed by ONGC which is a public sector company. It proves the assumption wrong that the government sector is not an efficient one. ONGC is the second wealth creator among the fifty sample companies which has been taken in this study. ONGC has never shown any loss in past five years, as the total cost of capital of ONGC is less than their profits. Therefore ONGC is very efficient in giving true value for the shareholder wealth. Tata consultancy ltd, ranked third wealth creator in top five wealth generated companies. Although it has negative economic value added in the year 2005 and 2009 but other years it gives very good performance in the form of economic value added which make it eligible as the part of top five wealth creator in our study. HPCL ranked fourth in wealth generation in our study.

Graph-1: Top Five Wealth Generating Companies



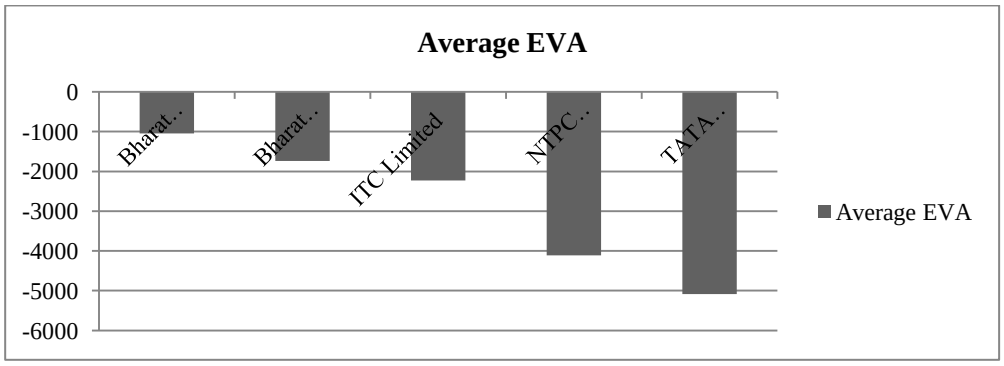
HPCL has increasing performance trend in the form of economic value added till the year 2006. In year 2007 EVA is less than the last two years. The reason is that the profit is less than in last two years, as per the cost this year WACC is more than other years but less than year 2005. Again it has increasing trend in year 2008 but decreasing in year 2009 while comparing with year 2008, WACC is more in this year than the year 2008. Grasim industry ranked fifth position in the best performer as shareholder wealth creator. Grasim has trend of increasing EVA from the year 2005-2007 after that in 2008 the EVA is decreasing as the profit is less then last two years then again it has decrease economic value added but it is because of the WACC profit which is less in 2008 then last four years.

Top Five Wealth Destroyer Companies

The below given Graph2 shows that Tata Communication is the top wealth destroyer in top five wealth destroyer companies. Till 2007 Tata Communications has shown negative wealth creation for the shareholders mainly in the year 2005 and 2006. In 2008 it started to perform with positive economic value addition but again in 2009 it has negative economic value added so on an average its performance is not good. It has a high rate of WACC in the starting years but there is a decreasing trend in WACC. No doubt the profit is increasing but not so enough that it can convert the negative EVA into positive EVA. In the starting year the company has high rate of WACC due to the high rate of cost of equity. After that WACC has decreasing trend because the cost of equity has a decreasing trend. On an average the cost of capital is also high in Tata Communication which is one of the reasons to rank it

in the highest position of wealth destroyer. The second highest wealth destroyer in the graph2 is NTPC Ltd. NTPC has negative EVA in 2005, 2007 and 2009. Although it has positive economic value added in the 2006 and 2008 but it is not to offset the negative EVA of 2005, 2007 and 2009 so on an average it is the second highest wealth destroyer after Tata Communications because of the high rate of cost of capital. The third position among the top five wealth destroyer is ITC Ltd.

Graph-2: Top Five Companies with Negative EVA



ITC has a positive trend in profits but its economic value added has negative trend except the 2006 and 2008. The reason of negative economic value added is WACC which is on an average is high. The fourth highest wealth destroyer among top destroyer is BHEL Ltd. BHEL Ltd. has trend of increasing profit but on an average WACC increased over the five year. So the performance of the BHEL Ltd. is also not good. Fifth position among the top five wealth destroying is Bharat Electronics Ltd. It has positive economic value added only in the year of 2008 the main reason to make it wealth destroyer is high rate of WACC.

FINDINGS OF THE STUDY

Economic value added is a true measure of financial performance and is gaining reputation globally. As a part of this research work we find out that in India there are very less number of companies which are disclosing economic value added. In a sample of fifty companies considered for the study, there are only three companies which have disclosed economic value added in their annual reports. As per the data for the period under consideration (2005-06 to 2009-10), public sector is destroying the wealth of the shareholders more than the private sector. Economic value added is successful to prove its betterment over other traditional methods. The findings of the study are:

- Amongst the top five wealth destroying companies four companies are from public sector so the overall public sector performance is not really good. These companies are NTPC Ltd., ITC Ltd. Bharat Heavy Electronics Ltd. and Bharat Electricals Ltd.
- The companies which are destroying the wealth of the shareholder have a high equity cost and the profit is not enough to cover the equity cost. It means these companies are investing its funds in less profitable projects.
- Reliance Industries Ltd., are the top most performers in fifty sample companies. This means that Reliance Industries Ltd. is investing its funds in efficient projects.
- The names of top wealth creator companies are Reliance industries, ONGC Ltd., Tata consultancy, HPCL Ltd. and Grasim industries.
- In the list of top EVA destroying companies NTPC Ltd. and Tata Communications is the top wealth destroying companies.
- There are only three companies in our study which disclose the economic value added in their annual report. These are TVS Motors Ltd., BHEL Ltd. Godrej Products Ltd.

SUGGESTIONS

The companies should disclose economic value added in their annual report and it should be mandatory for every company to disclose economic value added. The main aim for every investment should be to create value for the shareholder from that investment. The manager never considers their own profit while making investment. He should be a risk taker because higher profit is attached with more risk. He should have capability to win over the risk and get more profit. He should not have the fear of risk. Public Sector Company must have good management system. They must have professionals who can help them to generate more profits. Incentive should be attached with economic value added generation.

- Globalization has made it compulsory for every company to be transparent other wise capital will be very costly because investor would invest in the company where more transparency is available. With the help of EVA, as cost of equity is considered in its calculation, the company which is giving more profit after deducting the cost of equity is a well performing company than any other.
- For a general justice it is necessary to know whether any action of the company is benefitting the shareholders or not. The main aim of the company should be the improvement of the shareholder wealth so the manger should not think about the short term profit but also should think about the long term effects of the projects also.

- The findings of the study show that the four companies in top five wealth destroyer are from public sector, like Bharat electronics Ltd, BHEL Ltd, NTPC Ltd. and ITC Ltd. Thus the management of these PSU's should take corrective measures to improve their profits.
- The research study recommends the disclosure of economic value added in companies 'annual report on compulsory basis as it is an important indicator of financial performance measures.
- The capital structure should be optimum so that EVA can be generated. Equity is not a 'free of cost' capital so unnecessarily equity should not be issued. Also whatever the capital has been generated it should be invested in a project after proper appraisal of the same. The evaluation of the project profitability should be done before investment so that the wealth of the shareholder may not get destroyed.
- A pay program should be attached with the performance of the managers in terms of economic value added.

CONCLUSIONS

At last we can conclude that EVA is a financial measure based on operating income after tax. EVA is the most reliable source to know the performance of the company in today era. A company should be a wealth creator not the wealth destroyer for the shareholder. In the EVA system a company will be a wealth creator if its operations are as good as it can generate profit more than the cost of capital which includes the cost of equity as well. In our study there are fourteen companies which are the wealth destroyer companies although they have good profit but still they have negative EVA. It means they have high cost of equity capital and this capital has not been invested in good projects.

The companies are considering the cost of debt and cost of preference shares, but the most important cost is not considered that is cost of equity. So the calculation of EVA is very important for these companies so that they can take care of all the weakness and try to generate more profit, so that the cost of equity can also be covered. In top five wealth destroying there is only one company which is from private sector. There are some limitations of EVA as well this system does not control the size difference across plants or divisions, A large plant has higher EVA instead of smaller size of plant. EVA is a computed number that relies on financial statements which can give wrong results if manipulated by the managers for increased incentive motive. It restricts the investment on the project which requires high investment but gives good result after a long time period because with the investment in that project the cost of capital will raise and the current year EVA will decrease and the incentives of the managers also may decrease. They will not be motivated to invest in that type of project. Although there are some limitations of EVA, still it is a good performance indicator than any other method and globally it has reputation because it considers the cost of equity in the form of shareholder expectations. In India there are very less number of companies which are adopting economic value added.

REFERENCES

1. Beneda, L. N., (2004). "Valuing Operating Assets in Place and Computing Economic Value Added", The CPA Journal. Vol 74, No.11, pp. 56-62.
2. Chen, L., and Zhilin, Q., (2008). "Empirical Study of Integrated EVA Performance Measurement in China", Canadian Social Science, Vol 4, No13, pp.41-49.
3. Fraker, T. G., (2006). "Using Economic Value Added (EVA) to Measure and Improve Bank Performance", Arizona Chapter Vol 13, No 3, pp. 1-6.
4. Holler, A., (2008). "Have Earning Lost Value-Revisiting Latest Evidence on EVA", The Business Review, Vol 10, No2, pp. 245-255.
5. Kroll, M. K., (1997). "EVA and Creating Value", Industry Week, Vol. 246, No.7, pp.102-106.
6. Kaur, M., and Narang, S., (2009). "Shareholder Value Creation in India's Most Valuable Companies", Journal of Management Research, Vol 8, No 8, pp.16-27.
7. Morris, F. V., (2001). "The EVA Challenge: Implementing Value - Added Change in an Organization / EVA and Value Based Management Practical Guide to Implementation", Financial Analysts Journal, Vol 57, No 6, pp.106-109.
8. Mittel, R. K., (2008). "An Analysis of Linkage between Economic Value Added and Corporate Social Responsibility", Management Decision, Vol 46, No 9, pp.1437-1440.
9. Reddy, (2011). "Valuation through EVA and Traditional Measures and Empirical Study", International Journal of Trade, Economics and Finance, Vol 2, No 1, pp.19-23.
10. Sharma, K. A., (2010). "Economic Value Added (EVA) - Literature Review and Relevant Issues", International Journal of Economics and Finance, Vol 2, No 2, pp.200-220.
11. Stewart, S., (2003). "Value Based Management Done Right", Evaluation, Vol 5, No 1, pp.1-8.
12. Sahil, N. K., (2009). "Performance Measures: An Application of Economic Value Added", International Journal of business and Management, Vol 4, No 3, pp.169-177.
13. Zaima, K. J., (2008). "Portfolio Investing with EVA", Journal of Portfolio Management, Vol 34, No 3, pp.34-42.

****