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Measurement of value creation of Select Indian LBO companies using EVA technique

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Abstract

Value creation is a crucial task for every corporate enterprise. Most of the enterprise creates value by adopting the policy of merger, acquisition, take over, spin off, leveraged buyout etc. This study attempt to examine financial performance as well as value creation of Select Indian Leveraged Buyout companies through EVA technique. This study covers a period of eight years from 2002-03 to 2009-10 for the purpose of determining the value of the select Indian companies which have undergone leveraged buyout. Economic Value Added (EVA) technique has been applied for deriving the value on the select Indian companies. The result indicates that Leveraged Buyout (LBO) has immediate significant impact on financial performance of the select Indian companies and thereafter performance is deteriorated over the study period.

Keywords: Leveraged Buyout (LBO), Economic Value Added (EVA), financial performance, Value creation.

1. Introduction

Economic Value Added (EVA) is a modern method of estimating the economic profit that is earned, as against accounting profit. Proponents of EVA provided evidence to establish this method as a superior performance measurement and incentive compensation system and claimed that it is really better to use EVA than traditional accounting performance measures such as Earnings Per Share (EPS), Return On Investment (ROI), and Return on Equity (ROE) (Stewart, 1991; Tully 1993; Stern *et al.*, 1995; Ehrbar, 1998) ^[44, 47, 42, 20]. EVA is a strategy formulation and a financial performance management tool that helps Companies make a return greater than the firm's cost of capital. Firms adopt this concept to track their financial position and to guide management decisions regarding resource allocation, capital budgeting and acquisition analysis.

EVA is a value based financial performance measure, an investment decision tool and it is also a performance measure reflecting the absolute amount of shareholder value created. It is computed as the product of the "excess return" made on an investment or investments and the capital invested in that investment or investments. Economic Value Added (EVA) is a new method of performance measurement. Stern Stewart, the founder of EVA, believed that EVA was the best and most practical performance measurement and well reflects the Company's real economic profit than any other method (Chen & Zhilin, 2009). Economic Value Added (EVA) is the financial performance measure that comes closer than any other to capturing the true economic profit of an enterprise.

Thus, in modern economics and finance area, EVA holds an important part that has less debate among practitioners. It is the performance measure most directly linked to the creation of shareholders' wealth over time. Shareholders' are very much choosy for their interest into the business and they like management to come up with very specific solution. Economic value added (EVA), a new performance measure, has been paid a lot of attention in recent years. EVA is such a method that is viewed as an effective measure reflecting both the value of Company and the interest of shareholder (Tully & Hadjian, 1993;) ^[47]. Many researchers have shown that EVA better reflects the Company's real economic profit than traditional performance measurement (Stewart, 1994) ^[43]. It is the right measure most directly linked to the creation of value for shareholders (Stern, Stewart, & Chew, 1995; Ameels, Werner & Geert, 2002) ^[42, 2].

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2. Review of literature

Literature review focus on various areas of a particular research which have been explored in the field. Research gap is found after reviewing the whole literature survey. It helps to avoid repetitive research work. There exist a number of studies in India and abroad, though it is still under development. However, the whole literature has been discussed below in a synthetic manner.

Burlett and Hedley (1997) ^[12] explained that the EVA concept can be used to assess organizational performance known as economic profit; it can be applied for profit companies, public sector organizations and non-profit organizations. EVA can also be used in management communication, as a measure of corporate and divisional performance in order to tighten management, safeguard shareholder interests and to emphasize on the long-term benefits of industrial research and employee training.

Teitelbaum (1997) ^[46] finds that EVA is a performance measure and an analytical tool to make portfolio selection decisions and a management discipline. It has now cropped up in all areas, namely, community hospital or US postal service etc.

Karame (1998) ^[25] has pointed out that if EVA is properly implemented, it becomes the centre piece for corporate governance, and fosters a change in employee's mindset as well as changes the culture of the company.

McCormack and Vytheeswaran (1998) ^[30] have analysed the use of EVA based framework for performance measurement and incentive compensation for oil and gas firms. They have opined that EVA has greater ability to explain stock returns than the accounting based performance measures.

Durant (1999) ^[19] has pointed out that EVA is both, a value as well as performance measure and has concluded that a sustained increase in EVA will bring an increase in the market value of the company. According to him EVA forces the organisation to cater to the shareholder's value as a performance measure.

Anand *et al.* (1999) ^[4] have observed that there is a need to shift the focus to shareholder's value creation and for that, EVA linked management compensation system is required. They revealed that EVA, REVA (Refined Economic Value Added) and MVA are better measures of business performance than NOPAT and EPS in terms of shareholder's value creation and competitive advantages of a firm.

Brewer *et al.* (1999) ^[10] has explained the uses and limitations of EVA for managers, because the number of companies relying heavily upon EVA is on a continuous increase. According to them, EVA is also said to provide better goal congruence than Return on Investment or ROI.

Roztocki & Needy (1999) ^[40] have examined whether for small manufacturing companies Economic Value Added is an effective performance measurement tool or not. The author also examined the advantages and disadvantages of EVA as a measure of a company's performance over the traditional indicators, say sales, revenue, earnings, operating profit, profit after tax, and profit margin. Finally, they discussed on the potential improvement opportunities resulting from using Economic Value Added as a performance measure in small manufacturing companies.

Worthington and West (2001) ^[48] have provided a synoptic survey of EVA's conceptual underpinnings and the comparatively few empirical analyses of value added

performance measures. According to the authors, in EVA-type calculation, special attention is given to the Generally Accepted Accounting Principles (GAAP) related accounting adjustments.

Lal and Malik (2001) ^[26] have made a serious attempt to decipher EVA and have analyzed its superiority over the traditional profit based performance measures. Its computation, implementation, and application have also been carried out with the help of a special reference to Hindustan Lever Ltd in the FMCG sector. According to the authors, EVA really gives the feel of real value.

Ramana (2005) ^[37] has investigated the relationship between MVA and EVA of 500 big Indian companies. The author has also examined the relationship between MVA and other common accounting measures like NOPAT, PAT, PBIT and CFO. According to the author there is no strong evidence to support Stern Stewart's claim that EVA is superior to the traditional performance measures in its association with MVA. The author has demonstrated that market responds to the accounting measures more than that with the measures which are generated using some adjustments. The author has concluded that one should be careful in over using the EVA as a proxy for MVA.

Bhattacharyya and Phani (2005) have made an attempt to investigate whether EVA can be used as a better tool for measuring both the performances i.e. corporate reporting as well as internal governance. He has concluded that though EVA does not provide additional information to investors, it can be adapted as a corporate philosophy for motivating and educating employees to differentiate between value creating and value destructing activities. This would lead to direct all efforts in creating shareholders' value.

Ray and Choudhuri (2005) ^[39] have focused on the uses and limitation of EVA. They have concluded that EVA is only one piece of the performance measurement puzzle and it must be used in conjunction with a balanced set of measures that provide a complete picture of an organization's performance.

Liao and Feng (2005) ^[28] have analysed the advantages and disadvantages of EVA as an evaluation indicator operating in performance measurement while designing an incentive system in China. According to them, just because of this innovative idea and a series of managerial skills created by it, EVA makes itself much better than previous evaluation indicators.

Fraker (2006) ^[21] has hypothetically evaluated EVA as a means to assess the financial performance of banks, if its management decided to securitize a portion of its credit card loans in an effort to improve its capital adequacy. The author has concluded that EVA can be an important tool that bankers can use to measure and improve the financial performance of their bank.

Rakshit (2006) ^[36] has concluded on the basis of a case study of Dabur India Limited that the company should take appropriate decisions related to the choice of strategy, capital allocation, merger & acquisitions, divesting business and goal setting on the basis of the EVA based performance measures.

Phillips (2007) has found that EVA sets high standards for measuring performance and based on the economic reality it has bitterly determined the company's worth than the traditional indicator.

Cheremushkin (2008) ^[17] has opined that properly calculated EVA better reflects a firm's performance as compared with initial opportunity costs that existed when the capital was contributed.

Ramanna, V. (2009) ^[38] has discussed the implementation of EVA and has analyzed the effectiveness of EVA based compensation system by making a case study Godrej Consumer Products Limited (GCPL), a leading fast moving consumer goods company in India during the period of 2001-08.

Ilic (2010) has pointed out that if the accounting values were based on cash flows, economic value added would more accurately reflect the economic performances of a company. The author has concluded that EVA plays an important role for maximizing the share capital.

Sakthivel, N. (2011) ^[41] has analyzed the trend and growth of shareholders' value in terms of EVA and MVA in Indian Pharmaceutical Industry from 1997-98 to 2006-07. The author has observed that from 2000 to 2001, shareholders' value creation tend to go up every year for pharmaceutical industry. The author has also concluded that EVA is the only variable which has unique influence on MVA of pharmaceutical companies.

After analyzing the above literature review following research gap have been found in the context of India.

- 1) There is no literature which measures the EVA of Indian LBO company for value creation purpose.
- 2) There are a few literatures which compare EVA of Indian LBO companies with its matching control companies for pre-LBO and post-LBO period.
- 3) No research study has been found which measure the financial performance of Indian LBO companies by using EVA technique.

3. Objectives of the study

The main objective of our study is to calculate the value of EVA of the sample company and their matching control company. Then computing EVACE which is EVA as a percentage of capital employed for the purpose of determining the same scale. Then comparing the result of sample company with the control company so that LBO has significant impact on the said industry or not.

4. Database

The companies selected for the study are listed either on Bombay Stock Exchange or on National Stock Exchange. The firms selected are widely held and securities of these firms are frequently traded. Analysis has been done for a total of twenty companies operating under different sectors viz steel, auto-ancillaries, thermal power, alcoholic, beverage, electronics etc. All these firms are profit seeking, therefore, the question of neutrality does not arise, i.e. if the LBO company is profit making and the resulting one is loss making or vice-versa the evaluation of pre-LBO period will lead to neutrality resulting data distortion.

The study is based on financial data procured from secondary sources mainly from corporate financial reporting including published annual reports of the select companies, Bombay Stock Exchange Directory and other reliable and authentic sources. Moreover, the Capitaline Data Base package 2000 has also been contemplated to procure data required for the study. The books and Journals and related

websites carrying relevant theories and articles have also been consulted to

enrich the analysis. Data have been collected from the Profit and Loss Account and Balance Sheet of the concerned companies for different years over the study period.

The 10 year Treasury Gold Bond rates (Appendix 3) for different years have been collected from the Treasury Division of the Reserve Bank of India (RBI). The corporate Tax rates applicable for different financial years have been collected from official website of the Income Tax Authority of India. The share price data of the sample companies and also the market index Nifty for different years pertaining to the study period have been collected from the websites of the respective sample companies under the study. In most of the cases, the 'Capitaline 2000' data base package has been consulted for collecting these data. This data base package has also been consulted for collecting the share price data of the sample companies over the study period, in addition to the official websites of the sample companies. The same sources have been consulted for obtaining the daily share price data for all the sample companies and the daily Nifty data for the relevant periods.

The basic data which have been collected from the secondary sources for analysis of sample companies during the entire study period are net operating profit after tax, capital employed, amount of interest, total debt, long term data for market index Nifty, share prices of the sample companies for the relevant periods, relative weights of various sources of capital in the capital structure of the concerned companies, 10 year Treasury Gold Bond rates as risk free rate of return, rate of corporate tax, etc.

Seven years have been selected for the study period where three years have been for post-LBO period and three years have been for pre-LBO period. Most of the LBOs have taken place in the year 2005 and 2006. So three years pre-LBO starts from 2002-03 and end on 2004-05. Similarly three years post-LBO period is from 2007-08 to 2009-10.

The prime objective of the study is to investigate if there is any impact of LBO on the financial performance of the LBO companies. The study wanted to analyze the performance of the LBO companies in order to search if there is any improvement in the financial performance of the LBO companies after they had undergone LBO on the basis of EVA and statistical measurement. Hence, two periods have been taken – before LBO and after LBO. The performance of pre-LBO period has been measured and the same has been compared with that of post-LBO period. But the study will stand on a strong footing if the performance of LBO companies is compared with that of non-demerged companies. So control sample methodology has been applied. Formation of control is a crucial task which has been done by adopting the method of paired sample. Companies under the control sample is selected by matching certain characteristics like the category of industry, size of the company in terms of turnover, market capitalization, capital employed, nature of the business undertaken by the company etc. The control company sample consists of the companies representing the best performing company of the said industry from which the LBO company has been selected. If the LBO company is the best performing company of that industry the next best company of that industry which has not undergone LBO has been selected as

control company. Finally for each LBO company a non-LBO company belonging to the same industry has been selected and ultimately a control sample company of ten non-LBO companies has been formed.

5. Methodology

LBO is a measure of economic profit which is arrived at by considering the charge for the opportunity cost of all capital invested in the company. Since, opportunity cost is considered under EVA, it measures the true economic profit. This represents value creation or value destruction, i.e. the amount of earnings that exceed or fall short of the required minimum rate of return which the investors, both shareholders and long term fund supplier, could obtain by means of investing their capital in other alternatives having similar degree of risk. The economic value added is thus the difference between company's net operating profit after tax and total cost of capital employed. If the net operating profit after tax exceeds the total cost of capital employed then it will be known that the company has created value, otherwise it has destroyed value. Value creation is the indication of generating economic surplus and value destruction indicates that company created economic deficit. This measure is widely used as it is more dynamic and realistic. The EVA is calculated using the following formula-

$$\text{EVA} = \text{Net operating profit before interest but after tax} - \text{weighted average cost of capital} \times \text{Capital employed.}$$

Net Operating Profit after tax (NOPAT): According to Stewart (1991) ^[44], NOPAT defines as the profits derived from the company's operations after taxes but before financing costs and non-cash-book keeping entries. Such non-cash-book keeping entries do not include depreciation since depreciation is considered as a true economic expense. In other words, NOPAT is equal to income available to shareholders plus interest expenses (after tax). To compute NOPAT properly, Stern & Stewart identified 164 adjustments. However the actual number of adjustment would depend on prevailing Generally Accepted Accounting Principles (GAAP) of a country. In our study, ten necessary adjustments which are relevant in the Indian context will be considered for computing NOPAT.

Capital Employed (CE): Capital employed refers to total assets net of non-interest bearing liabilities. From an operating perspective, capital employed (CE) = Net Fixed Assets + Investments + Net Current Assets;

Where Net Current Assets = Current assets net of Non-interest-Bearing Current Liabilities (NIBCLS) = Net Worth + Total Borrowings;

Where, total borrowings denote all interest bearing debts.

Every Stern-Stewart adjustment in NOPAT is also adjusted to equity shareholders' fund.

Adjustments: It is important to note that, Stewart & Co. has made 164 necessary adjustments for computing EVA. However, in this study, EVA has been calculated by making ten necessary adjustments which are relevant in the Indian context according to a study carried out by Business Today. Actually, Business Today, has

conducted a study on India's Biggest Wealth Creator Companies over the period from 2002 to 2004 (Business Today, 2002) and identified different important adjustments. Following are the important adjustments required in profit and loss account and balance sheet of a company to compute the NOPAT and CE in our study.

Research & Development: The after-tax R&D expenditure was included in capital and added back to NOPAT. The amount included in capital was amortized over a period five years. The adjustment does not apply to the Banking and Financial (BFs) sector.

Interest: All interest expenses are added back to profits. The tax-benefits of interest are also removed and cash operating taxes for the companies adjusted accordingly. This does not apply to the BFs sector.

Non-Interest Bearing Current Liabilities: NIBCLs are excluded from the calculation of capital in non-BFs companies.

Construction in Progress: Construction in progress is included in capital. It does not apply to the BFs sector.

Non-Recurring Income and Expenditure: Non-recurring items are excluded from NOPAT and capitalized after tax. Non-recurring expenditures are taken as additions to capital and non recurring income as a deduction.

Asset Gain Adjustment: Gain or loss from transactions is amortized over a period of three years to spread the returns of an asset over its life. This applies only to the BFs sector.

Cash-Operating Taxes: Provision for taxes is restated to reflect taxes paid on operations. The tax effects of financing and non-recurring items are eliminated.

Revaluation Reserve: This is excluded from capital while calculating Economic capital.

Weighted Average Cost of Capital (WACC)

WACC represents overall cost of total capital (debt plus equity). For calculating WACC, cost of each source of capital is calculated separately then weights are assigned to each source on the basis of proportion of a particular source in the total capital employed. Weights can be assigned on market value basis or book value basis (Sakthivel, 2011) ^[41].

WACC will be calculated on the basis of the following formula:

$$\text{WACC} = W_d \times K_d + W_p \times K_p + W_e \times K_e;$$

Where, W_d = Proportion of debt to capital employed.

W_p = Proportion of preference share capital to capital employed.

W_e = Proportion of equity share capital to capital employed.

K_d = Cost of debt = $[\text{Interest on debt} \times (1-T) / \text{total borrowings}] \times 100;$

K_p = Cost of preference share capital.

K_e = Cost of equity share capital.

Cost of equity of the company is calculated by using capital

assets pricing model as proposed by Stern Stewart & co. The formula for deriving cost of equity is as follows:
 $Ke = Rf + \beta_jm(Rm - Rf)$

Where Ke is the cost of equity. Rf is the risk free rate of return. β_jm is beta of the securities which measure systematic risk. Rm is the average market rate of return.

Market return

Market return is defined as average return available from the traded stock in the secondary market and determined on the basis of representative stock market index. For computing EVA, a stable market return is necessary which can be used as a benchmark return. However, it is very difficult to find out a benchmark market return on the basis of daily, weekly, monthly or quarterly return, because of its volatility. While determining the cost of equity applying market model, one should take a long run view because that will be capable of representing all cycles and abnormalities of the capital market. Thus, for the purpose of determining market return, abnormality in the stock market index should not be eliminated. Rather it should be filtered through increasing sample size (Ghosh, 2001). Accordingly, we have used the daily NSE CNX NIFTY during the period from April 2002 to March 2010 for determining market return. The formula for calculating daily return from NSE NIFTY is:

$$\frac{\text{Closing index of the day} - \text{Closing index of the day (N-1)} * 100}{\text{Closing index of the day (N-1)}}$$

In this study, it has been found out that, average yearly market return is 17.87 % by making a simple average of a series of 1996 annualized daily returns.

Risk free rate

Since market return is based on yearly basis. In most cases year-wise average of bank rates are taken as a risk free rate. But in our study 10 years Treasury Gold Bond rate has been taken as risk free rate of return.

Beta Analysis

Beta is the risk indicator to be determined by the CAPM model. More specifically, beta is a statistical measure of systematic risk. It is the sensitivity (or covariance) of its return to movements in the stock market as a whole. In other words, beta is the responsiveness or sensitivity of stock return to the market return and measures the variability of security return relative to the market portfolio. The value of beta for each of the select companies has been estimated by regressing company's stock return on the market return and it has been calculated as $\beta_jm = \text{Cov}_{jm} / \text{Varm}$

Where Cov_{jm} is the covariance of stock return with index return and Varm is the variance of market return.

For the purpose of our study, the value of beta for each of the selected company has been calculated by regressing the stock return on the market returns. Hence, the values of EVA for each company (industry wise) have been presented in terms of EVACE which is EVA as a percentage of Capital Employed. Average EVACE of sample company and their matching control company have been discussed below-

Table 1: Average EVACE of Hindalco Industries and National Aluminium

Name of the company	EVACE							Average EVACE (C.V)	
	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	Pre LBO	Post LBO
Hindalco	7.14	9.7	10.32	11.45	10	5.29	3.15	9.05 (18.62)	6.15 (57.01)
National Aluminium	4.18	11.23	9.28	15.72	6.63	-0.45	-12.86	8.23 (44.23)	-2.23 (-443.07)

From the above table it is evident that average EVACE of Hindalco Industries has decreased in post LBO period (6.15) as compared to that of pre LBO period (9.05) but it was maximum in the year 2006-07 which was the year of LBO. That means LBO has immediate significant impact.

Subsequently EVACE of the sample company has declined from 2007-08 to 2009-10. On the other hand National Aluminium, the control company, has also shown similar trend like sample company but its variation is decreased in post LBO as compared to pre-LBO period.

Table 2: Average EVACE of UB Group and Radico Khaitan

Name of the company	EVACE							Average EVACE (C.V)	
	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	Pre LBO	Post LBO
UB Group	1	-1.01	-0.82	0.89	0.99	-3.99	1.8	-0.28 (-401.1)	-0.40 (-783.82)
Radico Khaitan	10.69	10.79	9.81	3.85	4.88	1.66	0.32	10.43 (5.17)	2.29 (102.49)

The average EVACE of UB Group has declined remarkably in the post LBO period (-0.40) from the average EVACE of the Pre LBO Period (-0.28). However year wise data of the said industry shows downward trend from the year 2003-04 (1) to the financial year 2005-06 (-0.82). On the other hand the average EVACE of the control company (namely, Radico Khaitan) also show the downward trend starting

from the year 2004-05 to 2009-10 except in the year 2007-08. The average EVACE of the Radico Khaitan has decreased from pre LBO period (10.43) to Post LBO period (2.29). However C.V of Radico Khaitan has increased remarkably in the post LBO period in contrast to that of pre LBO period.

Table 3: Average EVACE of Dr. Reddys' Laboratories and Sun Pharma

Name of the company	EVACE							Average EVACE (C.V)	
Financial Year	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	Pre LBO	Post LBO
Dr.Reddys Lab	7.78	5.29	-2.13	6.25	14.91	6.63	6.37	3.65 (141.37)	9.30 (52.21)
Sun Pharma	23.27	22.44	10.05	14.19	16.51	16.92	14.72	18.59 (39.84)	16.05 (7.29)

A remarkably improvement in average EVACE has been noticed in post LBO period in contrast to that of pre LBO period in case of Dr. Reddys' Laboratories whereas there is opposite picture depicted in case of Sun Pharma, the control company in the post LBO period. Immediate impact of Dr. Reddys' Lab is positive as its EVACE has reached to

maximum in the year 2006-07(14.91). However a downward trend in EVACE of Sun Pharma has been depicted from the year 2002-03 to 2004-05. Even though the coefficient of variation (C.V) of both the companies have decreased remarkably in the post-LBO period.

Table 4: Average EVACE of Tata Steel and JSW Steel

Name of the company	EVACE							Average EVACE (C.V)	
Financial Year	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	Pre LBO	Post LBO
Tata steel	18.86	29.65	24.02	15.88	8.55	7.35	5.63	24.18 (22.32)	7.18 (20.45)
JSW Steel	8.31	17.61	12.82	12.92	12.49	2.49	10.69	12.91 (36.01)	8.56 (62.3)

Tata Steel has focused poor picture in the post LBO period (7.18) as compared to that of pre LBO period (24.18) as its EVACE has declined considerably in the Post LBO period. However the control company, JSW steel, has also shown the similar picture like Tata Steel. The average EVACE of

JSW steel has declined remarkably in the post LBO period from the year 2006-07 to 2009-10. The C.V of both the companies have been decreased which implies stability of variation of EVACE.

Table 5: Average EVACE of United Spirits and Radico Khaitan

Name of the company	EVACE							Average EVACE (C.V)	
Financial Year	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	Pre LBO	Post LBO
United Spirits	0.57	0.97	0.53	15.45	5.4	2.01	1.94	0.69 (35.26)	3.12 (63.46)
Radico Khaitan	10.69	10.79	9.81	3.85	4.88	1.66	0.32	10.43 (5.17)	2.29 (102.49)

From the data it is evident that the immediate impact is remarkable for united Spirits as its EVACE is reached to maximum in the year 2006-07 (15.45). The average EVACE of United Spirits has enhanced almost by four times in post LBO period compared to that of pre LBO period. Whereas a

decreased in the value of EVACE of Radico Khaitan has noticed in the post LBO period (2.29) in contrast to that of pre LBO period. However there is increased in C.V for both companies in the post LBO period.

Table 6: Average EVACE of Suzlon Energy and NTPC

Name of the company	EVACE							Average EVACE (C.V)	
Financial Year	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	Pre LBO	Post LBO
Suzlon Energy	14	18.86	23.74	11.57	15.09	9.53	-5.52	18.87 (25.81)	6.37 (167.48)
NTPC	6.98	6.61	1.95	3.01	4.4	4.09	5.06	5.18 (54.12)	4.52 (10.97)

It is evident from the above table that Suzlon Energy has shown a poor performance in the post LBO period as its EVACE has decreased in the post LBO period as compared to that of pre LBO period Even though its control company, NTPC has also focused the similar trend. But coefficient of

variation of Suzlon Energy has increased remarkably in the post LBO period compared to that of pre LBO period whereas C.V of NTPC has decreased considerably in the post LBO period.

Table 7: Average EVACE of United Phosphorus and Pidilite Industries

Name of the company	EVACE							Average EVACE (C.V)	
Financial Year	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	Pre LBO	Post LBO
United Phosphorus Ltd	-1.23	2.64	4.02	5.14	4.65	0.65	1.66	1.81 (150.37)	2.32 (89.66)
Pidilite Indus	11.42	11.33	11.59	13.14	15.58	16.61	9.54	11.45 (1.15)	13.91 (27.46)

United Phosphorus has depicted an improvement in EVACE in the post LBO period as compared to that of pre LBO period as its EVACE has increased in the post LBO period (2.32) even if its coefficient of variation has declined in the

post LBO period. Pidilite Industry, the control company, has also depicted the similar picture. That means there is visibility in improvement of performance in case of pidilite Industry in the post LBO period.

Table 8: Average EVACE of Tata Motors and Maruti Suzuki

Name of the company	EVACE							Average EVACE (C.V)	
Financial Year	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	Pre LBO	Post LBO
Tata Motors	16.74	16.45	16.02	15.96	15.31	2.6	7.34	16.40 (2.21)	8.42 (76.31)
Maruti Suzuki	1.7	6.09	3.54	15.88	13.46	6.05	15.4	3.78 (58.37)	11.64 (42.40)

In case of Tata Motor, a poor performance is visible in the post LBO period (8.42) as compared to that of pre LBO period (16.40) as its EVACE has decreased remarkably in the post LBO period. But Maruti Suzuki has shown

increased in average EVACE in the post LBO period (11.64) compared to that of pre LBO period (3.78) which implies improvement in performance in the post LBO period.

Table 9: Average EVACE of Aban Offshore and Reliance Industries

Name of the company	EVACE							Average EVACE (C.V)	
Financial Year	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	Pre LBO	Post LBO
Aban Offshore	7.18	12.05	6.89	7.69	5.9	5.53	5.79	7.29 (39.77)	5.74 (3.31)
Reliance industries	6.86	8.46	11.1	12.19	12.17	16	8.1	10.70 (20.02)	12.09 (32.68)

The average EVACE of Aban Offshore has decreased in the post LBO period (5.74) in contrast to that of pre LBO period (7.29) which indicates poor performance of the company in the post LBO period. On the other hand, Reliance Industries has depicted an improvement in performance in the post

LBO period as its EVACE has increased considerably in the post LBO period as compared to that of pre LBO period even though its coefficient of variation has increased in the post LBO period.

Table 10: Average EVACE of Tata Coffee and Tata Global Beverage

Name of the company	EVACE							Average EVACE (C.V)	
Financial Year	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	Pre LBO	Post LBO
Tata Coffee	3.21	4.36	6.2	5.76	1.16	2.75	1.11	3.51 (43.00)	1.67 (55.74)
Tata Global Beverage	-1.31	0.37	4.15	8.25	10.52	8.3	1.62	4.56 (61.37)	6.81 (67.99)

It is evident from the above table that average EVACE of Tata Coffee has declined two times in the post LBO period (1.67) in contrast to that of pre LBO period (3.51) which indicate poor performance of the company in the post LBO period. However the control company, Tata Global

Beverage has shown an improvement in performance in the post LBO period as compared to that of pre LBO period as its EVACE has increased in the post LBO period.

6. Summary of major findings

Table 11: Summary result of EVACE of the sample and control companies

Change in EVACE	Sample Company		Control Company	
	Number	Percentage	Number	Percentage
Increase in EVACE	3	30	4	40
Decrease in EVACE	7	70	6	60
Total	10	100	10	100

The above table depicts that there is 30% increase in average EVACE for the sample companies whereas 40% increase is noticeable in case of control companies. That means, improvement in performance of the control companies is better than that of sample companies. It

indicates that LBO companies have no impact on the industry. For better understanding we have applied paired t test on the result of EVACE of sample companies and control companies.

Table 12: Paired sample t test result on average EVACE for Pre LBO period

		Paired Differences				
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference	
					Lower	Upper
Pair 1	S1 - C1	-1.10900	10.54357	3.33417	-8.65142	6.43342

Where S1 is the variable of Sample companies' Average EVACE and C1 is the variable of Control companies' average EVACE for pre LBO period. Paired t test results have been obtained by using SPSS software. It is evident from the above table that P value is .747 which

is greater than .05. Hence the difference is not significant and null hypothesis is accepted at 5% level of significance. Alternative hypothesis is rejected. This signifies that there is no difference between the two set of companies in terms of their average EVACE for the pre LBO period.

Table 13: Paired sample t test result on average EVACE for Post LBO period

Pair	S2 - C2	Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 2	S2 - C2	-2.60600	5.50318	1.74026	-6.54274	1.33074	-1.497	9	.168

Where S2 is the variable of Sample companies' Average EVACE and C2 is the variable of Control companies' average EVACE for post LBO period. Paired t test results have been obtained by using SPSS software.

It is evident from the above table that P value is .168 which is greater than .05. Hence the difference is not significant and null hypothesis is accepted at 5% level of significance. Alternative hypothesis is rejected. This signifies that there is no difference between the two set of companies in terms of their average EVACE for the post LBO period.

The paired t test result of pre-LBO and post-LBO shows that there is no difference between the sample companies with their matching control companies in terms of EVACE indicator which implies sample companies do not have significant impact on their matching control companies while EVACE is used as a measuring tool.

7. Conclusion and scope for future research

On the basis of findings it may be concluded that LBO has immediate impact on the selected sample companies as its EVACE has reached to maximum level in the year leveraged buyout (i.e 2005-06 or 2006-07) in most of the cases. EVACE of the sample companies have been reduced after the leveraged buyout period which indicates a poor performance of the select companies in terms of EVACE indicator. Similarly Market Value Added (MVA) and Shareholders Value Added (SVA) method may be used as another two measuring tool for evaluation of performance as well as value creation to shareholders on the select Indian companies for future research.

8. References

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