Economic Value Added Based Performance Measurement

Gurleen Kaur[1] Amanat Kaur Sidana[2] Saurav Panda[3]

BBA F&A, Department of Professional Studies, Christ (Deemed to be University), Karnataka, India
Department of Professional Studies, Christ (Deemed to be University), Karnataka, India
Corresponding Author: Gurleen Kaur

ABSTRACT: *This paper attempts to make an analysis of the performance of selected companies using Economic Value Added (EVA). Under the study of this research, three companies from Indian Aviation Industry have been considered – Interglobe AviationLtd. , Jet Airways, SpiceJet. Financial Statements and information of these companies have been analysed for the calculation of EVA and it is further used as a factor for calculation of value of these companies in order to support and provide convenience to investor decision making.*
KEYTERMS: *Economic Value Added, EVA, Indian Aviation Industry, Investment, Decision Making.*

I. INTRODUCTION

Corporate performance can be measured using numerous traditional methods. Some of the common measurement bases are such as Net Profit Margin, Operating Profit Margin, , Earnings per share (EPS), Return on Investment (ROI), Return on Net Worth (RONW) etc. To specify the most popular yardstick of overall performance, ROI is given first standing. However, it is argued that these traditional measures fail to calculate true surpluses. Therefore, as a new measure of analysing corporate performance, Economic Value Added is advocated to focus on true and clear measure of surpluses which is in contrast to the traditionally used measures of profit based indicators. Before taking an investment decision, investors take into account various factors in their research. There might be different objectives an investor holds but the primary objective stands to maximise returns on investment fund. This objective can be achieved if various other factors which may affect returns are thoroughly analysed. In order to determine the returns, estimation can be done using concepts like, Capital Asset Pricing Model (CAPM), Monte Carlo simulation and other such models, where EVA is considered to be pre-requisite aspect that every investor must evaluate before making an investment in a company. This study gives the investor a fair idea of the value of returns a company will provide over and above the equity shareholder's required rate of return(hurdle rate) expectations. Hence, EVA gives an estimate of the actual value of firm which further helps in analysing and making better investor's decisions.

Current market value of the company is defined to be as the sum of capital that has been contributed by the investors in addition to the market value added of the company. Market value added of the company (MVA) equalises the Net present value (NPV) of an after-tax profile of cash flows of a project if the cost of capital is taken for discounting purposes or economic value added.

In the following paper, we are undergoing detailed calculations to estimate the Economic Value Added of three companies – Interglobe Aviation Ltd., Jet Airways and SpiceJet.

II. REVIEW OF LITERATURE

1. Rakshit, D. (2006). EVA based performance measurement: A case study of Dabur India Limited .

In his research for the journal of Vidyasagar University Journal of Commerce, Debdas Rakshit highlighted the EVA method of valuation that has gained increased popularity for purpose of valuating if company has been able to generate greater returns to its shareholders than the average expectation. This journal also highlights through its study the difference of performance measures by comparing company performance using traditional methods or by the use of EVA method of valuation. It has been concluded that if the company is able to pay off its shareholders, it will be able to serve to all its stakeholders as well.

2. Thenmozhi, M. (2000). Market Value Added and Share Price Behaviour. Delhi Business Review .

In order to form an understanding of the comparison of traditional performance measure to EVA, three financial years data from 1996-1999 for 28 companies has been taken into consideration. As per the calculations, 6 companies of the 28 got a positive EVA whereas, the rest held a negative EVA figure. The EVA as a percentage of Capital employed indicates the true return on capital employed. When this figure of EVA was compared to the other traditional measures, the study found companies depicting a rosy picture in terms of Earnings per share(EPS), Return on Capital Employed(ROCE), etc. even when it had negative EVA for three

years under consideration. Therefore, it clearly indicates that these traditional methods do not reflect true and real value to shareholders and to have a genuine estimate EVA must be calculated.

3. JK Pattanayak, K. M. (1998). Adding value to money. The Chartered Accountant .

Theyundertook a study on "Adding Value to Money". They used the traditional methods to measure the corporate income and also studied the modern methods to measure the corporate income. It was found that EVA, is considered to be a superior technique to measure improvement in financial performance. It identifies whether the organisation's NOPAT(Non-Operating Profits after Tax) during a period studied covers the WACC(Weighted average cost of capital) and if it further generates returns to its owners.

4. Fernandez, P. (2001). EVA, economic profit and cash value added do not measure shareholder value creation. Fecha de publicaceon .

He concluded it to be impossible for accounting based measures, as EVA, Economic Profit or Cash Value Added to estimate genuine value creation since the financial information is based on accounting statements which are historical in nature. This study also concluded that the increase in firm's EVA does not necessarily indicate that the firm is making equal increased value as in reality shareholder value creation is little to do with EVA.

5. Prof. RiteshPatel, P. M. (2012). Impact of EVA on Share Price: A study of Indian Private Sector Banks. International Journal of Contemporary Business Studies .

The mentioned paper suggests that the Indian banks are finding how their long term growth is not solely dependent on products and services but also the assets and unique customer relationships with customers, employees, suppliers and distributors, investors and also the communities that the firm serves. This study has determined the shareholders' value (in EVA terms) of the selected private sector banks for a time span of five years, i.e. 2004-05 to 2009-10. It was found in the study that only Kotak Mahindra bank shared a positive correlation between its EVA and share prices whereas, the rest held a negative correlation between their respective EVA and share price. To test the significant impact of EVA on stock prices of bank, hypothesis were developed and tested using AVOVAs. Conclusion drawn was that other than Kotak Mahindra Bank none of the banks EVA in the industry had an impact on the share price.

3. RESEARCH DESIGN
3.1 Scope of study:
For the purpose of this valuation, we are considering three companies under the Indian aviation industry
- Interglobe Aviation Ltd. (Indigo)
- SpiceJet
- JetAirways

A time span of one financial year, 1st April '2017 to 31st March'2018 is considered for EVA valuation.

3.2 Statement of problem:
Investor decision making is a dynamic process and with thorough analysis is based on several theories and assumptions that need to be further supported by various tests on the company's performance. Under this research, we calculate and analyse one such important factor named EVA which aims to help investor make an informed and critical decision regarding his investment.

3.3 Source of data:
Secondary data has been used to extract data for our research work.
From company annual report:
- EBIT
- EBT
- Tax
- Weightage/ Proportion of Capital structure
- Capital Employed

From website sources:
- Risk free Return (R_f) : RBI (364 day T-bills G sec)
- Cost of Debt (Corporate Bonds): NSE India
- Market Return (R_m): NSE NIFTY
Links:
- https://www.rbi.org.in/   : For Government securities related data

- https://www.nseindia.com/ : R_m Calculation and stock price related data
- https://in.finance.yahoo.com/ : Financial Statements and Annual Reports (Annexure)

3.4 Objective of the study:
1. To analyse whether Indian Aviation Industry has generated value for its shareholders.
2. To determine the performance of the company by applying new corporate performance measure- EVA.
3. To interpret the overall performance of Indian Aviation Industry.

3.5Limitations of the study:
1. A limited time span of one financial year 2017-18 has been taken into consideration which limits the scope of detailed investor analysis basis.
2. The study is based on financial statements of a company, which might be misstated, hence, this can limit the accuracy of the analysis which is dependent on the financial information.
3. This research work does not cover all the companies of the Industry. Only three companies have been selected and hence it does not represent the true picture of Indian Aviation Industry.

III. METHOD OF ANALYSIS

Definition: **EVA** is a factor which attempts to capture the genuine and true picture of economic profitability of the company. It is based on the residual wealth which is calculated by deducting cost of capital from the operating profit and is adjusted for tax on a cash basis.

This calculation is a measure of company's financial performance and essentially, measures the value company generates from funds invested into.

Calculation of EVA:

EVA = NOPAT – COCE
Where,
EVA= Economic Value Added
NOPAT= Net operating profits after tax
COCE= Cost of Capital Employed

STEP 1:**NOPAT** Calculation
NOPAT = EBIT – Adjusted Tax
A profit before depreciation and tax but before interest, NOPAT is potential cash   earnings if company had no debt. It is therefore considered as an operating efficiency measure for leveraged companies.

STEP 2: **Adjusted Tax** Calculation
Tax on Earnings before Tax – Tax on Non-Operating Income + Tax on Interest
It is a better indicator of operating efficiency than operating income since it calculates firms profits after adjusting for impact of taxes.

STEP 3: **COCE** Calculation
COCE= Weighted Average cost of capital * Capital employed at present
COCE or funds employed is meant to be a total amount of capital used for acquisition of profits. It is the value derived from assets employed in the business.

STEP 4: Where, **WACC** can be calculated by using the following formula:
$WACC = W_e K_e + W_d K_d$
Where,
W_e = Weight of equity
K_e = Cost of equity
W_d = Weight of debt
K_d = Cost of debt
WACC is known to be a rate at which a company is expected to pay on an average to all its security holders to finance its assets.

STEP 5: Where to find **Weights of Equity and Debt,**
They are calculated as percentages of their sum total, i.e. by an equation as follows:
Weight of factor (X) given sum of factors as (Y)
W = X/Y * 100

STEP 6:**Cost of Equity** Calculation
Calculation is using CAPM model where,
$K_e = R_f + \square (R_m – R_f)$

Where,
R_f = Risk free rate of return

R_m = Average market rate of return

 Beta (Systematic risk)

For calculation of market return

r – (P_e- P_o)/ P_o * 100

Where,

r – return on market index

P_e – Closing price of a market index

P_o – Opening price of a market index

The price differences of the market index for each month i.e. from 1st April'2017 – 31st March'2018 has been calculated as a percentage of the opening price of stock for the month to arrive at respective returns. After calculation of returns for each month, average return of index has been calculated with following:

r* = **∑r / n**

Where,

r* = average return of market index

n = number of total months

Beta calculations have been attached in the excel sheet.

STEP 7: **Cost of Debt** Calculation

The following formula has been used for the same:

K_d = R(1-t)

Where,

K_d = Cost of debt

t = tax

There is no Preference Capital in the capital structure of any of the companies. Therefore, we have ignored it for our calculations of WACC.

The expected outcome returns from the corporate bonds is taken as 10% (industry specific).

Working notes for the EVA calculation-

Total Capital of the Companies

Capital Employed	Indigo	Jet Airways	SpiceJet
	31 March'18	31 March'18	31 March'18
Equity Share	384.41	113.6	599.45
Debt Capital	2241.37	5295.12	1008.39
Total Capital	2625.78	5408.72	1607.84
Weight of Equity	15%	2%	37%
Weight of Debt	85%	98%	63%

Calculation of cost of Equity and Debt

Cost of Equity and Debt	Indigo	Jet Airways	SpiceJet
	31 March'18	31 March'18	31 March'18
Debt (Industry specific)	10%	10%	10%
Ke (Through CAPM)			
Rf	6.91%	6.91%	6.91%
Rm	-0.07%	-0.07%	-0.07%
Beta	0.09	0.06	0.04
Equity Cost (by CAPM)	6.28%	6.49%	6.63%

Calculation of WACC

WACC	Indigo	Jet Airways	SpiceJet
	31 March'18	31 March'18	31 March'18
K_e	6.28%	6.49%	6.63%
W_e	15%	2%	37%
K_d	10%	10%	10%
W_d	85%	98%	63%
WACC	**9.44%**	**9.93%**	**8.75%**

Calculation of Cost of Capital Employed

COCE of	Indigo	Jet Airways	SpiceJet
	31 March'18	31 March'18	31 March'18
WACC	9.44%	9.93%	8.75%
Total Capital	2625.78	5408.72	1607.84
COCE	**247.87**	**537.09**	**318.64**

Calculation of NOPAT

NOPAT	Indigo	Jet Airways	SpiceJet
	31 March'18	31 March'18	31 March'18
EBIT	3466.49	124	600.05
Tax	884.30	0	0
Tax on Interest	96.10	0	0
Adjusted Tax	980.40	0	0
NOPAT	**2486.09**	**124**	**600.05**

NOTE-
- There is no Preference Capital in the capital structure of any of the companies. Therefore, we have ignored it for our calculations of WACC.
- The expected outcome returns from the corporate bonds is taken as 10% (industry specific).

IV.   INTERPRETATION

The resultant EVA of the companies are as follows:

EVA	Indigo	Jet Airways	SpiceJet
	31 March'18	31 March'18	31 March'18
NOPAT	2486.09	124	600.05
COCE	247.87	537.09	318.64
EVA	**2238.22**	**-413.09**	**281.41**

From the above study it has been analysed that Indigo has the highest EVA of **Rs. 2238.22 Crores**, thereby proving its dominance in the market by around 40% share in the financial year of 2017-18. Jet Airways, on the other hand has a negative EVA of **Rs. 413.09 Crores** which indicates that the company is not generating enough value from the funds invested into the business. The negative EVA of Jet Airways also concludes that it has been running into severe losses due to which it has not even paid off its employees. Lastly, SpiceJet has an EVA of **Rs. 281.41 Crores.** It has been observed that their performance was not consistent, during this financial year, since it also made losses in the 2nd quarter but balanced out by coming up with additional measures like improving their on board service, launching new direct flights, etc.

V.   FINDINGS AND SUGGESTION

The average market returns for this industry has been negative for the F.Y. 2017-18 as per calculated from the available data from NSE. It implies that this industry did not prove to be profitable from the investment point of view.

The managers are so focussed on increasing the earnings that they end up taking projects for which the profits gained nowhere justifies the amount of capital outlays. These managers are either unaware of the capital structures and costs or choose to ignore them. Therefore, it is suggested to utilize the EVA Calculations since the cost of capital cannot be ignored in its computation and evaluation.

In order to meet shareholder expectations of the country, EVA computation should be made obligatory for financial reporting and disclosure. Although, even these improved measures and tools are not proper indicators to measure definite value appreciation or to control the performance.

In this research, EVA of Indian Aviation Industry has been studied but for expansion of its usage EVA of other major industries must be examined as well, as a source of reliable financial performance measure.

VI.   CONCLUSION

Maximization of shareholders value has become a standard for the corporate world. The shareholder's wealth is measured by the returns they expect to receive on their investment. These returns can be as dividends or as capital appreciation which depends on changes in market value of shares due to various economic or industry and company specific factors. As a financial performance measurement tool, EVA has been adopted by advanced economies to overcome shortcomings of conventional tools.

The primary goal of financial management is to enhance owners' wealth and thereby the value of the firm. This shareholder wealth is reflected by various traditional accounting parameters or ratios which in reality fail to measure true economic worth due to manipulative accounting techniques such as to show higher or lower earnings.

For efficiency of investment decisions, value creation is of prime importance.

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