# An Analysis Of EVA & MVA of Indian Cement Industries

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Abstract: Advancement in the nature of business and management performance has pushed the need of people to build a more effective and structural financial measurement. Today it is well settled that the aim of every business entity should be to maximize shareholders' wealth. As investors world over, are currently demanding more shareholder value than just high returns. So, investors are very keen in assessing the corporate financial performance that correlate with shareholders' wealth. Traditional performance measures like ROI, EPS, etc. have been used as the most important measure of shareholder value creation. But in the recent years, value-based measures like EVA & MVA which measures performance in terms of change in value have received a lot of attention. So, we inspired to write this research paper which will throw light on this concept of value added. This consist the meaning, calculation and analysis of EVA and MVA with in selected cement companies. The design of the study is analytical in nature. This is a secondary database research. The relevant information is collected from various sources like internet, books, magazine etc.

Index Terms: NOPAT, EVA, MVA, EV.

#### I. INTRODUCTION

### MEANING OF EVA

Economic value added is a financial performance measure which computes the true economic profits of a corporation. EVA is a measure that enables managers to see whether they are earning an adequate return on the capital employed in the business. EVA was in use long back to measure divisional performance. EVA is a trademark of Stein Steward and company, a consulting firm which reinvented the use of 'Residual Income' and made it popular.

4 steps in calculation of EVA:

- ✓ Compute the NOPAT
- ✓ Compute total Invested Capital (TC)
- ✓ Determine a cost of capital (WACC)
- ✓ Calculate  $EVA = NOPAT WACC% \times TC$

#### MEANING OF MVA

Value based management and shareholder value analysis is well known concepts in the 1980's, but there is now a renewed interest in them and also newer related concepts such as MVA. Market value added is the difference between the company's market and book value of shares. According to stern Stewart, if the total market value of a company is more than the amount of capital invests in it, the company has managed to create shareholder value. If the market value is less than capital invested the company has destroyed shareholder value

MVA = company's total market value – capital invested.

## CEMENT INDUSTRY IN INDIA

Indian Cement Industry has the second largest market in the world after China with production of 279.81 million tons per annum. The Cement Industry comprises of 210 large and 365 mini cement plants. Cement is a cyclical commodity with a high correlation with GDP. The demand for cement in real estate sector is spread across rural housing (40%), urban housing (25%) and construction/infrastructure/industrial activities (25%). While the rest 10% demand is contributed by commercial real estate sector. The growth in the Real Estate sector has played a positive role behind the development in the Cement Sector. Cement demand is expected to reach 550 to 600 Million Tonnes Per Annum (MTPA) by 2025.



Figure 1: Annual Production (Million Tons) Ultratech Cement

Headquartered in Mumbai, Ultra-Tech Cement Ltd was founded in 1983. It has a production capacity of 93 million tonnes per annum (MTPA) of grey cement. It operates across India, Bangladesh, Bahrain, UAE, and Sri Lanka. For white cement segment, it adopts the brand name of Birla White.

## ACC

Headquartered in Mumbai, Associated Cement Companies Limited was founded in 1936. It is the second largest Indian cement company with annual production capacity of 33.42 million tonnes. It operates with more than 40 ready mix concrete plants, 21 sales offices, and several zonal offices.

## AMBUJA CEMENT

Headquartered in Mumbai, Ambuja Cements Ltd was founded in 1983 and stated its production in 1986. It is the third largest Indian cement company with annual production capacity of 29.65 million tonnes. It has 5 integrated cement manufacturing plants and 8 cement grinding units.

#### SHREE CEMENTS

Headquartered in Kolkata, Shree Cements Limited was founded in1979 in Bewar in the Ajmer district of Rajasthan. It is the fourth largest Indian cement company with annual production capacity of 13.5 million tonnes. It has 6 cement manufacturing plants located at Bewar, Ras, Khushkhera, Jobner (Jaipur) and Suratgarh in Rajasthan and Laksar (Roorkee) in Uttarakhand.

### RAMCO CEMENT

Headquartered in Chennai Ramco was founded in 1984. It is the fifth largest Indian cement company with annual production capacity of 16.45 million tonnes. It has 8 manufacturing plants including grinding unit. It also produces Ready Mix Concrete and Dry Mortar products.

#### INDIA CEMENTS

Headquartered in Tirunelveli, The India Cements Limited was founded in1946. It is the sixth largest Indian cement company with annual production capacity of 15.5 million tonnes. It manufactures cement for various applications, including, precast concrete items, concrete components, and multi-story buildings, as well as runways, concrete roads, bridges and for general-purpose use. It has 8 integrated cement plants and 2 grinding units.

#### PRISM CEMENT

Prism Cement Limited is India's 8th leading integrated. Building Materials Company, with a wide range of products from cement, ready-mixed concrete, tiles, and bath products to kitchens. The company has three Divisions Prism Cement, H & R Johnson (India), and RMC Ready-mix (India).

### **BINANI CEMENT**

Headquartered in Mumbai, Binani was founded in the year 1872. It is the seventh largest Indian cement company with annual production capacity of 11.25 million tonnes. It has 2 integrated plants, one in India and another in China, and grinding units in Dubai.

# **BIRLA CORP**

Birla is one of the top Industrial groups in India. It offers wide range of products including auto interiors, cables, jute, cement etc. The group include companies like Vindhya Telelinks Ltd, Universal- ABB Power Cables Ltd, Universal Cables Ltd, Hindustan Gum & Chemicals Ltd etc.

### JK CEMENT

Headquartered in Mumbai, J.K Cement Ltd was founded by Lala Kamlapat Singhania. It is one of the top manufacturers of white cement in India. It has 3 cement production plants located in Karnataka, Andhra Pradesh, and Maharashtra. It produces 2 types of cements namely Portland Slag Cement, Ordinary Portland Cement and Ground Granulated Blast Furnace Slag.

### II. TITLE OF THIS PAPER

In this paper, research has been done of selected Indian Cement industries' financial performance by analysis of EVA and MVA. So, Title of this paper is, "An Analysis of EVA and MVA of Indian Cement Industries."

## **III. REVIEW OF LITERATURE**

One can find vast literature relating to EVA and MVA. These topics, as a research issue, have gained momentum after the consulting firm Stern Stewart Ltd. launched EVA<sup>TM</sup>. Several studies have documented the relationship between

EVA and MVA. The related literature on EVA, MVA and the Relationship exist between them and with other performance measures is as follows:

"Market Value Added and Economic Value Added: Some Empirical Evidences", Ramana D.V., Xavier Institute of Management

Literature is replete with studies, which have tried to capture the behavior of MVA. Stewart (1991) claims that EVA is the ultimate proxy of MVA. Following Stewart (1991), several studies examined the relationship between EVA and MVA using the Stern Stewart-1000 data. Most of these studies found evidence to support Stewart's claim.

Journal of Applied Accounting Research, Vol. 5 Iss: 2, (1999) N. Zafiris, R. Bayldon,

"Economic value added and market value added: A simple version and application".

The current search for operational criteria and tests of firm performance is largely focused on the Economic Value Added (EVA) framework. While reasserting the essential soundness of this approach the paper seeks to improve its application by proposing a version of EVA which anchors the opportunity cost of equity capital on market rather than book values. The practicability of the model is illustrated by applying the proposed 'EVA' formula to a mixed set of accounting and stock market data from a sample of companies.

## OBJECTIVES OF THE STUDY

- ✓ To compute and analyze EVA and MVA of selected companies of Indian Cement industry.
- ✓ To find the trend of EVA and MVA in selected companies.

### IV. RESEARCH METHODOLOGY

Research is a structured enquiry that utilizes acceptable scientific methodology to solve problems and create new knowledge that is generally applicable. Research Methodology is a way to solve the research problem in a systematic manner. The path to finding answers to your research questions constitutes research methodology. The sequence or steps, which will be followed, are explained under in detail.

## A. SAMPLE

Indian cement industry will be considered as the sample under study. Cement industry has always been very different from other industries in world market, in all time. Indian cement industry is one of those sectors that saw a constant pace of growth among other Indian industries in the boom in the world over the past many years. With the boom in the economy growth rate of India. The cement industry is seeing a great future. So, this is the most important rational reason to select the cement industry to examine the above identified problem. I have selected 10 major companies.

#### B. TIME PERIOD

The study will be of 6 consecutive years starting from 2011-12 to 2016-17.

#### C. DATA COLLECTION

The research study will be totally based on secondary data, which will be collected through:

- ✓ Published annual financial reports of the sample companies
- ✓ Some other related data will also be collected through different sites for example: capital line, prowess, and money control.com etc. and also from other related publications, bulletins, periodicals.

#### D. DATA ANALYSIS

For making the paper scientific and accurate following tools will be used:

✓ Statistical Tool: ANOVA test

#### E. HYPOTHESIS

Corresponding to the objectives of the paper, the following hypothesis has been formulated and tested.

- $\checkmark$  Ho = There is no significant different among EVA of selected units.
- Ho = There is no significant different among MVA of selected units.

# F. LIMITATIONS OF STUDY

✓ One of the major limitations of the paper is that the study will be based on 6 years' data of selected companies from the Indian Cement industries. So, findings will cannot be applicable to whole industry for a long period. Because sample may not be representing all the common characteristics of universe.

#### V. CALCULATION OF EVA, MVA

In present study the variables are EVA, MVA. Out of which, the formula of some variables is as under through which the value of measures has computed.

- $\checkmark EVA = NOPAT \{cost of capital\}$
- ✓ MVA = {(shares o/s X stock price) + market value of preferred stock + market value of debt} total capital

Year	Ultratech Corp	ACC Cement	Ambuja	Shree	India	Prism	Binani	Ramco	Birla	JK
2011-12	5,396	3,508	1,620	-1,533	-4,018	-1,143	-1,437	1,202	269	-35
2012-13	10,489	1,285	384	-6,051	-4,097	-960	-1,560	1,342	-317	-55
2013-14	-3,886	325	-853	-7,018	-6,556	-788	-19,306	-1,497	-1,297	-1,123
2014-15	-14,397	- 1,006	-2,929	-14,269	-11,185	-781	-7,013	-1,410	-2,973	-442
2015-16	-9,987	- 5,837	-7,751	-5,236	-10,072	-1,359	8,269	1,627	-2,182	-1,240
2016-17	-13,383	- 7,007	-19,419	-10,994	-10,954	-1,864	3,998	449	-1,264	218
Mean	-4,295	- 1,455	-4,824	-7,517	-7,814	-1,149	-2,841	285	-1,294	-446
SD	10,293	4,136	7,869	4,496	3,350	414	9,616	1,402	1,184	609
COV	-2.40	-2.84	-1.63	-0.60	-0.43	-0.36	-3.38	4.91	-0.91	-1.36
CAGR (%)	-219.9	- 214.8	-264.3	48.3	22.2	10.3	-222.7	-17.9	-236.2	-244.5

## Table 1: Economic Value Added (Eva)

Table 1 depicts that Ramco Cement reported the highest mean value in terms of EVA. All others companies reported negative EVA. Shree Cement reported a CAGR of 48.3%, followed by India, Prism Cement, while others reported a negative CAGR.

# HYPOTHESIS

H<sub>0</sub>:  $\mu$  1= $\mu$  2= $\mu$  3= $\mu$  4= $\mu$  5= $\mu$  6= $\mu$  7= $\mu$  8= $\mu$  9= $\mu$  10 (EVA of Cement Companies doesn't differ over years) H<sub>1</sub>:  $\mu$ 1= $\mu$ 2= $\mu$ 3= $\mu$ 4= $\mu$ 5= $\mu$ 6= $\mu$ 7= $\mu$ 8= $\mu$ 9= $\mu$ 10 (EVA of Cement Companies differ over years)

Groups	Count	Sum	Average	Variance
Ultratech	6	-25,767.8	-4,294.6	10,59,40,191.
Cement				1
Acc	6	-8,731.0	-1,455.2	1,71,07,305.0
Ambuja	6	-28,946.7	-4,824.5	6,19,20,691.3
Cement				
Shree	6	-45,101.3	-7,516.9	2,02,16,353.8
Cement				
India	6	-46,883.2	-7,813.9	1,12,25,527.2
Cement				
Prism	6	-6,896.6	-1,149.4	1,71,421.9
Cement				
Binani	6	-17,048.7	-2,841.5	9,24,65,916.5
Cement				
Ramco	6	1,712.9	285.5	19,66,921.7
Cement			1 20 4 0	1101000
Birla Corp	6	-7,764.3	-1,294.0	14,01,832.6
Jk Cement	6	-2,676.5	-446.1	3,70,333.1

Source of	SS	df	MS	F	P-	F crit
Variation					value	
Between	44,67,6	9	4,96,4	1.587	0.1449	2.073
Groups	7,328.4		0,814.	05	16436	351
			3		782	
Within	1,56,39	50	3,12,7			
Groups	,32,471		8,649.			
	.0		4			
Total	2,01,06	59				
	,99,799					
	.4					

Table 2: Economic Value Added: Anova ANOVA: SingleFactor Anova: Variation

Above analysis shows that the F value (3.03994) is more than the table value (2.073351) therefore null hypothesis is rejected. Therefore, it is concluded that Economic Value Added (EVA) of the Cement Companies differs over the years.

Year	Ultratech Corp Ce	ACC ment	Ambuja	Shree	India	Prism	Binani	Ramco	Birla	JK
2011-12	2,84,660	1,86,864	-54,042	10,94,210	-5,163	12,951	31,203	-16,843	-525	97,537
2012-13	3,59,536	1,45,125	-61,060	13,70,172	-14,230	9,147	27,400	-17,660	-5,703	1,68,704
2013-14	4,27,940	1,86,092	-63,379	19,28,494	-15,388	8,196	25,120	-19,463	-2,924	1,50,219
2014-15	6,08,092	2,16,617	-60,978	36,87,211	-22,236	38,381	30,359	-20,209	2,649	4,51,726
2015-16	6,64,742	1,76,682	-66,785	42,58,503	-24,289	28,050	26,160	-21,818	-749	4,56,390
2016-17	8,49,330	1,86,589	-1,48,479	58,74,333	-2,233	36,635	38,277	-21,958	23,917	6,36,150
Mean	5,32,383	1,82,995	-75,787	30,35,487	-13,923	22,227	29,753	-19,659	2,778	3,26,788
SD	2,12,536	22,987	35,856	18,83,976	8,857	13,831	4,797	2,108	10,721	2,17,639
COV	0.40	0.13	-0.47	0.62	-0.64	0.62	0.16	-0.11	3.86	0.67
CAGR (%)	24.4	0.0	22.4	39.9	-15.4	23.1	4.2	5.4	-314.6	45.5

## Table 3: Market Value Added (Eva) Image: Comparison of the second se

Table 3 depicts that Shree Cement reported the highest mean value in terms of MVA followed by Ultratech, JK Cement, ACC etc. JK Cement reported a CAGR of 45.5%. India Cement & Birla Corp reported a negative CAGR.

# HYPOTHESIS

$H_0$ : $\mu 1 = \mu 2 = \mu 3 = \mu 4 = \mu 5 = \mu 6 = \mu 7 = \mu 8 = \mu 9 = \mu 10$
(MVA of Cement Companies doesn't differ over years)
H <sub>1</sub> : µ1≠µ2≠µ3≠µ4≠µ5 ≠µ6≠µ7≠µ8≠µ9≠µ10
(MVA of Cement Companies differ over years)

Groups	Groups		Sum		A	verage	Variance	9	
Ultratech Cement		6	31,94	31,94,299.30		,32,383.22	2 45,17,1	4,41,349	
Acc	Acc		10,97,969.16		1,82,994.86		5 52,83	,82,605	
Ambuja C	ement	6	-4,54	4,723.25	5 -75,787.21		1,28,5	5,47,237	
Shree Cem	nent	6	1,82,1	2,923.62	30,35,487.27		7 35,49,36,	45,19,770	
India Cem	India Cement		-83	,539.69	-13,923.28		7,84	7,84,39,573	
Prism Cen	Prism Cement		1,33	,360.10	) 22,226.68		19,12	19,12,90,231	
Binani Cer	nent	6	1,78,519.06 29,753.18		29,753.18	2,30,	,08,979		
Ramco Ce	ment	6	-1,17,951.39 -19,65		19,658.56	44,43,024			
Birla Corp	)	6	16,	665.44	2,777.57		11,49	11,49,34,067	
Jk Cement	Jk Cement		19,60	9,60,725.16 3,26,787.53		47,36,68,94,155			
	1		1					1	
Source of	SS		df	MS		F	P-value	F crit	
Variatio n									
Between									

Variatio						
n						
Between Groups	4,81,62,70, 18,85,202	9	53,51,41, 13,20,57 8	14.68 502	0.00000 0000028	2.073 351
Within Groups	1,82,20,64, 50,04,951	50	3,64,41,2 9,00,099			
Total	6,63,83,34, 68,90,153	59				

Table 4: Market Value Added: Anova ANOVA: Single FactorAnova: Variation

Above analysis shows that the F value (14.68502) is more than the table value (2.073351) therefore null hypothesis is rejected. Therefore, it is concluded that Market Value Added (MVA) of the Cement Companies differs over the years

## VI. CONCLUSION

Value based Analysis has proved to be more effective in analyzing the Financial performance and Shareholders value and hence it is preferred over the traditional analytical tools. EVA, MVA and EV are considered as the yardstick for calculating the value generated by a firm as it takes into account the Cost of Capital. The Mean Value of all the Cement Companies is negative in terms of EVA except Binani Cement. In General, the companies are not generating positive EVA from their Operations.

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