



FACTORS INFLUENCING THE PROFITABILITY OF CEMENT INDUSTRY IN INDIA

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ABSTRACT

Cement is vital to build the infrastructure of the country. Profitability is a relative measure and is defined as the ability of a firm to generate revenue in-excess of expenses. It is the primary measure of the overall success of a business and measures the effective utilization of its resources. Profitability is analyzed using the technique of ratio analysis. The ratio analysis is one of the most powerful tools of financial analysis. A study has been made in this part to examine the factors influencing the profitability.

KEYWORDS: *Cement, Profitability, ability, utilization, investment, building*

INTRODUCTION

Cement is vital to build the infrastructure of the country; the term 'cement' includes an infinite variety of adhesive building materials ranging from clay, upto the rapid hardening substances. In its more restricted sense, particularly when it is used in connection with building and engineering, the word 'cement' refers to "Portland Cement", which constitutes about 98 per cent of the cement produced in the world. This Portland cement, when mixed with gravel, slag, sand and water, allows the entire material to harden and become concrete. The foundation of a stable Indian Cement industry was laid in 1914. It is a significant contributor to the revenue collected by both the central and state government through excise and sale taxes.

India is the second largest producer of cement in the world. The cement industry occupies an important place in building the industrial base of a country and for providing an infrastructure to the development of the economy.

Profit is the primary motivating force of an economic activity. Profit is the engine that drives the business enterprise. The higher the profits, the more efficient are the business considered. A company should earn profits to survive and grow over a long period of time. Profit is the difference between revenues and expenses over a period of time.

Profitability is a relative measure and is defined as the ability of a firm to generate revenue in-excess of expenses. It is the primary measure of the overall success of a business and measures the effective utilization of its resources. The Profit of a business may be measured by studying the profitability of investment in it. Profitability may be defined as the ability of given investment to earn a return from its use. This ability is referred to as lending power or operating performance of the concerned investment. Profitability is a relative term and its measurement can be achieved by profit

and its relation with the other objects by which the profit is affected. It is the test of efficiency, powerful motivational factor and the measure of control in any business.

OBJECTIVE OF THE STUDY

The objective of this study is to analyse the factors influencing the profitability of the cement companies.

METHODOLOGY

As the complete source list of all the cement companies is not available, 30 companies with consistent financial data are selected. Certain companies are excluded owing to irregular and/or inconsistent financial data support.

For the purpose of this study and analysis the selected cement companies have been classified into different groups on the basis of age, size and region in which the companies are located.

To examine the profitability of cement industry, the following accounting ratios are employed:

1. Margin on Sales
 - i. Earnings Before Depreciation, Interest and Tax to Net Sales (EBDIT/NS)
 - ii. Earnings Before Interest and Tax To Net Sales (EBIT/ NS)
 - iii. Gross Profit to Net Sales (GP/NS)
 - iv. Profit Before Tax to Net Sales (PBT/NS)
 - v. Profit After Tax to Net Sales (PAT/NS)
 - vi. Operating Cash flow to Net Sales (OCF/NS)
2. Return on Total Assets
 - i. Earnings Before Depreciation, Interest and Tax to Total Assets (EBDIT/TA)
 - ii. Operating Cash flow to Total Assets (OCF/TA)
 - iii. Earnings Before Depreciation, Interest and Tax to Total Tangible Assets (EBDIT / TTA)

- iv. Profit After Tax to Total Tangible Assets (PAT/ TTA)
- v. Earnings Before Interest and Tax to Total assets (EBIT/TA)
3. Return on Capital Employed
 - i. Earnings Before Interest and Tax To capital employed (EBIT/CE)
 - ii. Retained Cash Flow to capital employed (RE/CE)
 - iii. Earnings Before Interest to Capital Employed (EBI/CE)
- 4 .Return on Net worth
 - i. Earnings Before Interest and Tax to Net worth (EBIT/NW)
 - ii. Operating Cash Flow to Net worth (OCF/ NW)
 - iii. Profit After Tax to Shareholders Equity (PAT/NW)
 - iv. Retained Earnings to Shareholders Equity (RE/NW) and

they were incorporated, the well established old firms may have captured the market share, and the new firms may have upgraded technology usage that may be either improved operational efficiency or reduced cost of production. Similarly, large sized firms may earn higher return due to economies of large scale production. The regional classification too plays a vital role in providing locational advantages. Firms of different ages, sizes and regions might be expected to have different degrees of profitability.

A study has been made in this part to examine the factors influencing the profitability. For the purpose of analysis, the selected cement companies are classified under three broad categories on the basis of sizes, ages and regions.

For the purpose of this study selected cement companies are classified into three types based on the total assets held by those companies at the end of study period as 'Small', 'Medium' and 'Large' companies. Based on the year of incorporation, companies are classified into three types taking the age below 25 years as new companies, age above 25 years and below 50 years as moderately old companies and age above 50 years as old companies. Similarly, based on the place of incorporation, companies are classified into two types as 'South' and 'North'.

FACTORS INFLUENCING THE PROFITABILITY OF THE CEMENT COMPANIES

The ability of a firm to generate profits may differ between companies owing to their age, size and region. Hence profitability is analysed based on age, size and region in which

Table 1 Profitability Ratios for Selected Cement Companies - Size-Wise

| Ratio / Statistical Tool | | Small Size Companies | Medium Size Companies | Large Size Companies |
|--------------------------|------|----------------------|-----------------------|----------------------|
| EBDIT/NS | Mean | 11.67 | 12.11 | 18.20 |
| EBDIT/NS | SD | 13.47 | 7.57 | 31.15 |
| EBDIT/NS | CV | 115.44 | 62.53 | 171.19 |
| EBIT/NS | Mean | 6.32 | 7.03 | 10.00 |
| EBIT/NS | SD | 13.36 | 8.58 | 14.94 |
| EBIT/NS | CV | 211.23 | 122.00 | 149.28 |
| GP/NS | Mean | 5.40 | 6.32 | 9.68 |
| GP/NS | SD | 13.83 | 10.67 | 30.49 |
| GP/NS | CV | 255.93 | 168.79 | 315.00 |
| PBT/NS | Mean | 0.06 | 1.25 | 1.49 |
| PBT/NS | SD | 14.16 | 12.38 | 15.73 |
| PBT/NS | CV | 21,978.00 | 990.56 | 1,056.46 |
| PAT/NS | Mean | (1.39) | 0.10 | (0.90) |
| PAT/NS | SD | 14.97 | 11.80 | 14.53 |
| PAT/NS | CV | (1,080.43) | 12,404.94 | (1,616.61) |
| OCF/NS | Mean | 10.80 | 11.08 | 12.68 |
| OCF/NS | SD | 15.11 | 5.74 | 32.18 |
| OCF/NS | CV | 139.83 | 51.77 | 253.83 |

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|----------|------|--------|-------|-------|
| EBDIT/TA | Mean | 0.09 | 0.10 | 0.09 |
| EBDIT/TA | SD | 0.09 | 0.07 | 0.08 |
| EBDIT/TA | CV | 100.84 | 68.66 | 91.30 |

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|--------|------|--------|-------|-------|
| OCF/TA | Mean | 0.09 | 0.10 | 0.08 |
| OCF/TA | SD | 0.10 | 0.07 | 0.07 |
| OCF/TA | CV | 112.13 | 69.24 | 90.34 |

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|---------|------|--------|--------|--------|
| EBIT/TA | Mean | 0.01 | 0.00 | 0.04 |
| EBIT/TA | SD | 0.04 | 0.01 | 0.07 |
| EBIT/TA | CV | 245.81 | 586.42 | 191.65 |

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|-----------|------|-------|-------|-------|
| EBDIT/TTA | Mean | 0.10 | 0.11 | 0.09 |
| EBDIT/TTA | SD | 0.10 | 0.08 | 0.08 |
| EBDIT/TTA | CV | 96.44 | 70.10 | 84.35 |

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|---------|------|------------|--------|----------|
| PAT/TTA | Mean | (0.00) | 0.02 | 0.00 |
| PAT/TTA | SD | 0.11 | 0.09 | 0.07 |
| PAT/TTA | CV | (2,345.84) | 463.59 | 5,483.85 |

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|---------|------|--------|--------|--------|
| EBIT/CE | Mean | 0.07 | 0.09 | 0.08 |
| EBIT/CE | SD | 0.20 | 0.11 | 0.10 |
| EBIT/CE | CV | 299.56 | 118.77 | 136.40 |

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|-------|------|----------|--------|----------|
| RE/CE | Mean | (0.05) | 0.03 | 0.01 |
| RE/CE | SD | 0.50 | 0.08 | 0.09 |
| RE/CE | CV | (921.04) | 300.03 | 1,478.24 |

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|--------|------|--------|--------|--------|
| EBI/CE | Mean | 0.06 | 0.08 | 0.06 |
| EBI/CE | SD | 0.19 | 0.09 | 0.09 |
| EBI/CE | CV | 329.61 | 114.62 | 144.11 |

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|---------|------|----------|--------|----------|
| EBIT/NW | Mean | 0.13 | 0.15 | 1.43 |
| EBIT/NW | SD | 1.84 | 0.20 | 15.76 |
| EBIT/NW | CV | 1,365.48 | 138.66 | 1,105.10 |

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|--------|------|------------|------------|--------|
| PAT/NW | Mean | (0.12) | (0.01) | 2.77 |
| PAT/NW | SD | 1.93 | 0.31 | 26.63 |
| PAT/NW | CV | (1,633.86) | (3,120.90) | 962.78 |

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|--------|------|--------|-------|------------|
| OCF/NW | Mean | 0.22 | 0.27 | (0.69) |
| OCF/NW | SD | 1.86 | 0.18 | 7.06 |
| OCF/NW | CV | 828.89 | 66.05 | (1,025.77) |

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|-------|------|------------|----------|--------|
| RE/NW | Mean | (0.12) | 0.02 | 2.61 |
| RE/NW | SD | 2.04 | 0.21 | 25.00 |
| RE/NW | CV | (1,760.34) | 1,249.30 | 956.72 |

Source: Compiled and calculated from the data published in CMIE.

Note: Figures within bracket denotes negative value.

Overall analysis of Margin on sales, Return on Total Assets, Return on Capital Employed and Return on Net Worth shows that average performance of medium size companies are better in comparison with large and small size companies. The analysis of standard deviation and co-efficient of variation

is also substantiate the fact that the medium companies are stable in earnings having performed consistently year on year. Further evaluation explains that large size companies are also performing well and reasonably stable in earnings and having consistent year on year compared to small size companies.

Table 2 Profitability Ratios for Selected Cement Companies - Age-Wise

| Ratio / Statistical Tool | | New Companies | Moderately Old Companies | Old Companies |
|--------------------------|------|---------------|--------------------------|---------------|
| EBDIT/NS | Mean | 22.62 | 14.83 | 10.78 |
| EBDIT/NS | SD | 43.97 | 12.66 | 12.47 |
| EBDIT/NS | CV | 194.33 | 85.40 | 115.62 |

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|---------|------|--------|--------|--------|
| EBIT/NS | Mean | 11.32 | 9.26 | 5.54 |
| EBIT/NS | SD | 17.47 | 11.38 | 13.29 |
| EBIT/NS | CV | 154.28 | 122.95 | 239.83 |

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|-------|------|--------|--------|--------|
| GP/NS | Mean | 15.38 | 8.50 | 3.33 |
| GP/NS | SD | 41.23 | 12.82 | 14.39 |
| GP/NS | CV | 267.96 | 150.88 | 431.71 |

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|--------|------|--------|--------|----------|
| PBT/NS | Mean | 4.08 | 2.93 | (1.91) |
| PBT/NS | SD | 14.97 | 11.78 | 15.68 |
| PBT/NS | CV | 366.60 | 401.62 | (822.50) |

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|--------|------|--------|--------|----------|
| PAT/NS | Mean | 1.49 | 1.37 | (3.53) |
| PAT/NS | SD | 13.97 | 11.85 | 15.85 |
| PAT/NS | CV | 935.02 | 866.88 | (449.51) |

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|--------|------|--------|-------|-------|
| OCF/NS | Mean | 12.13 | 12.76 | 10.49 |
| OCF/NS | SD | 50.08 | 10.75 | 10.22 |
| OCF/NS | CV | 412.98 | 84.25 | 97.41 |

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|----------|------|-------|-------|--------|
| EBDIT/TA | Mean | 0.08 | 0.10 | 0.08 |
| EBDIT/TA | SD | 0.08 | 0.09 | 0.08 |
| EBDIT/TA | CV | 96.26 | 83.37 | 101.06 |

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|--------|------|--------|-------|-------|
| OCF/TA | Mean | 0.09 | 0.11 | 0.08 |
| OCF/TA | SD | 0.11 | 0.09 | 0.08 |
| OCF/TA | CV | 132.32 | 85.89 | 99.80 |

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|---------|------|--------|--------|--------|
| EBIT/TA | Mean | 0.00 | 0.02 | 0.03 |
| EBIT/TA | SD | 0.01 | 0.04 | 0.06 |
| EBIT/TA | CV | 242.84 | 254.78 | 203.14 |

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|-----------|------|-------|-------|-------|
| EBDIT/TTA | Mean | 0.09 | 0.12 | 0.09 |
| EBDIT/TTA | SD | 0.09 | 0.09 | 0.09 |
| EBDIT/TTA | CV | 98.68 | 76.08 | 96.83 |

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|---------|------|--------|----------|----------|
| PAT/TTA | Mean | 0.01 | 0.01 | (0.01) |
| PAT/TTA | SD | 0.07 | 0.11 | 0.10 |
| PAT/TTA | CV | 809.24 | 1,038.56 | (991.73) |

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|---------|------|--------|--------|--------|
| EBIT/CE | Mean | 0.07 | 0.08 | 0.06 |
| EBIT/CE | SD | 0.12 | 0.21 | 0.14 |
| EBIT/CE | CV | 161.29 | 247.89 | 211.12 |

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|-------|------|--------|------------|----------|
| RE/CE | Mean | 0.01 | (0.04) | (0.02) |
| RE/CE | SD | 0.10 | 0.60 | 0.20 |
| RE/CE | CV | 924.90 | (1,380.71) | (853.02) |

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|--------|------|--------|--------|--------|
| EBI/CE | Mean | 0.06 | 0.07 | 0.05 |
| EBI/CE | SD | 0.10 | 0.20 | 0.12 |
| EBI/CE | CV | 165.66 | 280.82 | 228.93 |

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|---------|------|--------|----------|----------|
| EBIT/NW | Mean | 0.22 | 0.06 | 1.11 |
| EBIT/NW | SD | 0.46 | 2.29 | 13.50 |
| EBIT/NW | CV | 207.81 | 4,148.75 | 1,218.24 |

| | | | | |
|--------|------|----------|------------|----------|
| PAT/NW | Mean | 0.02 | (0.17) | 2.01 |
| PAT/NW | SD | 0.33 | 2.15 | 22.84 |
| PAT/NW | CV | 1,559.65 | (1,254.31) | 1,137.48 |

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|--------|------|--------|----------|------------|
| OCF/NW | Mean | 0.40 | 0.08 | (0.40) |
| OCF/NW | SD | 0.76 | 2.15 | 6.09 |
| OCF/NW | CV | 189.08 | 2,543.96 | (1,518.17) |

| | | | | |
|-------|------|----------|------------|----------|
| RE/NW | Mean | 0.02 | (0.15) | 1.89 |
| RE/NW | SD | 0.30 | 2.33 | 21.44 |
| RE/NW | CV | 1,585.31 | (1,531.35) | 1,133.75 |

Source: Compiled and calculated from the data published in CMIE.

Note: Figures within bracket denotes negative value.

Overall analyses of margin on sales, new companies are performed well with slighter inconsistency. The return on total assets demonstrates that almost all the companies are performed at same rate with slighter variations. And return

on capital employed and return on net worth shows that the average performance of new companies are better in comparison with moderately old and old companies.

Table 3 Profitability Ratios for Selected Cement Companies - Region - Wise

| Ratio / Statistical Tool | | North Region | South Region |
|--------------------------|------|--------------|--------------|
| EBDIT/NS | Mean | 13.65 | 14.56 |
| EBDIT/NS | SD | 28.92 | 9.87 |
| EBDIT/NS | CV | 211.88 | 67.79 |
| EBIT/NS | Mean | 5.52 | 9.97 |
| EBIT/NS | SD | 16.96 | 8.74 |
| EBIT/NS | CV | 307.31 | 87.70 |
| GP/NS | Mean | 6.00 | 8.12 |
| GP/NS | SD | 28.39 | 10.32 |
| GP/NS | CV | 472.95 | 127.04 |
| PBT/NS | Mean | (2.12) | 3.53 |
| PBT/NS | SD | 17.72 | 9.78 |
| PBT/NS | CV | (834.26) | 276.70 |
| PAT/NS | Mean | (4.32) | 2.21 |
| PAT/NS | SD | 17.87 | 8.97 |
| PAT/NS | CV | (413.19) | 406.68 |
| OCF/NS | Mean | 10.29 | 12.74 |
| OCF/NS | SD | 28.93 | 13.01 |
| OCF/NS | CV | 281.01 | 102.10 |
| EBDIT/TA | Mean | 0.08 | 0.10 |
| EBDIT/TA | SD | 0.10 | 0.07 |
| EBDIT/TA | CV | 119.15 | 70.67 |
| OCF/TA | Mean | 0.08 | 0.10 |
| OCF/TA | SD | 0.10 | 0.08 |
| OCF/TA | CV | 121.95 | 81.99 |
| EBIT/TA | Mean | 0.03 | 0.01 |
| EBIT/TA | SD | 0.07 | 0.02 |
| EBIT/TA | CV | 211.37 | 187.33 |
| EBDIT/TTA | Mean | 0.09 | 0.11 |
| EBDIT/TTA | SD | 0.10 | 0.08 |
| EBDIT/TTA | CV | 112.07 | 70.60 |
| PAT/TTA | Mean | (0.02) | 0.02 |
| PAT/TTA | SD | 0.12 | 0.07 |
| PAT/TTA | CV | (497.02) | 302.91 |
| EBIT/CE | Mean | 0.04 | 0.10 |
| EBIT/CE | SD | 0.20 | 0.11 |
| EBIT/CE | CV | 463.63 | 104.81 |
| RE/CE | Mean | (0.07) | 0.02 |
| RE/CE | SD | 0.52 | 0.10 |
| RE/CE | CV | (711.01) | 396.08 |
| EBI/CE | Mean | 0.03 | 0.09 |
| EBI/CE | SD | 0.19 | 0.09 |
| EBI/CE | CV | 591.21 | 101.41 |
| EBIT/NW | Mean | 0.98 | 0.24 |
| EBIT/NW | SD | 13.63 | 0.36 |
| EBIT/NW | CV | 1,393.20 | 147.52 |

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|--------|------|------------|----------|
| PAT/NW | Mean | 1.82 | 2,487.81 |
| PAT/NW | SD | 22.92 | 9,341.38 |
| PAT/NW | CV | 1,257.90 | 375.49 |
| OCF/NW | Mean | (0.56) | 2,488.06 |
| OCF/NW | SD | 6.32 | 9,341.31 |
| OCF/NW | CV | (1,134.49) | 375.44 |
| RE/NW | Mean | 1.75 | 0.05 |
| RE/NW | SD | 21.53 | 0.51 |
| RE/NW | CV | 1,233.32 | 1,020.14 |

Source: Compiled and calculated from the data published in CMIE.

Note: Figures within bracket denotes negative value.

Overall analysis of Margin on sales, Return on Total Assets, Return on Capital Employed and Return on Net Worth shows that average performance of south region companies are better in comparison with north region companies.

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