ASSESSMENT OF COMPETITION IN CEMENT INDUSTRY IN INDIA

RESEARCH PROJECT REPORT
SUBMITTED TO THE COMPETITION COMMISSION OF INDIA

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TABLE OF CONTENTS

1. INTRODUCTION ............................................................................................................................. 1
   1.1 SCOPE AND OBJECTIVE OF THE RESEARCH PAPER ................................................................. 1
   1.2 MOTIVATION FOR THE RESEARCH PAPER .............................................................................. 2
       1.2.1 HISTORY OF COMPETITION ISSUES IN CEMENT INDUSTRIES IN THE WORLD .......... 2
       1.2.2 NEWSPAPERS DOTTED WITH SUSPICION OF CEMENT CARTEL IN INDIA ............. 2
       1.2.3 REPORTS ON INDIAN CEMENT INDUSTRY USE SUSPICIOUS LANGUAGE .............. 3
   1.3 RESEARCH METHODOLOGY ..................................................................................................... 4
   1.4 RESEARCH QUESTIONS ........................................................................................................... 4

2. CEMENT INDUSTRY IN INDIA ........................................................................................................ 5
   2.1 HISTORICAL DEVELOPMENT .................................................................................................. 5
   2.2 CURRENT INDUSTRY OVERVIEW ....................................................................................... 7
       2.2.1 DEMAND DRIVERS FOR CEMENT IN INDIA ................................................................. 8
       2.2.2 CEMENT INDUSTRY STRUCTURE ................................................................................. 9
       2.2.3 TOP CEMENT COMPANIES ALL INDIA DATA ............................................................. 12
   2.3 CEMENT MARKET DIVISION IN INDIA ................................................................................. 15
       2.3.1 NORTH ZONE .................................................................................................................. 17
       2.3.2 WEST ZONE .................................................................................................................... 18
       2.3.3 CENTRAL ZONE ............................................................................................................. 20
       2.3.4 EAST ZONE .................................................................................................................... 22
       2.3.5 SOUTH ZONE ................................................................................................................ 24

3. COMPETITION ISSUES IN THE CEMENT INDUSTRY ................................................................. 27

4. CEMENT CARTEL CASES ACROSS THE WORLD ...................................................................... 39
   4.1 PAKISTAN CEMENT CARTEL ............................................................................................... 39
   4.2 SOUTH AFRICA CEMENT CARTEL ....................................................................................... 41
   4.3 GERMANY CEMENT CARTEL .............................................................................................. 44

5. CONCLUSION ............................................................................................................................... 46

6. REFERENCES ............................................................................................................................... 48

APPENDIX A ....................................................................................................................................... 50
APPENDIX B ....................................................................................................................................... 59
1. INTRODUCTION

Concrete is second only to water as the most consumed substance on earth, with nearly one ton of the material used annually for each person on the planet. Cement is the critical ingredient in concrete, locking together the sand and gravel constituents in an inert matrix; it is the ‘glue’ which holds together much of modern society’s infrastructure.

Cement is a global commodity, manufactured at thousands of local plants. Because of its weight, cement supply via land transportation is expensive, and generally limited to an area within 300 km of any one plant site. The industry is consolidating globally, but large, international firms account for only 30% of the worldwide market. In many developed countries, market growth is slow or nil whereas in developing markets, growth rates are more rapid. China is the fastest growing market today. Because it is both global and local, the cement industry faces a unique set of issues, which attract attention from communities near the plant, at a national and an international level1.

1.1 SCOPE AND OBJECTIVE OF THE RESEARCH PAPER

The scope of the research paper is to analyse the cement industry in India in terms of the industry structure, demand supply factors with appropriate statistical data, aggregation or segregation of cement markets across India, and assessing the state of competition in the Indian cement industry.

The objective of the research paper is to analyse the state of competition in the Indian cement industry and to point out any competition issues and suggest The Competition Commission of India to take corresponding steps within the purview of The Competition Act 2002.

1.2 MOTIVATION FOR THE RESEARCH PAPER

1.2.1 HISTORY OF COMPETITION ISSUES IN CEMENT INDUSTRIES IN THE WORLD

For a Competition Commission or Competition Regulatory body in any country across the world, one of the first and most sought after competition issues is detection of cartel(s) in the cement industry of the country. The geographical concentration of raw materials required for cement production coupled with the bulky nature of cement make the cement market concentrated in few geographical locations or divides the market in terms of geographical supply and demand of cement. Coupling the above mentioned point with the fact that cement has practically no substitutes, increases the power of suppliers and decreases the power of buyers, thereby providing ripe conditions for cartel formation through price control and market sharing mechanisms. Some cement cartel cases are discussed in Section 4.

In 2001, Richard Whish, Professor of Law at King's College London since January 1991, famously said, “The first thing for any new competition regulator is to go out and find the cement cartel. Because my experience of this subject is, it is always there, somewhere. The only countries in which I had been unable to find the cement cartel is where there is a national state-owned monopoly for cement”.

1.2.2 NEWSPAPERS DOTTED WITH SUSPICION OF CEMENT CARTEL IN INDIA

Over the past years, the Indian print media has been filled with news signalling possibility of a cartel in the Indian cement market. Following are some examples:

   The news comes in on the Government saying that it will keep prices low by ensuring
   adequate supply².

3. “Cement cartel rigged prices for 17 years”, Hindustan Times, New Delhi, 20th
   December, 2007. The news comes after the Commission issued a “cease and desist”
   order against 41 cement companies³.

   August, 2011. News pours in after Serious Fraud Investigation Office’s (SFIO) report
   on cement industry is submitted with the Ministry of Corporate Affairs.

   The article, by a Director in Crisil Research, mulls on the lowering capacity utilization
   levels in cement industry across all the regions.

1.2.3 REPORTS ON INDIAN CEMENT INDUSTRY USE SUSPICIOUS LANGUAGE

Reports on the cement industry by renowned companies mention their views in certain manner
that should be taken note of by The Competition Commission of India. Following are a couple
of examples:

1. Ernst & Young’s report on the cement industry in India states, “Though the demand
growth remained subdued, the cement manufacturers have observed supply discipline
involving curtailment of production by companies in order to narrow the demand-
supply gap. The self-discipline imposed by the cement manufacturers is yet to stand the
test of time”⁴.
2. Indian Brand Equity Foundation’s (IBEF) report on cement industry in India states, “The Indian cement market is oligopolistic in nature, characterised by tacit collusion, where large players partially control supply for better price discipline”\(^5\).

1.3 RESEARCH METHODOLOGY

The researcher has adopted analytical, descriptive and comparative methodology for this report; reliance has been placed on data from the Centre of Monitoring Indian Economy (CMIE) databases and data from the annual reports of the companies observed. The views and research reports in the public media have been studied coupled with the discipline of Competition Law.

1.4 RESEARCH QUESTIONS

1. What is the structure of Indian cement industry?

2. Where does the Indian cement industry stand with respect to competition issues with respect to The Competition Act, 2003?

3. What are the economic/financial indicators of anti-competitive behaviour in an industry?

\(^5\) IBEF’s report “Cement November 2011”, Page 15, under Inter-firm rivalry
2. CEMENT INDUSTRY IN INDIA

2.1 HISTORICAL DEVELOPMENT

1. Era of Dominant Imports – 1914-1924

During this period of 10 years, the total cement consumption was around 2 million tonnes: of which nearly 50 per cent consisted of imports. Beginning with a production of 1000 tonnes in the year 1914, the indigenous production touched nearly a quarter million tonnes in the first decade. In 1924 against the capacity of half a million tonne only 0.26 million tonne was produced.

The low capacity utilisation and persistent problem of marketing affected the financial viability of the cement plants to a great extent. Moreover, there was widespread prejudice against the use of indigenous cement. Severe competition among producers resulted in continuous cutting down of prices. Some of the companies went into liquidation. The cement industry was fighting for its very existence.

2. Era of Struggle and Survival - 1924-1941

During these 18 years, there was a gradual increase in indigenous production and decrease in cement imports. But severe competition amongst producers very nearly threatened the cement industry. Indigenous production went up from 3.661 lakh tonnes in 1925 to 18.30 lakh tonnes in 1941. Imports dwindled from 69,000 tonnes in 1925 to 21,000 tonnes in the pre-war year 1938 and were only a few thousand tonnes in 1941. Imports contributed to less than 7 per cent of total cement consumption during 1924-1942.

In 1936, war clouds began gathering over Europe and recession had set in. Industries in India were under considerable strain. The very survival of Indian cement industry was in doubt.

Though the Cement Marketing Co. and Concrete Association of India had played their role for the betterment of cement industry it was still far below the expectations of the cement industry. Problems of marketing and pricing still continued to plague the industry. One industrialist F. C. Dinshaw - a man of great vision and foresight - saw considerable potential for a united cement industry. It was at this juncture that F.C. Dinshaw brought together the cement companies belonging to his own group, Tatas, Khataus and Killick Nixon under one banner of Associated Cement Companies Ltd. (ACC).

3. Era of Price Controls – Pre-plan 1942-1951

During 1942-1946 cement production came under the purview of Defence of India Rules for production, price and distribution control. Major portion of cement produced then was earmarked for Defence purposes and only around 10 per cent was released for private consumption.

During this period, production was stepped up from 1.8 million tonnes in 1942 to 3.2 million tonnes in 1951. Imports practically dwindled to less than 2.5 per cent of the total consumption. In the next ten years up to 1956 Government of India exercised informal control by fixing prices from time to time.

4. Era of Planning and Controls 1951-1982

The Five Year Plans were launched from 1951-52: cement was brought under the purview of Cement Control Order of 1956 both for price and distribution. The control on carnet continued till 1982 when partial decontrol policy was announced (cement was decontrolled for a brief period during the two years 1966 and 1967). Meantime there was "Growth" in cement capacity but not at the requisite pace; this resulted in perpetual "Shortage" till 1986.

In 1977, Government announced 0.12 per cent post tax return on net worth to boost cement capacity: this was followed by Partial Decontrol in 1982. Consequently there was Quantum Jump in capacity and production during 1982-88.

6. Era of Total Decontrol – March 1989

Cement was totally decontrolled with effect from 1st March 1989. The Industry recorded an exponential growth with the introduction of partial decontrol in 1982 culminating in total decontrol in 1989.

2.2 CURRENT INDUSTRY OVERVIEW

India ranks second in world cement producing countries. While it took 8 decades to reach the 1st 1000 Lakh tonne capacity, the 2nd 1000 Lakh tonne was added in just 10 years. The capacity, which was 29 Million tonne in 1981-82, rose to 2190 Lakh tonne at the end of FY097.

Figure 1: All India Cement Production (Percentage change) vs. All India Cement Capacity Utilization vs. India GDP (Percentage change) (2004-05 base)

Since the demand of cement is seasonal in nature, declines during the monsoon (July-Sept) quarter and increases during Jan-March quarter, figure 1 shows yearly cement production

percentage change. As seen in figure 1, lesser increases in all India cement production numbers (Mar-08, Mar-09, and Mar-10) indicate lower demand for cement. While from late 2007 to early 2009, the decrease in percentage increase of cement production numbers can be attributed to the global crisis, due to which commercial and housing real-estate industry saw a decrease in demand (refer to Section 2.2.1 to see impact of real estate on Indian cement industry), the capacity utilization levels also declined to 85% level signalling supply constraints exercised by cement manufacturers. In 2011, the capacity utilization has gone up to 92% which could be on the back of very less increase cement capacities on the back of declining increases in cement demand.

2.2.1 DEMAND DRIVERS FOR CEMENT IN INDIA

Figure 2, Source: Crisil Research

Figure 2 illustrates that residential real estate sector contributed towards 63% of the total domestic cement demand in the country during FY06-10. According to the report of the Technical Group on estimation of housing shortage constituted in the context of formulation of the Eleventh Five-Year Plan, housing shortage is estimated to be around 247.1 lakh units. During the Eleventh Plan period, total housing requirement, including the backlog, is estimated at 265.3 lakh units8.

During the economic slowdown, demand for commercial real estate dropped sharply leading to sharp correction in lease rentals since the second half of 2008. Lease rentals have corrected in the range of 25-50 per cent during the first half of 2008. With demand slowing substantially, most of the urban cities are faced with a humungous oversupply of office space. Subdued

8 Eleventh Five Year Plan, Chapter 11
demand and rentals has impacted the execution adversely in addition to cancellation of many projects. The organised retail real estate industry in India has witnessed a slowdown in the past year after increasing at a CAGR of 28 per cent in 2005-08. The industry is expected to increase at a CAGR of 14 per cent in the short term and 19 per cent over the next 5 years.

Going forward, between 2009-10 and 2013-14, hotel industry (part of commercial real estate industry) demand is anticipated to outstrip supply growth. Demand is expected to increase at a CAGR of 15 per cent while room availability is expected to record a CAGR of 9 per cent across premium segment.

Investment in infrastructure is projected to grow to Rs. 2056150 crores in the Eleventh Five Year Plan (2007-2012) from an anticipated investment of Rs. 871445 crores in the Tenth Five Year Plan (2002-2007). This represents a compounded annual growth rate of 18.71%. As on January 2011, 373 SEZs had been notified and the Board of Approvals had granted formal approvals to 581 SEZs and in-principle approvals to 154. The industrial sector contributed towards 4% of the total domestic demand for cement in the country.

Overall the Indian cement industry is expected to grow comfortably above the GDP growth level and may even register double digit annual growth numbers in the coming years.

### 2.2.2 CEMENT INDUSTRY STRUCTURE

The Indian cement industry is weakly oligopolistic in nature on a national level with top 11 to 12 firms among more than 100 firms capturing 70% of the cement market. This nature has been consistent through the years as figure 3 (next page) and figure 4 (on page 11) show.

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9 Crisil Research: India Real Estate Overview
10 Crisil Research: India Real Estate Overview
11 Crisil Research: India Real Estate Overview
12 Numbers at 2006-07 Prices, Source: Government of India, Eleventh Five Year Plan.
13 “Cement”-ing Growth’, Ernst & Young report, Page 16
number and names of firms with concentration of 70% in terms of the production of cement in March 2006 and March 2011 respectively.

The major players are ACC Ltd., Ambuja Cements Ltd., Ultratech Cement Ltd., India Cements Ltd., Century Textiles & Inds. Ltd., Jaiprakash Associates Ltd., Birla Corporation Ltd., Lafarge India Pvt. Ltd., Madras Cements Ltd., Shree Cement Ltd., Binani Cement Ltd., and Kesoram Industries Ltd. The shares, in terms of all India cement production, of these top companies have fluctuated by small amounts in the last six years (since ACC Ltd. and Ambuja Cements Ltd. were taken over by Holcim Group). Ultratech Cement Ltd.’s production share has increased as it parent company, Birla Aditya Group, has stopped cement business in one of its companies, Grasim Industries Ltd., and has used the cement manufacturing plants of Grasim Industries Ltd. under Ultratech Cement Ltd from FY2010 onwards. Notable movers in production percentage in terms of overall Indian market are Shree Cement Ltd., and Kesoram Industries Ltd.

Figure 5 on the next page gives a holistic overview of the Indian cement industry using Porter’s Five Forces Model.

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14 Annual Reports, 2011, Grasim Industries Ltd. and Ultratech Cement Ltd.
PORTER’S FIVE FORCES MODEL

CEMENT INDUSTRY

ENTRY BARRIERS

HIGH

The Indian Cement industry has firms that have been present for a long time. High capital investment and economies of scale mark high barriers for entry.

INTER-FIRM RIVALRY

LOW

The Indian Cement industry is oligopolistic in nature with production and supply in the hands of a handful of major firms.

SUPPLIER POWER

MEDIUM/MODERATE

Fuel (coal) and freight are important ingredients in the Indian Cement industry mix. These make the industry local by nature.

Bargaining power of Suppliers

THREAT OF SUBSTITUTES

LOW

Cement has no substitutes in infrastructure, real estate, industrial development, and practically in all areas where it is used.

Substitute threat for Cement as a product

BUYER POWER

LOW

Market players have high concentration in local markets thus driving away buying power from the consumer.

Bargaining power of Buyers

Threat of New Entrants
2.2.3 TOP CEMENT COMPANIES ALL INDIA DATA

In this section, we take a look at the financial performance of top cement companies in the country alongside their production and capacity utilization numbers from March 2006 to March 2011.

The figures, figure 30 to figure 50, in Appendix A show financial data (operating profit margin and profit after tax) with the cement production data and the capacity utilization data of each of the top 13 cement producers in the country. All the numbers in the graphs in Appendix A represent all India data.

The operating profit margin is in percentage terms, which gives the cost of running the core business of a company. Profit after tax (PAT) and cement production numbers are indexed from March 2005 level, at which each of the PAT and cement production numbers is listed at 100. The following years show the increases in PAT and cement production numbers with respect to March 2005 level. Also, the capacity utilization is in percentage terms, which is the percentage of cement produced by a company with regards to the capacity of cement production installed at its plant(s).

**Overall trend among companies:**

The period of 2005 to 2011 has seen increasing cement production numbers from all of the players in the Indian cement industry. On an all India level the capacity utilization levels in this period for a large numbers of top 13 firms have been on the higher side with capacity utilization crossing 100 for most part of the given period for companies like Ambuja Cement Ltd., Grasim Industries Ltd., Century Textiles & Inds. Ltd., Lafarge India Pvt. Ltd., Birla Corporation Ltd, and Kesoram Industries Ltd.

The Mar 2011 capacity utilization for Kesoram Industries Ltd. is 75% which is far below its average over the preceding five years. Cement production numbers for Kesoram Industries Ltd.
are almost same for Mar-10 and Mar-11 indicating that they have added capacity but not used it which has been reflected in a negative PAT index for Mar-11 and an operating profit margin of just 4% for Mar-11.

ACC Ltd. and Jaiprakash Associates Ltd. show a steady enough capacity utilization trend that can be mapped to the fluctuations in the demand-supply dynamics on an all India level.

Capacity utilization numbers for Ultratech Cement Ltd., India Cements Ltd., Shree Cements Ltd., and Madras Cements Ltd. show a cause for concern in terms of competition in the markets.

- Ultratech Cement Ltd.’s capacity utilization has never been above 90% with the March-11 figure at 78% even after almost doubling their cement production in 2010-11 from 2009-10. This indicates a huge capacity build up by Ultratech Cement Ltd., and their increasing PAT index does not correspond to decreasing operating profit margin and capacity utilization levels.
- As for India Cements Ltd., their capacity utilization levels have declined to 75% and 69% in Mar-10 and Mar-11 respectively, from being at 103% in Mar-08. This on the top of their highest production levels in the period of 2007-2010.
- Capacity utilization for Shree Cements Ltd. seems to fall abruptly with a decrease in prices in 2009 and late 2010 (Mar-11 period), being at 77% in Mar-11 from 103% in Mar-10, on the back of almost same production level. Such a sharp fall indicates (happened previously also: from 97% in Mar-08 to 85% in Mar-09) a supply constraint being deliberately exercised in order to decrease cement supply in the market.
- The case for Madras Cements Ltd. is even worse with the capacity utilization falling continuously from 2008 onwards to 56% in Mar-11. The cement production also fell from an index of 213 in Mar-10 to 195 in Mar-11.
Such low utilization levels raise eyebrows on the functioning and intent of the cement manufacturers with respect to competition in the market.

During 2005-06 to 2010-11, the operating profit margin all the companies has soared to reach new highs during Mar-2008, but has come back to 2005-06 levels or even below those levels for individual companies across the board. It may well be an indicator that the cost of production and operation are higher from 2009-10 onwards and though the slight decrease in selling price of cement must also contribute to the low operating profit margin levels, this much amount of fluctuation in operating profit margins (around 15% for most of the companies) on an annual basis points out a strong suspicion that the price levels during the up period (2005 to 2008-09) were extraordinarily high.

Also, the Profit after Tax (PAT) for all the companies closely resembles the path of the operating margin, though for most of the cases, the PAT is still well above the 2005 levels (except for Kesoram Industries Ltd., for which Mar-11 PAT index was at -627 against Mar-05 PAT index of 100). Only Ultratech Cement Ltd. has recorded an almost non-decreasing PAT index over the base index of 100 in Mar-05 with a PAT index of 49271 in Mar-11 even though its operating profit margin has dipped considerably to 19% in Mar-11 from 31% in Mar-08.
2.3 CEMENT MARKET DIVISION IN INDIA

The cement industry in India is fragmented into five different regions because of the following reasons:

- Bulky nature of cement and limestone (a key ingredient in manufacturing cement) makes it very hard to transport over long distances.
- High freight costs involved in transportation of these commodities.

A cement plant is generally located near limestone deposits and cement produced in a particular region is mainly consumed in that region. Over the years the operating costs of Indian cement companies has grown at a CAGR of 7.03% from Rs. 1330 per tonne in FY05 to Rs. 1868 per tonne in FY10. Over the years, the share of freight costs has increased as shown in figure 6 and figure 7.

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**Figure 6**

**Figure 7**

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15 Data taken from “‘Cement’-ing Growth’, Ernst & Young report, Page 32
16 Data taken from “‘Cement’-ing Growth’, Ernst & Young report, Page 32
Figure 8 below shows the division of cement production and cement market on the map of India.

As shown in Figure 8, there are broadly five regions in India which have mainly independent demand-supply factors and numbers, combined with different industry structure in each region.
2.3.1 NORTH ZONE

The top 5 companies in terms of cement production in north zone produced 77% of the total cement produced in 2011, out of a total of more than 15 companies, which represents an oligopolistic market. Major players are Shree Cement Ltd., Ambuja Cement Ltd., ACC Ltd., Ultratech Cement Ltd., JK Lakshmi Cement Ltd. and Jaiprakash Associates Ltd. Over the last 6 years, the top 5 or 6 companies have captured over 75% production of cement, with virtually the same names appearing in the top 5 or 6; refer to figures 9, 10 and 11. Zonal production data for ACC Ltd. and Ambuja Cements Ltd. is not available 2010 onwards, thus there is shuffling of companies and their cement production percentage. Grasim Industries Ltd. exit from the cement market in 2010 and with its production capacities under Ultratech Cement Ltd. (Grasim Industries Ltd. and Ultratech Cement Ltd. are under the Birla Aditya Group) also contributed to this shuffling, but the market remains oligopolistic nonetheless.
Figure 12 shows the cement production numbers as indexed from a base of 100 with the base 100 representing Mar-2005 numbers. Similarly it shows the price of 50 Kg bag of cement as indexed from a base of 100 with the base 100 representing Mar-2005 numbers.

Figure 12: North Zone Cement Production vs. North Zone Cement Capacity Utilization vs. Delhi Retail Prices (Rs. /50Kg bag), Source: CMIE data

Figure 12 shows capacity utilization in north zone declined to 86% in Mar-09 after being at 101% in Mar-06. In March 2010, north zone recorded a capacity utilization of 91%, which is reasonable when one considers cyclical nature of the cement industry and the decrease in the demand of cement due to global effects of recession and housing crisis.

2.3.2 WEST ZONE

The top 4 companies in terms of cement production in west zone produced 73% of the total cement produced in 2011, out of a total of 15 companies, which represents an oligopolistic market. Major players are Ambuja Cement Ltd., Ultratech Cement Ltd., Sanghi Industries Ltd., Century Textiles & Inds. Ltd., and Jaiprakash Associates Ltd. Over the last 6 years, the top 5 or 6 companies have captured around 80% production of cement, with virtually the same names appearing in the top 6; refer to figures 13, 14 and 15. Zonal production data for Ambuja
Cements Ltd. is not available 2010 onwards, thus there is shuffling of companies and their cement production percentage. Grasim Industries Ltd. exit from the cement market in 2010 and with its production capacities under Ultratech Cement Ltd. (Grasim Industries Ltd. and Ultratech Cement Ltd. are under the Birla Aditya Group) also contributed to this shuffling, but the market remains oligopolistic nonetheless.
Figure 16: West Zone Cement Production vs. West Zone Cement Capacity Utilization vs. Mumbai Retail Prices (Rs. /50Kg bag), Source: CMIE data

Figure 16 shows the cement production numbers as indexed from a base of 100 with the base 100 representing Mar-2005 numbers. Similarly it shows the price of 50 Kg bag of cement as indexed from a base of 100 with the base 100 representing Mar-2005 numbers.

Figure 16 shows capacity utilization in west zone having steadily declined to 84% in Mar-10 after being at 98% in Mar-08. This can be owed to production levels remaining virtually the same through years 2007-08 to 2009-10 while capacity being added up as shown by the production numbers. Such a trend is a cause for concern in terms of competitive behaviour in the market as firms might be holding back production in order to constrain supply in the western market.

2.3.3 CENTRAL ZONE

The top 3 companies in terms of cement production in central zone produced 70% of the total cement produced in 2011, out of a total of at-least 8 companies, which represents an oligopolistic market. Major players are Jaiprakash Associates Ltd., ACC Ltd., Century Textiles & Inds. Ltd., and Ultratech Cement Ltd. Over the last 6 years, the top 4 companies have captured around 80% production of cement, with virtually the same names appearing in the top 4; refer to figures 17, 18 and 19. Zonal production data for ACC Ltd. and Ambuja Cements Ltd. is not available 2010 onwards, thus there is shuffling of companies and their cement production percentage. Grasim Industries Ltd. exit from the cement market in 2010 and with its production capacities under Ultratech Cement Ltd. (Grasim Industries Ltd. and Ultratech Cement Ltd. are under the Birla Aditya Group) also contributed to this shuffling, but the market remains oligopolistic nonetheless.
Figure 20: Central Zone Cement Production vs. Central Zone Cement Capacity Utilization vs. Delhi Retail Prices (Rs. /50Kg bag), Source: CMIE data

Figure 20 shows the cement production numbers as indexed from a base of 100 with the base 100 representing Mar-2005 numbers. Similarly it shows the price of 50 Kg bag of cement as indexed from a base of 100 with the base 100 representing Mar-2005 numbers.
In figure 20, since the north zone is the major supplier of cement to the central zone\textsuperscript{17}, Delhi cement retail prices are considered for analysis here as no cement price data could be gathered from CMIE database for a central Indian city.

Figure 20 shows a reverse trend in capacity utilization of the central zone with respect to other regional zones in the country. Capacity utilization has been on the increase in the last 5 years with a slight dip in Mar-09 owing to global and housing crisis pressures.

\textbf{2.3.4 EAST ZONE}

The top 4 companies in terms of cement production in east zone produced 81\% of the total cement produced in 2011, out of a total of 17 companies, which represents an oligopolistic market. Major players are Lafarge India Pvt. Ltd., UltraTech Cement Ltd., OCL India Ltd., ACC Ltd., Ambuja Cements Ltd., and Century Textiles & Inds. Ltd. Over the last 6 years, the top 5 companies have captured around 75\% production of cement, with virtually the same names appearing in the top 5 to 6; refer to figures 21, 22 and 23. Zonal production data for ACC Ltd. and Ambuja Cements Ltd. is not available 2010 onwards, thus there is shuffling of companies and their cement production percentage. Grasim Industries Ltd. exit from the cement market in 2010 and with its production capacities under UltraTech Cement Ltd. (Grasim Industries Ltd. and UltraTech Cement Ltd. are under the Birla Aditya Group) also contributed to this shuffling, but the market remains oligopolistic nonetheless.

\textsuperscript{17} IBEF’s report “Cement November 2011”, Page 10
Figure 24 shows the cement production numbers as indexed from a base of 100 with the base 100 representing Mar-2005 numbers. Similarly it shows the price of 50 Kg bag of cement as indexed from a base of 100 with the base 100 representing Mar-2005 numbers.

Figure 24: East Zone Cement Production vs. East Zone Cement Capacity Utilization vs. Kolkata Retail Prices (Rs./50Kg bag), Source: CMIE data
Figure 24 shows capacity utilization in east zone steadily remaining at around 85% level for the years 2005-06 to 2009-10. Though increases in production and corresponding increases in retail prices of cement in the graph indicate slightly abnormal behaviour as capacity utilization should be up when the prices are rising along with the production levels of cement. Such a trend is again a cause for concern in terms of competitive or collusive behaviour.

2.3.5 SOUTH ZONE

South Zone has the largest capacity of limestone in India and is the largest producer of cement in India. It has considerably larger number of companies operating than in other zones across India. The top 7 companies in terms of cement production in south zone produced 74% of the total cement produced in south zone 2011, out of a total of 25 companies, which represents an oligopolistic market. Major players are India Cements Ltd., Ultratech Cement Ltd., Madras Cements Ltd., ACC Ltd., Ambuja Cement Ltd., Kesoram Industries Ltd., Dalmia Bharat Sugar & Inds. Ltd., Chettinad Cement Corpn. Ltd., and Penna Cement Inds. Ltd. Over the last 6 years, the top 8 companies have captured around 75%-80% production of cement, with virtually the same names appearing in the top 8; refer to figures 25, 26 and 27. Zonal production data for ACC Ltd. and Ambuja Cements Ltd. is not available 2010 onwards, thus there is shuffling of companies and their cement production percentage. Grasim Industries Ltd. exit from the cement market in 2010 and with its production capacities under Ultratech Cement Ltd. (Grasim Industries Ltd. and Ultratech Cement Ltd. are under the Birla Aditya Group) also contributed to this shuffling, but the market remains oligopolistic nonetheless.
Figure 28: South Zone Cement Production vs. South Zone Cement Capacity Utilization vs. Chennai Retail Prices (Rs. /50 Kg bag), Source: CMIE data
Figure 28 shows the cement production numbers as indexed from a base of 100 with the base 100 representing Mar-2005 numbers. Similarly it shows the price of 50 Kg bag of cement as indexed from a base of 100 with the base 100 representing Mar-2005 numbers.

Figure 28 shows capacity utilization in south zone sharply dipping to 76% in Mar-10 after reaching the highs of 94% in Mar-08. With such a low capacity utilization rate in the south, and price level well above 2005, 2006, 2007 level when capacity utilization was up and above 90% for these years, and increasing or slightly decreasing prices in period of large dip in capacity utilization calls for concern and deeper observation of the capacity utilization numbers of individual firms.

The above analysis in section 2.3.1 to section 2.3.5 leads us to question the workings of the regional cement markets in India. The competition issues like agreeing to an anti-competitive agreement or presence of a cement cartel cannot be ignored under such workings of regional cement markets in India. In Section 3, the report observes competition issues and looks at detailed analysis of each company in the questionable regional cement markets in India.
3. COMPETITION ISSUES IN THE CEMENT INDUSTRY

The Competition Act, 2002 under Chapter II prohibits certain agreements, abuse of dominant position and regulates combinations with the power to lay charges and impose considerable fines on individual(s) and enterprise(s).

The analysis of Section 2 as a whole and particularly Section 2.2.2 and Section 2.3 raises questions over the integrity of the cement market(s) in India, especially at the geographical (zonal) level. The cement market in India (as a whole and on regional levels) is highly concentrated with few players controlling the production of cement. Thus under the Competition Act, 2002 this research report thrives to take a deeper look into the cement industry under Section 3, anti-competitive agreements. Under Section 3, subsection (1) of the Competition Act, 2002, “no enterprise or association of enterprises or person or association of persons shall enter into any agreement in respect of production, supply, distribution, storage, acquisition or control of goods or provision of services, which causes or is likely to cause an appreciable adverse effect on competition within India.” Also, under Section 3, subsection (3) of the Competition Act, 2002, “Any agreement entered into between enterprises or associations of enterprises or persons or association of persons or between any person and enterprise or practice carries on, or decision taken by, any association of enterprises or association of persons, including cartels, engaged in identical or similar-trade of goods or provision of services, which –

(a) directly or indirectly determines purchase or sale prices;
(b) limits or controls production, supply, markets, technical development, investment or provision of services;
(c) shares the market or source of production or provision of services by way of allocation of geographical area of market, or type of goods or services, or number of customers in the market or any other similar way;
(d) directly or indirectly results in bid rigging or collusive bidding, shall be presumed to have an appreciable adverse effect on competition:”

Section 4, “Abuse of dominant position”, and Section 5, “Combination” under the Competition Act, 2002 are not applicable to the cement industry, at-least under the analysis done in Section 2 and Section 3 of this research report, as any regional cement market has at-least three major players, and there have not been noticeable/suspicious combinations lately in the cement industry in India.

Therefore, this research report tries to venture into finding any semblance of collusive behaviour or anti-competitive agreement among the cement manufacturers. Here, we look at certain conditions that are conducive for cartel formation and observe the findings of the cement industry and its players within the framework of those conditions.

Conditions conducive for cartel formation:\(^{18}\):

1. High concentration - Few players in the market

   The Indian cement market is divided into five regional markets: North, West, Central, East, and South, which have been observed in detail in Section 2.3 of this report. The regional cement markets indeed have high concentration of firms. According to figure 11 of this report, the top 5 companies in terms of cement production in north zone produced 77% of the total cement produced in 2011, out of a total of more than 15 companies. Figure 15 shows that the top 4 companies in terms of cement production in west zone produced 73% of the total cement produced in 2011, out of a total of 15 companies. Figure 19 shows that the top 3 companies in terms of cement production in central zone produced 70% of the total cement produced in 2011, out of a total of at-least 8 companies. Figure 23 shows that

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\(^{18}\) First six headings (points) taken from “Provisions Related to Cartels” Competition Act, 2002, Advocacy series, December 2011, Competition Commission of India
the top 4 companies in terms of cement production in east zone produced 81% of the total cement produced in 2011, out of a total of 17 companies. And figure 27 shows that the top 7 companies in terms of cement production in south zone produced 74% of the total cement produced in south zone 2011, out of a total of 25 companies.

2. Excess capacity

According to the Section 2.3 of this report, the capacity utilization levels having been declining in three of the five regional markets across India. Figure 12 in section 2.3.1 shows capacity utilization in north zone declined to 86% in Mar-09 after being at 101% in Mar-06. In March 2010, north zone recorded a capacity utilization of 91%, which is reasonable when one considers cyclical nature of the cement industry and the decrease in the demand of cement due to global effects of recession and housing crisis.

Figure 16 in section 2.3.2 shows capacity utilization in west zone having steadily declined to 84% in Mar-10 after being at 98% in Mar-08. This can be owed to production levels remaining virtually the same through years 2007-08 to 2009-10 while capacity being added up as shown by the production numbers. Such a trend is a cause for concern in terms of competitive behaviour in the market as firms might be holding back production in order to constrain supply in the western market.

Figure 20 in section 2.3.3 shows a reverse trend in capacity utilization of the central zone, it has been on the increase in the last 5 years with a slight dip in Mar-09 owing to global and housing crisis pressures.

Figure 24 in Section 2.3.4 shows capacity utilization in east zone steadily remaining at around 85% level for the years 2005-06 to 2009-10. Though increases in production and corresponding increases in retail prices of cement in the graph indicate slightly abnormal
behaviour as capacity utilization should be up when the prices are rising along with the production levels of cement. Such a trend is again a cause for concern in terms of competitive or collusive behaviour.

Figure 28 in Section 2.3.5 shows capacity utilization in south zone sharply dipping to 76% in Mar-10 after reaching the highs of 94% in Mar-08. With such a low capacity utilization rate in the south, and price level well above 2005, 2006, 2007 level when capacity utilization was up and above 90% for these years, and increasing or slightly decreasing prices in period of large dip in capacity utilization calls for concern and deeper observation of the capacity utilization numbers of individual firms.

The above analysis leads us to question further the high level of prices in four out of the five zones (except the central zone), which is done in our analysis in point 9 under this section.

3. High entry and exit barriers

Figure 5 clearly illustrates that the entry and exit barriers for the cement industry are high due to very high cost of cement production plants, be it cost of setting up new plants or operational costs of existing plants. To exit a losing position in the cement industry would incur huge losses for the firm(s) as

4. Similar production costs

The cement manufacturers’ share in the market has remained steady at the national level and also at the regional levels for most part of six years. The similarity in the pattern of increasing (and decreasing) Operating profit and Profit after Tax of cement manufacturers shows that production costs for them in the same markets are highly similar. Shree Cements Ltd. has been noted for their high operational efficiency and thus reasoning their
extraordinary rise in the cement market in India. Shree Cements Ltd. deployed better and technologically superior methods of production of cement in the mid-2000’s, but the operational efficiency gap between the them and the rest of the manufacturers had decreased a lot due to others adopting newer technology and production methods.

5. High dependence of consumers on the product

Cement, practically, has no substitutes and thus cement industry traditionally has high degree of supplier power. Alternatives, if any, are at a nascent stage of use and do not pose a visible threat to the supremacy of cement as the sole product providing its kind of use and value to the consumers and the nations as a whole.

6. History of collusion in the industry

Section 1.2.1 and Section 4 look into the history of collusion in the cement industry in various countries in the world and section 1.2.2 looks into the history of collusion India through media reports and clippings. Cement as an industry has been known to have collusive behaviour among firms operating in the same market.

7. Existence of effective trade association in the industry

As seen in the Pakistan cement cartel case, the presence of a trade association in the cement industry provided the common grounds for the cement manufacturers in Pakistan to agree to marketing agreements which fixed the production percentage of each member of the trade association and control prices in collusion with each other (refer to Section 4.1).

In India, most of the cement manufacturers are registered with the Cement Manufacturers’ Association, CMA, which was established in 1961. Though, in this report we do not take a look into the role of CMA in India over the years, but the presence of such an association can always fuel collusion among member firms.
In addition to these factors, shareholding pattern data for some of the major companies also contribute to the suspicion of inherent collusion among some of the players in the cement market.

8. Shareholding pattern data

Figure 29 shows the major crossholdings among companies belonging to the same parent groups but individually competing in same and/or different regional cement markets across India.

This, increases suspicion of collusive behaviour between firms that have crossholdings between them. Notably, ACC Ltd. and Ambuja Cement Ltd. operating across India in almost every zone, Dalmia Cement Ltd. and OCL India Ltd. with Dalmia Cement Ltd. operating in the southern zone and OCL India Ltd operating the eastern zone, Grasim Industries Ltd. and Ultratech Cement Ltd. operating across India in almost every zone (though from 2011 onwards, Grasim has pulled out of the cement market, with its
production capacities going over to Ultratech Cement Ltd.), and Century Textiles & Inds. Ltd. and Kesoram Industries Ltd., with Kesoram Industries operating mainly in southern India and Century Textiles & Inds. Ltd. operating across most zones in India.

9. Unusually high price per unit of cement

It is not straightforward to determine whether the cement prices have been fixed by the companies or not. Changes in demand-supply dynamics of each region can result in significantly different prices of different regions. To gain insight into such demand-supply dynamics, it is imperative to observe financial numbers of each of the firms with respect to capacity utilization and cement production numbers and then try to see whether the fluctuations of retail prices in corresponding geographical zones provide any depth into suspicion of collusive behaviour among firms from an economics point of view. Appendix B contains all the relevant graphs with the relevant data for major companies across each of the geographical zones.

- An important point to re-consider is the operating profit margin and the PAT index of the top companies across the zones in India. As these values are company specific and on the national level, they will not change for the regional markets. Thus recapturing what has analysed about the same in section 2.3.3 of this report:
  During 2005-06 to 2010-11, the operating profit margin all the companies has soared to reach new highs during 2007-2008, but has come back to 2005-06 levels or even below those levels for all the companies. It may indicate that the cost of production and operation are higher from 2009-10 onwards and though the slight decrease in selling price of cement must also contribute to the low operating profit margin levels, this much amount of fluctuation in operating profit margins (around 15-20% for almost all
of the top companies in north zone) on an annual basis points out a strong suspicion that
the price levels during the up period (2005 to 2008-09) were extraordinarily high.
Also, the Profit after Tax (PAT) for all the companies closely resembles the path of the
operating margin, though for most of the cases, the PAT is still well above the 2005
levels. Any exceptions to the above mentioned details on operating profit margin and
PAT will be captured in the following analysis.

Here is zone-wise company analysis to what outlook all the data provides, north zone first.

- The retail price for a 50 Kg cement bag was 1.6 times more in Delhi in Mar-10 and
  Mar-11 than in Mar-05. The retail price increased rapidly in 2005, 2006 and 2007,
decreased ever so slightly in 2008-09 due to real estate crisis resulting in lower demand.
The production of cement has seen a healthy increase by all the major companies in the
north zone.

- Price increase is driven by high demand growth and high capacity utilization, but in
  contrast to this, during the period (2008-2011), the capacity utilization has decreased
  for ACC Ltd., Shree Cement Ltd., Grasim Industries Ltd., and JK Lakshmi Cement
  Ltd., when retail prices have been steady (decreased ever so slightly in 2008-09 due to
  economic crisis) if not increased in the same period. Capacity utilization levels for
  Ultratech Cement Ltd. remain high and low for Binani Cement Ltd. due to late entrance
  in the north zone market (2008-09).

- Capacity utilization for Shree Cement Ltd. seems to fall abruptly with a decrease in
  prices in 2009 and late 2010 (Mar-11 period), being at 77% in Mar-11 from 103% in
  Mar-10, on the back of almost same production level. Such a sharp fall indicates
  (happened previously also: from 97% in Mar-08 to 85% in Mar-09) a supply constraint
  being deliberately exercised in order to decrease cement supply in the market.
• Capacity utilization for JK Lakshmi Cement Ltd. seems to fall abruptly to 92% in 2009-10 and to 81% 2010-11, even though prices and cement production levels are relatively stable. This is accompanied by a sharp fall in operating profit margin and PAT in 2010-11 only.

Moving on to the west zone:

• The retail price for a 50 Kg cement bag was 1.53 times more in Mumbai in Mar-10 and Mar-11 than in Mar-05. The retail price increased rapidly in 2005, 2006 and 2007, and has stabilised to a price index of around 150 for the last four years. The production of cement has seen a healthy increase by all the major companies in the west zone. The production of cement has seen a healthy increase by all the major companies in the west zone.

• Price increase is driven by high demand growth and high capacity utilization, but in contrast to this, during the period (2008-2011), the capacity utilization has decreased for Sanghi Industries Ltd. to be around 70% for the last two years from a high of 97% in Mar-08. The production level for Sanghi Industries Ltd. have decreased considerable over the last three years to be at a production index of 150 in Mar-11 from an index of over 200 in Mar-08, thus signalling possible supply/production control of cement to maintain the price level.

• Capacity utilization levels remained high for Ultratech Cement Ltd., Ambuja Cements Ltd., Grasim Industries Ltd., and Century Textiles & Inds. Ltd. over the period.

• Ultratech Cement Ltd.’s capacity utilization has never been above 85% with the March-11 figure at 80% even after increasing their cement production consistently over the last six to seven years. This may indicate a huge capacity build up by Ultratech Cement
Ltd., and their increasing PAT index does not correspond to decreasing operating profit margin and capacity utilization levels.

Moving on to the east zone:

- The retail price for a 50 Kg cement bag was 1.5 times more in Kolkata in Mar-10 than in Mar-05 but decreased somewhat to 1.35 times of Mar-05 level in Mar-11. The retail price increased rapidly in 2007, 2008 and 2009, decreased in 2010-11. The production of cement has seen a healthy increase by all the major companies in the east zone.
- Price increase is driven by high demand growth and high capacity utilization, but in contrast to this, during the period (2008-2011), the capacity utilization has decreased for OCL India Ltd., ACC Ltd., and Ambuja Cement Ltd. The capacity utilization levels for OCL India Ltd. have been alarmingly low in the last two years (57% in Mar-10 and 64% in Mar-11), even though it has seen tremendous growth in production numbers (production index at 252 in Mar-11, and 225 in Mar-10, from 148 in Mar-08). Thus there is strong suspicion of production control in order to control price movement in the market.
- Capacity utilization levels remained high for UltraTech Cement Ltd., Grasim Industries Ltd., Century Textiles & Inds. Ltd. and Lafarge India Pvt. Ltd. over the period.

Moving on to the south zone:

- The retail price for a 50 Kg cement bag was 1.6 times more in Chennai in Mar-09 and Mar-11 than in Mar-05. The retail price increased rapidly in 2006, 2007 and 2008, decreased considerably in 2009-10 due to real estate crisis resulting in lower demand. The production of cement has seen a healthy increase by all the major companies in the south zone.
• Price increase is driven by high demand growth and high capacity utilization, but in contrast to this, during the period (2008-2011), the capacity utilization has decreased considerably for India Cements Ltd., Madras Cement Ltd., Kesoram Industries Ltd., Dalmia Bharat Sugar & Inds. Ltd., Ultratech Cement Ltd., Chettinad Cement Corpn. Ltd. and Penna Cement Inds. Ltd. Only ACC Ltd. and Grasim Industries Ltd. seem to have appropriate capacity utilization levels along with their financial numbers.

• India Cements Ltd.’s capacity utilization levels have declined to 77% and 72% in Mar-10 and Mar-11 respectively, from being at 103% in Mar-08. This on the top of their highest production levels in the period of 2007-2010. Such a decline has heavily impacted their operating profit margin which is below Mar-05 levels and the company’s PAT, though they still have a PAT index of 1487 in Mar-11.

• Ultratech Cement Ltd.’s capacity utilization has hardly been above 90% with the March-10 figure at 66% and Mar-11 figure at 74%, even after almost doubling their cement production in 2010-11 from 2009-10. This indicates a huge capacity build up by Ultratech Cement Ltd., and their increasing PAT index does not correspond to decreasing operating profit margin and capacity utilization levels.

• The case for Madras Cements Ltd. is even worse with the capacity utilization falling continuously from 2008 onwards to 59% in Mar-11. The cement production also fell from an index of 213 in Mar-10 to 195 in Mar-11, though it is still at a very healthy level indicating capacity build up by Madras Cements Ltd.

• Capacity utilization for Kesoram Industries Ltd. has dipped sharply in Mar-11 to 75% from over 90% in Mar-10. Consistent cement production levels in the last three years indicate that falling capacity utilization is due to capacity build up in order to maintain prices. Kesoram Industries Ltd. have faced the damaged caused by their low utilization
levels as seen in their PAT index, which was at -627 for Mar-11 against Mar-05 PAT index of 100.

• Capacity utilization for Dalmia Bharat Sugar & Inds. Ltd. has seen a dramatic decrease to 50% in the last two years after being above 90% for most of the concerned period. This has been on the back of increasing production index to 361 in Mar-11 from being 262 in Mar-09. Another instance of excess capacity through capacity build up by a company. The PAT index has taken the hit in Mar-11 with it being at 10.

• Capacity utilization for Chettinad Cement Corpn. Ltd. has dipped sharply in Mar-10 and Mar-11 to 71% and 55% respectively. Capacity utilization was well above 100% in the rest of the previous years. Consistently increasing cement production levels in the last three years indicate that falling capacity utilization is due to capacity build up in order to maintain prices. The fall in capacity utilization may also have been triggered by a negative PAT index in Mar-09.

• Penna Cement Inds. Ltd. capacity utilization levels seem to follow in line with their production trend and prices of cement but utilization levels of 77% in Mar-09 and 62% in Mar-11 are too low for the liking in the period of production growth and steady state.
4. CEMENT CARTEL CASES ACROSS THE WORLD

In this section, we look at three cement cartel cases around the world, and understand the basis of the cartel formation and the fines levied by the respective competition regulatory body.

4.1 PAKISTAN CEMENT CARTEL

The Competition Commission of Pakistan found the cement cartel to be operative by fixing prices across the country through the All Pakistan Cement Manufacturers’ Association. On 20 March 2008, a news item appearing in the daily ‘Jang’ and on the website of ‘Geo News’ revealed that the price of cement was raised by Rupees fifteen (Rs.15) to Rupees twenty (Rs.20) per bag across the country, pursuant to the Agreement19.

In the wake of the above news and the past trading practices in the cement industry in Pakistan, The Competition Commission of Pakistan authorized a team to search the office of All Pakistan Cement Manufacturers’ Association in Lahore. Importantly, evidence recovered included a marketing arrangement entered into by the members of the All Pakistan Cement Manufacturers’ Association and the Association itself, on 8 May 2003. The agreement contained such clauses/rules by virtue of which, quotas with respect to production and supply of cement were fixed in order to maintain the desired and targeted price level amongst the members of the association. Some of the select terms of the agreement are as follows20:

- Each member’s capacity for calculating monthly quota will be on the basis of the attached annexure ‘A’.

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19 “BEFORE THE COMPETITION COMMISSION OF PAKISTAN IN THE MATTER OF SHOW CAUSE NOTICES ISSUED TO ALL PAKISTAN CEMENT MANUFACTURERS ASSOCIATION AND ITS MEMBER UNDERTAKINGS (UF. No. 4/2/Sec.4/CCP/200UU8U)”, Page 3
20 “BEFORE THE COMPETITION COMMISSION OF PAKISTAN IN THE MATTER OF SHOW CAUSE NOTICES ISSUED TO ALL PAKISTAN CEMENT MANUFACTURERS ASSOCIATION AND ITS MEMBER UNDERTAKINGS (UF. No. 4/2/Sec.4/CCP/200UU8U)”, Page 5, 7, 8
- The Chairman’s decision regarding fixation of monthly quota shall be binding on all members. He may consult members on quantity of quota to be fixed each month but will have the final say in this regard.

- Any increase or decrease in monthly quota shall be effective on prospective and not on retrospective basis. Any increase or decrease in monthly quota shall be at the sole discretion of the Chairman and binding on all members in order to maintain the desired and targeted price level.

The Competition Commission of Pakistan took *suo moto* action and issued a Show Cause Notice to the All Pakistan Cement Manufacturers’ Association and all its members as The Commission sought to show that the agreement of the cement manufacturers was a ‘prohibited agreement’. On examining the actual dispatches of cement companies in the year 2003, it was observed by The Competition Commission of Pakistan that the actual dispatches closely match with the allocated quotas. By using the same capacity based allocation of quotas method, the year-wise cement dispatches of each member of the All Pakistan Cement Manufacturers’ Association from year 2003 to year 2008 was analysed and it was observed that the percentage share of each member in the total cement dispatches very closely matches with the percentage share of the member in the total production capacity of all the members of the Association, demonstrating the fact that the agreement was in existence and was being implemented effectively in the years under review\(^{21}\).

**Cartel case’s outcome**

The Competition Commission of Pakistan, by an order dated 27-08-09, imposed a penalty of Rs 6.3 Billion on 20 units of the cement industry, at the rate of 7.5% of their respective

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\(^{21}\) “BEFORE THE COMPETITION COMMISSION OF PAKISTAN IN THE MATTER OF SHOW CAUSE NOTICES ISSUED TO ALL PAKISTAN CEMENT MANUFACTURERS ASSOCIATION AND ITS MEMBER UNDERTAKINGS (UF. No. 4/2/Sec.4/CCP/200UU8U)“, Page 54
turnover, during the year 2007-08. The penalty was imposed on the assumption of an alleged
document signed by the members of cement industry in May, 2003, discovered by CCP on a
raid to the office of the APCMA on 24th April, 2008. During 2003-2004, the CCP ordinance
was not in force. The ordinance came into force on 2nd October, 2007. The CCP choose to
impose the penalty in spite of the fact that in a research paper, prepared by its own member
(Research and Advocacy) on 11th April, 2008, concluded that there was no cartel in the cement
industry: According to the research paper available on CCP's website, it was a snapshot study
conducted in March, 2008\textsuperscript{22}. The research paper sought the increase in the cost of the inputs as
the reason behind the cement price hike on March 20, 2008.

No money has been received from such companies/members of the supposed cartel as yet as
they have seemed to obtained stay orders\textsuperscript{23}.

4.2 SOUTH AFRICA CEMENT CARTEL\textsuperscript{24}

On the June 24 2008, the Competition Commission in South Africa conducted a highly
successfully search and seizure operation (commonly known as ‘raids’) on the premises of
Pretoria Portland Cement Company Ltd (PPC), Lafarge Industries South Africa (Pty) Ltd,
Afrisam South Africa (Pty) Ltd and NPC-Cimpor (Pty) Ltd. This was against the backdrop of a
complaint pro-actively initiated by Commissioner, on the 2nd June 2008 against all four
cement producers active in South Africa and a cement extender company known as Slagment
(Pty) Ltd, which was previously jointly owned by all cement companies. The complaint
initiation which triggered the raids was largely based on findings of the Commission’s
economic research report into inputs used in the government and State Owned Enterprises’
(SOE) infrastructure programme. The research was conducted, inter alia, with a view of

\textsuperscript{22} “Cement cartel - a CCP study”, Abdur Razzaq Thaplawala
\textsuperscript{23} http://www.cementchina.net/news/shownews.asp?id=9533, retrieved on 6\textsuperscript{th} June, 2012
\textsuperscript{24} Most of the section contains direct references from “Competition News”, The official newsletter of the
Competition Commission of South Africa, Edition 33, December 2009
identifying possible anti-competitive behaviour in the construction industry. The research focused on key products which form inputs to the infrastructure programme such as cement, aggregates, bricks and steel. The review concluded that anti-competitive behaviour in some of these products and markets could be substantially increasing not only the costs of the infrastructure programme but also other projects that rely on these key inputs and as such raising costs in the economy more widely.

With respect to cement, the economic analysis essentially concluded that even though the legally sanctioned cement cartel was disbanded in 1996, the four cement producers still operated in same historic locations, with low levels of competition between them. Cement prices had doubled since 2001, with pricing movements in ‘steps’ every six months, giving rise to a genuine concern that the high cement prices could be attributable to collusion. The cement producers tend to increase cement prices around the same time (January and July each year) and the magnitude of such price increases appeared to be similar overall, thus giving rise to concerns that the price increases could be a result of collusion/coordinated behaviour by the cement producers. In addition, information gathered from the market indicated that independent downstream market participants are struggling to procure sufficient quantities of cement extenders such as blast furnace slag, whilst the cement producers enjoy abundant supplies of cement extenders. This therefore gave rise to a concern that the cement producers in cahoots with cement extender companies could be limiting the amount of cement extenders available in the market in order inhibit competition from independents.

It also appeared that PPC, being a leading cement producer in the South African market with estimated market share of over 35%, could have abused its position of dominance in the market by treating its customers differently in terms of price. The Commissioner accordingly based the investigation on possible contraventions of section 4(1) (b), 5(1) and 8(c) of the Competition Act. Following information gathering and consultations with industry informants and experts,
and other competition authorities, it was resolved to make use of the Commission’s search and seizure powers to obtain information that we may not otherwise have obtained given the cement cartel’s modus operandi. In essence, in cement cartels uncovered in other countries (in which several of the multinational producers in South Africa had been implicated) it appeared that there were only irregular meetings, physical records were not kept of cartel arrangements, or were destroyed, and where information is stored electronically, codes and fictitious names are used to conceal its true nature. Five locations were searched by teams from the Commission. These teams involved a substantial number of Commission staff, together with IT specialists and police officers to assist with the execution of the search warrants and access to the buildings. In contrast with the previous cement raids, no party has challenged the raids in court.

**Effect of the raids by the South African Competition Commission**

Subsequently, PPC applied for leniency and confirmed the existence of a cartel among the four cement producers. In its application for leniency PPC confirmed the existence of a cartel to divide markets among the four cement producers. According to this information, the four cement producers agreed to divide the cement market amongst themselves in order to maintain the market shares that each producer held prior to 1996 when a lawful cement cartel existed and was regulated by exemptions to the competition legislation. The agreement was implemented up until this year through highly disaggregated sales information each producer submitted to the Cement and Concrete Institute of South Africa (“C&CI”) through an audit firm appointed by C&CI. The four cement producers are the main members of C&CI. In
addition, there was an agreement that PPC would not compete in the Northern Natal market in exchange for Lafarge not competing with PPC in the Botswana market.25

PPC has since been granted conditional leniency after confirming the existence of a cartel to divide the markets among the four cement producers. The Commission also entered into a settlement agreement with Afrisam in November 2011, in which the company admitted that it took part in a cement cartel. Afrisam agreed to pay a penalty of R124 878 870.00 representing 3% of its 2010 cement annual turnover in the Southern African Customs Union.26

The Competition Commission also reached a settlement with Lafarge Industries South Africa Limited on 8 March 2012, in which Lafarge admits that it took part in the cement cartel in South Africa. Lafarge agreed to pay a penalty of R148 724 400 which represents 6% of its 2010 annual turnover in South Africa Customs Union region 27.

4.3 GERMANY CEMENT CARTEL 28

Bundeskartellamt, the competition authority in Germany, imposed fines totaling approx. 660 million Euros in its cartel proceedings against six largest German cement manufacturers, Alsen AG, Dyckerhoff AG, HeidelbergCement AG, Lafarge Zement GmbH, Readymix AG and Schwenk Zement KG. The accused companies operated anti-competitive market allocation and quota agreements, some of them since the 1970s, and continued to do so until 2002. The geographic markets affected were the four regional cement markets eastern Germany, Westphalia, northern Germany and southern Germany.

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25 Press Release, Competition Commission of South Africa, 11 November 2011, “PPC confesses to being part of a cement cartel and gets conditional leniency”
26 Media Release, Competition commission of South Africa, 1 November 2011, “Commission settles with Afrisam on cement cartel”
27 Media Release, Competition commission of South Africa, 8 March 2012, “Lafarge settles its cement cartel case with a R149 million fine”
28 Bundeskartellamt news, 14 April 2003, “Bundeskartellamt imposes fines totalling 660 million Euro on companies in the cement sector on account of cartel agreements”
Following information obtained from the construction industry, the Bundeskartellamt carried out a nation-wide search of 30 cement companies in July 2002. This was followed in January 2003 by further searches of eight small and medium-sized cement manufacturers in the southern German area. The evidence seized during the searches and the confessions by the large manufacturers, some of which fully confessed, confirmed the existing suspicions. The President of the Bundeskartellamt in Bonn, Ulf Böge, attributed the successful breaking up of the cartel mainly to the leniency programme published in 2000 and the establishment in 2002 of the Bundeskartellamt’s Special Unit for Combating Cartels.
5. CONCLUSION

On the back of the analysis in section 3 and section 2.2.3 of this report, there is a suspicion of a functioning cement cartel in the zonal markets in India except for the central zone market. The suspicion is well placed since most of the conditions for cartel formation are strongly satisfied in the cement markets in India. With the findings of the data analysed in the report, there is a strong suspicion of the presence of price control and market sharing in the zonal markets, especially in an industry like cement industry with high amount of crossholding of shares between some of the companies. The suspicion of price control is evident from 2007-08 onwards till the period Mar-2011, and that of market sharing is fuelled by the near constant market shares of individual companies over the last six years.

Signs of collusion are there especially on the zonal level with capacity utilization and production levels of companies in zones moving in tandem with each other (as shown in graphs in Appendix B) and operating profit margins of almost all the companies being highly volatile.

On the all India level, suspicion hovers above Ultratech Cement Ltd., ACC Ltd., India Cement Ltd, Shree Cement Ltd., and Madras Cements Ltd. While in the north zone, strong suspicion hovers over ACC Ltd., Shree Cement Ltd., Grasim Industries Ltd. and JK Lakshmi Cement Ltd., whereas in the west zone, Ultratech Cement Ltd. and Sanghi Industries Ltd should be under the scanner of the Commission. In the east zone, OCL India Ltd., Ambuja Cement Ltd. and ACC Ltd. show signs of collusion. The south zone provided the highest amount of suspicion with as many as seven players controlling production. The players are India Cements Ltd., Madras Cements Ltd., Ultratech Cement Ltd., Kesoram Industries Ltd., Dalmia Bharat Sugar Inds. Ltd., Chettinad Cement Corpn. Ltd. and Penna Cement Inds. Ltd.
The CCI can take the following steps to ascertain the presence of the cement cartel or make progress into unlocking the cement cartel:

- Look at plant level cement production and capacity utilization data, especially for firms over which considerable suspicion is already there.
- Look into the timing of the capacity additions done by various players in the market.
- As done by competition regulatory authorities in cement cartel cases in Pakistan, South Africa and Germany, the CCI should look to raid important offices of companies in question and also offices of Cement Manufacturers’ Association in order to find any circumstantial evidence of an agreement among any of the cement manufacturers.
- Leniency policy in the Competition Act, 2002 can be made to be on the lines of European Competition Law in order to voluntarily cause break-up in cartels. The German Competition Commission acknowledged the pivotal role of the improved leniency programme in busting up the German cement cartel.
6. REFERENCES

I. The Competition Act, 2002

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4. Press Release, Competition Commission of South Africa, 11 November 2011, “PPC confesses to being part of a cement cartel and gets conditional leniency”.


6. “BEFORE THE COMPETITION COMMISSION OF PAKISTAN IN THE MATTER OF SHOW CAUSE NOTICES ISSUED TO ALL PAKISTAN CEMENT MANUFACTURERS ASSOCIATION AND ITS MEMBER UNDERTAKINGS (UF.No. 4/2/Sec.4/CCP/200UU8U)”.


III. Industrial Databases


IV. Industry and government reports

2. Crisil Research: India Real Estate Overview.
3. Annual Reports all companies observed in the research report.
4. Last available shareholding pattern reports of all companies observed in the research report.
5. “"Cement"-ing Growth’, Ernst & Young report.
6. IBEF’s report “Cement November 2011”.
8. “Cement cartel - a CCP study”, Abdur Razzaq Thaplawala

V. Websites

APPENDIX A

The following figures, figure 30 to figure 50, show financial data (operating profit margin and profit after tax) with the cement production data and the capacity utilization data of each of the top 13 cement producers in the country. The operating profit margin is in percentage terms, which gives the cost of running the core business of a company. Profit after tax (PAT) and cement production numbers are indexed from March 2005 level, at which each of the PAT and cement production numbers is listed at 100. The following years show the increases in PAT and cement production numbers with respect to March 2005 level. Also, the capacity utilization is in percentage terms, which is the percentage of cement produced by a company with regards to the capacity of cement production installed at its plant(s). All the numbers in the graphs in Appendix A represent all India data.

Figure 30: ACC Ltd., Change in PAT vs. Change in Production vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data
Figure 31: Ambuja Cement Ltd., Change in PAT vs. Change in Production vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data

Figure 32: Grasim Industries Ltd., Change in PAT vs. Change in Production vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data
Figure 33: Century Textiles & Inds. Ltd., Change in PAT vs. Change in Production vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data

Figure 34: Lafarge India Pvt. Ltd., Change in PAT vs. Change in Production vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data
Figure 35: Ultratech Cement Ltd., Change in Production vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data

Figure 36: Ultratech Cement Ltd., Change in PAT, Source: moneycontrol.com

Figure 37: Jaiprakash Associates Ltd., Change in Production vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data
Figure 38: Jaiprakash Associates Ltd., Change in PAT, Source: moneycontrol.com

Figure 39: India Cements Ltd., Change in Production vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data

Figure 40: India Cements Ltd., Change in PAT, Source: moneycontrol.com
Figure 41: Shree Cement Ltd., Change in Production vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data

Figure 42: Shree Cement Ltd., Change in PAT, Source: moneycontrol.com
Figure 43: Madras Cements Ltd., Change in Production vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data

Figure 44: Madras Cements Ltd., Change in PAT, Source: moneycontrol.com

Figure 45: Birla Corporation Ltd., Change in Production vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data
Figure 46: Birla Corporation Ltd., Change in PAT, Source: moneycontrol.com

Figure 47: Binani Cement Ltd., Change in Production vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data
Figure 48: Binani Cement Ltd., Change in PAT, Source: moneycontrol.com

Figure 49: Kesoram Industries Ltd., Change in Production vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data

Figure 50: Kesoram Industries Ltd., Change in PAT, Source: moneycontrol.com
APPENDIX B

The following figures, figure 51 to figure 103, show financial data (operating profit margin and profit after tax) with the cement production data and the capacity utilization data of each of the top cement producers in the North, West, East and South Zones of the country. Along-with this data, retail price in Rs. of 50 Kg cement bag in each of the zones is also considered in the graphs. The operating profit margin is in percentage terms, which gives the cost of running the core business of a company. Profit after tax (PAT), retail price of 50 Kg cement bag and cement production numbers are indexed from March 2005 level, at which each of the PAT, retail price of 50 Kg cement bag and cement production numbers is listed at 100. The following years show the increases in PAT, retail price of 50 Kg cement bag and cement production numbers with respect to March 2005 level. Also, the capacity utilization is in percentage terms, which is the percentage of cement produced by a company with regards to the capacity of cement production installed at its plant(s).

PAT and operating profit numbers in the graphs for each company in Appendix B represent all India data. Whereas cement production, capacity utilization and retail price numbers in the graphs in Appendix B represent zonal data. There are two graphs for each of the companies with respect to each of the zones.

The companies in the north zone that have been analysed are ACC Ltd., Ambuja Cement Ltd., Shree Cement Ltd., Grasim Industries Ltd., JK Lakshmi Cement Ltd., and Binani Cement Ltd. Following are the graphs of companies in the north zone:
Cement production and capacity utilization data for ACC Ltd. is given up to March 2009 in CMIE database.
Cement production and capacity utilization data for Ambuja Cement Ltd. is given up to March 2009 in CMIE database.
Figure 55: Shree Cement Ltd., Change in Price vs. Change in Production vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data

Figure 56: Shree Cement Ltd., Change in PAT vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data
Grasim Industries Ltd. stopped producing cement from 2010 onwards. Its parent group, Birla Aditya Group, transferred the cement production capacities to Ultratech Cement Ltd.

Figure 57: Grasim Industries Ltd., Change in Price vs. Change in Production vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data

Figure 58: Grasim Industries Ltd., Change in PAT vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data
Figure 59: JK Lakshmi Cement Ltd., Change in Price vs. Change in Production vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data

Figure 60: JK Lakshmi Cement Ltd., Change in PAT vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data
Capacity Utilization Data for Binani Cement Ltd. in north zone is available from April 2008 onwards.

Figure 61: Binani Cement Ltd., Change in Price vs. Change in Production vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data

Figure 62: Binani Cement Ltd., Change in PAT vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data
The companies in the west zone that have been analysed are Ultratech Cement Ltd., Sanghi Industries Ltd., Century Textiles & Inds. Ltd., Ambuja Cement Ltd., and Grasim Industries Ltd. Following are the graphs of companies in the west zone:

Figure 63: Ultratech Cement Ltd., Change in Price vs. Change in Production vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data

Figure 64: Ultratech Cement Ltd., Change in PAT vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data
Figure 65: Sanghi Industries Ltd., Change in Price vs. Change in Production vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data

Figure 66: Sanghi Industries Ltd., Change in PAT vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data
Figure 67: Century Textiles & Inds. Ltd., Change in Price vs. Change in Production vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data

Figure 68: Century Textiles & Inds. Ltd., Change in PAT vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data
Cement production and capacity utilization data for Ambuja Cement Ltd. is given up to March 2009 in CMIE database.
Grasim Industries Ltd. stopped producing cement from 2010 onwards. Its parent group, Birla Aditya Group, transferred the cement production capacities to Ultratech Cement Ltd.
The companies in the east zone that have been analysed are Ultratech Cement Ltd., Lafarge India Pvt. Ltd., Century Textiles & Inds. Ltd., OCL India Ltd., Ambuja Cement Ltd., ACC Ltd., and Grasim Industries Ltd. Following are the graphs of companies in the east zone:

Figure 73: Ultratech Cement Ltd., Change in Price vs. Change in Production vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data

Figure 74: Ultratech Cement Ltd., Change in PAT vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data
There was no operating profit margin data for Lafarge India Pvt. Ltd. on www.moneycontrol.com, though the CMIE database gave PAT data upto March 2008.
Figure 77: Century Textiles & Inds. Ltd., Change in Price vs. Change in Production vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data

Figure 78: Century Textiles & Inds. Ltd., Change in PAT vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data
Figure 79: OCL India Ltd., Change in Price vs. Change in Production vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data

Figure 80: OCL India Ltd., Change in PAT vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data
Cement production and capacity utilization data for Ambuja Cement Ltd. is given up to March 2009 in CMIE database.
Cement production and capacity utilization data for ACC Ltd. is given up to March 2009 in CMIE database.
Grasim Industries Ltd. stopped producing cement from 2010 onwards. Its parent group, Birla Aditya Group, transferred the cement production capacities to UltraTech Cement Ltd.
The companies in the south zone that have been analysed are India Cements Ltd., Ultratech Cement Ltd., Madras Cements Ltd., Kesoram Industries Ltd., Dalmia Bharat Sugar & Inds. Ltd., Chettinad Cement Corpn. Ltd., Penna Cement Inds. Ltd., ACC Ltd., and Grasim Industries Ltd. Following are the graphs of companies in the south zone:

Figure 87: India Cements Ltd., Change in Price vs. Change in Production vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data

Figure 88: India Cements Ltd., Change in PAT vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data
Figure 89: Madras Cements Ltd., Change in Price vs. Change in Production vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data

Figure 90: Madras Cements Ltd., Change in PAT vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data
Figure 91: Kesoram Industries Ltd., Change in Price vs. Change in Production vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data

Figure 92: Kesoram Industries Ltd., Change in PAT vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data
Figure 93: Dalmia Bharat Sugar & Inds. Ltd., Change in Price vs. Change in Production vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data

Figure 94: Dalmia Bharat Sugar & Inds. Ltd., Change in PAT vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data
Figure 95: Ultratech Cement Ltd., Change in Price vs. Change in Production vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data

Figure 96: Ultratech Cement Ltd., Change in PAT vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data
Cement production and capacity utilization data for ACC Ltd. is given up to March 2009 in CMIE database.
Grasim Industries Ltd. stopped producing cement from 2010 onwards. Its parent group, Birla Aditya Group, transferred the cement production capacities to Ultratech Cement Ltd.
Figure 101: Chettinad Cement Corpn. Ltd., Change in Price vs. Change in Production vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data

Figure 102: Chettinad Cement Corpn. Ltd., Change in PAT vs. Capacity Utilization vs. Operating Profit Margin, Source: Financial data: moneycontrol.com, other: CMIE data
Figure 103: Penna Cement Inds. Ltd., Change in Price vs. Change in Production vs. Capacity Utilization Source: CMIE data