

A STUDY ON THE PROGRESS OF INDIAN CEMENT INDUSTRY

Dr.P.Krishna Kumar,

Professor , CEO & Secretary,
Nehru Group of Institutions.

Dr.S.Franklin John,

Professor and Principal,
Nehru College of Management,
Coimbatore.

Ms.S.Senith,

Assistant Professor and Research scholar,
Nehru College of Management,
Coimbatore.

Abstract- *The study was designed to investigate the the progress of Indian cements industry since 1991, in terms of its growth in installed capacity, production, exports, and value additions; In detail the research methodology used for the study that has focused on the past, present and the future performance of Indian Cement Industry (ICI) at the macro level and the Chettinadu Cement Corporation Limited (CCCL) at the micro level as a case firm. The study purely relies on secondary data. The secondary data were collected for a period of fifteen years (1991-92 to 2005-06) from the database maintained and made available by several organizations viz., Cement Manufacturers Association, Export Import Bank of India, Center for Monitoring Indian Economy etc. for the purpose of effective periodical analysis. In order to know the progress of ICI, annual time series data for the six variables were studied for trend, cyclical variation and random variation, as seasonal variation was not observable in the annual data. The estimated trend equations were evaluated for their goodness of fit and predictive power and found valid to draw inferences. The values of the six variables were projected to the next five years. Estimated values were adjusted for the likely effects of cyclical variations (c) the reliability of predicted values were evaluated with the help of forecasting error. In the end of the study implications and conclusion were provided.*

Keywords: Progress, Cement, Manufacturers, Industry, Indian, Trend.

1.0 Introduction

The Indian cement industry has evolved significantly in the last two decades, going through all the phases of typical cyclical growth process. After a period of over-supply and a phase of massive capacity additions, the industry is currently in a consolidation phase. With sound economic growth and infrastructure development, the demand for cement is on an upward trend. Further addition to capacity is coming up to cater to the increasing demand for cements. India is the second largest producer of cement, after China. With a capacity of 160 m.t. in 2007, it produced 142 m.t. in 2006. The per capita consumption of cement in India is 125 kg which is only about a third of the world average. It indicates the growth potential for this industry. The demand for cement mainly depends on the level of development and the rate of growth of the economy. In the post deregulation era, production of cement rose from 23.5 m.t.in 1983 to 44.1 m.t.in 1989 and to 142 m.t. in 2006 Deepak(2007).As of March 2007, the installed capacity of the cement industry

stood at 160 m.t. but the capacity utilisation was 83 percent. Over a 5-year period, capacity has grown at six per cent as against eight per cent growth in cement consumption. Major players in the industry are in fact, operating at 90 to 100 per cent of capacity. Many have announced expansion plans to meet the growing demand. Major capacity additions will be completed by the end of the year 2008-09. The increase in demand for cement has attracted global majors to India. In a short span of one year (2005-06), four of the top five cement companies of the world entered into India either through mergers or acquisitions or joint ventures or green field projects. These include France's Lafarge, Switzerland's Holcim, Italy's Italcementi and Germany's Heidelberg cement. The industry has witnessed flurry of mergers and acquisitions among domestic players also, bringing smaller players under the umbrella of large players, such as ACC, Gujarat Ambuja, Grasim Industries, Ultratech and India Cements which in turn have come under the leadership of global players like Lafarge, Holcim, Italcementi and Heidelberg. Over the past three years, the share of the top five players in India has increased in each region due to the on-going consolidation in the industry. Now, the top five players share 58 per cent of the market. Srinivasan(2008) The cement industry has always been conscious of the need to keep pace with demand and has already initiated measures for new capacities to the tune of 100 m.t. to be commissioned between 2007 and 2012. This will attract an investment of US \$10 billion. Deepak(2007). Cement companies made a massive profit during the construction boom in the fiscal year 2006-07. It was a year that saw their net profit rise almost three-fold, despite accusations by the government of burdening consumers with high prices. Net sales of cement companies went up by 50.5 per cent during the year while profits zoomed by 183.4 per cent. The net profit margin for the cement and cement products improved from 9.2 per cent to 17.3 per cent during 2006-07 (Deepak2007).

2.0 Review of Literature

Arora and Sarkar (2002) observed that the boom in the real estate and construction industry in India has caused for a sudden and sharp increase in the price of cement to the extent of price increment as high as 17 per cent in a single month. They attempt to use the theories of collusive behaviour to explain this sudden increase. Collusive behaviour of cartel formation refers to the illegal behaviour of firms within an industry to explicitly or tacitly collude to regulate their market behavior so as to restrict competition. There is a very thin blurred line of distinction between legitimate cooperation and illegitimate collusion. Cartel members agree on fixing prices, total industry output, market shares, rigging bids, setting common sale agencies, allocating territories, or a combination of these measures to gain supernormal profits. In the process of assessing the behavior of cement industry behaviour, the paper analyses the characteristics of an ideal cartel detection policy and structural and behavioural cartel detection methods. Parameters studied include the firm concentration index, region-wise production and consumption, capacity utilization, cost to sales ratio, etc. Their analysis clearly demonstrates that the sudden surge in the price of the cement is neither due to the demand-supply mismatch nor a sudden increment in the cost of producing cement. The contention that the cement industry engaged in illegitimate collusion is further strengthened by observing the recent decline in cement price after the government announcement to import cement. CAR report (2004) reasons out that the demand for cement is directly linked with the economic growth of the country. With the National GDP expected to grow at seven to eight per cent and the long run demand elasticity of cement with respect to GDP being estimated to be 1.4, the quantity of cement demanded in the country is expected to grow by more than 10 per cent. The report states that the "Working Group on Cement Industry", constituted by the Planning Commission for the formulation of Tenth Five Year Plan too has projected a growth rate of 10 per cent for the cement industry during the plan period. In terms of end use, housing sector is the largest consumer of cement in the country, accounting for about 60 per cent of the total consumption. Infrastructure (including roads, urban development, dams, etc.,) accounts for 25 per cent of the total demand, other sectors account for the balance of 15 per cent.

Objective

- 1) To study the progress of Indian cements industry since 1991, in terms of its growth in installed capacity, production, exports, and value additions;

3.0 Methodology

In detail the research methodology used for the study that has focused on the past, present and the future performance of Indian Cement Industry (ICI) at the macro level and the Chettinadu Cement Corporation Limited (CCCL) at the micro level as a case firm. The study purely relies on secondary data. The secondary data were collected for a period of fifteen years (1991-92 to 2005-06) from the database maintained and made available by several organizations viz., Cement Manufacturers Association, Export Import Bank of India, Center for Monitoring Indian Economy etc. for the purpose of effective periodical analysis.

Period of Study

The study covered 15 years from 1991-92 to 2005-06 and the period was divided into three sub periods as:

- Period I 1991-92 to 1995-96 (Initial Period of liberalization and the beginning of Eighth Five Year Plan Period 1992-93)
- Period II 1996-97 to 2000-01 (Second Phase of liberalisation era and the beginning period of Ninth Five Year Plan Period 1997-98)
- Period III 2001-02 to 2005-06 (Third Phase of liberalisation era and the beginning period of the Tenth Five Year Plan Period 2002-03)

The analysis of data for both ICI and CCCL was done for Progress purposes:

- to evaluate the progress in production and sale of cement and to project the trends upto 2010,

Progress

The progress of ICI during 15 years, since the launch of New Economic Reform Policy NERP in 1990, is studied with time series data for the years 1991- 92 to 2005-06. The variables to measure the progress are:

- | | |
|--------------------------------------------------|-------|
| 1. Installed Capacity (m.t.p.a) | (ICA) |
| 2. Production in million tonnes (m.t.) | (Q) |
| 3. Exports (m.t.) | (E) |
| 4. Operating Profit (in Million Rupees) | (OP) |
| 5. Net Worth (in Million Rupees) | (NW) |
| 6. Earnings Per Share (on Current Equity in Rs.) | (EPS) |

4.0 Analysis

The time series data were used to estimate the following efficiency parameters: Capacity Utilization (%) (CU), Unit Cost (Rs. / tonne) (CO), Net Profit (Rs. Million/year) (NP), Operating Profit Margin (%) (OPM), Factor Productivity Ratio (FPR) (Human power/Capital/Total Factor). In order to know the progress of ICI, annual time series data for the six variables were studied for trend, cyclical variation and random variation, as seasonal variation was not observable in the annual data. The estimated trend equations were evaluated for their goodness of fit and predictive power and found valid to draw inferences. The values of the six variables were projected to the next five years. Estimated values were adjusted for the likely effects of cyclical variations (c) the reliability of predicted values were evaluated with the help of forecasting error.

5.0 Results and Discussion

The progress of the Indian Cement Industry over the period from 1991 - 92 to 2005 – 06 was studied. The progress was measured by the growth rate and inter year variation around the mean (CV in percentage). The details are presented in Table :1 for installed capacity, production, capacity utilization and export of cement by ICI

With the rapid growth in housing and infrastructure as part of developmental efforts in the five year plans, the demand for cement increased significantly and the growth of the cement industry was consequently remarkable in the country. In the initial years after independence, cement production was largely by the public sector. However, the private sector participation was increasing over the years, especially after the initiation of New Economic Reform policy (NERP) in 1991. The share of public sector in cement production declined from 6.5 percent in 1996 to less than 2 percent in 2000, which reflected gradual increase in private sector participation to National growth. The progress of the Indian cement industry is the focus of analysis in this study. Secondary data collected for the period from 1991 to 2006 are analysed to evaluate the progress and the results of the analysis

- the progress of Indian Cement Industry is discussed at macro level and at micro level in the light of case firm CCCL. The progress was studied in terms of installed capacity, production, export, operating profit, net worth and earning per share.

TABLE 1: Progress of Indian Cement Industry – Installed Capacity, Production And Exports

Year	Installed Capacity		Production		Capacity Utilization		Exports		
	(m.t.)	Index	(m.t.)	Index	(%)	Index	m.t.	Index	(%)
1991-92	66.56	100	53.61	100	80.54	100	0.29	100	0.54
1992-93	70.09	105.30	53.72	100.21	76.74	95.28	0.67	231.03	1.24
1993-94	76.88	115.50	57.96	108.11	75.39	93.61	1.99	686.21	3.43
1994-95	82.69	124.23	62.35	116.30	75.40	93.62	1.70	586.21	2.72
1995-96	97.25	146.11	69.57	129.77	71.54	88.83	1.57	541.38	2.26
1996-97	105.25	158.13	76.22	142.17	72.42	89.92	1.97	679.31	2.58
1997-98	109.30	164.21	83.16	155.12	76.08	94.46	2.68	924.14	3.22
1998-99	118.97	178.74	87.91	163.98	73.89	91.74	2.06	710.34	2.34
1999-00	119.10	178.94	100.45	187.37	84.34	104.72	1.95	672.41	1.94
2000-01	130.40	195.91	97.61	182.07	74.85	92.94	3.15	1086.21	3.23
2001-02	146.13	219.55	108.40	202.20	74.18	92.10	3.38	1165.52	3.12
2002-03	151.17	227.12	116.35	217.03	76.97	95.57	3.47	1196.55	2.98
2003-04	157.48	236.60	123.50	230.37	78.42	97.37	3.36	1158.62	2.72
2004-05	164.69	247.43	133.57	249.15	81.10	100.70	4.07	1403.45	3.05

2005-06	160.24	240.75	141.81	264.52	88.50	109.88	6.01	2072.41	4.24
Mean	117.08	-	91.08	-	77.36	-	2.55	-	-
SD	32.77	-	28.26	-	4.43	-	1.38	-	-
CV (%)	27.99	-	31.03	-	5.73	-	53.89	-	-
CGR (%)	3.70	-	3.21	-	0.53	-	6.48	-	-

Source: CMA Data Base

Note: All Indices are with Base year 1991-92 =100

Installed Capacity

The period of study commencing from 1991-92 marked the post-deregulation period for the industry and in the beginning of the post-deregulation period, the installed capacity of the industry was 66.56 m.t. The capacity addition was relatively slow in the first four years, gained momentum from 1995-96 and peaked to 160.24 m.t by 2005-06. Scoring an annual growth rate of 3.70 percent. There were however inter year variations in the installed capacities, (CV = 27.99%), due to ups and downs in the growth trend.

Production

The expansion of capacity witnessed three fold increase in consonance with more or less similar increase in production of cement from 53.61 m.t to 141.81 m.t during the same period. The average annual growth rate worked out in the basis of (CGR) was 3.21 per cent. This was possible due to the policy of globalisation and liberalization of Indian economy and total deregulation of the industry. The economy registered high growth rate of GDP in the range of seven to nine per cent. It went in tandem with infrastructure development, a main driver to the growth of cement production. The period of 15 years was marked by demand pull for cement. With an uptrend in production, CV was 31.03 per cent.

Capacity Utilisation

Production of cement was increasing due to additional and also by effective use of the capacity. As seen in the table, capacity utilisation of ICI was 80.54 per cent in 1991-92, but it was less than 77 per cent in the subsequent years upto 2002-03, with 1999 -00 as an exceptional year during which it was 84.34 per cent. From 2002 - 03 the capacity utilisation improved and reached the level of 88.50 per cent in 2005-06. Therefore, increase in production of cement by ICI was more due to expansion of capacity than by the rate and improvement of capacity utilisation. With a small CV of 5.73 per cent, the annual growth rate in capacity utilisation worked not in the basis of Compounded Growth Rate (CGR) was small at 0.53 per cent. With the highest level reached in 2005-06, capacity utilisation had still remained a source to be exploited for further increase in production in the next few years. If exploited the demand for cement in both domestic markets and export markets could be met with.

Exports

Indian cement industry had shown limited performance in export of cement. Varying from 0.29 m.t in 1991-92 to 6.01 m.t in 2005-06, and it has not in any year exceeded 4.24 per cent of production. Though the period was marked with implementation of new economic policy encouraging globalization and liberalisation of the economy, the cement industry could not achieve any significant growth in its exports. One reason was the increasing domestic demand and another reason was that the industry had to face stiff

competition in international market especially from China. The result showed the necessity for the industry (ICI) to pay attention to increase in capacity utilization and promotion of exports.

Financial Progress

The financial progress of the Indian Cement Industry over the period from 1991 - 92 to 2005 – 06 was studied. The details of operating profit, net worth and earning per share of ICI at macro level are hereunder presented in Table 2

TABLE: 2 PROGRESS OF INDIAN CEMENT INDUSTRY – FINANCIAL STATUS

Year	Operating Profit		Net Worth		Earning Per share	
	Rs. Million	Index	Rs. Million	Index	Rs.	Index
1991 -92	9606	100	13466	100	45.30	100
1992-93	5430	56.53	15404	114.39	44.60	98.45
1993-94	5253	54.68	20136	149.53	45.13	99.62
1994-95	9752	101.52	35335	262.40	51.40	113.47
1995-96	15803	164.51	48478	360.00	53.20	117.44
1996-97	10068	104.81	50920	378.14	72.65	160.38
1997-98	5206	54.20	52381	388.99	77.50	171.08
1998-99	6877	71.59	37277	276.82	81.72	180.40
1999-00	5212	54.26	40131	298.02	92.70	204.64
2000-01	9572	99.65	41311	306.78	103.17	227.75
2001-02	12985	135.18	36528	271.26	138.56	305.87
2002-03	6892	71.75	31838	236.43	123.49	272.60
2003-04	9126	95.00	33084	245.69	130.40	287.86
2004-05	17491	182.08	57199	424.77	192.00	423.84
2005-06	20115	209.40	65779	488.48	168.20	371.30
Mean	9959.20	-	38617.80	-	94.67	-
SD	4552.62	-	14461.74	-	49.37	-
CV (%)	46	-	37	-	52	-
CGR (%)	1.90	-	3.08	-	4.84	-

Source: CMA Data Base

Note: All Indices are with Base year 1991-92 =100

Operating Profit

Operating Profit, defined as the difference between the operating revenue (sales value) and operating expenses (current expenses on production and selling) would help measuring the efficiency of financial management of cement producing firms. It indicates progress in financial status of ICI. As could be seen in the above table, operating profit of ICI increased from Rs. 9606 million in 1991-92 to Rs. 20115 million in 2005-06, but the inter year variance was large (CV= 46 per cent) and exhibited a cyclical pattern – roughly three year cycle. Therefore average annual growth rate, though positive was small at 1.90 per cent. However, the profit had helped ICI to implement its plans for capacity addition.

Net Worth

The ICI witnessed significant addition to the installed capacity and increase in production, both warranting accumulation of additional assets and causing for the growth of liabilities. A positive value addition of net worth and its growth achieved consequently over the years, would reflect the strategies employed for strengthening the capital base of the firm/ industry. Net Worth is the difference between the assets and liabilities of a company. For the industry as whole, it is a measure of capital accumulation or formation. As shown in Table 5.2, ICI has recorded a significant increase in its net worth during the period of study. The net worth of ICI was Rs.13.47 billion in 1991-92 and increased to Rs.65.78 billion in 2005-06, with inter-year variation of 37 per cent. The index of net worth with base 1991-92=100 went up to 488.84, marking nearly a five fold increase.

Earning Per Share

While operating profit and the net worth were the measures of financial performance of the industry as a whole, the share holders' interest could in particular be seen in earning per share. It was just Rs. 45.30 in 1991-92 and increased over the years to peak at Rs.192.00 in 2004-05. But in two years i.e., in 2002-03 and 2005-06 there was a marginal fall as compared to the rest of the above stated years.

The inter-year variation was large with a CV of 52 per cent. This variance was partly due to the effect of significant up trend in the value of EPS. The estimated CV was not corrected for the growth trend of 4.84 per cent per year. Therefore, the trend corrected CV could not be significantly large. The index EPS (1991-92=100) was 423.84 in 2004-05 with a marginal fall in the subsequent year.

Therefore, by all the six measures the Indian cement industry had shown a good progress during the period of study. The policy of decontrol of the industry and also liberalisation of the economy had helped the industry to grow in terms of physical and financial variables. However, the industry had to pay attention to the increase in exports through strengthening of its competitiveness in the international market. Further expansion of the capacity, improvement in capacity utilisation and adoption of modern technology would enable the industry to reduce cost and to gain competitive price advantage.

Progress of CCCL

The progress of the case firm - the CCCL was studied with respect to the same six variables and the same period. The details of progress in terms of physical measures are presented in Table 3.

TABLE :3 PROGRESS OF CCCL – INSTALLED CAPACITY, PRODUCTION AND EXPORTS

Year	Installed Capacity		Production		Capacity Utilization		Exports		
	(m.t.)	Index	(m.t.)	Index	(%)	Index	m.t.	Index	Percentage
1991-92	6.00	100	2.54	100	42.33	100	0	-	0
1992-93	6.00	100	2.54	100	42.33	100	0.03	-	1.18
1993-94	6.00	100	5.09	200.39	84.83	200.40	0	-	0.00
1994-95	6.00	100	5.29	208.27	88.17	208.29	0	-	0.00
1995-96	6.00	100	5.47	215.35	91.17	215.38	0.49	-	8.96
1996-97	6.00	100	5.99	235.83	99.83	235.84	0.76	-	12.69
1997-98	6.00	100	5.88	231.50	98.00	231.51	0.85	-	14.46
1998-99	6.00	100	5.21	205.12	86.83	205.13	0.73	-	14.01
1999-00	6.00	100	5.96	234.65	99.33	234.66	.086	-	1.44
2000-01	6.00	100	5.97	235.04	99.50	235.06	0.55	-	9.21
2001-02	6.00	100	5.29	208.27	88.17	208.29	0.20	-	3.78
2002-03	15.00	250	9.46	372.44	63.07	149.00	0	-	0
2003-04	15.00	250	9.65	379.92	64.33	151.97	0	-	0
2004-05	15.00	250	10.55	415.35	70.33	166.15	0	-	0
2005-06	15.00	250	10.71	421.65	71.40	168.67	0	-	0
Mean	8.4	140	6.20	244.09	76.48	180.69	0.25	-	-
SD	4.12	68.67	2.91	114.57	26.90	63.55	0.33	-	-
CV (%)	49.05	817.5	46.88	1845.67	35.17	83.09	133.43	-	-
CGR (%)	7.50	125	6.73	264.96	5.84	26.79	5.64	-	-

Source: CMA Data Base

Note: All Indices are with Base year 1991-92 =100

Installed capacity

For the case firm, installed capacity remained same upto 2001-02 at 6 m.t. Subsequently it expanded the capacity to 15 m.t. in 2002-03 and remained the same up to 2005-06.

Production

The production of cement by the case firm was 2.54 m.t. for the first two years of the study period and it more or less doubled in the subsequent year & Production continued to be in the range of five to six million

tons during the next nine years ending 2001-02. With the expansion of capacity, the production increased from 9.46 m.t in 2002-03 to 10.71 m.t by the end of 2005-06.

Capacity Utilisation

Similar to the trend in production, the installed capacity rose significantly by maintaining capacity utilisation in 1991-92 and 1992-93 at the level of 42.33 per cent. With the increase in the production in the following years, the capacity utilisation also increased simultaneously from 84.83 per cent 1993-94 to 99.50 per cent in 2000-01. The capacity utilisation had however declined thereafter. It was at the lowest level of 71.40 per cent only in 2005-06.

This could be explained by significant expansion of capacity to 15 m.t in 2002-03, but relatively slow growth in production. Therefore, the optimum use of available capacity was found to be the best way to increase production of the case firm in the immediate future.

Export

CCCL had no significant contribution to export of cement. There was no export in seven of the 15 years of study. In other years also CCCL exported only negligible quantities in the range of 0.20 m.t to 0.86 m.t. Therefore, CCCL was the supplier mostly for the domestic market and its export potential was yet to be tapped.

Financial Progress of CCCL

The financial progress of CCCL during the period from 1991 - 92 to 2005 – 06 was studied in terms of operating profit, net worth and earning per share. The details are presented in Table: 4 below.

TABLE :4 PROGRESS OF CCCL – FINANCIAL MEASURES

Year	Operating Profit		Net Worth		Earning Per share	
	Rs. Million	Index	Rs. Million	Index	Rs.	Index
1991 -92	339.60	100	164.10	100	29.03	100
1992-93	331.90	97.73	278.00	169.41	29.72	102.38
1993-94	285.60	84.10	365.90	222.97	23.84	82.12
1994-95	396.20	116.67	543.60	331.26	47.42	163.35
1995-96	622.50	183.30	812.50	495.12	70.93	244.33
1996-97	692.70	203.98	993.00	605.12	86.69	298.62
1997-98	626.80	184.57	1066.40	649.85	93.10	320.70
1998-99	593.60	174.79	1129.90	688.54	98.64	339.79
1999-00	624.10	183.78	1168.50	712.07	102.01	351.40
2000-01	534.30	157.33	1600.80	975.50	139.75	481.40
2001-02	505.60	148.88	1023.30	623.58	89.33	307.72
2002-03	505.20	148.76	1256.70	765.81	109.71	377.92

2003-04	826.30	243.32	1329.50	810.18	116.07	399.83
2004-05	950.10	279.77	1474.60	898.60	128.73	443.44
2005-06	1196.60	352.36	1744.20	1062.89	152.27	524.53
Mean	602.07	-	996.73	-	87.82	-
SD	245.29	-	480.34	-	39.15	-
CV (%)	40.74	-	48.19	-	44.58	-
CGR (%)	24.39	-	30.12	-	22.57	-

Source: CMA Data Base

Note: All Indices are with Base year 1991-92 =100

Operating Profit

As could be seen in the table, the operating profit of CCCL increased from Rs. 340 million in 1991-92 to Rs. 1197 million in 2005-06 – an increase of more than three folds. However, CV of the operating profit was large (40.74 percent) mainly due to steep increase in the production during the last four years of the study. The significant increase in the operating profit during the last three years also contributed to the large annual growth rate of 8.64 per cent. However, the company had registered three years cycle in operating profit. By 2002-03, it had an operating profit of Rs. 505.20 million only (about 150 percent of operating profit earned in 1991-92). In the next three years, operating profit steeply increased. It was as high as Rs 1197 million in 2005-06 (index was 352.26).

Net Worth

Net worth of CCCL was a low at Rs. 164 million in 1991-92, which accurred for nearly one half of the operating profit for the year. It had a phenomenal increase to Rs. 1744 million in 2005-06. The uptrend in the net worth found a slight reversal in the year 2001-02 and increase in the subsequent three years was slow. But it jumped to Rs. 1744 million in 2005-06. The mean of net worth was Rs.997 million and it went with a CV of 48.19 per cent. Annual average compound growth rate was 17.17 per cent and it influenced the value of CV also. The index of net worth with base 1991-92=100 was 1063 for 2005-06, because of the low value for the base year. The distribution was seen to be skewed. However, the undisputed fact was that the firm had built its financial base strongly – it was a period of building capacity and financial gains.

Earning Per Share

The Earning per share was Rs.29.03 in the first year and it rose to Rs.152.27 in 2005 - 06, the annual average being Rs. 88. Inter-year variation was 44.58 per cent. It registered an annual growth rate of 12.02 per cent. The EPS had comparatively small values for the first three years, but increased thereafter to a value as high as Rs.152.27 (index 524.53) in

2005-06.

Thus, by all the three financial measures the case firm CCCL has shown significant progress during the period of study.

Comparison of ICI and CCCL

The progress of the industry and the case firm in terms of the selected variables is compared in Table 5 below.

**TABLE 5 :PROGRESS OF ICI AND CCCL COMPARED
(ACGR in Percentage)**

Variables	ICI	CCCL
Installed Capacity	3.70	7.50
Production	3.21	6.73
Capacity utilization (%)	0.53	11.34
Exports	6.48	5.64
Operating Profit	1.90	24.39
Net worth	3.08	30.12
EPS	4.84	22.57

Source: Computed from CMA

In installed capacity, annual growth rate of 3.70 per cent for ICI was only half of that for CCCL. In CCCL installed capacity remained unchanged during 11 out of 15 years and then jumped to 15 m.t constantly for the next three years. Production of cement grew at the rate of 3.21 percent in the industry and 6.73 per cent for the case firm, CCCL. In capacity utilisation ICI showed very small growth (0.53 per cent) and it varied within a narrow range. In contrast, CCCL had nearly doubled it from 42.33 per cent in 1991-92 to be close to 100 per cent by end of the century. Thus, the growth rate of capacity utilisation was 5.84 per cent. While the industry had added to capacity, CCCL had intensified the use of available capacity to increase production. In exports, the growth rate (5.84 percent) was only marginally smaller than that for the industry (6.48 percent). However, it had to be remembered that CCCL started with a low base year values for all the variables and its progress took momentum only from 1995-96. The base year values had their effect on index of progress, coefficient of variation and the annual compound growth rates. This effect also pronounced in the financial performance of CCCL.

In all the three variables, (Viz., operating profit, net worth and EPS) CCCL had larger – in fact significantly larger growth rates (8.64 percent, 17.17 percent and 18.02 percent) as compared to the growth rates for ICI (1.90 percent, 3.08 percent and 4.84 percent). For the industry, the differences in the growth of many firms – large and small-had averaged the growth rates in the aggregate. The CCCL with its better growth rates, came out to be one among the leaders in the industry. This justified the choice as the case firm for the study.

The industry received the benefit of complete decontrol in 1989. The advantages of free market operations were made available by the new economic policy of globalization, and liberalization of the economy since 1991-92. It had however taken few years to get adjusted to the new business-environment especially to the disappearance of protectionist policy. Same was observed more orders in the case firm, as it had added capacity by 2002-03 only. Production of CCCL increased from 2002-03 by both addition and utilization of capacity. However, the percentage of capacity utilised was less than 72 percent even though capacity was expanded. Significantly smaller than 80-100 percent utilisation was achieved in the pre-expansion period (i.e., upto 2001-02).

Therefore, it was reasonable to infer that both the industry and the case firm (CCCL) were on the growth path and a significant momentum was observed in all the six indicators of progress three physical and three financial measures of progress from the beginning of the new century. Could this progress be sustained/accelerated in the next few years right through the rest of the period of Eleventh Five Year Plan.

Silent Findings

- Installed capacity of ICI grew by 3.70 percent (CGR) to 160.24 m.t in 2005-06.
- Production of cement increased at the (CGR) rate of 3.21%
- The Capacity utilization in terms percentage improved slowly (CGR = 0.53%) with inter year ups and downs.
- Export had never exceeded 4.24 % of production during the period of study.
- Profit of ICI increased from Rs. 9606 million in 1991-92 to Rs. 20115 million in 2005-06, but the inter year variances were found large (CV= 46 per cent) and exhibited a cyclical pattern – roughly a three year cycle.
- ICI has recorded significant increase marking nearly a five fold increase in its net worth during the period of study.
- The share holders' interest could be seen in earning per share. It was just Rs. 45.30 in 1991-92 and increased over the years to peak at Rs.192.00 in 2004-05, Only in two years i.e., in 2002-03 and 2005-06 there were marginal falls as compared to the rest of years of study.
- By all the six parameters the Indian cement industry had shown a good progress during the period of study. The policy of total decontrol of the industry and also liberalisation of the economy had helped the industry to grow in terms of physical and financial variables.
- The progress of the industry and the case firm in terms of the selected variables were compared.
- For the industry, the differences in the growth of many firms – large and small-had been averaged to find out the growth rates in the aggregate. The CCCL with its better growth rates, emerged as one among the leaders in the industry.]
- Though the industry received the benefit of total decontrol in 1989, and the advantages of free market operations made available by the new economic policy of globalization and liberalization of the economy since 1991-92, it had taken few years to get adjusted to the new business-environment especially to the disappearance of protectionist policy supports.

Implications

The Indian cement industry is on the dynamic growth path in capacity, production, factor productivity and financial parameters. The future prospects are also bright. However, it needs attention to increase export and build net worth, which required more detailed and effective planning and management. If past trend is the source of confidence for sustainable growth and viability of ICI, it has to be taken with adequate caution to avoid excessive surpluses. As the industry has learned to survive free market competition and grow with financial stability notwithstanding three years cycle and large and growing cost of energy and heavy taxes – it is reasonable to infer that the prospect of ICI is fairly high, especially if Indian economy grows at eight percent or higher in the five years of the Eleventh Five Year Plan

Above stated findings and conclusions have some implications for ICI and government policies concerning the cement industry. They are stated below:

- The total decontrolled of the cement industry (1989) and the new economic policy reforms of 1990-91 have brought in a free market environment to ICI. The industry has succeeded in adjusting to the new business environment and shown good progress. For the future, ICI has to pay increasing attention to expand and export.

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