

ASSESSING THE STATE OF COMPETITION IN INDIAN MANUFACTURING SECTOR: PESTICIDES AND CEMENT INDUSTRIES

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INTERIM REPORT

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International Scenario

Industry Structure: International

- Pesticide: Pesticide industry is characterized by monopoly behavior particularly in the case of high tech seeds. The share of sales of the top international firms account for 45 %. (Chart 1)
- Cement: The cement industry operates in about 150 countries of the world. The industry is consolidating globally, but the ten largest international firms only account for about one-third of the worldwide market. (Chart 2)

Chart 1: World Structure of Pesticides Sales in 1997

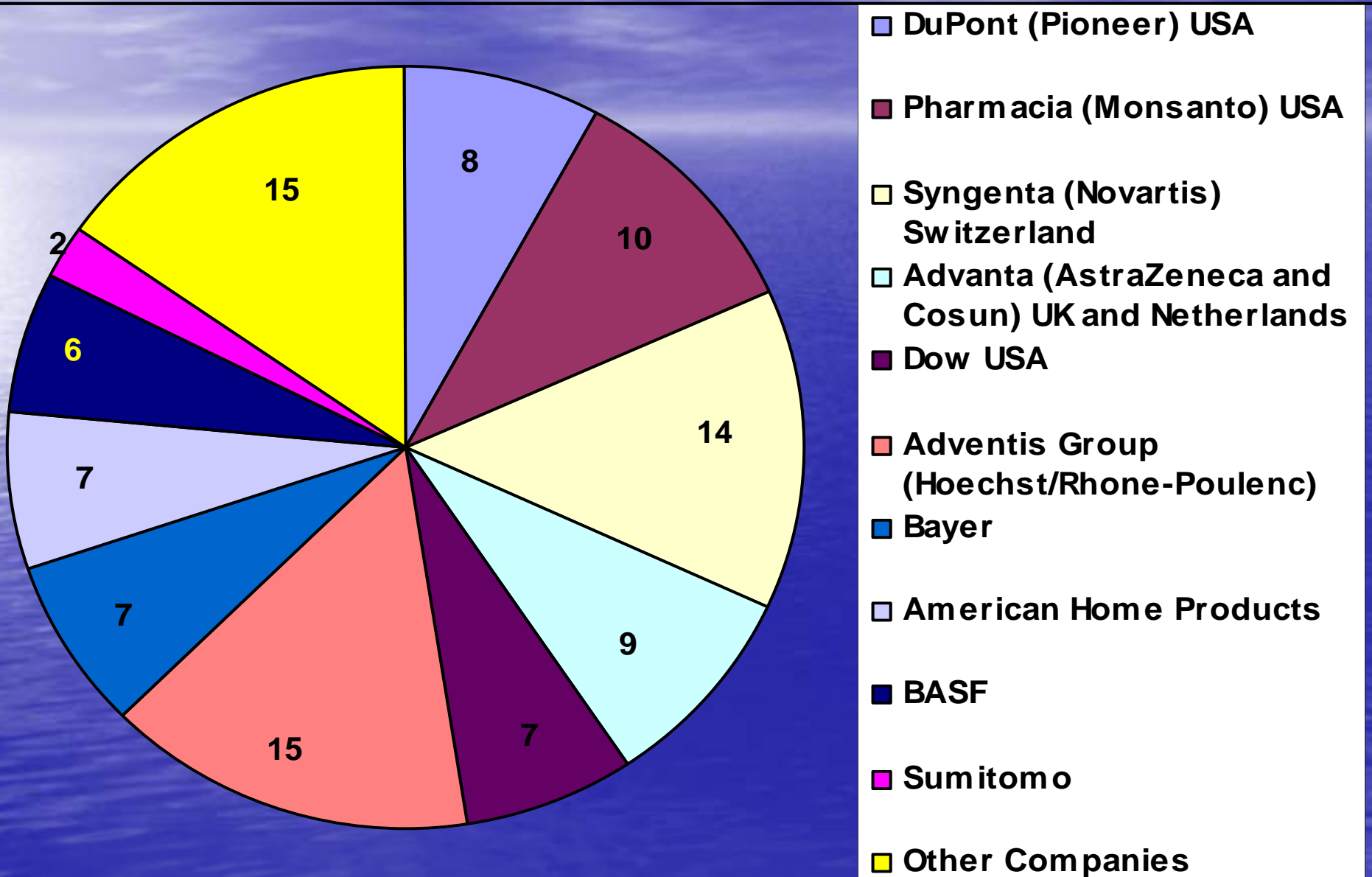
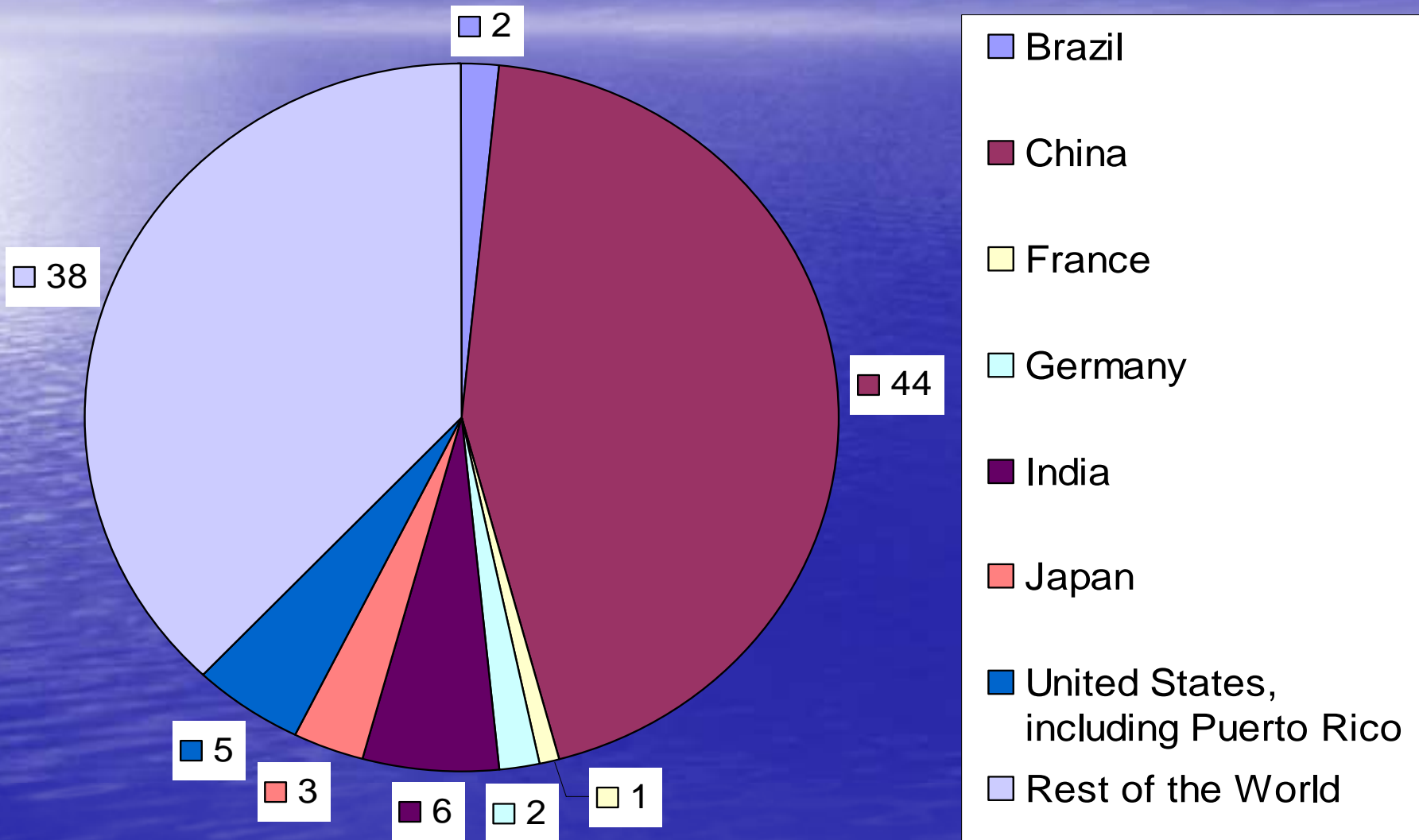


Chart 2: Share in the world total cement production for the selected countries

(Source: USGS 2004)



Countries Selected



- On the bases of industry structure discussed above following countries have been selected for the study - Brazil, China, France, Germany, India, Japan, Switzerland & USA.
- The countries chosen above represent the major producers and traders sectors studied. They also represents both developed and developing countries.

Action taken against the anti competitive companies by the Regulatory Authorities of different countries

- Pesticide Industry: Three Cases
- Cement Industry: Three Cases

Anti Competitive Cases



Pesticide:

1. **Manager's Liability in Cartel Case: Israel (2004)** – The company was convicted for price fixing and market allocation under 'Managers Liability' provision of Antitrust Law.
2. **Aventis Pharmaceuticals Inc., and Andrx Corporation: Anti-Trust Case (Mexico, 1998-03)** – The company was fined \$190 million for market allocation.
3. **Republic of South Africa: Bayer-Aventis merger (1999)** – The merger conditionally approved. Post merger the new company will become the second largest in the world.

Anti Competitive Cases

Cement:

1. German Cartel Office imposed fines totaling € 660 million in cartel proceeding against six companies and fines of € 41 million were imposed on six medium-sized who were found guilty of market allocation and quota agreements, evidence for which was seized during a nation-wide search of 30 cement companies in July, 2002 and during further searches of several small and medium-sized cement manufacturers in 2003.
2. The European Commission imposed 478.32 million Euro fine on four companies involved in plasterboard cartel (2002) after detailed investigation. The amount of fine has been determined on the bases of the market turnover. The cartel started in 1992 at a meeting in London in which it was decided to end the price war (in the previous years price of Plasterboard has fallen sharply due to fiercely competition) and after this meeting, a secret information-exchange system was set up to monitor market trends and avoid over-aggressive competition. Such conduct constitutes a very serious infringement of the competition rules laid down in Article 81 of the EC Treaty.
3. Taiwan's Fair Trade Commission fined 6.3 US \$ on 21 cement companies involved in cement cartel after more than 1000 hours assembling evidence and formal hearings using a new article of law.

National Scenario

■ Industry Structure:

- Pesticide:
 - India is the biggest manufacturer of basic pesticide chemicals among the South Asian and African countries, next only to Japan. It is also the second largest producer of agrochemicals in Asia.
 - Currently, 145 pesticides are registered in India, of which 85 technical grade pesticides are manufactured in India.
 - More than 65 companies are producing pesticides in India.

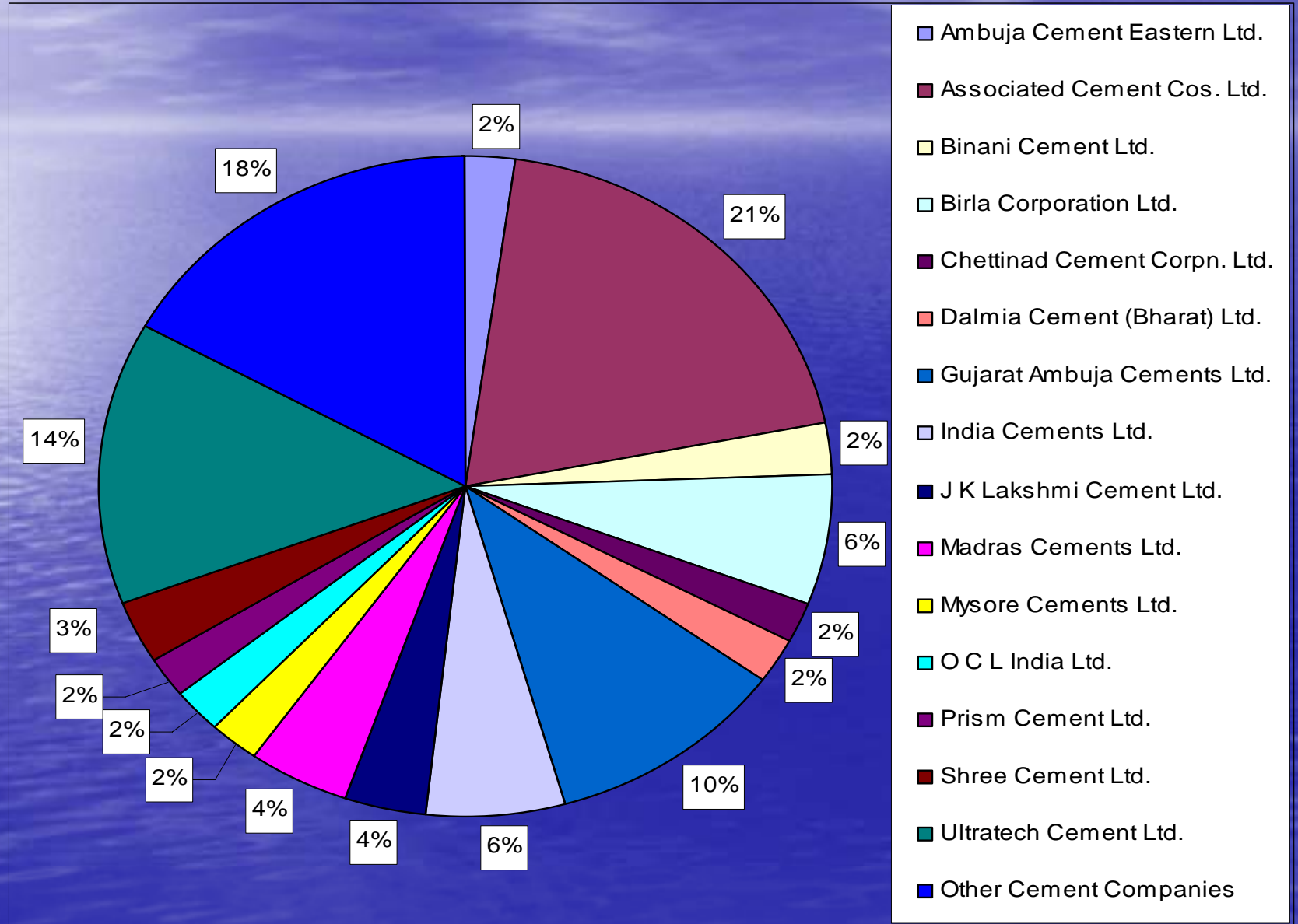
■ Industry Structure: India

● Cement:

- Today India is the second largest producer of cement in the world, next only to China, having around 55 cement companies with 128 large cement plants situated across the country.
- The top 15 companies accounts for almost 84% of the total cement sale, with top 3 companies having a share of more than 44 % of the total sale. [Chart 3]
- **Capacity and Production**
 - 128 large cement plants --- installed capacity of 151.69 Mt pa.
 - More than 300 mini cement plants --- estimated capacity of 11.10 Mt pa.
 - Total installed capacity of 163 Mt pa.
 - Actual cement production in 2003-04 was 123.50 Mt, an increase of 6.15% on 2002-03 production of 116.35 Mt.

Chart 3: Share in the India's total cement sale for the major companies

(Source: CMIE/PROWEES database)



State of Competition in India

Methodology:

- ✦ Entry – Exit Behavior
- ✦ Simple Analysis of Mergers & Acquisitions
- ✦ The Missing Middle Problem
- ✦ Concentration Ratio Analysis
- ✦ Regression Analysis
- ✦ Cost – Audit Data for Select Units

Entry – Exit Behavior

Definition:

Entry – Year of Incorporation

Exit – We have taken 2005 as the last year. If a firm does not produce for consecutive 2 years, then the firm is said to have exited from the industry in the first consecutive year.

We study these issues under 3 benchmark years i.e., 1989, 1995 and 2004. We define 1995 as the break year and see pre and post

1995 scenarios.

	Entry		Cumulative Entry	Exit	Cumulative Exit	Firms Operating
pesticides	till 1989	50	50	2	2	48
	1989-95	16	66	1	3	61
	1995-04	3	69	19	22	45
cement	till 1989	62	62	0	0	62
	1989-95	16	78	0	0	78
	1995-04	6	84	29	29	55

Mergers and Acquisitions

Table 2: List of Merged/Amalgamated Companies in Pesticide and Cement Industry

Merged Company (or company with whom the other companies have merged)						
S No.	Cement		Company 1	Company 2	Company 3	Date
1	Ambuja Cement Rajasthan Ltd. [Merged]		Gujarat Ambuja Cements Limited (GACL)	Ambuja Cement Rajasthan Limited (ACRL)		1st June, 2004.
2	Damodhar Cement & Slag Ltd. [Merged]		Bargarh Cement Ltd	Damodhar Cement and Slag Ltd	ACC Ltd	1st April, 2005
3	Dharani Cements Ltd. [Merged]		Dharani Cement Ltd	Grasim Industries Ltd		1st Nov , 2000
	Pesticide					
1	Alchemie Organics Ltd. [Merged]		Alchemie Organics Ltd	Aarti Industries Ltd		18th Feb, 2002
2	Aryan Pesticides Ltd. [Merged]		Aryan Pesticides Ltd	Deepak Nitrite Ltd		June, 2004
3	Aventis Cropscience Ltd. [Amalgamated]		Aventis Cropscience Ltd	Cropscience India Ltd		January, 2001
4	Bayer Cropscience India Ltd. [Merged]		Cropscience India Ltd (BCIL)	Bayer India Ltd		1st April , 2003
5	Cyanamid Agro Ltd. [Merged]		Cyanamid Agro Ltd	BASF India Ltd		23rd July, 2001
6	Paushak Ltd. [Merged]		Paushak Ltd	Darshak Ltd		19th Sep, 2005
7	Ralchem Ltd. [Merged]		Ralchem Ltd	Rallis India Ltd.		1st April, 2002
8	Rallis Industrial Chemicals Ltd. [Merged]		Rallis Chemicals Ltd	Rallis India Ltd.		
9	Siris India Ltd. [Merged]		Siris India Ltd	Rallis India Ltd		1st April, 2002

Table 3: Mergers and Acquisitions in Pesticide Industries

S.N o.	Company Name	Year of Merger	Sale (Rs crore)		Total Asset (Rs crore)		Average total cost		Profitability ratio (PAT/Sale)	
			Before merger	After merger	Before merger	After merger	Before merger	After merger	Before merger	After merger
1	Alchemie Organics Ltd. [Merged]	February, 2002	37.25 (Mar 01)	(Mar 03)	37.16		1.03		-2.95	
	Aarti Industries Ltd.		284.9	473.37	267.86	372.49	0.94	0.94	5.56	6.11
2	Aryan Pesticides Ltd. [Merged]	June, 2004	54.86 (Mar 03)	(Mar 05)	53.06		1.04		-3.65	
	Deepak Nitrite Ltd.		279.88	367.12	236.09	300.67	0.97	0.98	3.92	2.54
3	Aventis Cropscience Ltd. [Amalgamated]	January, 2001	24.09 (Mar 91)		10.97 (Mar 91)		0.95 (Mar 91)			
	Bayer Cropscience India Ltd.		257.1 (Mar 00)	467.72 (Mar 02)	198.23 (Mar 00)	305.08 (Mar 02)	0.94 (Mar 00)	0.97 (Mar 02)	0.7	1.78
4	Bayer Cropscience India Ltd. [Merged]	April, 2003	467.72 (Mar 02)	(Mar 04)	305.08		0.97		3.32	
	Bayer Cropscience Ltd.		707.84	976.84	382.07	719.32	0.99	0.96	1.78	4.9

Table 3: Mergers and Acquisitions in Pesticide Industries cont...

S.N o.	Company Name	Year of Merger	Sale (Rs crore)		Total Asset (Rs crore)		Average total cost		Profitability ratio (PAT/Sale)	
5	Cyanamid Agro Ltd. [Merged]	July, 2001	98.15 (Mar 00)	(Mar 02)	146.94		1.05		-4.22	
	B A S F India Ltd.		380.19	584.86	353.67	437.99	0.96	0.96	5.41	4.78
6	Paushak Ltd. [Merged]	September, 2005	16.31 (Mar 04)	N.A.	17.96		0.98		4.54	
	Paushak Ltd. (Darshak Ltd)		6.14		22.4		1.28		-5.7	
7	Raychem Ltd. [Merged]	April, 2002	182.85 (Mar 01)	(Mar 03)	153.54		1.01		-0.74	-24.52
	Rallis India Ltd.		1105.26	1006.93	804.1	845.39	1.03	1.18	-2.5	-8.43
8	Rallis Industrial Chemicals Ltd. [Merged]		19.74 (Mar 99)	(Mar 01)	20.64		0.96		4.15	
	Rallis India Ltd.		1266.24	1105.26	742.07	804.1	0.99	1.03	2.21	-2.5
9	Saris India Ltd. [Merged]	April, 2002	31.98 (Mar 01)	(Mar 03)	34.06		1.23		-21.98	-973.1
	Rallis India Ltd.		1105.26	910	804.1	764.14	1.03	1.10	-2.5	-8.43

Table 4: Mergers and Acquisitions in Cement Industries

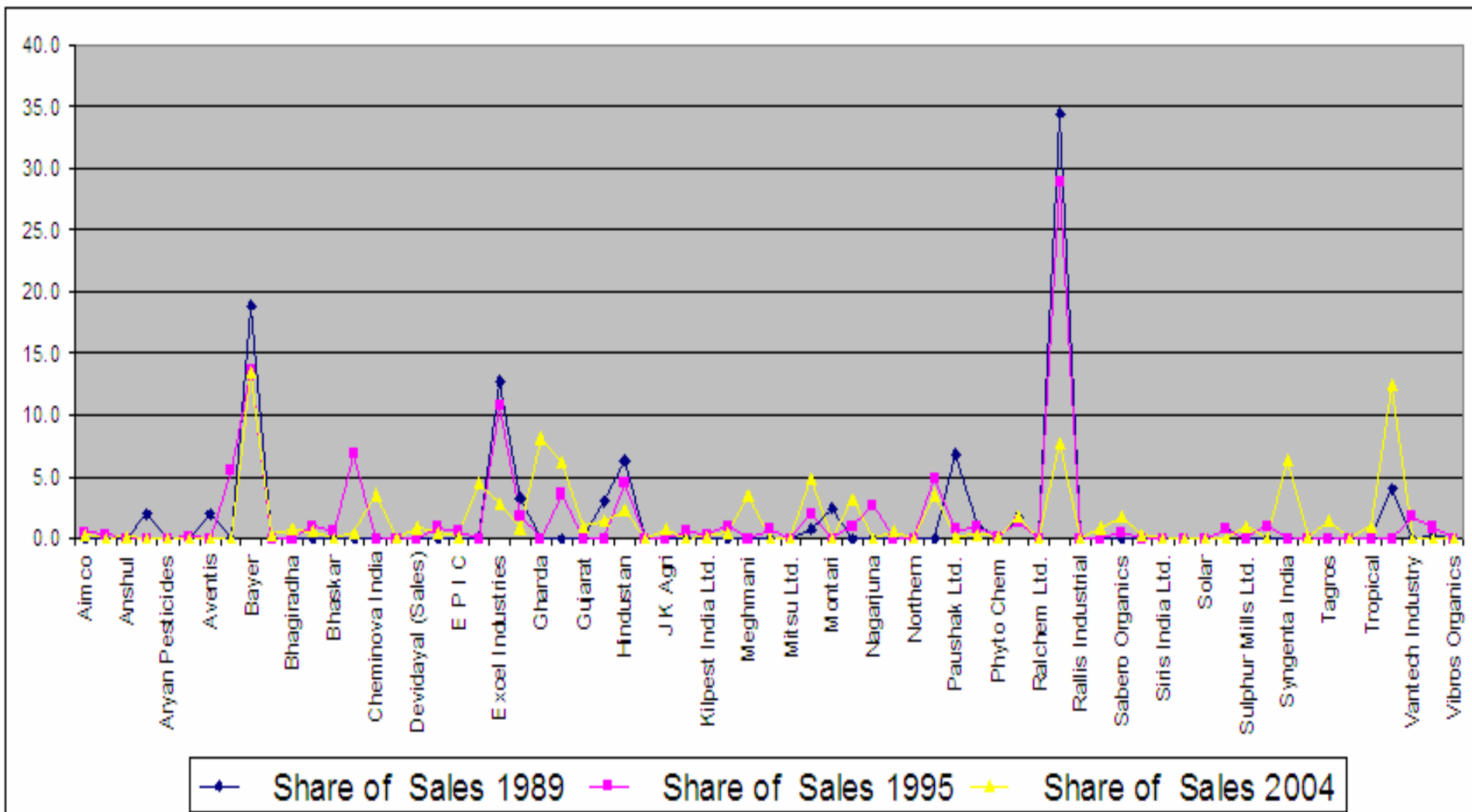
S.No.	Company Name	Year of Merger	Sale (Rs crore)		Total Asset (Rs crore)		Average total cost		Profitability ratio (PAT/Sale)	
			Before merger	After merger	Before merger	After merger	Before merger	After merger	Before merger	After merger
1	Ambuja Cement Rajasthan Ltd. [Merged]	June, 2004	284.67 (Mar 03)	(Mar 05)	320.64		1.13		-11.62	
	Gujarat Ambuja Cements Ltd.		1584.05	2306.7	1486.62	4057.2	0.94	0.91	11.68	12.37
2	Damodhar Cement & Slag Ltd. [Merged]	April, 2005	125.46 (Mar 04)	(Mar 06)	51.28		0.97		4.03	
	A C C Ltd.		3901.61	3723.2	3917.92	4933.9	0.98	0.94	4.91	7.09
3	Dharani Cements Ltd. [Merged]	November, 2000	16.64 (Mar 99)	(Mar 01)	33.63		1.14		-14	
	Grasim Industries Ltd.		4346.47	5203.9	5711.6	5912.1	0.98	0.94	3.4	7.02

Comments on M&As

- Only M&As under Cement come under Comp. Act. –ACC and Grasim
- Very similar AC before merger
- However, for Grasim loss making co. acquired.
- No Pesticides M&A comes under merger provisions.
- However, merged firms have very similar AC before merger.

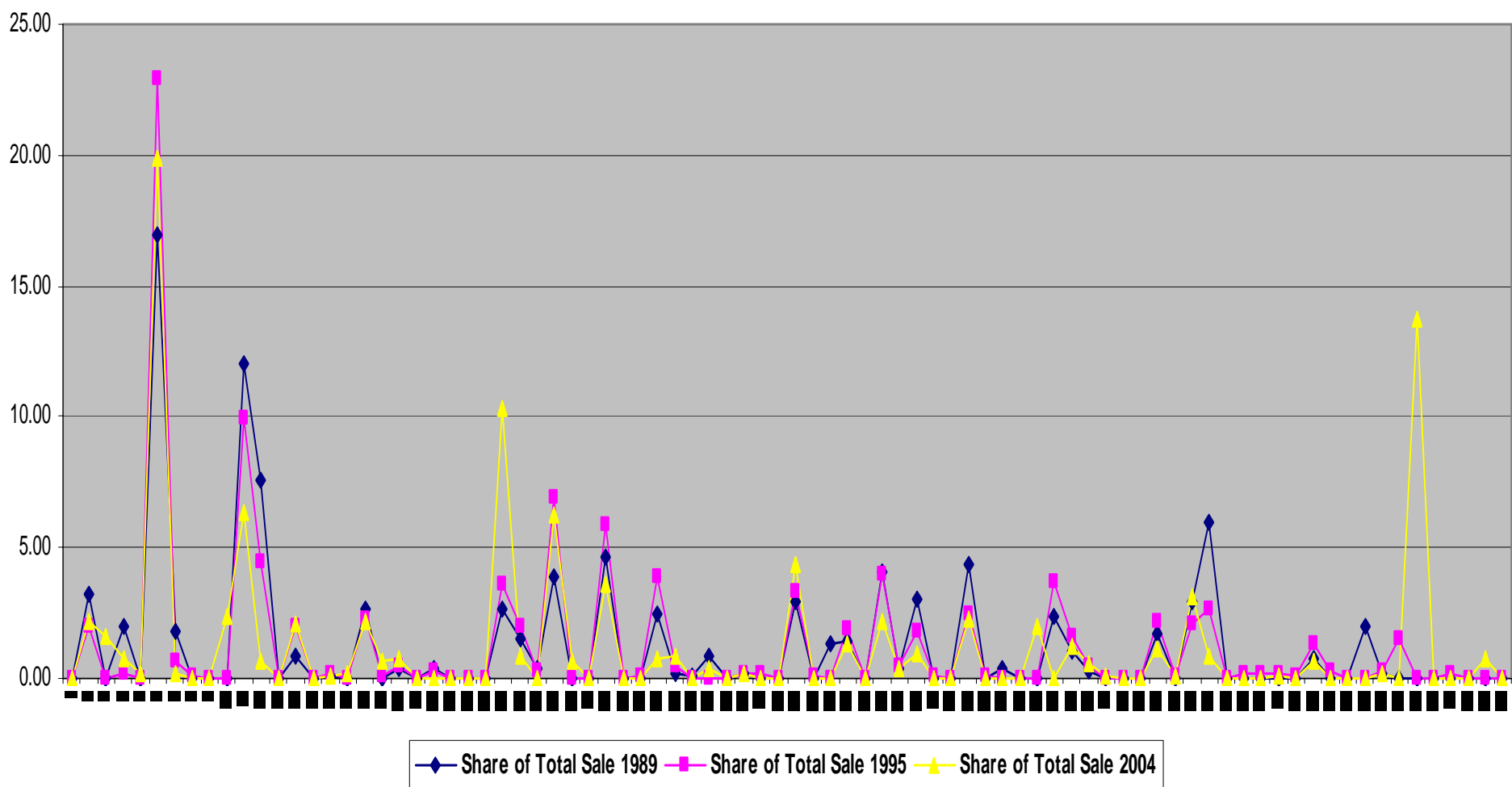
The Missing Middle Problem

Pesticide: Chart 4



The Missing Middle Problem

Cement: Chart 5



Comment on Missing Middle

- NO clear trend in case of Pesticides.
- Peaks disappearing in 2004 as the old dominant companies of 1989 give way to new peaks.
- In cement, all peaks increasing in 'nineties. Emergence of "missing middle" especially after 1995. Reflects M&A activity of Gujarat Ambujas, ACC and Ultra Tech.

Concentration Ratio Analysis

Table 5: Concentration Ratio

	Pesticides		Cement	
	HHI	CR4	HHI	CR4
1989	0.18	0.18	0.07	0.05
1995	0.13	0.12	0.08	0.07
2004	0.07	0.05	0.09	0.07

Comments of Concentration

- Decreasing con. In Pesticides but increasing in Cement.

Regression Analysis

Table 6: Pesticides

Dependant Variable - PAT

	Data for 15 firms		Data for 28 firms	
	1	2	3	4
OPEN	-0.76*	-0.41**	-0.23	0.96*
WAGE	-2.3*	-2.52*	0.69	-0.91
CON	-1.12	-2.8*	-2.4	-3.34
DUM 1	0.79*		0.38	
DUM 2		1.04*		0.32
Wald	36	45.2	3.6	10.6
R² (Between)	0.99	1	0.05	0.99
R² (Within)	0.13	0.38	0.22	0.002
Overall R²	0.58	0.73	0.0002	0.49
n	150	150	140	140
Type	re	re	re	re

* 1% level

** 5% level

Regression Analysis

Table 7: Cement

Dependant Variable - PAT

	Data for 21 firms		Data for 36 firms	
	1	2	3	4
OPEN	4.15*	0.72	4.07*	-0.14
WAGE	11.7*	-25.8*	-10.8	-35.9**
CON	-5.5	-11.5	-15.7	3.21
DUM 1	-0.06		1.92	
DUM 2		2.9**		1.31
Wald	25	30.8	12.6	10.4
R² (Between)	0.31	1	0.34	1
R² (Within)	0.37	0.18	0.38	0.09
Overall R²	0.23	0.66	0.31	0.63
n	210	210	180	180
Type	re	re	re	re

* 1% level

** 5% level

Comments on Regression Analysis

- Trade as disciplining factor seems to be working in Pesticides but not in Cement.
- Changing concentration seems to have little impact on competition: regression shows opposite conclusion.
- Limitation of balanced panel data.

Cost – Audit Data for Select Units

✘ We have obtained extensive plant level data on rate per unit (price) and sales margin for both pesticides and cement industries from Cost – Audit branch, Ministry of Company Affairs. The process of analysis is not yet complete.

Conclusion

❖ The main problem is defining measures to measure “abuse” of dominance or ‘appreciable adverse effect on competition’. Some exploratory suggestions given here.

❖ Seems to be some evidence of cartel like behaviour in Cement but it also possible to infer “non-competitive” behaviour in Pesticides.