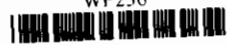


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ACCOUNTING FOR INFLATION -
AN EMPIRICAL STUDY

by

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INDIAN INSTITUTE OF MANAGEMENT
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Accounting for Inflation - An Empirical Study*

In recent years, the effect of inflation on business profitability has come under a great deal of discussion. In the early seventies, prices rose at a much faster rate than they did for over twenty years. In India, the inflation rate during 1971-75 is about 15 per cent as compared with a rate of 5.8 per cent per annum in the 1955-70 period. In such a period of rising prices, it is argued that the financial statements prepared under the historical cost convention have lost their relevance. For the past few years, the accounting profession all over the world has been debating various approaches to accounting for inflation.

Two different approaches to adjusting for inflation have been suggested. One is to use current values instead of historical cost in measuring the business income, and the second is to adjust historical cost data for changes in the purchasing power of the monetary unit. In this paper, we have attempted to restate the earnings adjusted for inflation and study its impact on relevant financial ratios.

Design of this Study

In this study, the earnings of 57 largest Indian companies have been restated for a period of 7 years (1970 to 1976). The restated earnings represent approximation of those amounts which would have resulted if the individual company actually been applying the restatement

*The author acknowledges the assistance of Mr. L C Bhandari in computer work.

techniques proposed by the British Accounting Standard Steering Committee's Statement of Standard Accounting Practice (SSAP) No. 7 entitled "Accounting for Changes in the Purchasing Power of Money."

Our sample consists of 54 companies selected from the top (with respect to total assets) 101 public limited companies in the private sector for 1976-77, published by The Economic Times (April 5, 1978, p. 6). The selection was based on availability of required financial data for the period 1969 to 1976. Surprisingly, not a single company from the Cement industry was included in the sample. This being an important industry, we selected three companies from Cement industry on the basis of their assets size, and included them in our sample. Thus our sample consists of 57 companies.

The data used in this study are taken from the Bombay Stock Exchange Directory for the period 1968 through 1976. For restating earnings, we have used Consumer Price Index (CPI) because the shareholders who are ultimate recipients of the earnings, as individuals, are more interested in the consumer prices rather than wholesale prices. In U.K., SSAP No. 7 also recommends Retail Price Index (RPI) in preference to other available indices. The price data collected from the RBI Bulletin are exhibited in Table 1.

In our earlier article*, we indicated that general price-level adjusted income statements differ in essentially four important respects

* The detailed procedure of adjusting the earnings is outlined in our earlier article "Impact of Inflation Accounting on Corporate Profits" by Dr. Ramesh Gupta and L C Bhandari, Working Paper No. 235 of the Indian Institute of Management, Ahmedabad.

from conventional income statements.

1. Depreciation: The depreciation amount in the historical cost statement is recorded on the basis of the purchase cost of the asset. For most companies, depreciable assets are typically acquired many years before the period being reported on, with price levels having increased substantially since acquisition.

To restate depreciation, first we determine the average of a company's depreciable assets. This would be equal to its average life multiplied by the fraction of life which has already expired. The average life of the asset can be determined by dividing the total costs of depreciable assets by the depreciation charge for the year. The fraction expired can be estimated by dividing the accumulated depreciation by the total cost of the depreciable asset. The multiple of the two gives us the average age of the company's fixed assets. We have computed such average age for each company using our initial year (1968) data. By subtracting this age from the year 1968, the acquisition date was estimated. The CPI index on this date in relation to the 1968 index then was used as the basis for restatement of 1968 depreciation charge. From 1969 onwards, the restatement of depreciation is being done as follows:

First, we split the convention (historic cost) depreciation charges for the year into two parts, one related to the remaining old assets and the second part is the depreciation provided on newly acquired assets during the year. To determine the fraction of last year's assets

which are still being held, first we calculate the fraction which is being disposed of. This can be estimated by first calculating a sum which is equal to the accumulated depreciation in previous year plus the depreciation charges for this year minus the accumulated depreciation at the end of this year, and then dividing this sum by last year's accumulated depreciation. The rationale is that under the straight line method of depreciation, when an asset is disposed of, we write off the same proportion of accumulated depreciation which the cost of disposed of assets bears to the gross block. Once we know the fraction of the total assets which is being disposed of, the balance would be the remaining part of last year's assets which a company is still holding.

To restate the depreciation on remaining old assets, we take last year's proportionate restated depreciation, (up to last year) related to the remaining old assets and multiply it by the conversion factor of this year's price index to the last year's price index. Depreciation on newly acquired assets during this year is restated by means of average annual price index to the end of the year index. The sum of two would give us the restated depreciation.

2. Adjustment for Cost of Goods Sold: With rising prices, cost of goods sold on a price-level adjusted basis will be higher than that reported in conventional income statements. How much higher depends in large part on the cost flow assumption - FIFO, LIFO, etc. - used. The inflation effect will, of course, be greater for firms on a FIFO basis. Under this method, most recent purchases are assumed to remain in year-end

inventory, while earlier purchases constitute the cost of sales. The procedure we followed in restating cost of goods sold was as follows:

First, we calculated the age of goods in year-end inventory by determining the number of days purchases contained therein. This inventory then was restated in current rupee terms from the rupee of purchase date. This closing inventory restated, let us say for the year 1969, becomes beginning inventory in 1970 stated in 1969 rupee. To calculate the restated cost of sales for 1970, first we have to restate the beginning inventory (i.e., the closing inventory of 1969 restated in 1969 rupee terms) in 1970-end rupee terms adjusting it for one year price change. The purchases made during the year can be converted into end-rupee terms by using average price index assuming that the purchases are spread fairly evenly throughout the year. The purchases for this year is equal to closing inventory plus cost of goods sold minus beginning inventory. The closing inventory plus cost of goods sold minus beginning inventory. The closing inventory for 1970 can be restated again by first finding the average age (i.e., the number of days purchases contained therein) and converting it into current rupee terms. Thus, beginning inventory, purchases and ending inventory are all restated in terms of current purchasing power. And thus the restated cost of goods sold can easily be determined.

3. Gain or Loss on Monetary Items: Holding cash or other monetary items during inflation results in the loss of purchasing power, while being in a debtor position results in the gains of purchasing power.

The general price level gain or loss which arises from holding net monetary items during inflation is included in the restated profits but are not recognized in conventional profits.

The procedure adopted in this study for measuring the purchasing power gain or loss on each company's net monetary position for each year was as follows. On previous year's net monetary liabilities (or assets), we compute gain (or loss) based on the price increase during the year. On any increase or decrease in the balance of net monetary items over the previous year, the gain or loss is computed using average price index in relation to the end-year price index.

4. Adjusting Other Revenue and Expense Items: The revenue and expense items other than depreciation and cost of goods sold are recognized in the accounts at approximately the same time that the receipt and expenditure occurred. If these items are spread fairly evenly throughout the year and the price level changed at a constant rate during the year, then it can be assumed that the receipts and expenditures all occurred when the average general price-level for the year was in effect. The conversion factor for such items are based upon the average index for the year in relation to the year-end index.

Empirical Results

Using the procedure described above, we calculated the restated profits before tax (restated PBT). To study the effect of various inflation rates, the total period (January 1970 to December 1976) was

broken into three periods: i) low inflation period (January 1970 to December 1972) - the rate varying from 1 to 8 per cent, ii) high inflation period (January 1973 to June 1975) - the rate being 9 per cent and above; and iii) deflation period (July 1975 to December 1976) - the emergency period during which there was a negative rate of inflation (see Table 1). For every company the percentage change in PBT for each period has been reported in Table 2. The percentage change in PBT due to restatement was computed by taking the average of company's PBT over the study period and then expressing the differences between restated and conventional PBT as a percentage of conventional PBT. Figures in Table 2 indicate that there is a considerable variation between companies in the effects of inflation on earnings. Some companies showed positive gains while most of them showed losses.

An analysis of the percentage change in earnings for various period is provided in Table 3. This shows that, over 7 years study period, whilst 50 companies (88 per cent of the sample) have lower restated earnings, 7 companies have higher restated earnings. The average loss in PBT was about 32.5 per cent, the median loss 27 per cent. The largest gain accrued to Ratnakar Shipping Company (48.7 per cent); while India Cements' earnings declined by a maximum percentage of 243.6.

During low inflation period, the average decline in PBT was 21 per cent, the median decline 18 per cent. The highest loss was recorded by Hindustan Motors Limited mainly due to high depreciation charges. The depreciation charges for this period was increased by 58 per cent.

to adjust for inflation. The large adjustment on account of depreciation applied to low PBT during this period (average PBT Rs 44 lakhs) resulted in a high percentage loss. The number of companies whose earnings declined during this period is 46 (81 per cent of the sample). Eleven companies showed gain. The Coromandel Fertilizer was the highest gainer.

During high inflation period, the average and median loss was about the same, i.e., 27 per cent. The number of companies showed gains increased to 14 (25 per cent of the sample). Five companies showed a gain of above 50 per cent. The gain accrued mainly due to large monetary gains on their net monetary liabilities due to high inflation rate. Three of these companies are Utilities and two are in Shipping industry. All five companies had very high debt equity ratios which resulted in large monetary gains (see Table 2 and 7). The companies are Tata Power Company, Bombay Suburban Electric Supply Company, Andhra Valley Power Supply Company, The Great Eastern Shipping Company and Ratnakar Shipping Company. The maximum loser is again Hindustan Motors (202 per cent decline) mainly due to high depreciation adjustment (85 per cent of conventional depreciation) in relation to its comparatively low average PBT (131 lakhs) during this period.

During deflation, the average percentage decline in earnings has been the largest (67.3 per cent) contributed mainly by depreciation (46.6 per cent) and the purchasing power loss on monetary items (36.7 per cent). Only one company showed increased earnings. Nineteen companies showed losses exceeding 100 per cent. The restated depreciation

charges during deflation have been 193 per cent of the conventional depreciation. On surface, it may look absurd to have increased depreciation charges due to price-level adjustment in a period of deflation. But it is not. From the previous period of high inflation, there exists a sizable delayed negative impact on the price-level adjusted depreciation charge in this period. During deflation, such loss was added by purchasing power loss on net monetary items (36.7 per cent loss as compared to 66.7 per cent gain in high inflation period). The heaviest losers had been those companies which had high debt equity ratio (i.e., Utilities, etc.).

Relative Importance of Adjustment Items

Table 5 shows the relative importance of the 1) depreciation adjustment, 2) cost of sales adjustment, 3) gain or loss on monetary items, and 4) all other profit and loss account items in causing the restated earnings to be different from that for historical earnings. The table shows the number of companies for which item is most important factor (Rank 1), second most important (Rank 2), etc. for various periods. For example, for total study period (1970-76 study period) depreciation was the most important item for 36 out of 57 companies, and the second most important item (i.e., Rank 2) for 15 companies. During high inflation period the gain on monetary items became the most important item (for 33 out of 57 companies). Cost of goods sold adjustment held first rank (i.e., the most important item) for 15 companies as compared to depreciation for 9 companies.

Uncovered Dividends

Table 6 indicates that dividend coverage falls sharply if price-level adjustment are made to conventional earnings. The overall coverage for all the companies included in the sample was 1.12 using adjusted profits data as compared to 2.68 based on conventional profits. During deflation, the profits available after paying taxes and preferred dividends to shareholders have been negative (mainly due to large purchasing power loss on net monetary liabilities as compared to gain in inflation periods) still dividends were distributed (the average dividend coverage based on restated earnings was -0.67). For the period 1970-76, if profits are measured on conventional basis, only 3 companies had distributed dividends exceeding the earnings available for distribution to shareholders. If profits were adjusted for price-level changes, the number of such companies distributing dividend more than the earnings available to shareholders would have been 28 (almost 50 per cent of the sample). In fact, during the period 1970-76, 14 companies paid dividends even though the restated earnings available for distribution to the shareholders were negative. If our concept of maintenance of capital is that of maintaining the purchasing power of capital rather than just maintaining the nominal capital, then these companies (28 in number) have been paying dividends out of their capital.

Tax Burden

On an average for the period 1970-76, the companies have paid 42 per cent of their PBT as taxes. Using restated earnings, the effective

tax burden in real terms was 62 per cent. During this period, 11 companies (19 per cent of the sample) had paid more taxes than their restated profits. In addition, three companies, though their restated profits were negative, had paid the taxes (see Tables 6 and 7).

Implications

It is difficult to generalize the effects of various inflation rates on price-level adjusted profits. The nature of the income statement and the cumulative effect of inflation over time tend to magnify the effects of inflation on reported profits. The effect would depend upon a) the rate of change in the price-level this year relative to changes in earlier years, b) the estimated service life of fixed assets, and c) the capital structure. There are two major offsetting forces at work: higher depreciation expenses and gain on the net monetary liabilities. The depreciation adjustment reflects the cumulative effect of past price changes; whilst the gain on net monetary liabilities depends on this year's inflation and the portion of assets financed by the debt.

In restating profits during inflation period, the high depreciation charges largely get offset by purchasing power gain on net monetary liabilities. In deflation period, not only the restated depreciation remains high as compared to conventional depreciation (due to cumulative effect of past price changes), the loss gets compounded by purchasing power loss on net monetary liabilities. Moreover, the gain or loss

from being in a net monetary liabilities position, although real, does not produce a current flow of cash. This has resulted in a lively debate in inflation accounting on whether to include the monetary gains in restated profits. During inflation, recognition of monetary gains in adjusted profits may enable a company to show adjusted profits even though its cash position is deteriorating.

Conclusion

We conclude by saying that no broad generalization about the impact of inflation on business profitability is possible, yet it cannot be ignored. The general price-level accounting puts all companies on a comparable basis in unit-of-account terms and thus, helps the interested parties to evaluate the corporate profits and its growth in comparable units and in real terms.

Table 1Consumer Price Indices*

(Base 1960 = 100)

Percentage Change over Preceding One Year

<u>Year</u>	<u>March</u>	<u>June</u>	<u>September</u>	<u>December</u>
1970	5.29	3.93	5.03	5.08
1971	2.79	1.08	4.26	4.84
1972	5.43	7.49	6.12	7.69
1973	11.34	15.92	19.23	23.81
1974	27.31	29.18	34.68	25.38
1975	16.73	9.01	-4.49	-6.13
1976	-10.90	-11.28	-5.33	0

The seven years (1970 to 1976) period has been divided into following sub-periods based on the rate of inflation.

	Period	<u>% Inflation Rate</u>		
		Max.	Min.	Average
1. Total Study Period	7 yrs. Jan. 70 - Dec. 76	34.68	-11.28	8.13
2. Low Inflation Period	3 yrs. Jan. 70 - Dec. 72	7.69	1.08	5.86
3. High Inflation Period	2½ yrs. Jan. 73 - June 75	34.68	9.01	19.53
4. Deflation Period	1½ yrs. July 75 - Dec. 76	-11.28	-4.49	-4.52

*Source: FBI Bulletins.

Table 2

Estimated Effects of Inflation
Expressed as Percentage Change in Earnings

Company	Total Period	Low Inflation Period	High Inflation Period	Deflation Period
	I	II	III	IV
1. The Tata Power Co Ltd	13.6	9.6	63.0	-89.6
2. Bombay Suburban Electric Supply Co. Ltd.	42.9	16.4	160.0	-164.7
3. Calcutta Electric Supply Co Ltd	-93.0	62.5	21.5	-217.8
4. The Ahmedabad Electricity Co Ltd	-19.9	-14.0	40.5	-139.8
5. The Andhra Valley Power Supply Co Ltd	13.7	6.8	68.0	-90.3
6. The Scindia Steam Navigation Co	-11.1	-13.6	28.4	-213.8
7. The Great Eastern Shipping Co.	8.4	3.4	78.2	-99.5
8. India Steamship Co Ltd	-37.0	-43.5	- .5	-143.0
9. Ratnakar Shipping Co Ltd	48.7	-84.7	261.1	-2316.6*
10. Chowgule Steamships Ltd	-34.0	-20.1	11.9	-255.6
11. Dempo Steamships Ltd	-1.8	33.7	35.4	-241.5
12. The India Cements Ltd	-243.6	-25.8	-53.1	-226.5
13. Shree Digvijay Cement Co Ltd	-60.5	-33.9	-74.4	-81.1
14. Orissa Cements Ltd	-41.1	-20.4	-103.7	-32.0
15. Shri Ambica Mills Ltd	-49.2	-43.5	-65.0	-40.9
16. The Mafatlal Fine Spg & Mfg Co. Ltd	-50.6	-28.6	-56.0	-66.5
17. Kesoram Industries & Cotton Mills Ltd	-75.3	-119.0	-44.5	-251.2
18. Jiyajeerao Cotton Mills Co Ltd	-58.6	-37.8	-84.6	-40.0
19. Hindustan Spg. & Wvg. Mills Ltd	-88.4	-62.4	-72.7	-473.3
20. Delhi Cloth & General Mills Co Ltd	-61.0	-23.0	-72.7	-405.0
21. The Century Spg & Mfg. Co Ltd	-29.0	-28.3	-31.0	-27.5

*This is abnormally high percentage due to extremely low PBT (Rs 14 lakhs) during this period.

Table 2 (Contd.)

Company	I	II	III	IV
22. The Ahmedabad Mfg & Calico Printing Co Ltd	-59.7	-46.5	-13.3	-604.2
23. The Bombay Dyeing & Mfg. Co Ltd	-76.1	-87.5	-78.0	-66.4
24. Baroda Rayon Corporation	-33.4	-37.6	18.2	-2061.7*
25. J K Synthetics Ltd	-11.6	-.3	-7.1	-23.8
26. The Gwalior Rayon Silk Mfg (Wvg) Co Ltd	-26.7	-23.8	-28.8	-25.2
27. Nirlon Synthetic Fibres & Chemicals Ltd	-36.8	-18.0	-52.5	-39.6
28. The Birla Jute Mfg. Co Ltd	-52.7	-41.2	-51.5	-84.3
29. The Titaghar Paper Mills Co Ltd	-57.2	-151.8	-42.7	-54.0
30. Orient Paper Mills Ltd	-30.4	-20.3	-32.0	-45.1
31. Ballarpur Industries Ltd	-11.4	-10.6	-5.7	-33.7
32. Seshasayee Paper & Boards Ltd	-17.3	.1	-13.5	-46.5
33. Siemens India Ltd	-8.0	-7.0	-1.2	-12.7
34. Crompton Greaves Ltd	-24.1	-15.9	-36.5	8.5
35. Philips India Ltd	-14.6	-3.8	-30.9	-11.8
36. Hindustan Motors Ltd	-222.9	-258.5	-202.1	-230.1
37. Tata Engineering & Locomotive Co Ltd	-98.7	-60.5	-102.1	-166.2
38. Larsen & Toubro Ltd	-10.7	-5.5	-8.9	-17.4
39. Kirloskar Oil Engines Ltd	-33.6	-23.1	-44.0	-23.1
40. Mahindra Uginé Steel Co Ltd	-6.6	6.5	-19.0	-5.9
41. Mukand Iron & Steel Co Ltd	-24.0	-8.5	-21.5	-133.5
42. The Metal Box Co of India Ltd	-60.7	-25.1	-40.0	17.1
43. Guest Keen Williams Ltd	-26.4	-13.9	-39.7	-30.8
44. Hindustan Aluminium Co Ltd	-131.0	-18.4	-86.9	-143.6
45. Tata Iron & Steel Co Ltd	-134.5	-97.0	-118.9	-304.1
46. Indian Aluminium Co Ltd	-23.5	-7.9	-10.6	-45.6
47. Gujarat State Fertilizers Ltd	1.4	18.4	12.2	-24.8
48. Indian Explosives Ltd	-8.4	15.3	24.8	-35.3

*This is abnormally high percentage due to extremely low PBT (a loss of Rs 5 lakhs) during this period.

Table 2 (Contd.)

Company	I	II	III	IV
49. Coromandel Fertilizers Ltd	-8.6	43.7	-.5	-26.7
50. Union Carbide India Ltd	-16.3	-7.5	-15.3	-27.8
51. The National Organic Chemicals Ltd	15.7	40.5	20.6	-30.6
52. Tata Chemicals Ltd	-17.2	-16.3	-5.6	-43.0
53. Glaxo Laboratories Ltd	-20.0	-10.7	-40.0	-1.5
54. Atul Products Ltd	-32.1	-35.4	-23.8	-35.9
55. The Tata Oil Mills Co Ltd	-27.0	-10.2	-26.8	-64.7
56. Hindustan Lever Ltd	-19.9	-15.8	-50.8	- 7.2
57. ITC Limited	-39.8	-20.2	-72.2	-10.2

Table 3Percentage Change in Earnings*

(Figures indicate number of Companies)

	Total Period I	Low Inflation Period II	High Inflation Period III	Deflation Period IV
Decrease				
Above 100	4	3	4	19
51 to 100	13	6	13	9
31 to 50	9	8	10	12
21 to 30	8	8	4	8
11 to 20*	11	12	5	4
0 to 10	<u>5</u>	<u>9</u>	<u>7</u>	<u>4</u>
	50	46	43	56
Increase				
0 to 10	2	3	0	1
11 to 20	3	5	3	0
21 to 30	0	1	4	0
31 to 50	2	2	2	0
Above 51	<u>0</u>	<u>0</u>	<u>5</u>	<u>0</u>
	<u>7</u>	<u>11</u>	<u>14</u>	<u>1</u>
Total Number of Companies	57	57	57	57

* Expressed as a percentage of historical reported profits before tax.

Table 4

Percentage Change in Earnings due to General
Price-Level Adjustments

	Total Period I	Low Inflation Period II	High Inflation Period III	Deflation Period IV
Maximum Loss	-244	-259	-202	-2317*
Highest Gain	+ 49	+ 44	+261	+ 9
Average Loss	- 33	- 21	- 27	- 67
Median Loss	- 27	- 18	- 27	- 47

*This is abnormally high figure due to extremely low PBT for a company, which resulted in a high percentage.

Table 5Relative Importance of Items

(Figures Indicate Number of Companies)

(Total No. of Companies 57)

		Depre- ciation	Cost of Goods Sold	Monetary Items	All Other Items
I	<u>Total Period</u>				
	Rank 1	36	7	14	0
	2	15	13	29	0
	3	6	34	13	4
	4	0	3	1	53
II	<u>Low Inflation Period</u>				
	Rank 1	33	5	19	0
	2	17	16	24	0
	3	7	33	10	7
	4	0	3	4	50
III	<u>High Inflation Period</u>				
	Rank 1	9	15	33	0
	2	28	13	16	0
	3	20	26	7	4
	4	0	3	1	53
IV	<u>Deflation Period</u>				
	Rank 1	32	7	18	1
	2	15	22	19	1
	3	9	22	17	9
	4	1	6	3	46

Table 6Summary of Restated Financial Data

(Weighted Average of all Companies)

	Total Period I	Low Inflation Period II	High Inflation Period III	Deflation Period IV
1. (a) Percentage Change in PBT due to restatement	-32.5	-20.9	-26.6	-67.3
(b) Percentage change adjustment due to				
i) depreciation	-43.1	-30.9	-51.4	-46.6
ii) Cost of goods sold	-19.1	-11.3	-49.0	23.8
iii) Monetary Gains	27.6	19.1	66.7	-36.7
iv) All other items	2.1	2.2	7.1	-7.8
2. Adjusted Depreciation as Percentage of historic depreciation	184.2	155.0	204.4	198.2
3. Debt/Equity Ratio	.55	.63	.53	.53
4. Tax/PBT	.42	.38	.44	.45
5. Tax/Restated PBT	.62	.48	.60	1.38
6. Dividend Coverage (Earnings available to shareholders divided by dividend amount)	2.68	2.48	2.95	2.54
7. Dividend coverage based on restated earnings	1.12	1.61	1.51	-0.67

Table 7

Some Important Financial Indicators

(Averages over the period 1970-76)

Company	% Change in Profit before Tax (PBT) 1	Adjusted Deprecia- tion as % of historic depreciation 2	Average Asset Life 3	Days' purchase contained in the inventory held 4	Debt/ Equity 5	Tax/ PBT 6	Tax/ Adjusted PBT 7	Earnings/ Dividend 8	Adjusted Earnings/ Dividend 9
1. Tata Power Co Ltd	13.6	218	12.1	27	1.57	.58	.51	1.55	2.12
2. Bombay Suburban Electric Supply Co Ltd	42.9	183	8.4	48	2.22	.33	.23	2.03	3.44
3. Calcutta Electric Supply Co Ltd	-93.0	248	13.2	18	.88	.31	4.68	1.59	-.90
4. The Ahmedabad Electricity Co Ltd	-19.9	227	12.8	30	1.50	.55	.69	1.27	.71
5. The Andhra Valley Power Supply Co Ltd	13.7	227	12.4	27	2.19	.60	.53	1.39	1.96
6. The Scindia Steam Navigation Co Ltd	-11.1	173	6.6	35	.37	.20	.22	3.78	3.26
7. The Great Eastern Shipping Co Ltd	8.4	140	4.2	9	1.37	.03	.02	3.70	4.02
8. India Steamship Co Ltd	-37.0	199	10.2	52	1.66	.07	.11	9.33	5.61
9. Ratnakar Shipping Co Ltd	48.7	144	5.4	18	2.43	.00	.00	3.45	5.14
10. Chowgule Steamships Ltd	-34.0	136	5.7	35	1.44	.02	.03	4.91	3.16
11. Dempo Steamships Ltd	-1.8	138	4.2	15	2.26	.00	.00	9.89	9.72
12. The India Cements Ltd	-243.6	175	8.0	85	.80	.08	-.05	.61	-1.25
13. Shree Divgijay Cement Co Ltd	-60.5	234	12.0	51	.41	.42	1.07	2.10	-.30
14. Orissa Cements Ltd	-41.1	254	13.4	78	.08	.56	.95	2.32	.11
15. Shri Ambica Mills Ltd	-49.2	204	9.0	58	.40	.51	1.00	.54	-1.64
16. The Mafatlal Fine Spg & Mfg Co Ltd	-50.6	165	6.7	55	.55	.42	.84	2.28	.27
17. Kesoram Industries & Cotton Mills Ltd	-75.3	212	11.3	54	.48	.08	.31	3.21	.32
18. Jiyajeerao Cotton Mills Co Ltd	-58.6	207	10.7	48	.19	.51	1.22	2.76	-.68
19. Hindustan Spg. & Wvg. Mills Co Ltd	-88.4	188	12.8	68	.36	.50	4.29	1.70	-1.44
20. Delhi Cloth & General Mills Co Ltd	-61.0	181	7.3	53	.55	.40	1.03	2.79	-.19
21. The Century Spg & Mfg. Co Ltd	-29.0	259	12.4	56	.13	.56	.79	2.96	.97
22. The Ahmedabad Mfg. & Calico Printing Co Ltd	-59.7	192	9.7	78	.97	.13	.32	1.98	.61
23. The Bombay Dyeing & Mfg. Co Ltd	-76.1	243	13.2	68	.65	.36	1.48	2.13	-.48
24. Baroda Rayon Corporation	-33.4	190	9.5	74	.47	.44	.66	2.22	.81
25. J K Synthetics Ltd	-11.6	146	4.7	41	.25	.36	.41	5.29	4.31

Table 7. Contd.)

Company	1	2	3	4	5	6	7	8	9
26. The Gwalior Rayon Silk Mfg. (Wvg.) Co Ltd	-26.7	193	8.8	37	.23	.56	.76	4.02	1.44
27. Nirlon Synthetic Fibres & Chemicals Ltd	-36.8	152	5.0	51	.12	.46	.73	2.78	.89
28. The Birla Jute Mfg. Co Ltd	-52.7	215	10.0	41	.28	.49	1.02	3.63	-.25
29. The Titaghur Paper Mills Co Ltd	-57.2	306	13.2	48	.29	.50	1.17	3.01	-.54
30. Orient Paper Mills Ltd	-30.4	207	9.6	59	.33	.54	.78	4.91	1.52
31. Ballarpur Industries Ltd	-31.4	150	8.8	73	.26	.52	.58	3.25	2.46
32. Seshasayee Paper & Boards Ltd	-17.3	154	6.5	71	.45	.34	.41	2.55	1.88
33. Siemens India Ltd	-8.0	165	7.3	62	.61	.59	.65	4.88	3.89
34. Crompton Greaves Ltd	-24.1	160	5.7	53	.12	.49	.64	2.19	1.16
35. Philips India Ltd	-14.6	164	5.9	82	.09	.66	.77	2.20	1.27
36. Hindustan Motors Ltd	-222.9	241	9.4	93	.94	.00	.00	00	00
37. Tata Engg. & Locomotive Co Ltd	-98.7	173	7.8	78	1.15	.29	22.95	2.16	-1.07
38. Larsen & Toubro Ltd	-10.7	161	6.0	57	.48	.45	.50	2.95	2.36
39. Kirloskar Oil Engines Ltd	-33.6	166	6.0	93	.34	.51	.76	2.44	.66
40. Mahindra UGINE Steel Co Ltd	-6.6	132	6.1	98	1.09	.37	.40	3.10	2.75
41. Mukand Iron & Steel Co Ltd	-24.0	171	6.8	60	.43	.28	.37	3.38	2.25
42. The Metal Box Co of India Ltd	-60.7	178	7.9	49	.58	.84	2.13	.40	-1.17
43. Guest Keen Williams Ltd	-26.4	223	10.8	55	.20	.60	.82	2.40	.80
44. Hindustan Aluminium Co Ltd	-131.0	190	8.7	63	.46	.16	-.52	2.02	-2.31
45. Tata Iron & Steel Co Ltd	-134.5	235	12.6	68	.59	.39	-1.13	2.04	-2.95
46. Indian Aluminium Co Ltd	-23.5	176	6.6	117	.54	.35	.45	2.06	1.32
47. Gujarat State Fertilizers Ltd	1.4	137	5.0	65	.96	.33	.32	5.12	5.24
48. Indian Explosives Ltd	-8.4	155	4.5	47	.44	.12	.13	2.03	1.84
49. Coromandel Fertilizers Ltd	-8.6	144	5.7	77	1.45	.17	.19	4.91	4.39
50. Union Carbide India Ltd	-16.3	169	6.8	50	.18	.56	.67	1.93	1.21
51. The National Organic Chemicals Ltd	15.7	132	5.8	66	.72	.06	.05	4.38	5.11
52. Tata Chemicals Ltd	-17.2	176	8.3	62	.25	.37	.45	2.52	1.82
53. Glaxo Laboratories Ltd	-20.0	193	9.2	76	.09	.56	.69	1.18	.60
54. Atul Products Ltd	-32.1	239	11.5	66	.43	.41	.60	3.57	1.63
55. The Tata Oil Mills Co Ltd	-27.0	168	7.2	58	.44	.54	.74	2.31	.88
56. Hindustan Lever Ltd	-19.9	198	9.9	44	.10	.63	.79	1.52	.69
57. ITC Limited	-39.8	174	7.7	33	.13	.54	.90	1.43	.18
Average	-32.5	184	8.5	57	.55	.42	.62	2.68	1.12