

## Chapter- vi

# *Financial Performance of* **'AMUL' & 'HIMUL'**

The financial strength and weakness of any enterprise can be assessed from the financial statements prepared by it. These financial statements are prepared at the end of a period of time through financial accounting techniques. These statements are store of information condensed into figures. The establishment of proper relationships between different items that are shown in the financial statements discloses the concealed and camouflaged facts under the abstract figures of financial statements. Through the analysis of financial statements it is possible to ascertain the inherent structural and functional charges, which are ultimate result of policies and decisions of the management over a given period of

time. To resolve this issue there are number of techniques. However, ratio analysis is now one of the well recognised techniques commonly accepted. In our present study, comprising analysis of the financial performance of the two enterprises, the Himul and the Amul, we have adopted this technique.

A comparison between the financial health of Amul and that of Himul is being done in this chapter to depict a comparative financial condition and performance of both the firms Amul and Himul.

Efficiency of any enterprise managed by professionals is dependent on the managerial performance through their decision-making and the resultant effect is being reflected in quantitative terms through financial data. Analysis and interpretation of various financial ratios provide a better understanding of the financial condition and performance of the enterprise which could be obtained from analysis of the financial data alone. Availability of some norms help in evaluating the performance of the management itself. Both the Amul and the Himul are registered societies and hence norms that are available in and applicable to corporate bodies are of no use here. However after taking into consideration the age factors of these two Unions an attempt has been made to make a comparative analysis of their financial health through

ratio technique.

The ratio technique helps "to describe significant relationship which exists between figures shown on a Balance sheet, in a Profit & loss account, in a Budgetory control system or in any part of the accounting Organisation"<sup>1</sup>. Besides, "the ratio analysis provides guides and clues specially in spotting trends towards better or poor performance and in finding out significant deviation. However, the ratios are guides in the analysis of financial statements, and are not conclusive in themselves"<sup>2</sup>. However "as a ratio indicates a quantitative relationship, it can be used to make a qualitative judgement"<sup>3</sup>.

"Although the number of financial ratios that might be computed increases geometrically with the amount of financial data"<sup>4</sup>, in this study, stress has been laid only on the more important ratios.

Keeping in mind the limitations of ratio analysis that "No one ratio gives us sufficient information by which to judge the financial condition and performance of the firm. Only when we analyse a group of ratios we are able to make reasonable judgements"<sup>5</sup>. Besides "it is difficult to evaluate the differences in the factors that effect one company's performance in a particular year as

compared with that of another year and that of another company. This task becomes more difficult when comparison is made of one company with different size, age etc.<sup>6</sup>. Accordingly, for our purposes, the financial ratios of both the enterprises have been classified into five groups : (i) structural (ii) liquidity (iii) profitability (iv) turnover and (v) Miscellaneous. The objective of this classification is to judge, amongst other things, the financial condition and operating results from the view point of (1) Solvency (2) Liquidity (3) Profitability (4) Efficiency and (5) Earning capacity. The first group of ratios have been computed from the balance sheets. The second and third groups of ratios have been computed from income statements; and the last two groups computed from both the income statements and balance sheets.

The ratio grouping with their components are as follows :

Group name of the ratio	Components ratios
1. Structural Group	: i) Funded Debt to Total Capitalisation; ii) Debt to Equity; iii) Debt to Equity (considering grant & subsidies);

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- iv) Equity to Net Fixed Assets;
  - v) Net Fixed Assets to Funded debt;
  - vi) Funded Debt (long term) to Net Working Capital;
  - vii) Long Term Debt to Equity;
2. Liquidity group : i) Current ratio;
- ii) Acid-Test ratio;
3. Profitability group : i) Operating ratio;
- ii) Operating Profit to Sales;
  - iii) Net Profit to Sales;
  - iv) Net Profit to Sales (considering grant & subsidies);
  - v) Coverage of Interest Payment;
  - vi) Return on Investment;
4. Turnover group : i) Assets Turnover;
- ii) Net Working Capital Turnover;
  - iii) Receivable Turnover;
  - iv) Inventory Turnover;
5. Miscellaneous group : i) Net Operating Profit to total assets;
- ii) Total Debt to Total Assets;

The ratios are snapshots of the picture at one point in time, but there may be trends in motion that are in the process of rapidly eroding a relatively good present position. Conversely, an analysis of the ratios over the past few years may suggest that a relatively weak position is being improved at a rapid rate<sup>7</sup>. For this the method of time-series analysis has been adopted to incorporate the time dimension in the study.

When we observe the values of a variable at different points of time, the series so formed is known as time series. The technique of graphic presentation is extremely helpful in analysing changes at different points of time<sup>8</sup>. On the X-axis and Y-axis time and the value of the ratios are plotted respectively. Time-series analysis help us to disclose the nature of change of the parameter under study with the change of time. However, if comparison between two series is required, graphic representation of two series does not help much and it depends on the subjective judgement of the researcher. Therefore, for the comparison of two series, we require an objective measure i.e. coefficient of variation. Since we intend to compare between the different level of performance of Amul and Himul, we take the help of coefficient of variation\*.

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\* Coefficient of variation stands for the percentage which the value of standard deviation is to the

Again, even after measuring the variability objectively by Coefficient of variation we still have another problem to generalize the observations. Time series or coefficient of variation analyse the features of a particular ratio with respect to time-dimension and extent of dispersion respectively. But both the measures fail to co-ordinate the results obtained from different ratios. As for example, time-series analysis of two ratios of structural group shows the change over time but the direction of change may not be understood properly. Precisely for this reason we would use Rank Correlation\* between different ratios of the same group. When we represent these Rank Correlation in the matrix form, it

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value of the mean.

In otherwards if standard deviation is divided by the mean and multiplied by 100 we get the coefficient of variation<sup>9</sup>. The measure of relative variation is termed the coefficient of variation<sup>10</sup> represented by the letter V. Thus,

$$V = \frac{S}{M} \times 100$$

\* Rank Correlation may be defined as the correlation between ranks or orders of magnitude of pairs of observations. It is measured by Rank Correlation coefficient (R), given by

$$R = 1 - \frac{6 \sum d_i^2}{N(N^2-1)}$$

Where  $d_i$ -difference between the ranks of the individual in the two character;  $N$  = Number of pairs of observations. This formula is also known as Spearman's formula<sup>11</sup>.

will be a t-matrix<sup>10-A</sup>. Thus, five separate t-matrices will be obtained for Amul as well as Himul.

STRUCTURAL GROUP :

Ratios of the Structural Group show the composition of assets and liabilities of a firm. These also indicate the relationships between various sources of funds and their utilization patterns<sup>12</sup>.

TABLE 6.1  
Summary of the Structural Group Ratios

Sl. No.	Ratios	Formulae of Calculation
i.	Funded Debt to total Capitalisation	$\frac{\text{Funded Debt (Long term Loans)}}{\text{Total Capitalisation}}$
ii.	Debt to Equity	$\frac{\text{Debt}}{\text{Equity}}$
iii.	Debt to Equity (Considering Grant & Subsidies)	$\frac{\text{Debt (Considering Grant \& Subsidies)}}{\text{Equity}}$
iv.	Equity to Net Fixed Assets	$\frac{\text{Equity}}{\text{Net Fixed Assets}}$
v.	Net Fixed Assets to Funded Debt.	$\frac{\text{Net Fixed Assets}}{\text{Funded Debt}}$
vi.	Funded Debt to Net working Capital.	$\frac{\text{Funded Debt}}{\text{Net Working Capital}}$
vii.	Loan Term Debt to Equity	$\frac{\text{Long Term Debt}}{\text{Equity}}$

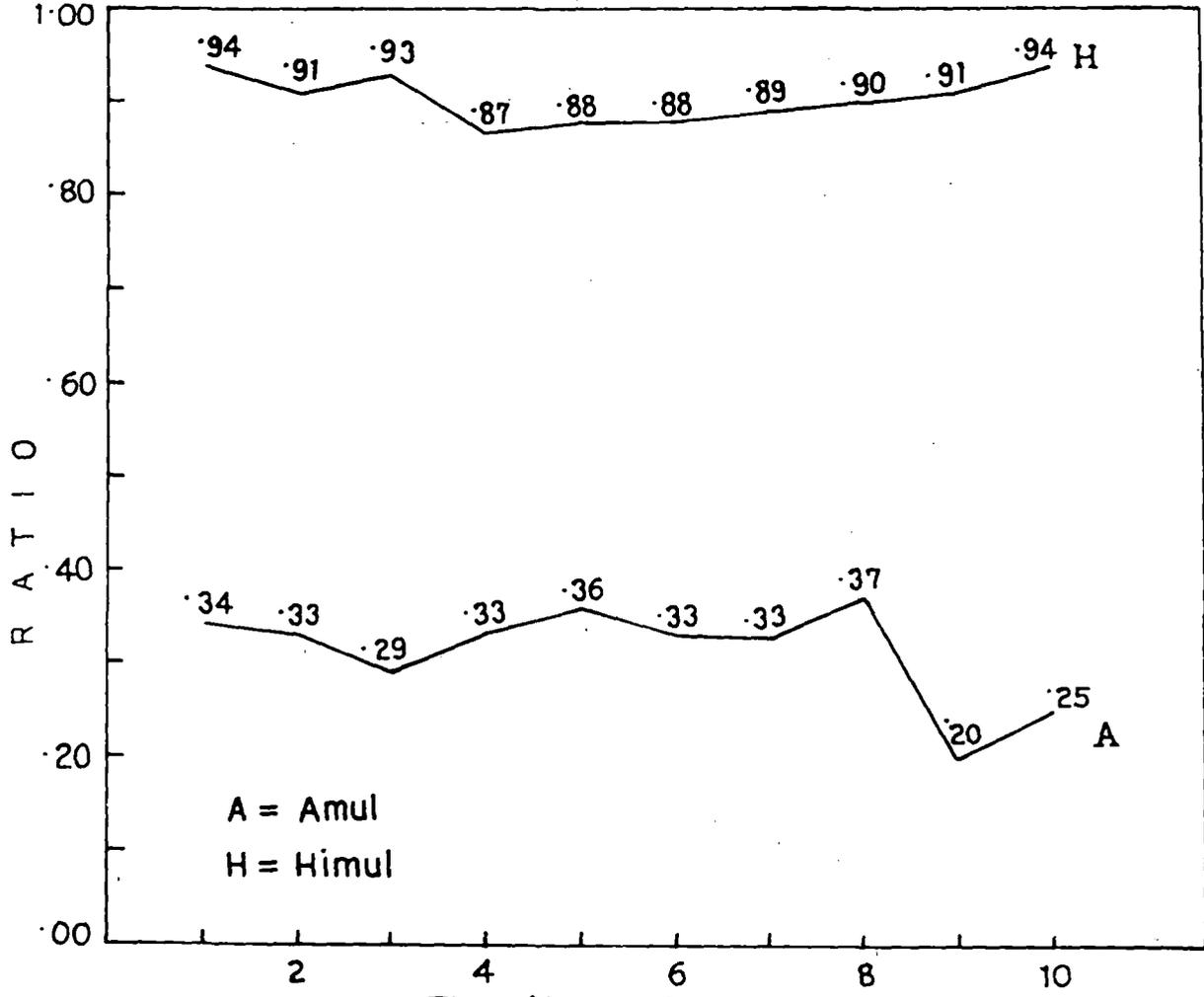
In table 6.1, we summarise the actual calculation formulae of different ratios. Among these, two ratios, namely Debt to Equity (with and without Grant & Subsidies) deserve some explanation. Equity is neither an important component in the capital structure of both Amul & Himul, nor it plays the ideal role of Equity like in a corporate organisation. So far the Debt is concerned, it comprises mainly the longterm government loan. Moreover, Himul enjoys a large amount of Grant and Subsidies from several sources like Indian Dairy Corporation, Hill Development Authority, World Food Programme, S.F.D.A. and D.R.D.A, National Dairy Development Board etc. Himul used to show unutilised amount of Grant and Subsidies as liabilities in the Balance Sheet. Thus we calculate two Debt-Equity ratios for Himul and both of them will be compared with Debt-Equity ratio of Amul.

Funded Debt to Total Capitalisation\* ratio of Himul has been found always higher than that of Amul (nearly three times; Graph 6.1). It indicates substantial debt burden of Himul over a large period of time. It is well known that a too heavy debt burden decreases the margin

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\* The 'total capitalisation' comprises long term debt, capital, stock and reserve & surplus. The funded debt denotes the long term loans obtained from National Dairy Development Board, World Food Programme, Animal Husbandry and Veterinary Service, Government of West Bengal,

### Funded Debt To Total Capitalisation



A = Amul  
H = Himul

Time (in year)  
Graph - 6.1.

of safety for lenders, rises fixed charges upon earnings, reduces benefits of members of the Union. Moreover if the enterprise continues to earn zero profit or losses it may invite insolvency and force reorganisation<sup>13</sup>.

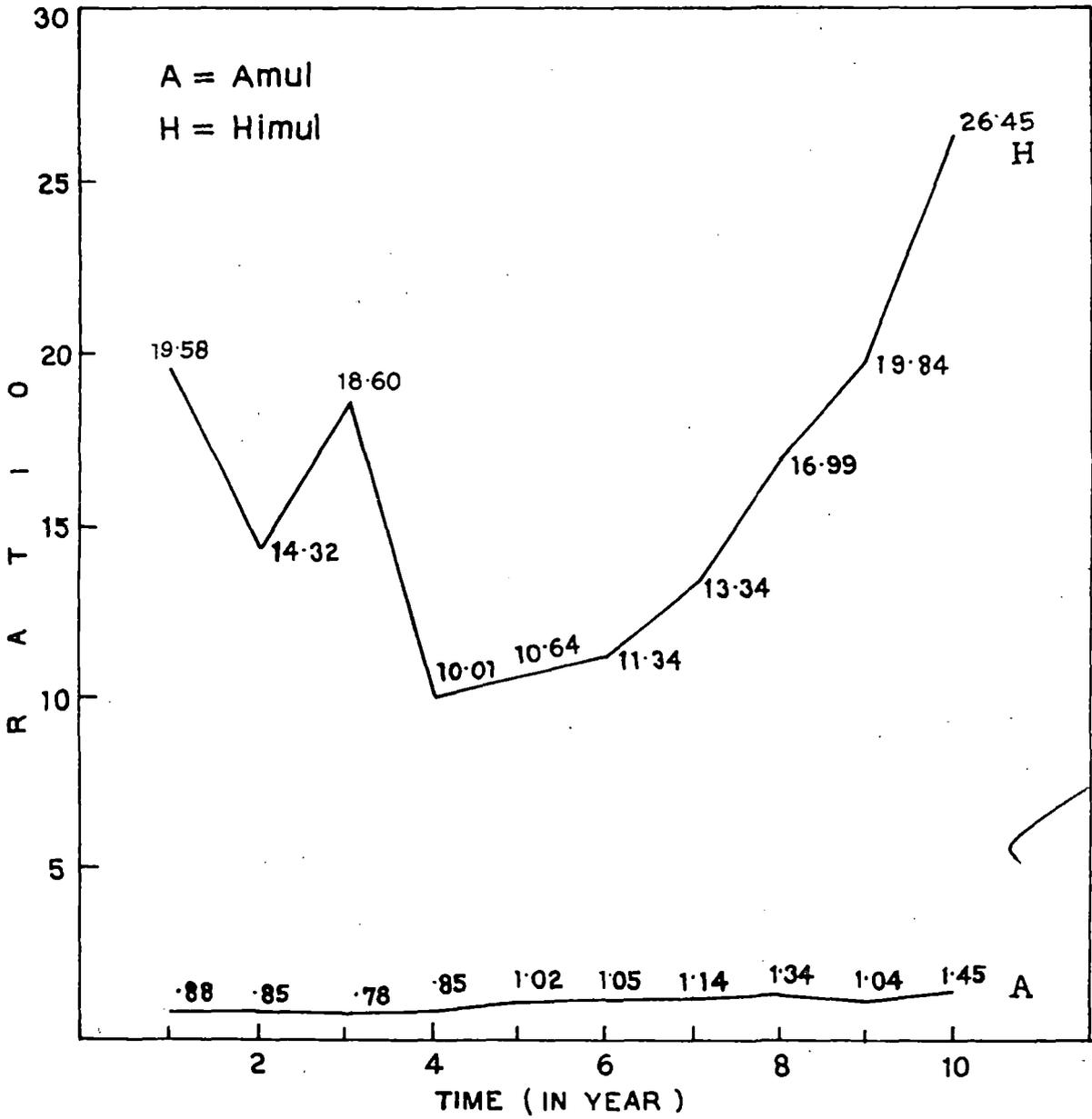
Debt\* to Equity ratio<sup>14</sup> curve of Amul is going upward slowly as well as smoothly (Graph 6.2). But this line of Himul is moving upward abruptly after 1978-79. The ratio values show that the debts of Himul are minimum 10 times and maximum 26.45 times of equity, whereas in case of Amul the debts are maximum 1.45 times of Equity. Again if the 'grant and subsidy' is considered as debt in Himul (Graph 6.3) the debts are minimum 12.58 times and maximum 33.13 times of the equity. What should be the reasonable amount of debt of a firm depends on various factors. Thus a financially desirable Debt-Equity ratio

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Hill Development Authority, S.F.D.A., Darjeeling, Banks and Indian Dairy Corporation etc. However, some readjustments have to be made in ascertaining the capitalisation of Himul. The particular element 'grant and subsidy' shown as liability has not been included in the total capitalisation fund as this element has been adjusted, as and when it is utilised for techno-economic Programme, against profit and loss debit balance of every accounting year.

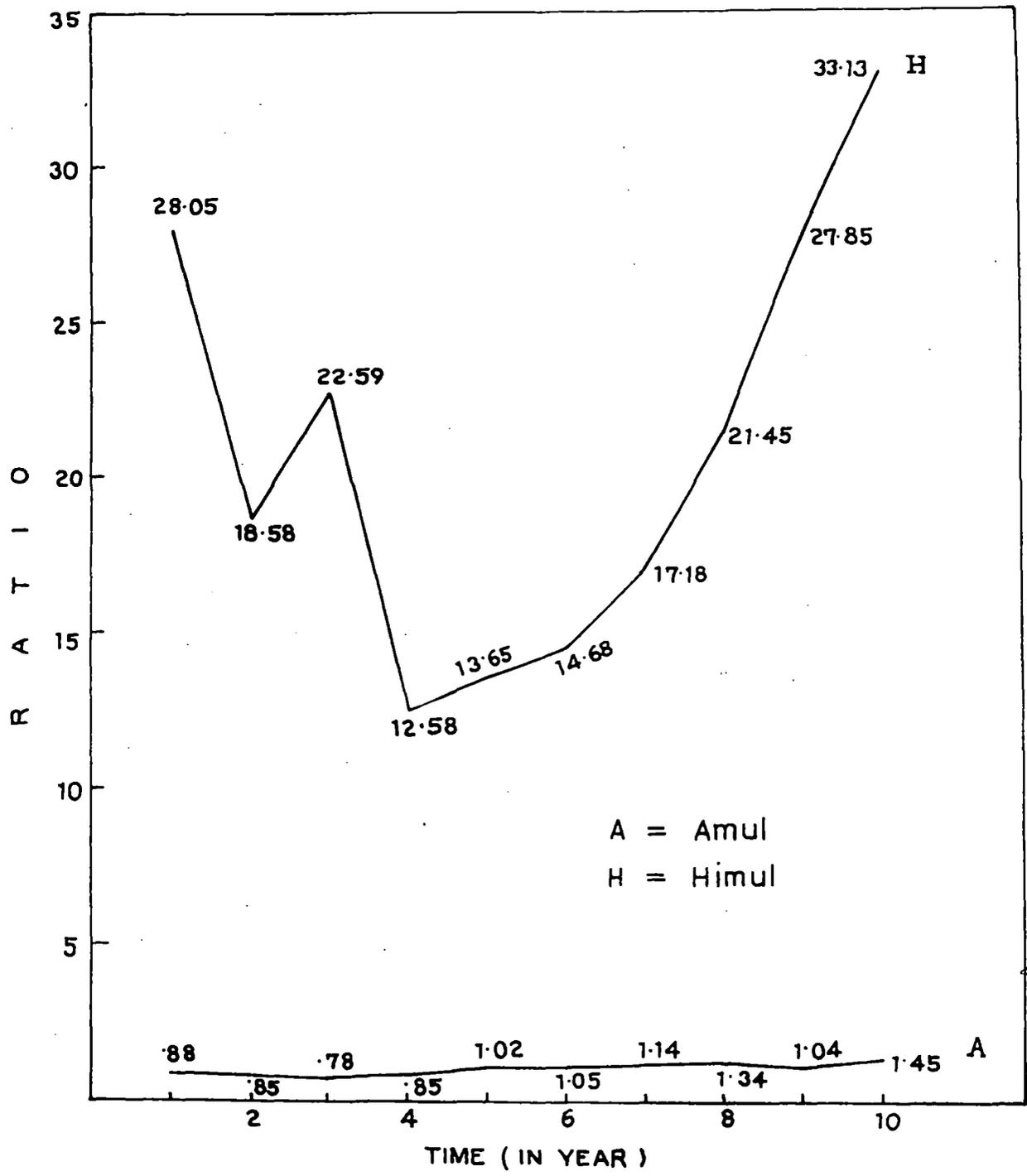
\* Debt denotes summation of long term loans, short term loans, 12% Redeemable debentures, current liabilities & provisions and sundry creditors. And equity means only equity capital.

### Debt To Equity



Graph - 6.2

### Debt To Equity ( Considering Grant & Subsidies )

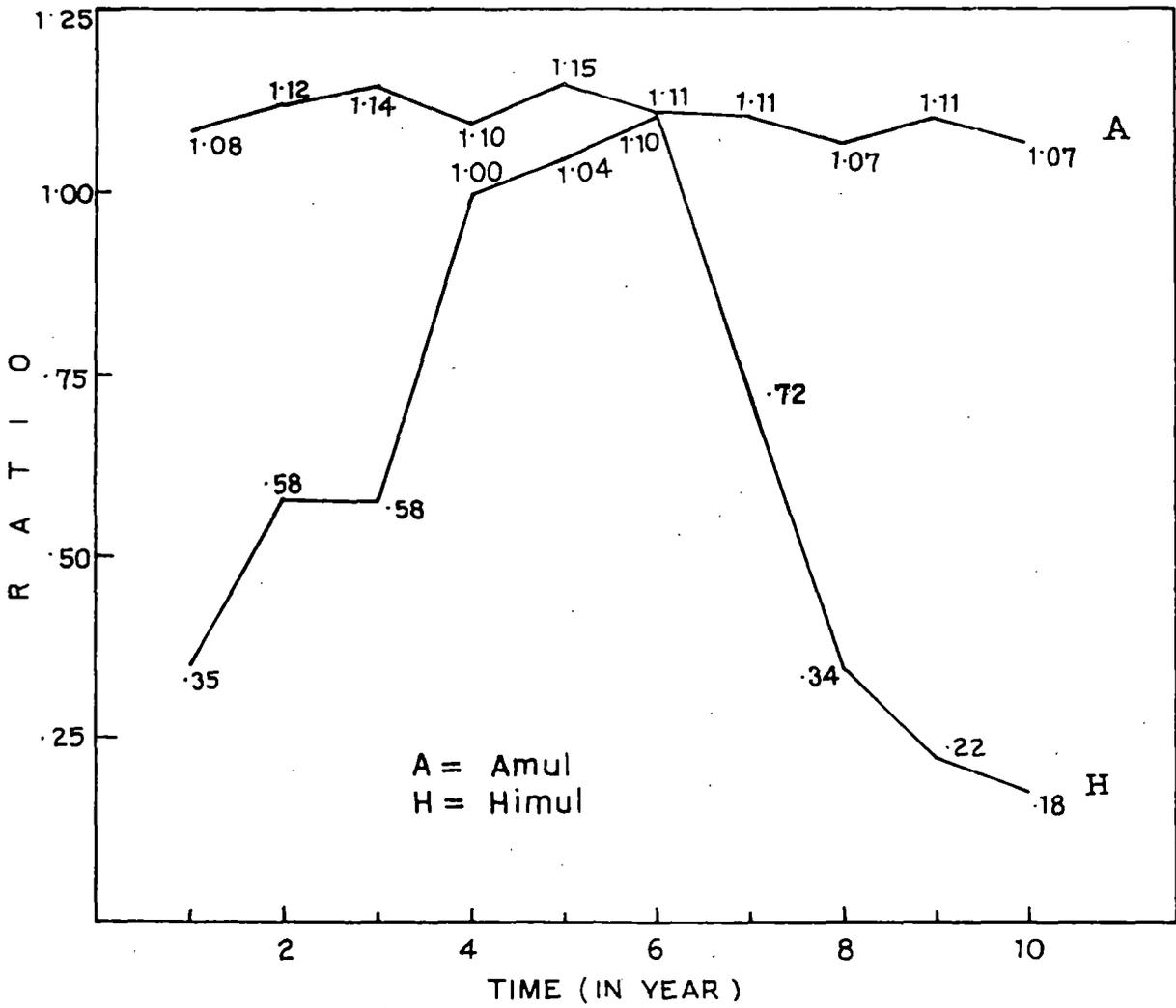


Graph - 6.3.

of public utility differs from a manufacturing firm. In this case though we do not ascertain precisely the sound ratio between Debt-Equity, but obviously can say that debt in Himul which varies from 12 times to 33 times of equity is not appreciable. It therefore seems that the debt to equity position of Himul is not desirable so far the creditors are concerned. Besides, if we compare the debt position of Himul with Amul, then it shows that Amul's position is far better than Himul. Amul's debt is of 1.45 times that of equity, signifies a much better financial control and management<sup>15</sup>.

The ratio of Equity to Net Fixed Assets<sup>16</sup> of Amul (Graph 6.4) shows marginal ups and downs. Whereas the same of Himul is going upward upto 1980-81 then downwards abruptly till 1984-85. Except 1978-79 to 1980-81, the net fixed assets of Himul is larger than the net worth or equity. This is not a sound picture. It is well known that the more the shareholders' investment is tied up in fixed assets, the less is the amount available for contribution in current assets, i.e. the creditors have contributed towards large part of the net fixed assets. The higher this ratio the less the protection for creditors. Where net fixed assets exceed net worth, which should plan for an additional equity capital<sup>17</sup>. Besides, excessive reliance upon creditors implies weak financial structure<sup>18</sup>.

### Equity To Net Fixed Assets



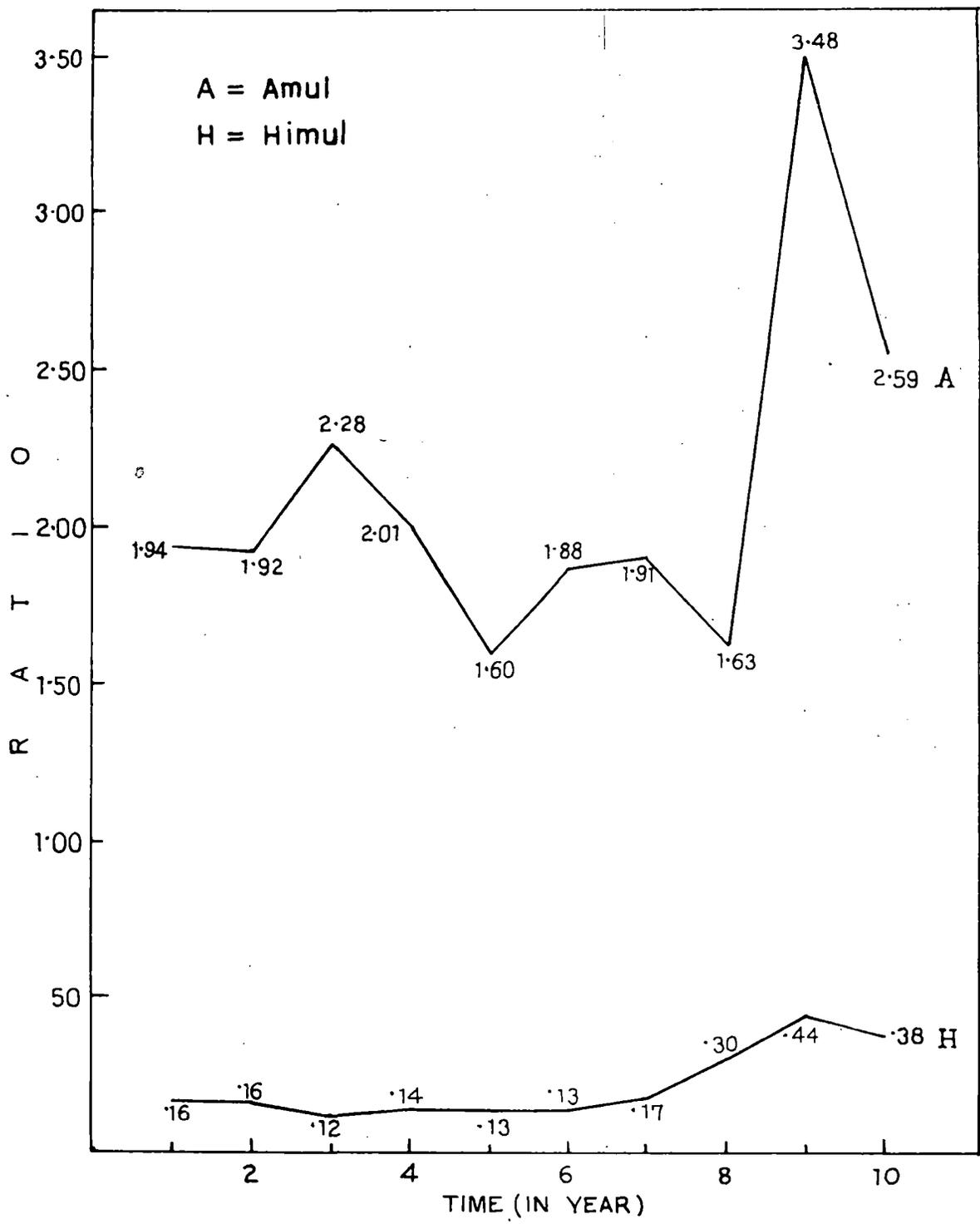
A = Amul  
H = Himul

Graph - 6.4.

The Net Fixed Assets to Funded Debt ratio<sup>19</sup> of Amul (Graph 6.5) fluctuates year to year and in 1983-84 it has reached its maximum level. On the other hand this ratio of Himul is almost stable upto 1981-82. It starts to increase from 1982 and reaches its maximum level in 1983-84 at .44 times of debt. It implies that the net assets is even less than the half of the total debt of the firm. The position of net fixed assets to funded debt ratio of Amul is better as the ratio has maintained always the minimum desirable level 2:1<sup>20</sup> and it crosses three in 1983-84.

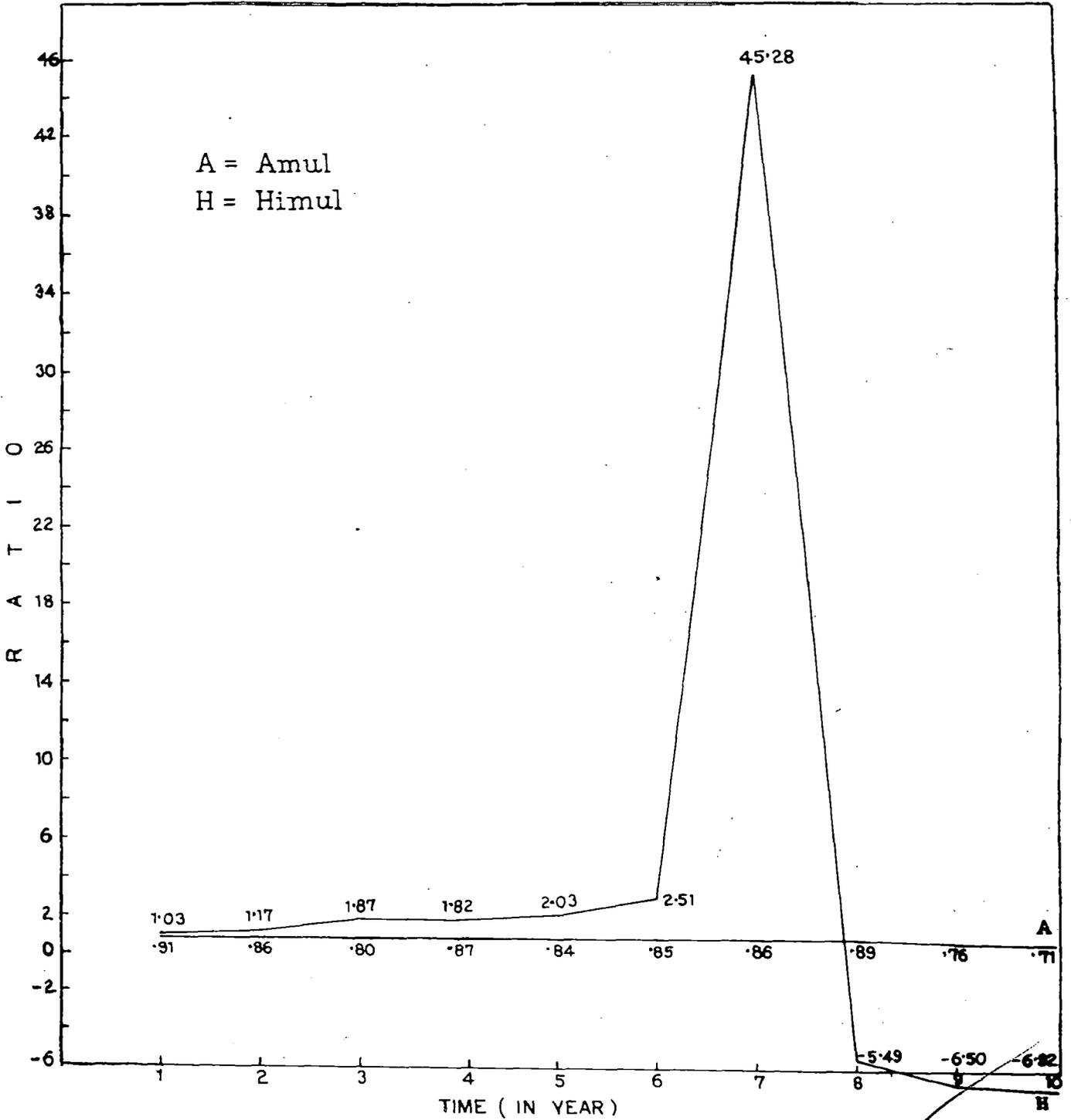
Funded Debt to net working capital ratio is used to assess the working capital position and is said that funded debt should not exceed working capital<sup>21</sup>. The graph obtained from the Funded debt to Net Working Capital ratio<sup>22</sup> (Graph 6.6) of Himul has always exceeded the working capital and it is more remarkable in 1981-82 onwards. During the same period this ratio of Himul goes below the axis of the graph. Because in that period current assets are also lower than the current liabilities. Graph also shows the sound working capital position of the Amul which remains almost parallel to the X-axis over the whole period. On the otherhand, Himul is facing a financial obligation at present and in the long run, it will face a vigorous working capital crisis.

### Net Fixed Assets To Funded Debt



Graph - 6.5 .

Funded Debt To Net working Capital.



Graph - 6.6

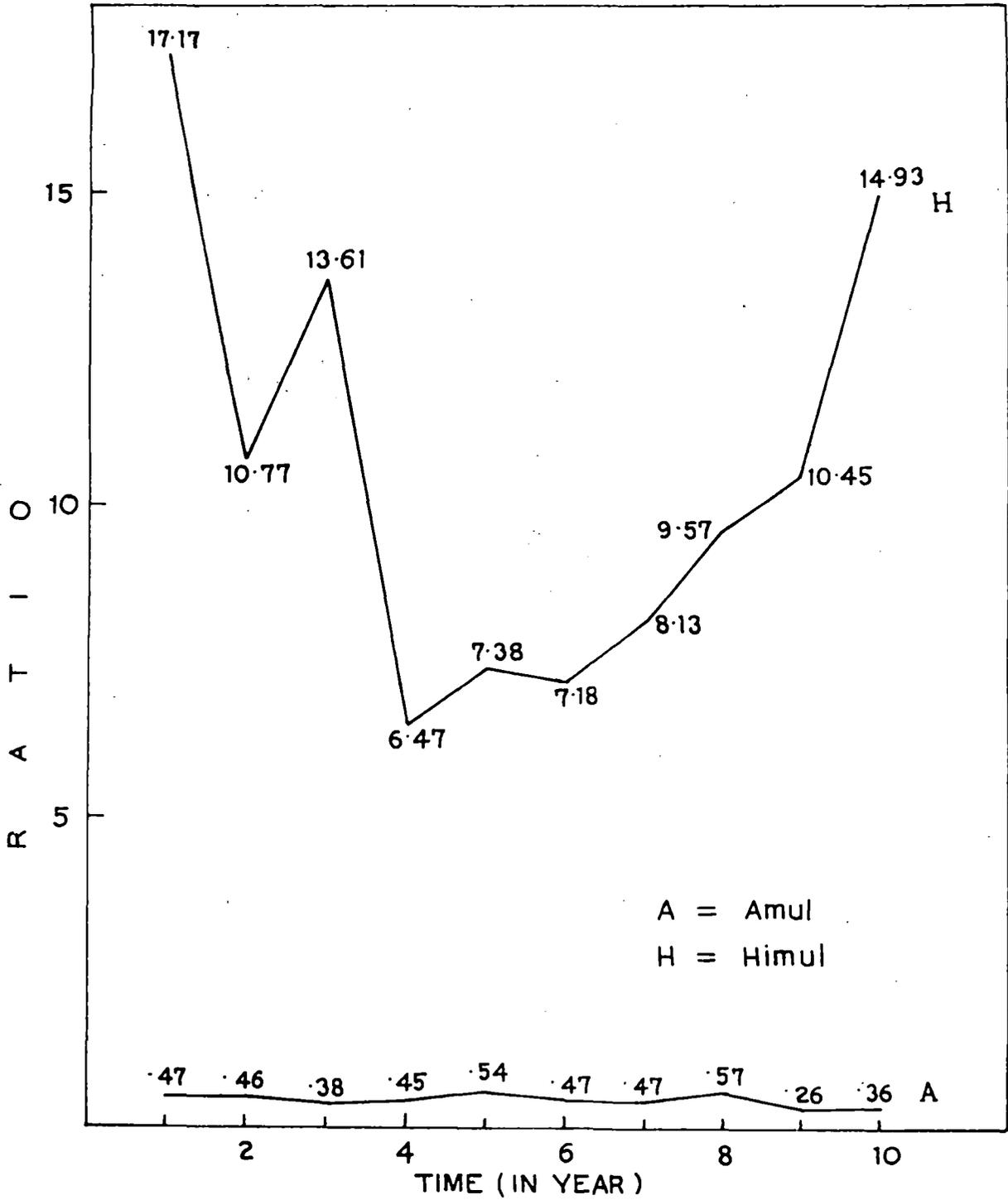
So far as the long term Debt to Equity ratio is concerned, it appears that the debt burden of Himul is too much heavier than Amul. Because the graph showing the Long Term Debt to Equity ratio (Graph 6.7) of Himul fluctuates year to year abruptly but this ratio of Amul fluctuates smoothly.

TABLE 6.2

Coefficient of Variation of Ratios of Structural Group of Amul and Himul

Sl. No.	Ratios	Mean		S.D.		Coefficient Variation	
		Amul	Himul	Amul	Himul	Amul	Himul
i.	Funded Debt to Total Capitalisation	.31	.90	.05	.02	16.707	2.817
ii.	Debt to Equity	1.04	16.11	.21	5.17	21.115	32.093
iii.	Debt to Equity (considering grant & subsidies)	1.04	20.97	.21	6.92	21.115	33.025
iv.	Equity to Net fixed assets	1.10	.61	.02	.34	2.456	56.393
v.	Net fixed assets to Funded Debt	2.12	.21	.55	.11	26.226	54.708
vi.	Funded Debt to Net working capital	.83	3.68	.06	15.11	7.345	410.60
vii.	Long Term Debt to Equity	.44	10.56	.08	3.61	20.248	34.167

### Long Term Debt To Equity



Graph - 6.7 .

Here, in this sub-section, we intend to discuss the extend of variability of the time series analysis of different ratios of Amul and Himul. A series showing greater coefficient of variation is said to be more variable and the series having lesser coefficient of variation is said to be more consistent than the other. We also presume here that the standard deviation is the total variation in the mean.

Coefficient of variation of seven ratios (Table 6.2) of Amul indicates a consistent structural financial position as all the seven Coefficient of variations of Amul except the first one, are less than that of Himul. Only in the case of Funded Debt to Total Capitalisation ratio, Himul seems to have a better position so far dispersion from average position is concerned.

The working capital position of Himul is very acute. From the present table we find that the extent of variation in funded Debt to Net working Capital is as large as 410.00 as against only 7.345 of Amul. Similarly, the Coefficient of variation of the Equity to Net Assets of Amul is only 2.456 whereas the same for Himul comes out as 56.393.

This analysis which shows the large extent of variability of almost all the ratios of Himul, seems to

suggest that Himul does not follow any uniform pattern to manage its capital. It also may be said that the major decisions regarding capitalisation which supposed to be of long term basis are taken probably on ad-hoc basis and no serious thought has been given prior to decision making as a consequence, no uniformity has been found in the time-series analysis and wide degree of variation in coefficient of variation has been obtained.

Rank correlation between ratios of structural group are given below (Table 6.3 and Table 6.4) for Amul and Himul respectively.

TABLE 6.3

Rank Correlation Matrix of the Structural Group Ratio of Amul

	i	ii	iii	iv	v	vi	vii
i) Funded Debt to Total Capitalisation		.04	.04	-.16	-.84	.72	.91
ii) Debt to Equity			*	-.48	-.17	-.16	.49
iii) Debt to Equity (considering grant & subsidies)				-.48	-.17	-.16	.49
iv) Equity to Net fixed assets					-.25	-.47	-.07
v) Net fixed assets to Funded Debt						-.52	-.94
vi) Funded Debt to Net Working Capital							.62
vii) Long Term Debt to Equity							

\*The values of Debt to Equity and Debt to Equity (considering grant & subsidies) ratio are the same as Amul is not getting any grant and subsidies from any source.

TABLE 6.4

Rank Correlation Matrix of the Structural Group Ratio of  
Himul

	i	ii	iii	iv	v	vi	vii
i) Funded debt to Total Capitalisation	.81	.64	-.87	.22	-.70	.88	
ii) Debt to Equity		.96	-.91	.48	-.72	.87	
iii) Debt to Equity (considering grant & subsidies)			-.88	.51	-.72	.91	
iv) Equity to Net fixed Assets				-.99	.89	-.73	
v) Net fixed assets to Funded Debt					-.72	.27	
vi) Funded Debt to Net Working Capital						-.57	
vii) Long Term Debt to Equity							

We observe from matrix that in case of Amul, there is no relation between the Ranks of Funded Debt to Total Capitalisation and Debt to Equity (with or without grant & subsidies) but there is a high positive correlation with 'Funded Debt to Net Working Capital' and 'Long Term Debt to Equity'. 'Long Term Debt to Equity' has also moderate positive correlation with 'Debt to Equity' (with or without grant & subsidies) and 'Funded Debt to Net Working Capital'.

On the contrary, in case of Himul, 'Funded Debt to Total Capitalisation' has a significant positive

correlation with both 'Debt to Equity' ratios. Moreover in case of Himul, 'Equity to Net Fixed Assets' and 'Funded Debt to Net Working Capital' ratio negatively correlated with the rest. But other ratios are positively related with each other and that too is also high degree. It seems to imply that the direction of change obtained from different ratio measures are of consistent in case of Himul.

#### LIQUIDITY GROUP :

The liquidity group ratios indicate the ability of a firm to meet its short-term financial obligations. The ability of a firm to meet its current liabilities with a margin of safety is judged on the basis of two ratios, viz., the Current ratio and the Acid-test ratio<sup>23</sup>.

Formulae of calculation of these two well known ratios are given below in Table 6.5.

TABLE 6.5  
Summary of the Liquidity Group Ratios

Sl.No.	Ratios	Formulae of Calculation
i)	Current Ratio	$\frac{\text{Current Assets}}{\text{Current Liabilities}}$
ii)	Acid-Test Ratio	$\frac{\text{Current Assets}-\text{Stock}}{\text{Current liabilities}}$

It is well known that an ideal current ratio<sup>24</sup> often suggested is 2:1. Generally low current ratio indicates that the firm may have some difficulty in meeting its debts. Again high Current ratio would suggest that funds are not being used economically in the firm<sup>25</sup>.

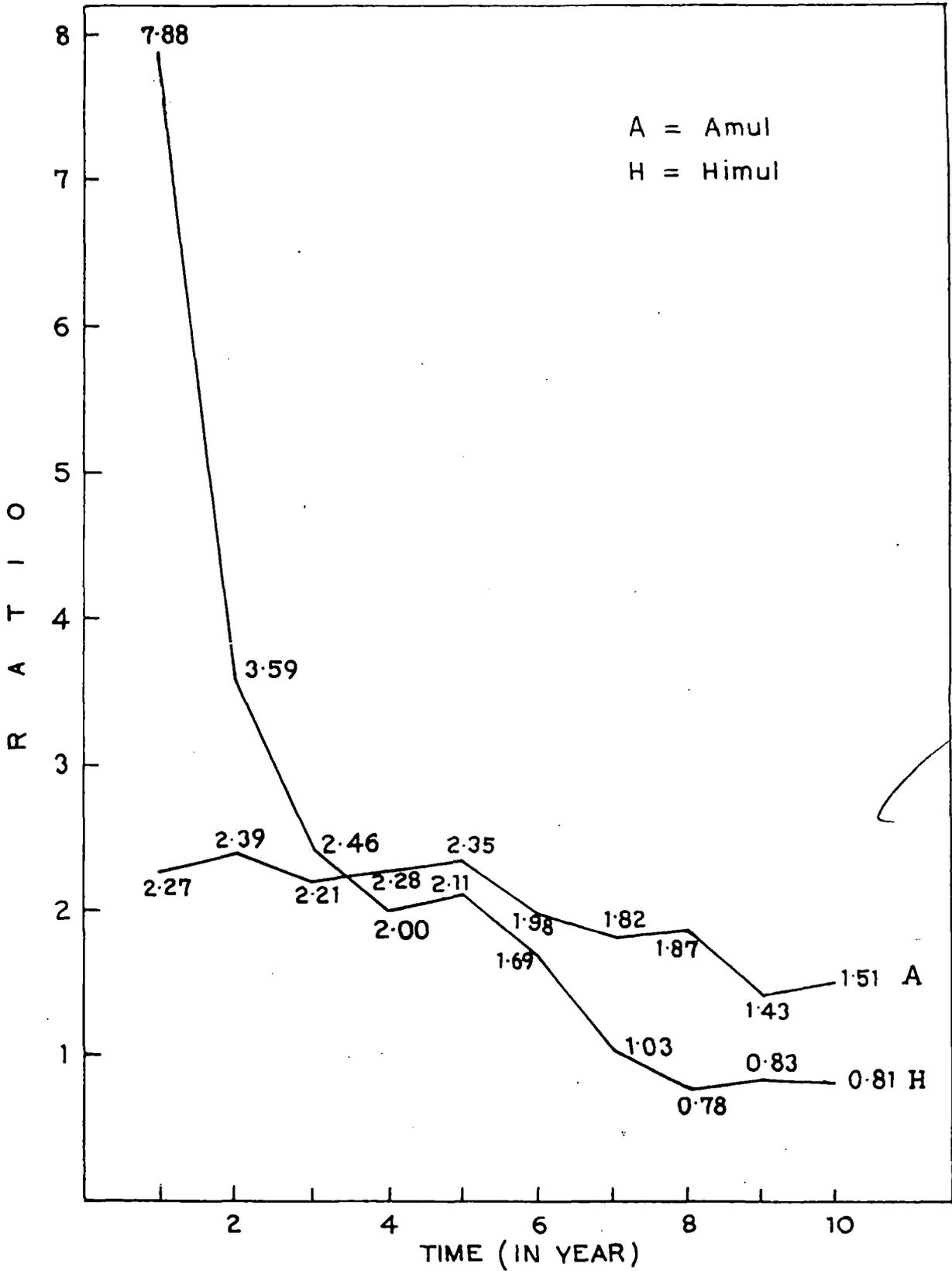
The time-series graph of Current ratio\* (Graph 6.8) of ten years of Amul is almost sound nature upto 1982-83. On the otherhand, this graph of Himul shows a critical condition of the organisation throughout the period of the study except three years (1977-78 to 1979-80).

Acid-Test ratio<sup>26</sup> (Graph 6.9) of Amul indicates a good working capital position. But this ratio of Himul shows monotonically declining nature and it settles down to 0.58 in 1984-85. As we know that the desirable ratio is 1:1 or 1.5:1, Himul does not show any comfortable position at any point of time. On the contrary, it starts

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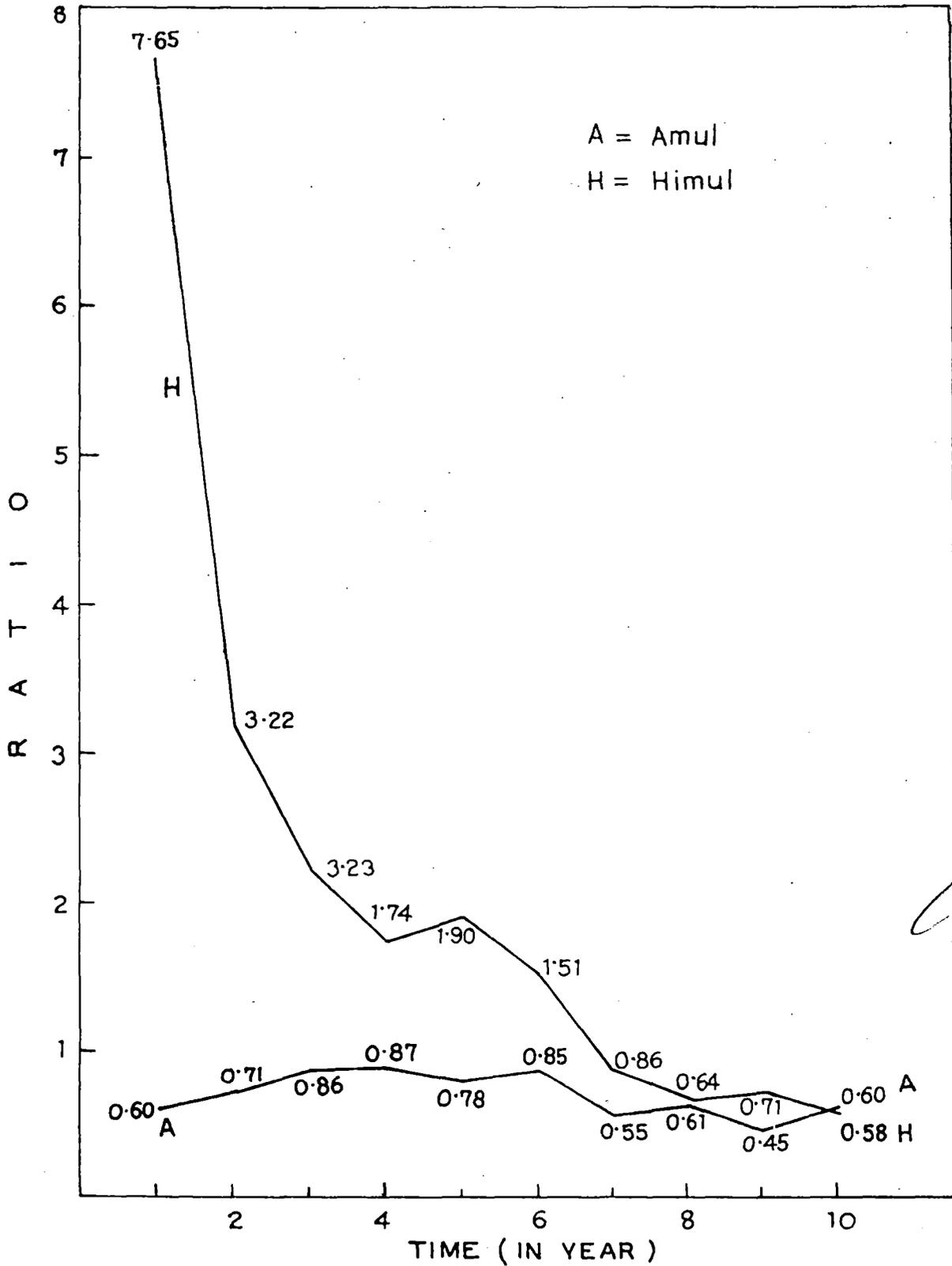
\* Current ratio is computed by dividing current assets by the current liabilities. Current assets comprises stock, loans & advances, deposits, debtors, cash in hand, cash at bank, deferred revenue expenditure, cattle feed plant and other assets. And current liabilities comprises current liabilities & provisions, creditors, cattle feed plant and outstanding liabilities.

Current Ratio



Graph - 6.8 .

### Acid - Test Ratio



Graph - 6.9.

with a position of unutilisation of current asset and comes down to a position which is far below the standard i.e., either 1 or 1.5. This trend of course indicates the future liquidity crisis.

TABLE 6.6

Coefficient of Variation of Ratios of Liquidity Group of Amul and Himul

Sl. No.	Ratios	Mean		S.D.		Coefficient of variation	
		Amul	Himul	Amul	Himul	Amul	Himul
i)	Current ratio	2.01	2.31	.34	2.15	17.254	92.778
ii)	Acid-Test ratio	.68	2.10	.14	2.12	21.404	100.83

In table 6.6 we represent the Coefficient of variation of ratios of liquidity group of Amul and Himul. Most uncomfortable extent of variation is revealed in case of Himul. Coefficient of variation of current ratio is 92.778 for Himul as against 17.254 for Amul. Similarly, the same measure is 100.83 for Himul as against 21.404 for Amul. This variation is obvious as the current ratio is as high as 7.88 in 1975-76 and it gradually comes down to only 0.81 in 1984-85. It implies that during the initial period of our study, current assets are not being utilised properly and in the later period the liquidity position of the organisation is at very dangerous level. It comes

down to a position when the organisation's current asset is much less than current liability which is supposed to be half of the current asset ideally. Moreover, Acid-Test ratio shows that current liability is double the current asset. It seems to imply an acute crisis of working capital as well as liquidity position of the organisation.

As against this mis-management or poor management of working capital of Himul, Amul maintains a very stable position of its working capital. It, of course, indicates an efficient working capital management of Amul. Amul maintains current ratio-uniformly almost at the level of 2 and Acid-Test ratio at the level of 1. It, therefore, may be said that neither there is unused current asset nor the shortage of working capital or the problems of liquidity in Amul.

In the following the rank Correlation between the ratios of liquidity group of Amul and Himul are given respectively.

TABLE 6.7

Rank Correlation Matrix of the Liquidity Group of Amul and Himul

Amul		Himul	
i	ii	i	ii
i) Current ratio	.64	i) Current ratio	.99
ii) Acid-Test ratio		ii) Acid-Test ratio	

In liquidity group we observe that both in case of Amul and Himul two ratios of this group give the ranking of same sequence since strong positive rank correlation of the order 0.99 in Himul and 0.64 in Amul has found.

PROFITABILITY GROUP :

The profitability group ratios indicate the overall performance of the firm measured in different ways<sup>27</sup>. There are many ratios for measuring profitability depending on the choice of the variables. Some common ratios we used are given in Table 6.8 below :-

TABLE 6.8

Summary of the Profitability Group Ratios

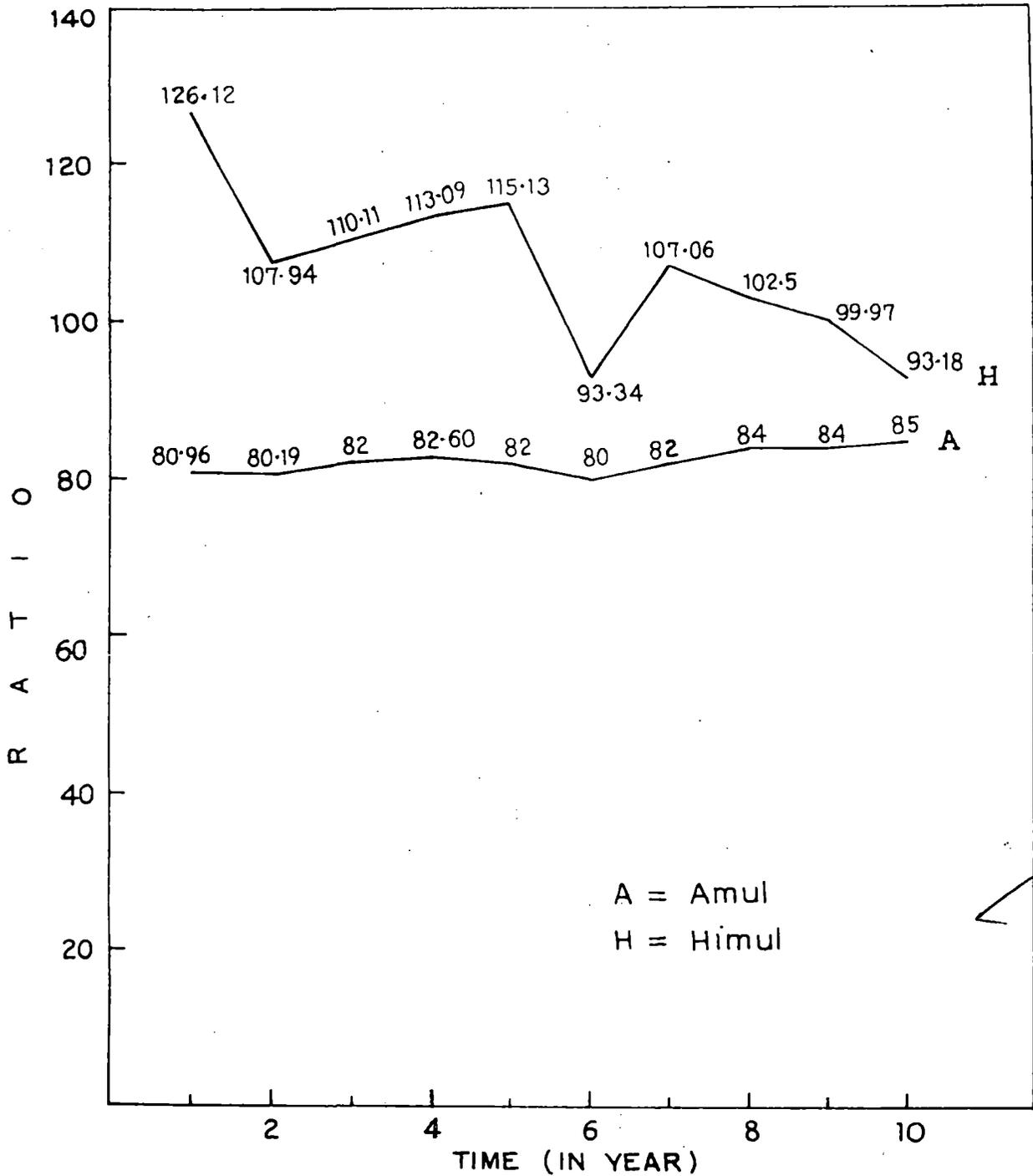
Sl. No.	Ratios	Formulae of Calculation
i)	Operating ratio	$\frac{\text{Total Operating Exp.}}{\text{Net Sales}} \times 100$
ii)	Operating profit to sales	$\frac{\text{Operating profit}}{\text{Net Sales}} \times 100$
iii)	Net Profit to Sales	$\frac{\text{Net Profit}}{\text{Net Sales}} \times 100$
iv)	Net Profit to Sales (considering grant subsidies)*	$\frac{\text{Net Profit (considering grant \& subsidies)}}{\text{Net Sales}} \times 100$
v)	Coverage of Interest payment	$\frac{\text{Earning before Int. \& Taxes}}{\text{Interest}}$
vi)	Return on Investment	$\frac{\text{Earning before Int. \& Taxes}}{\text{Capital employed}} \times 100$

\*Net profit of Himul is calculated after deducting the grant & subsidies.

The graph of the operating ratio<sup>28</sup> (Graph 6.10) of ten years of Amul appears smooth. Eighty percent to eighty five percent operating expenditure provides the net margin of Amul within 15 percent to 20 percent. Whereas the same of Himul is fluctuating year to year between 93.18 percent to 126.12 percent.

It clearly explains why Himul is running with huge losses every year. Out of ten years, seven times this ratio comes out as higher than hundred which implies that total operating expenditure exceeds net sales. This is being the most important general measurement of operating efficiency and is important to management in judging its operations, the present position of this ratio in Himul identifies the extreme operational inefficiency on the part of the management. Though this financial ratio does not explain truly and fully the extent of responsibility of the management for this inefficient operation. It would never be correct to conclude that the degree of operating inefficiency revealed by this ratio have the scope of minimisation without considering the non-financial and other structural constraints of the management. Thus we have discussed some of these issues constrained upon management in our concluding chapter. Time-series curve of the operating profit to sales ratio<sup>29</sup> (Graph 6.11) of Amul except first year is uniform.

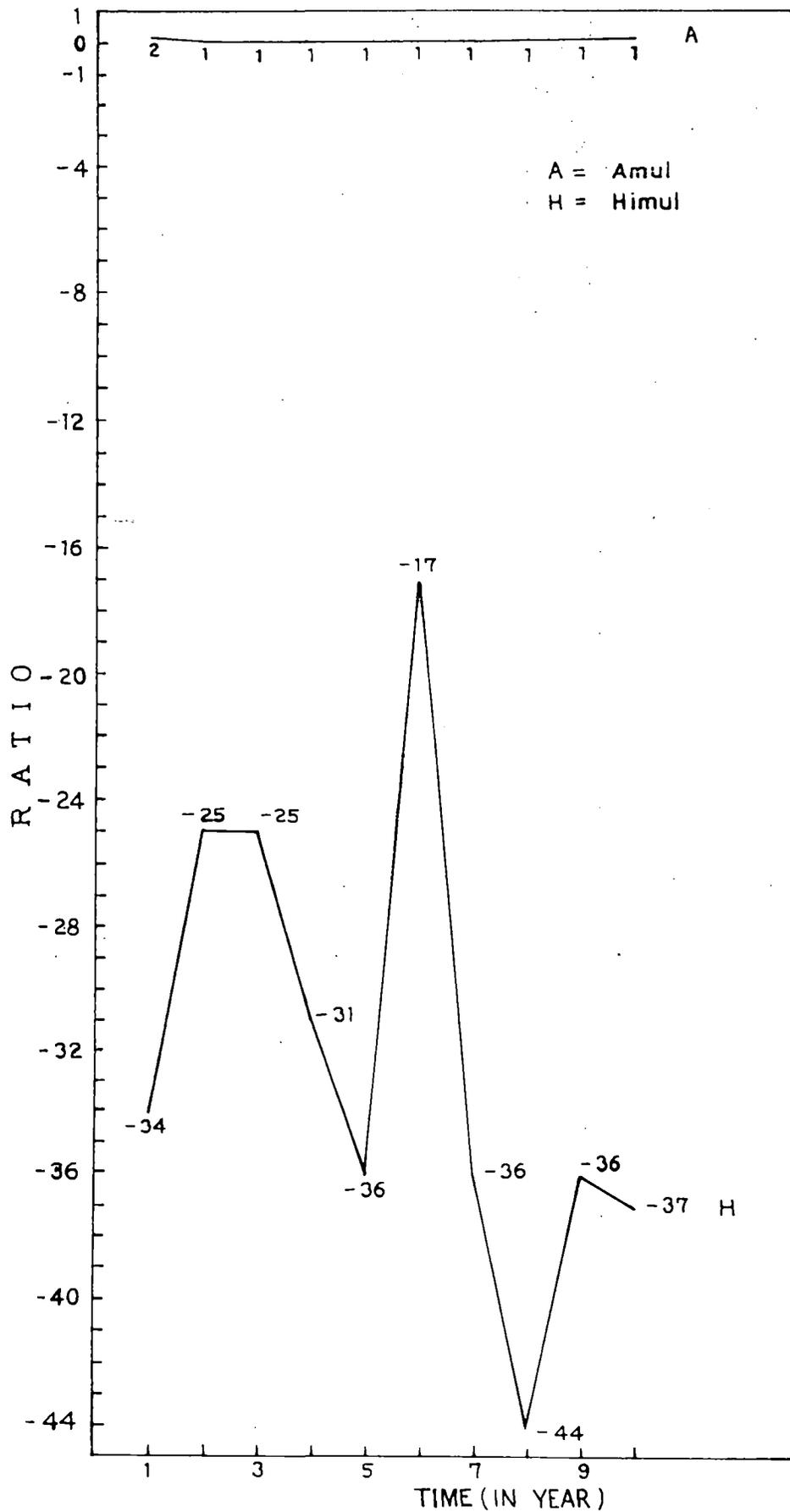
### Operating Ratio



A = Amul  
H = Himul

Graph - 6.10

# Operating Profit To Sales



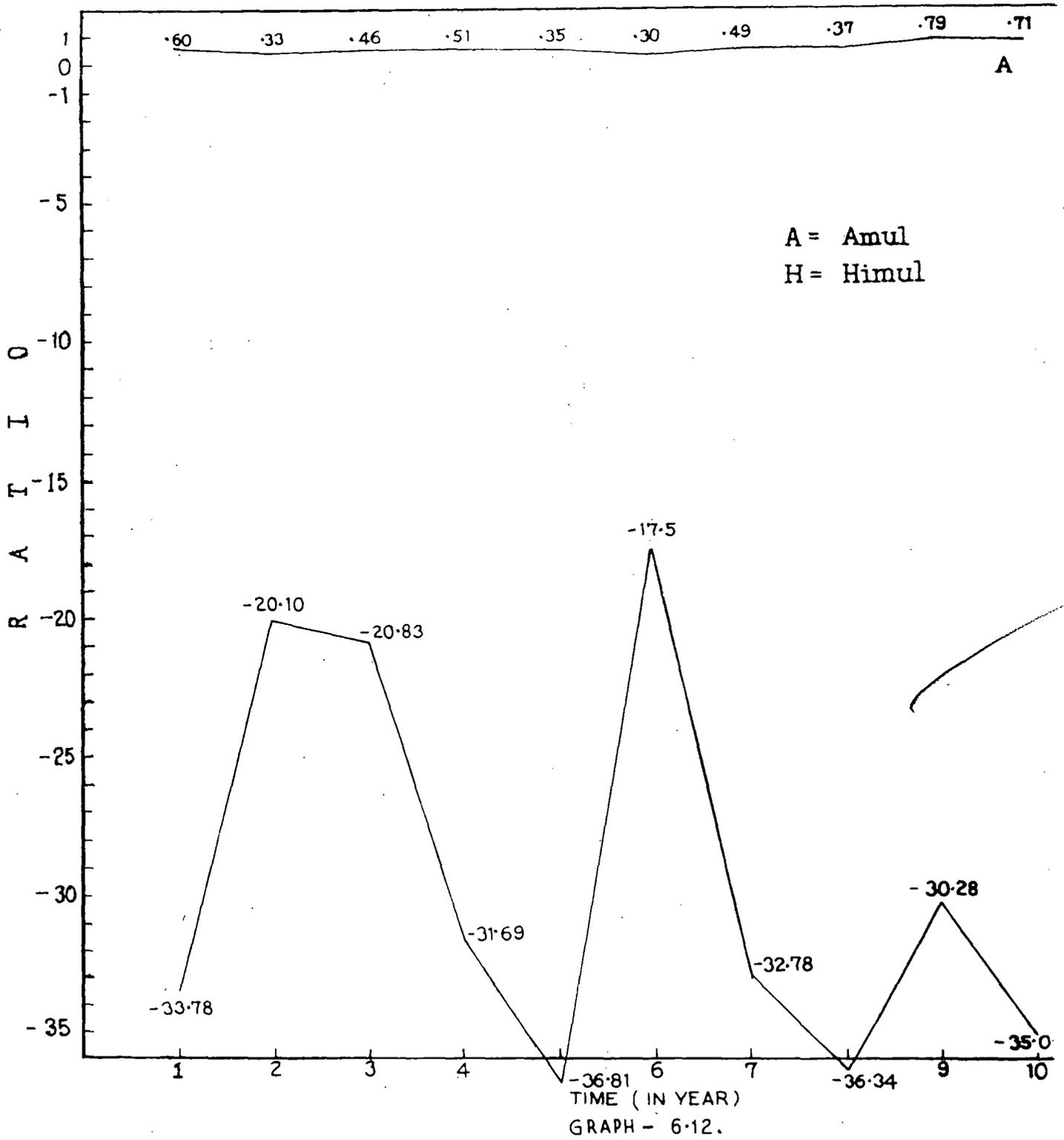
GRAPH - 6-11.

The implication of this ratio is that the lower the operating ratio, the higher is the margin of profit<sup>30</sup>. In case of Amul, it declines to 0.01 in 1976-77 from 0.02 of 1975-76 and it maintains the same ratio throughout the whole period. Moreover, since the ratio is very small, Amul's margin of profit is high. On the otherhand, in case of Himul it not only fluctuates with sudden fall and rise in each year, profit being negative the curve lies always below the X-axis. Besides, higher negative ratio implies improper cost of production. It seems to indicate that the production management deserves to be scrutinized to identify the cost inefficient intermediate process if there is any. Since it requires a separate study and the details viability study of technical aspect of production process is beyond the scope of the present thesis, we do not comment precisely on this. We can only say in general that the time-series, analysis of this ratio reveals the undesired fluctuation of cost of production and at the same time cost of production is much higher than any economically viable level.

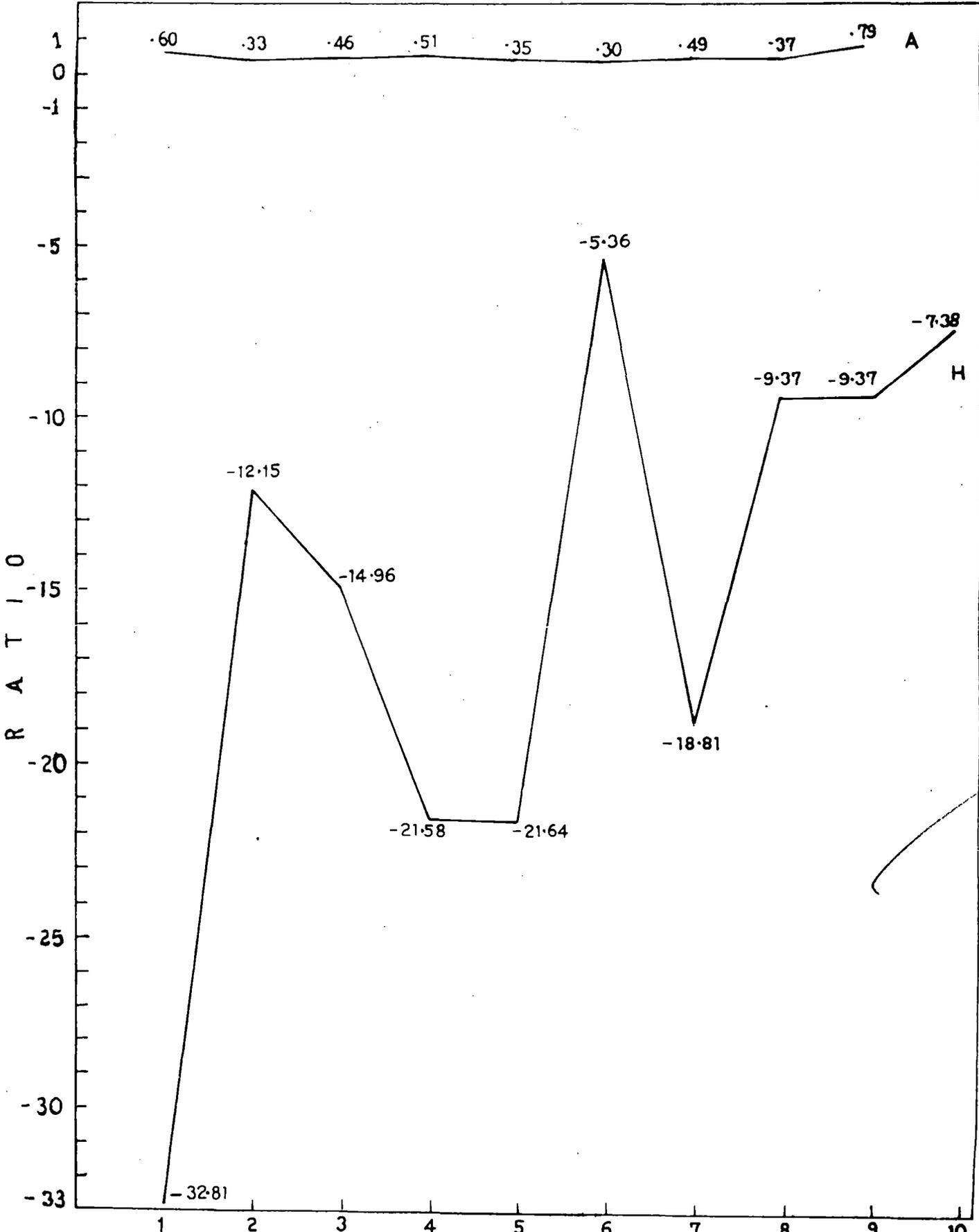
We have drawn two graphs of Net Profit to Sales ratio one with and other without grant and subsidies. The rational of two graphs has been given already.

Due to constant loss over the whole period, the Net Profit to Sales ratios<sup>31</sup> (Graph 6.12 and 6.13) of Himul

### Net Profit To Sales



### Net Profit To Sales (Considering Grant & Subsidies )



TIME (IN YEAR)

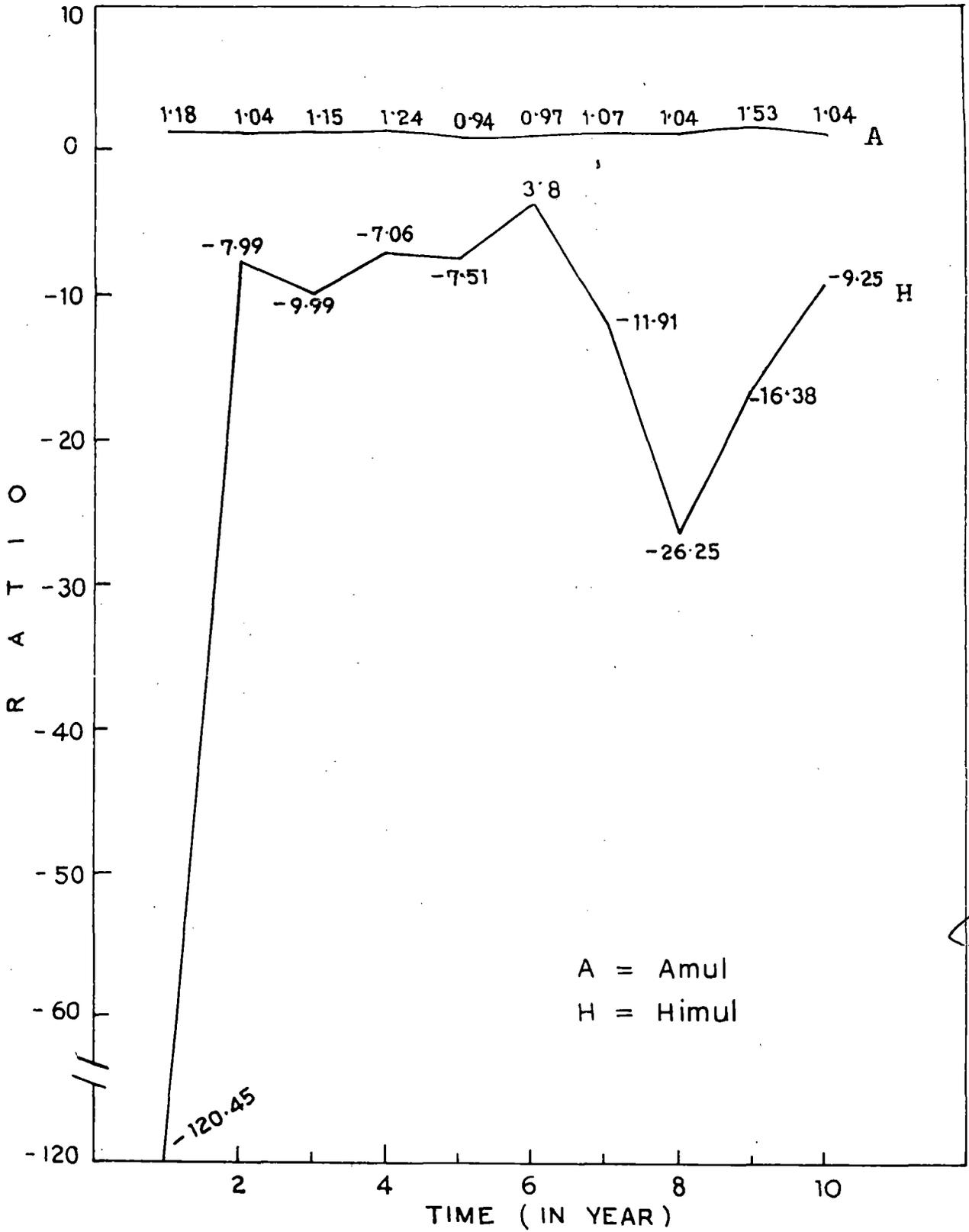
GRAPH- 6.13.

both have gone below the X-axis. And like previous one, these are also too much fluctuating. The range of this ratio of Himul is 19.31% whereas the range of the same ratio of Amul is only 49%. Again if the 'grant and subsidy' is not being considered as an income this ratio of Himul (Graph 6.13), especially of last three years shows a much adverse position.

The Coverage of Interest Payment ratio<sup>32</sup> (Graph 6.14) of Amul is steady. Whereas this ratio of Himul is not steady one and below X-axis for obvious reason of negative profit. Usually a high ratio of coverage of interest payment indicates a low burden of borrowings of the business and lower utilisation of borrowing capacity<sup>33</sup>. Therefore, the ratios show the constant existence of huge burden of borrowing in Himul and uniform and reasonable burden in case of Amul.

The Return on capital employed ratio<sup>34</sup> indicates the earning capacity of the capital employed of the business. Higher this ratio value indicates the better return on capital employed. On the otherhand, lower this ratio value indicates lower return on capital employed. Usually due to higher cost of production or lower selling price of the goods, the Return on capital employed ratio is lower<sup>35</sup>. Here (Graph 6.15) this time-series ratio of Himul fluctuates year to year and has gone below the

### Coverage of Interest Payment

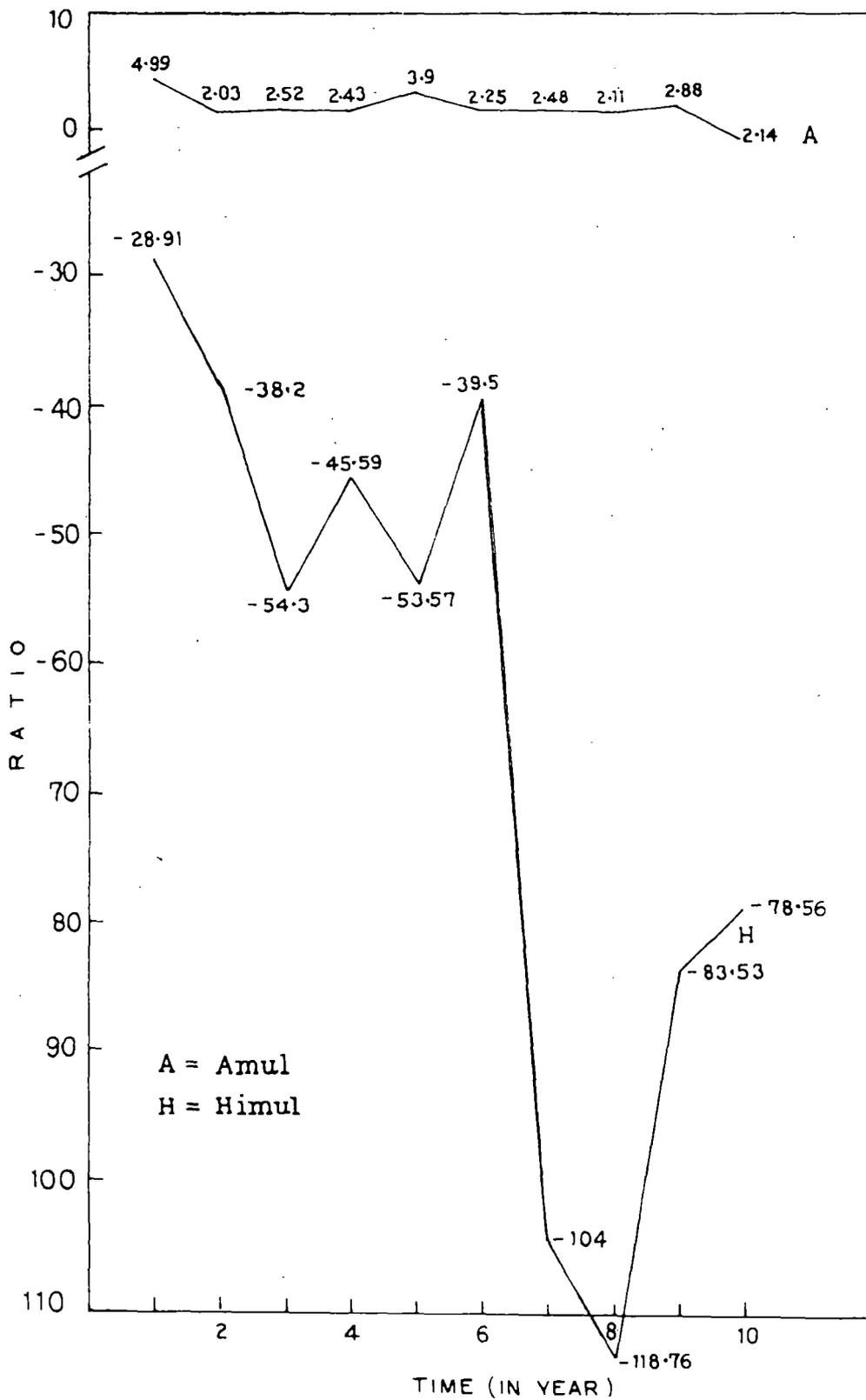


A = Amul

H = Himul

Group - 6.14.

Return on Investment



A = Amul  
H = Himul

TIME (IN YEAR)  
GRAPH - 6.15.

X-axis. But this ratio of Amul indicates a good Return on Investment situation.

TABLE 6.9  
Coefficient of Variation of Ratios of Profitability Group  
of Amul & Himul

Sl. No.	Ratios	Mean		S.D.		Coefficient of variation	
		Amul	Himul	Amul	Himul	Amul	Himul
i)	Operating ratio	82.27	106.84	1.57	9.62	1.920	9.008
ii)	Operating Profit to Sales	1.1	-32.1	.33	31.59	30.151	- 98.430
iii)	Net Profit to Sales	.49	-29.51	.15	6.87	32.04	- 23.3
iv)	Net Profit to Sales (considering Grant & subsidies)	.49	-15.33	.15	6.00	32.04	-191.44
v)	Coverage of Interest payment	1.12	-22.05	.16	33.33	14.498	-151.111
vi)	Return on Investment	2.77	-64.49	.90	28.68	32.515	- 44.479

Here we represent the Coefficient of variation of the time-series of both Amul and Himul to compare the degree of variability. The coefficient of variations of all the ratios (Table 6.9) of Himul indicate a wide range of fluctuation. Except 'Operating Ratio' all other ratios in

case of Himul indicate wider fluctuations compared to Amul. However, the positions of 'Net Profit to Sales (considering grant and subsidies)' and 'Coverage of Interest Payment' are the worst.

TABLE 6.10

Rank Correlation Matrix of the Profitability Group of Amul

	I	ii	iii	iv	v	vi
i) Operating Ratio		-.20	.61	.61	-.15	.12
ii) Operating Profit to Sales			.15	.15	-.27	.27
iii) Net Profit to Sales				*	-.51	.38
iv) Net profit to sales (considering grant & subsidies)					-.51	.38
v) Coverage of Interest Payment						-.28
vi) Return On Investment						

\*The values of Debt to Equity and Debt to Equity (considering grant & subsidies) ratio are the same as Amul is not getting any grant & subsidies from any source.

TABLE 6.11

Rank Correlation Matrix of the Profitability Group of Himul

	i	ii	iii	iv	v	vi
i) Operating Ratio		.07	-.25	-.96	-.15	.43
ii) Operating Profit to Sales			.81	-.06	.47	.35
iii) Net Profit to Sales				.33	.43	.43
iv) Net Profit to Sales (considering Grant & Subsidies)					.20	-.31
v) Coverage of Interest Payment						.36
vi) Return on Investment						

In profitability group most of the rank Correlations of Himul are positive except insignificant correlation of 'Operating Profit to Sales' with 'Operating ratio' and 'Net Profit to Sales', whereas in case of Amul, there are many negative rank correlations among the ratios. Thus it implies that the conclusion regarding financial aspect of Himul made from each ratio is consistent with each other.

#### TURNOVER GROUP :

The turnover group ratio indicates the turnover of various classes of assets. More precisely, turnover ratios measure the efficiency of asset utilisation by the firm<sup>36</sup>.

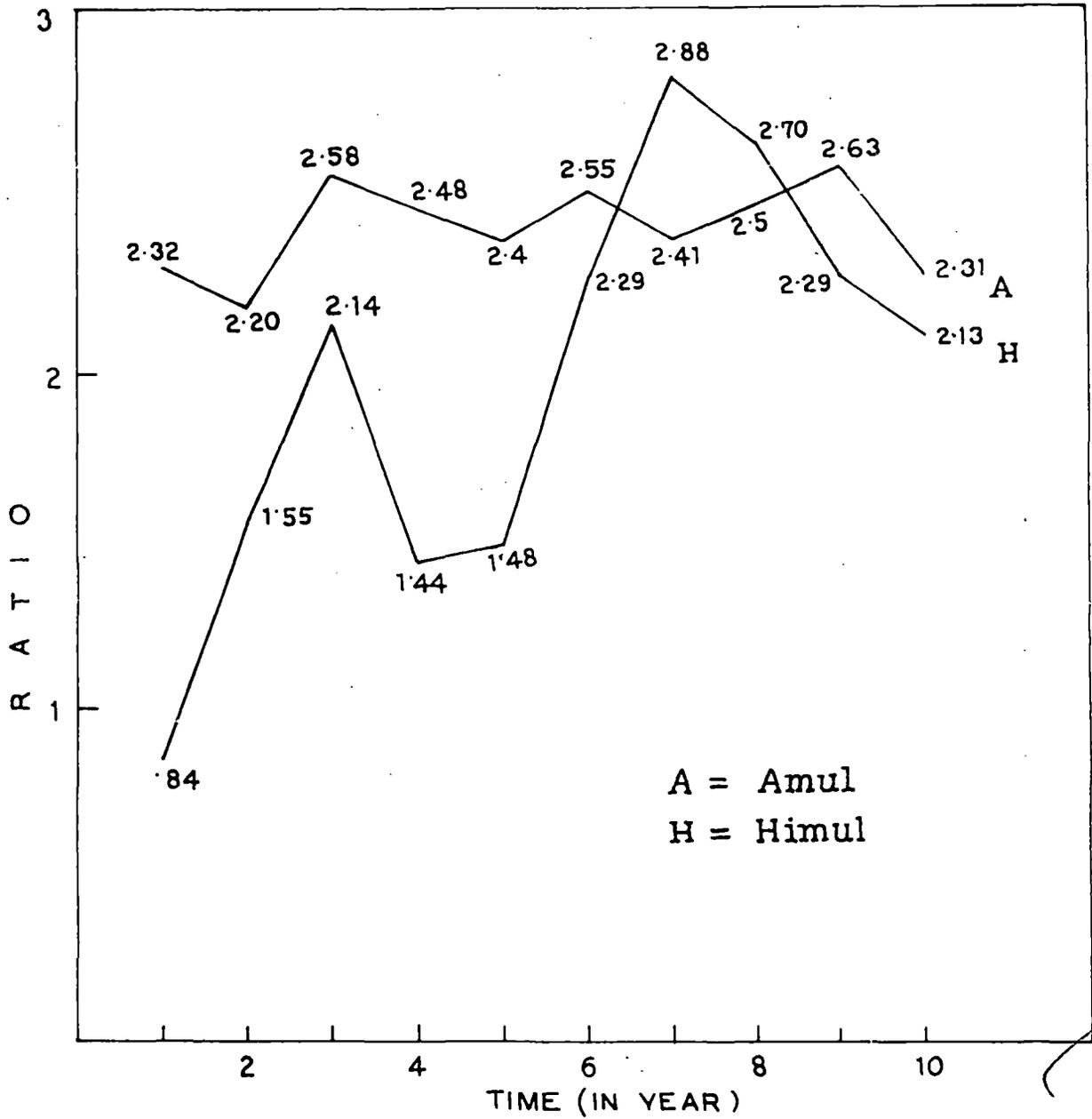
In the following Table 6.12 we have given the four turnover ratios. We have considered for our analysis along with their formulae.

TABLE 6.12  
Summary of the Turnover Group Ratios

Sl. No.	Ratios	Formulae of Calculation
i)	Assets Turnover	$\frac{\text{Net Sales}}{\text{Net Fixed Assets}-\text{Current Assets}}$
ii)	Net working capital Turnover	$\frac{\text{Net sales}}{\text{Net working capital}}$
iii)	Receivable Turnover	$\frac{(\text{Opening} + \text{Closing Debtors}) \div 2}{\text{Net Sales}} \times 100$
iv)	Inventory Turnover	$\frac{\text{Cost of good sold}}{\text{Average Inventory}}$

Assets Turnover ratio<sup>37</sup> indicates the management's ability to make a good use of its tangible assets if the value of this ratio is higher, but a lower value of this ratio may mean large outlays for fixed assets<sup>38</sup>. Here the ratio values (Graph 6.16) of Amul is steady than of Himul. Graph 6.16 indicates that Himul's effective use of fixed assets improves over time. It starts from 0.84 in 1975-76 but reaches at 2.88 in 1981-82 which is even higher than Amul's all time highest position. But Himul

## Assets Turnover



A = Amul  
H = Himul

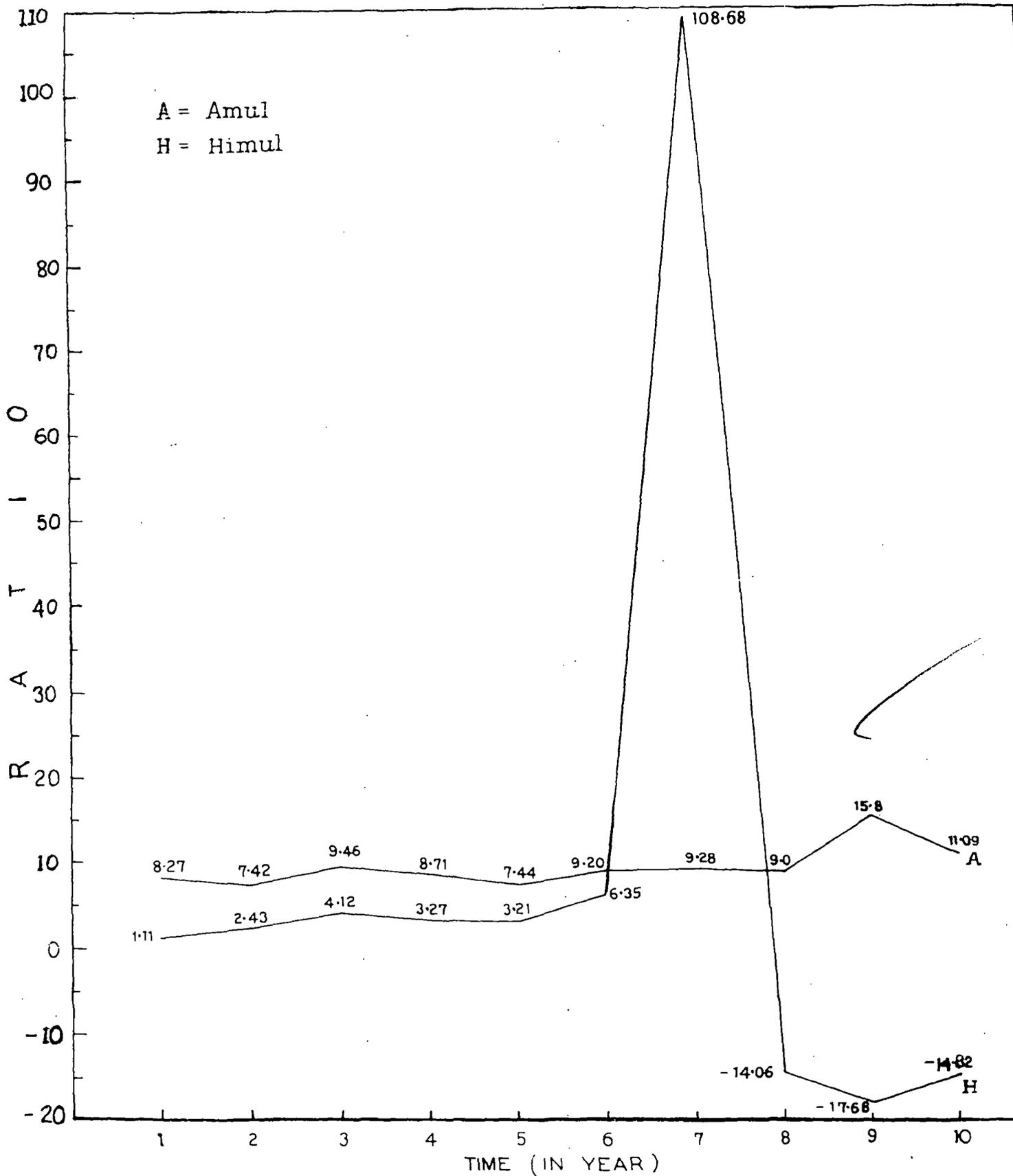
Graph - 6.16 .

fails to maintain this situation and gradually decreases to 2.13 in 1984-85.

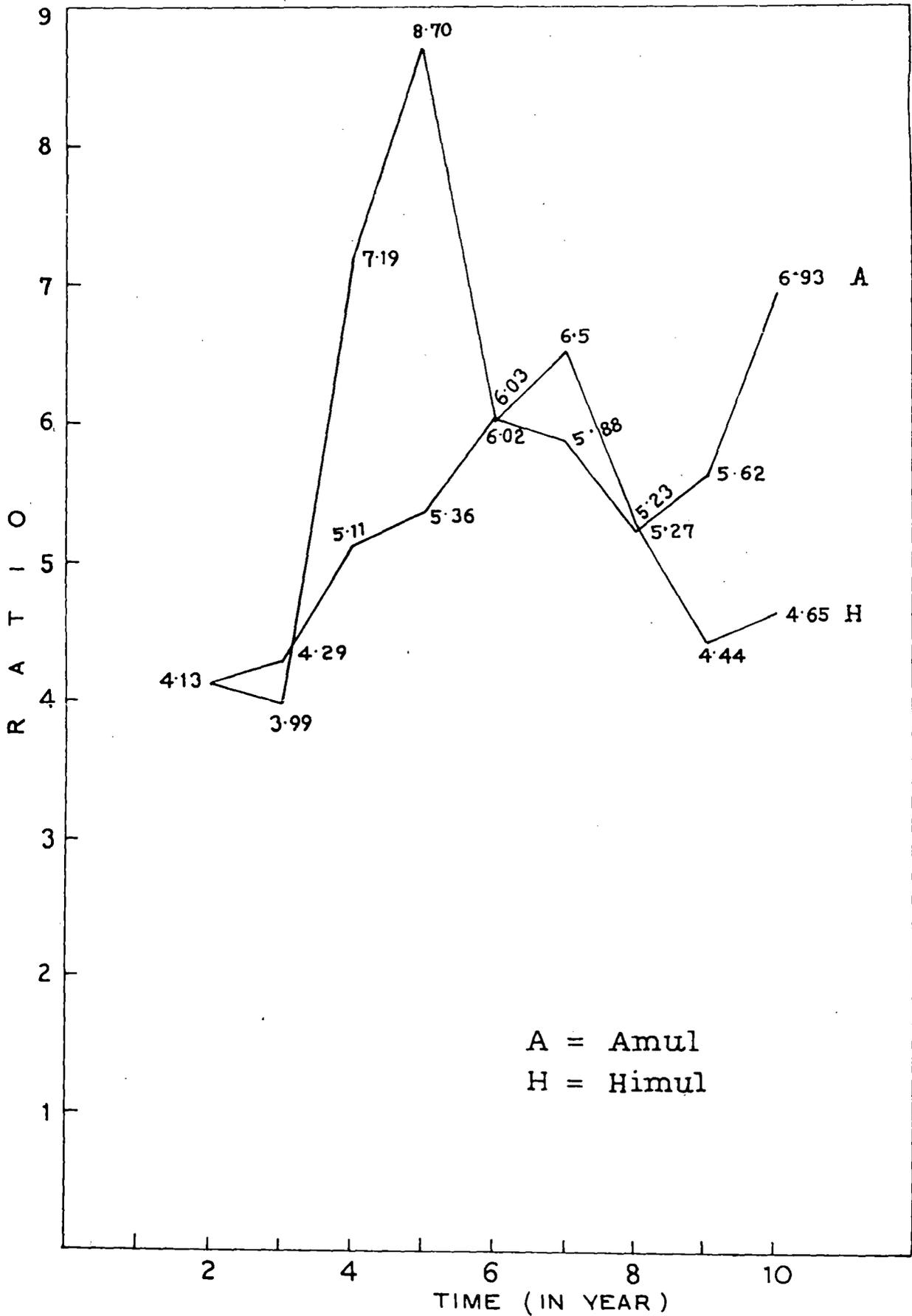
The ratio values of the second ratio of this group namely Net Working Capital Turnover ratio<sup>39</sup> shown in Graph 6.17 is almost identical to that of Funded Debt to Net Working Capital which we discussed in structural group. Since working capital is involved in both ratios, in this case also, the curve goes below the X-axis after it reaches its maximum in 1981-82. This also proves poor position of working Capital and inefficient management. However, sky high turnover of working Capital obtained in 1981-82 implies a sign of over trading and that may be the reason of worst position of Net Working Capital Turnover following 1981-82<sup>40</sup>. Whereas Amul Maintains its uniformity throughout the period and a monotonic increasing trend is observed.

Receivable Turnover<sup>41</sup> ratio values (Graph 6.18) of Himul starts to increase after a set back in the first year of our period of study. But it steadily declines to 4.44 in 1983-84 from 8.70 in 1979-80 which is the highest peak of the curve. On the contrary, Amul starts from the same point 4.13 but uniformly improves it to 6.93. However, the average collection period during the years of study is almost the same i.e. 20 days. This figure is very low. Much low an average collection period may be

Net Working Capital Turnover



Graph - 6.17.



A = Amul  
H = Himul

Graph- 6.18 .

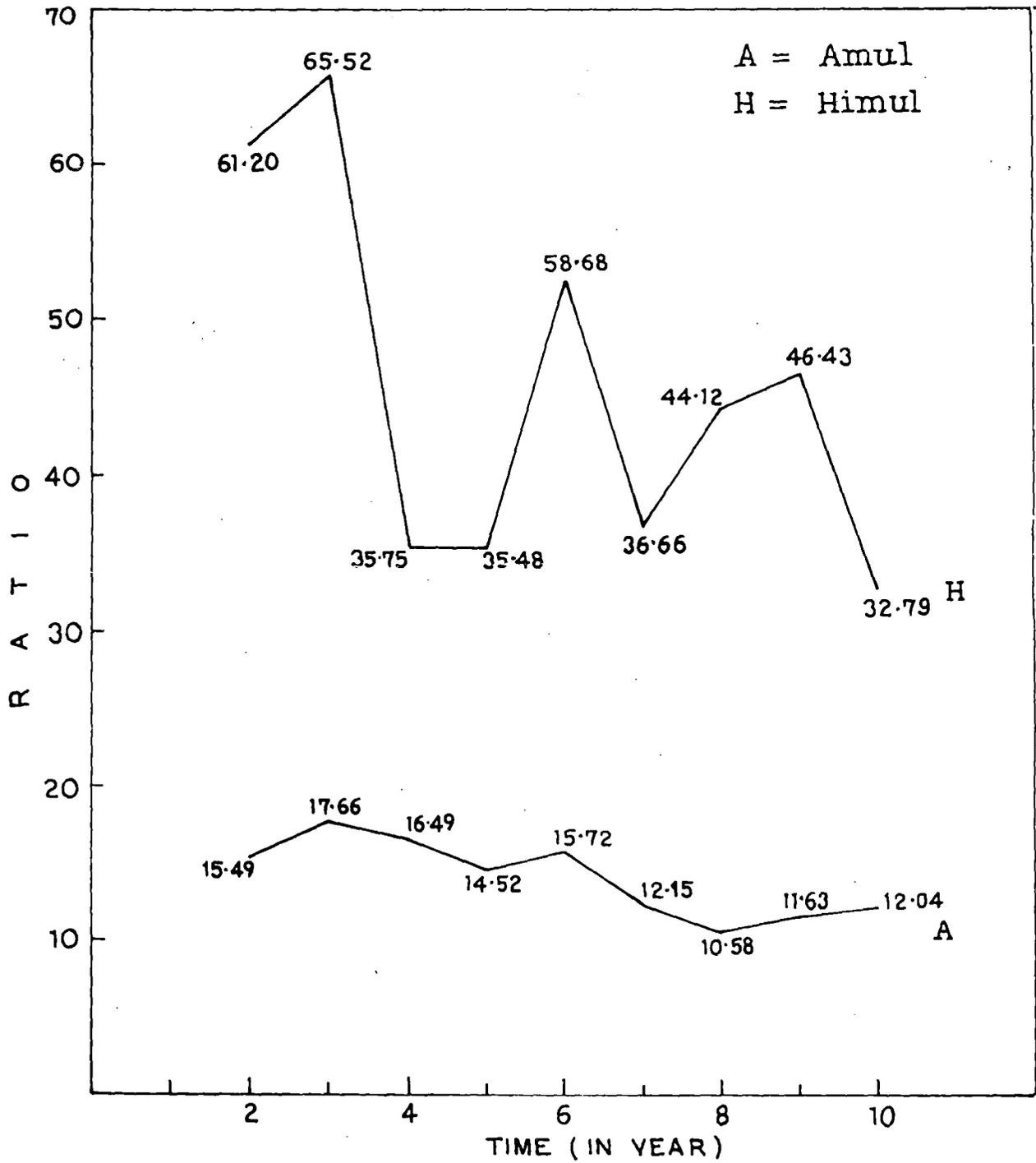
the result of much restrictive or tight credit policy<sup>42</sup>.

The Inventory Turnover ratio<sup>43</sup> varies between organisation to organisations due to the nature of operations. For a milk trading organisation which is marketing its products daily, this may be higher. The stock turnover ratio of Himul is much higher than the ratio of Amul (Graph 6.19). But the cause of lower ratio values of Amul is that the Amul is not only marketing the liquid milk, but also is marketing the Baby-food, Chocolate, Milk powder etc. which are more non perishable nature of product than liquid milk. Whereas the Himul is mainly marketing the liquid milk. However, the stock turnover ratio of Himul fluctuates year to year than that of Amul.

In this subsection we will discuss the Coefficient of variation of aforesaid ratios of the turnover group. In the following Table 6.13 we furnish the Coefficient of variation.

From the Table 6.13 it is much evident that between the time-series of each ratio of this group of Amul and Himul, latter one varies widely than the former. This also seems to imply, as before, existence of non-uniform policy adopted by Himul's management.

## Inventory Turnover



Graph - 6.19 .

TABLE 6.13

Coefficient of Variation of Ratios of Turnover Group of Amul & Himul

Sl. No.	Ratios	Mean		S. D.		Coefficient of variation	
		Amul	Himul	Amul	Himul	Amul	Himul
i)	Assets Turnover	2.43	1.97	.13	.63	6.288	59.366
ii)	Net working capital Turnover	9.56	8.26	2.43	36.43	25.43	440.99
iii)	Receivable Turnover	5.39	5.65	.86	1.58	16.012	28.108
iv)	Inventory Turnover	14.03	44.51	2.49	13.25	17.749	29.769

TABLE 6.14

Rank Correlation Matrix of the Turnover Group of Amul and Himul

	Amul					Himul			
	i	ii	iii	iv		i	ii	iii	iv
i) Assets Turnover	.57	.03	.05		i) Assets Turnover	.16	-.17	.26	
ii) Net Working Capital Turnover		.55	-.28		ii) Net Working Capital Turnover		.33	.22	
iii) Receivable Turnover			-.42		iii) Receivable Turnover			-.68	
iv) Inventory Turnover					iv) Inventory Turnover				

t-matrices of turnover group reveal that ranking according to 'Net Working Capital' is positively related with the rankings according to both 'Assets Turnover' and 'Receivable Turnover' in case of Amul as well as Himul. But in Amul these are of high degree as against Himul where these are not that much of significant. This finding is of course very much consistent with our earlier discussion as Amul enjoys a very good position so far turnover is concerned. Frequent fluctuations of the position of each turnover ratio of Himul is apparent from the lower value of correlations.

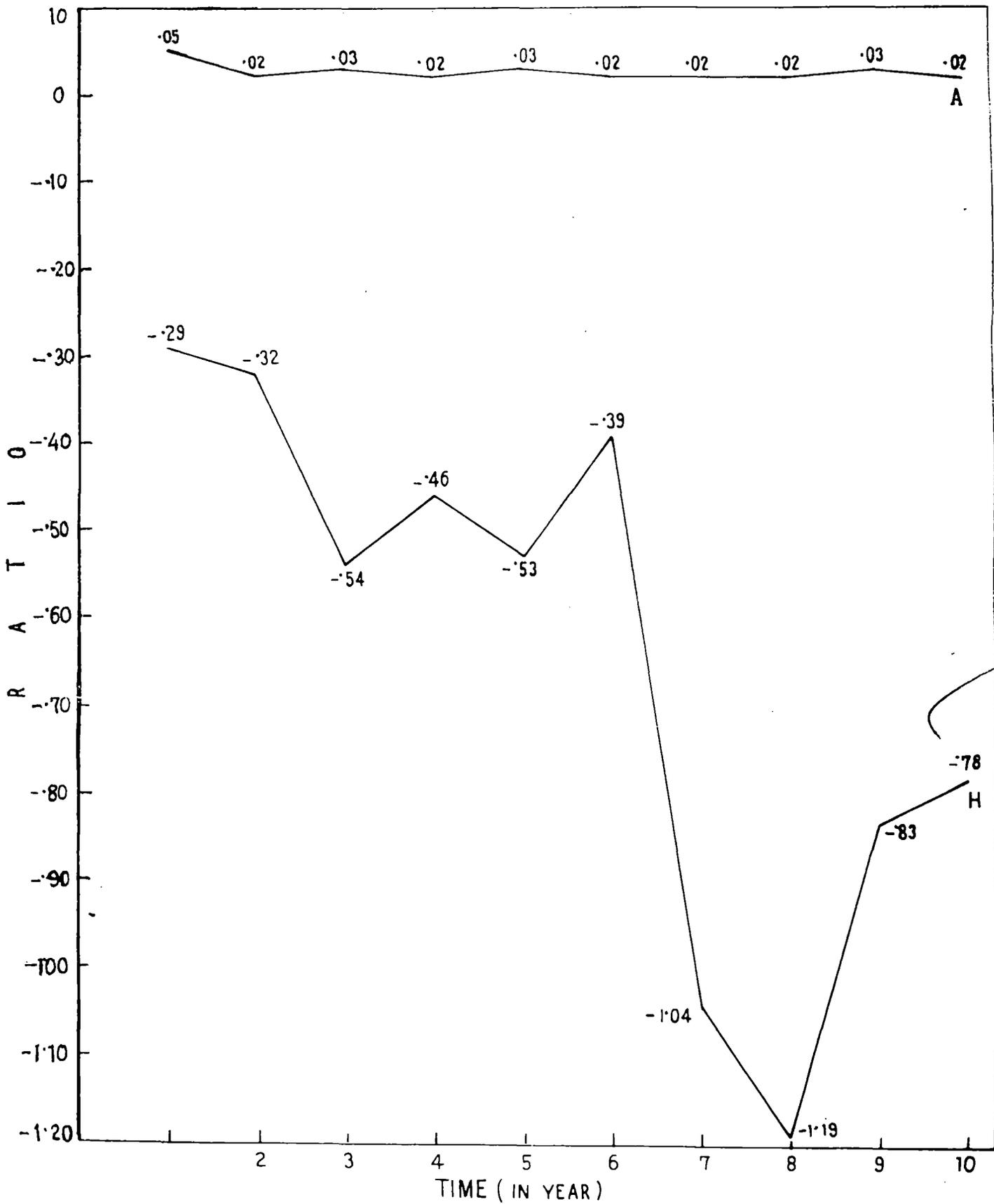
#### MISCELLANEOUS GROUP :

The last category of ratios is a general one in which all other important ratios which do not fall in any of the above categories are included.

We incorporate two of such ratios in our analysis and define them in Table 6.14 with their corresponding computing formulae.

The Net Operating Profit to total assets ratio<sup>44</sup> (Graph 6.20) of Himul is very much non-uniform than that of Amul. Due to Operating losses values of this ratio of Himul are negative.

## Net Operating Profit To Total Assets



GRAPH - 6.20.

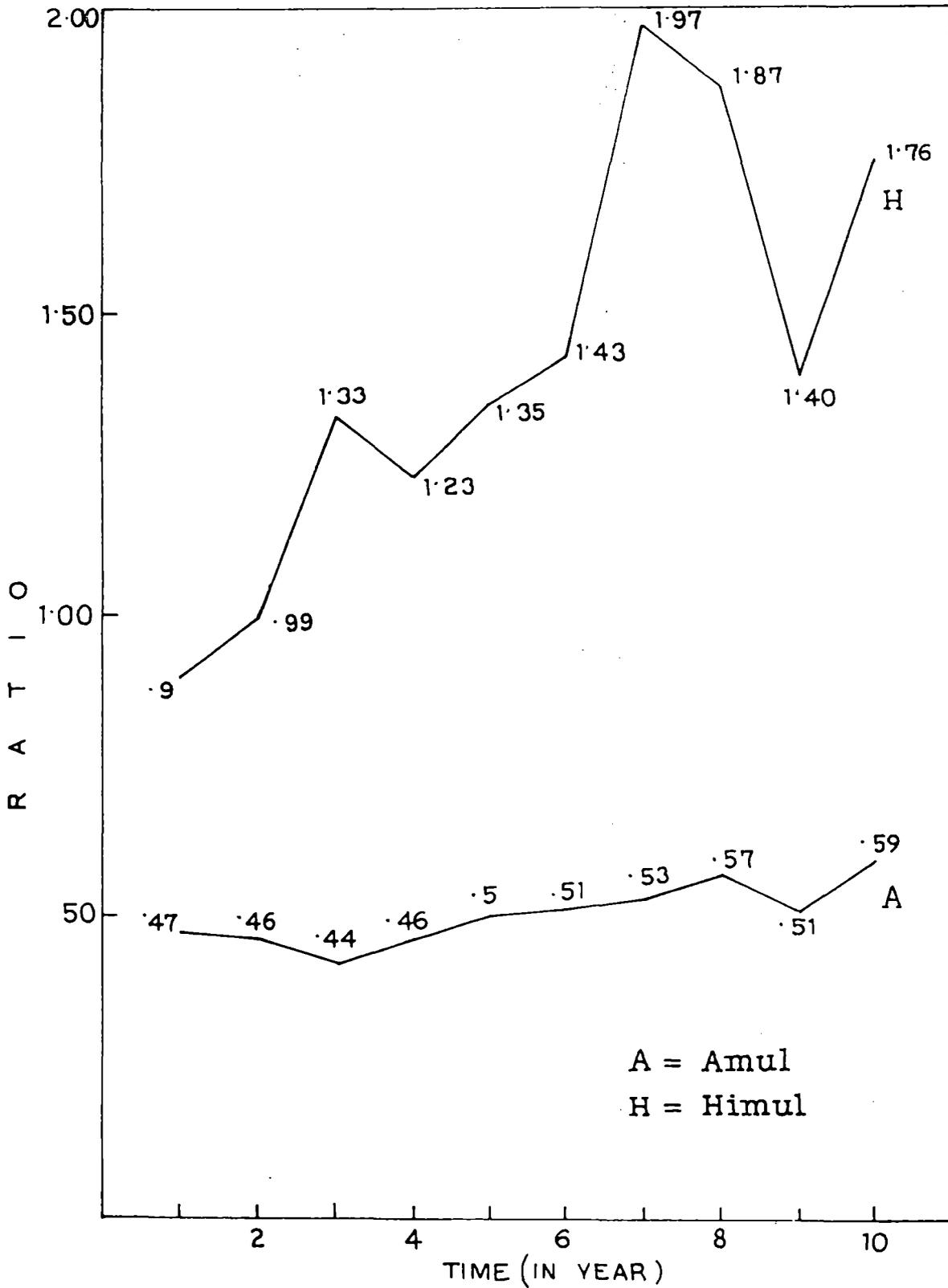
TABLE 6.15  
Summary of the Miscellaneous Group Ratios

Sl. No.	Ratios	Formulae of Calculation
i)	Net Operating Profit to Total Assets	$\frac{\text{Net Operating Profit}}{\text{Total Assets}}$
ii)	Total Debt to Total Assets	$\frac{\text{Total Debt}}{\text{Total Assets}}$

Though the Total Debt to Total Assets<sup>45</sup> ratio (Graph 6.21) is fluctuating but the result of this ratio is significant in Himul. The cause behind it is that the Himul does not sell its product on credit. In case of Amul these ratios are lower than that of Himul. But it may not be sufficient to conclude that the creditors of Himul are more guaranteed than Amul, as it is well known that the lower this ratio, the greater is the caution against creditors' losses in the event of liquidation<sup>46</sup>. But this can not be the only considerable factor to determine the power of solvency of a firm like Himul where loss is the constant companion.

Now coefficient of variations of these two aforesaid ratios of Amul and Himul are given in Table 6.16.

## Total Debt To Total Assets



A = Amul  
H = Himul

Graph - 6-21.

TABLE 6.16

Coefficient of Variation of Ratios of Miscellaneous Group  
of Amul & Himul

Sl. No.	Ratios	Mean		S.D.		Coefficient of variation	
		Amul	Himul	Amul	Himul	Amul	Himul
i)	Net Operating Profit to Total Assets	.02	-.63	.009	.30	37.157	-48.528
ii)	Total Debt to Total Assets	.50	1.42	.04	.33	9.229	23.574

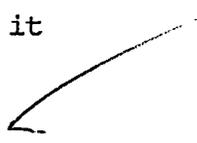
Here also Himul exhibits the high degree of variability as the coefficient of variation are much higher than Amul.

TABLE 6.17

Rank Correlation Matrix of the Miscellaneous Group of Amul  
and Himul

	Amul			Himul	
	i	ii		i	ii
i) Net Operating Profit to Total Assets			i) Net Operating Profit to Total Assets		
		-.5			-.83
ii) Total Debt to Total Assets			ii) Total Debt to Total Assets		

t-matrices of miscellaneous group expose that both in case of Amul and Himul rank of correlations are negative and of high degree. This is understandable as the first ratio depends on Net Operating Profit whereas the second one depends on total debt. Therefore, it suggests that rankings are of different order.



SUMMARY :

In this chapter we have computed different ratios in order to make an evaluation of the performance of both the organisations. For this purpose, a trend analysis of different ratios for ten years is made and interfirm comparison is also considered to get a clear picture.

During the course of our study it is found that there is virtually no financial control in Himul. In most of the cases different ratios of Himul depicted a very poor performance. This organisation has a negative net working capital. Also, it never earned surplus and return on capital employed is always negative. Again, this organisation has a very low current ratio indicating very poor state of current asset management.

In our analysis, we have considered Amul as an ideal organisation and the financial ratios of Himul are compared with the same ratios computed for Amul. It is found in our analysis that the financial position of Amul is much better than Himul. The dismal performance of Himul is reflected both in the trend analysis and comparative analysis. In most of the cases the rank correlation coefficients of different ratios are found to be very insignificant. Again, in some of the cases, we found a negative association between the two sets of ratios.

## Notes & Reference

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  2. S.Bhattacharyya, Financial Management in Tea Industry, Unpublished Ph.D. thesis, North Bengal University, 1984, p.29.
  3. Ibid., p.29.
  4. J.C.Van Horn, Financial Management and Policy. New Delhi:Prentice-Hall of India, 1975, p.655.
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  8. S.P.Gupta, Statistical Method. Delhi:Sultanchand & Sons, 1984, p.E-6.27.
  9. D.N.Elhance revised by Veona Elhance, Fundamental Statistics. Allahabad:Kitab Mahal, 1984, p.224.
  10. Frederick, C.Mills, Statistical Method. London:Sir Isaac Pitman & Sons, Ltd., 1955, p.124.
- 10-A. "A square  $n \times n$  matrix is called an upper triangular matrix if all the entries below the diagonal are zeros. Similarly an  $n \times n$  matrix is called a lower triangular matrix if all elements above the diagonal are zeros".

- S.Bazaraa and J.Jarvis, Linear Programming and Net Work Flows. New York:John Wiley & Sons, 1977, p.46.
11. N.G.Das, Statistical Methods. Calcutta:M.Das, 1973, p.345.
  12. R.R.Barthwal, Industrial Economics. New Delhi:Wiley Eastern, 1984, p.260.
  13. Kuchal, op.cit., p.57.
  14. "The Debt to equity ratio is an idea of the degree of protection the creditors of an enterprise have". P.K. Ghosh & G.S.Gupta, Fundamentals of Management Accountancy, Delhi:National Publishing House, 1979, p.143.
  15. J.Batty, op.cit., p.445.
  16. "This ratio gives an indication of the extent to which equity capital is invested in net fixed assets". Kuchal, op.cit., p.58.
  17. Ibid., p.58.
  18. J.Batty, op.cit., p.445.
  19. "This ratio acts as a supplementary measure to determine security for the lenders". Kuchal. op.cit., p.58.
  20. Ibid., p.58.
  21. Ibid., p.58.
  22. "This ratio is calculated by dividing the long term debt by the amount of the net working capital. It helps in examining creditors' contribution to the liquid assets of the Firm". Ibid., p.58.

23. R.R.Barthwal. op.cit., pp. 261,263.
24. "It is expressed as an integer and provides a rough measure of a firm's ability to meet its current obligations". P.K.Ghosh & G.S.Gupta, op.cit., p.141.
25. Ibid., p.141.
26. "The quick or liquid ratio shows the ability of a business to meet its immediate commitments. This ratio is also known as the acid-test ratio". J.Batty, op.cit., p.434.
27. R.R.Barthwal. op.cit., p.260.
28. "This ratio indicates what is the proportion of sales revenue that has gone into covering operating expenses". P.K.Ghosh & G.S.Gupta, op.cit., p.134.
29. "This ratio is very useful for purposes of internal analysis in detecting the areas of difficulty". Kuchal, op.cit., p.57.
30. "It is helpful in determining the ability of management in running the business". H.Chakraborty, Advance Accountancy. Calcutta;Oxford University Press, 1983, p.1472.
31. "Net profit to Sales ratio indicates how many paise of Net Profit is earned per rupee of turnover i.e. paisa per rupee left to proprietors after deducting costs etc. Although the ratio is not likely to be constant from year to year, it gives an idea as to the ultimate profitability of sales. It shows operational efficiency

i.e. efficiency regarding sales and cost control".

Ibid., p.1473.

32. "This measure is used to indicate time interest charge has been earned and how much safety margin is available to the share holders", R.M.Srivastava, Essentials of Business Finance. Delhi:Himalaya Publishing House, 1986, p.37.
33. Ibid., p.37.
34. "This ratio is an indicator of the earning capacity of the Capital employed in the business. By Capital employed, we mean not only the equity share capital and preference share capital, but also in addition to that the various fixed liabilities representing borrowed amount as also capital reserves, revenue reserves, undistributed profit as reduced by the fictitious assets. This ratio is considered to be the most important ratio because it reflects the overall efficiency with which capital used. This ratio is a helpful tool for making Capital budgeting decisions, a project yielding higher return is favoured". S.P.Jain & K.L.Narang, Advance Accountancy. Delhi:Kalyani Publishers, 1983, pp.12.6, 12.7.
35. Ibid., p.12.7.
36. R.R.Barthwal, op.cit., p.261.
37. "This ratio express relationship between the amount invested in the assets and the results accruing in

- terms of sales". R.M.Srivastava, op.cit., p.38.
38. Kuchal, op.cit., p.61.
  39. "This ratio shows the number of times working capital is turned over in a stated period". S.P.Jain, op.cit., p.12.14.
  40. Ibid., p.12.14.
  41. "This ratio indicates the rate of which money is being received from credit sales. This ratio is sometimes reversed to show the average collection period". B.K. Bhar, op.cit., p.676.
  42. P.K.Ghosh & G.S.Gupta, op.cit., p.140.
  43. "This is an indication of the velocity of the movement of the goods during a period". B.K.Bhar, op.cit., p.676.
  44. "Profit to Total Assets will indicate profit per Rupee of Assets". H.Chakraborty, op.cit., p.1473.
  45. "This ratio exhibits the proportion of total assets created through debt including short term and long term liabilities. This ratio is computed by dividing total assets into total debt. This ratio is of considerable significance to the creditor in as much as it highlights the long-run solvency of the company". M.Srivastava, op.cit., p.36.
  46. Ibid., p.36.