CHAPTER II

THE CONCEPTS, THE EMPirical STUDIES
AND THE REVIEW OF LITERATURE

The Financial Performance of District Co-operative Spinning Mills
- A Study on the Selected Units in Tamil Nadu
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Financial statement reflects the state of affairs of a firm at a given point of time as well as its financial performance over a period of time. The accounting figures disclosed in the financial statement cannot be derived as a true financial indicator of a firms' performance. Sometimes, it is alluring to picture illusory figures in balance sheet or income statement, but after a detailed analysis, we may end up with dismal performance. Thus there is a need to analyse the financial statement by determining the relationship between the two figures. This is ascertained by a technique called 'Ratio Analysis' which expresses the numerical relationship between two accounting figures. It is a powerful device to analyse and interpret the financial health of a firm. This not only helps the management in decision making and control but also serves as a useful tool for all those concerned with the firm.

Ratio analysis is one of the most commonly used methods to evaluate the various aspects of the financial performance of a company, namely profitability, liquidity, solvency, operating efficiency, etc. It is being emphasised that a device for making financial data more meaningful is to reduce figures into ratios.¹ In finance, ratios are used to point out relationships that are not fixed in degree or number between two numbers.² Ratio Analysis, as a tool for financial analysis, can be defined as the

systematic use of ratios to interpret the financial statements and to determine the strength and weakness, historical performance and current financial condition of a firm.\textsuperscript{3}

The nature and classification of ratios vary from organisation to organisation but generally there are four kinds of ratios, namely liquidity ratio, activity ratio, solvency ratio and profitability ratio which are commonly used.

Financial ratio indicates the financial position of the company. A company is deemed to be financially sound if it is in a position to carry on its business smoothly and meet all its obligations, both long term and short term without strain. Thus the financial position has to be judged from two angles, long term as well as short term. It is a sound principle of finance that long term requirement of funds be met out of long term funds and short term requirement of funds to be met out of short term funds.

**LIQUIDITY RATIOS**

The purpose of these ratios is to ascertain the solvency of the mills under study and the ability of the mills to remain solvent even in difficult times. These are intended to ascertain the mills ability to pay off short-term obligations. Some of the important ratios are:

**Current Ratio**

Current ratio is the most common ratio for measuring liquidity. Being related to working capital analysis, it is also called as the working capital ratio. Current ratio expresses the relationship between current assets and current liabilities.

\[
\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}
\]

Whereas current assets include cash in hand, cash at bank, debtors, bills receivable, prepaid expenses, inventories, the current liabilities consist of creditors, bills payable, bank overdraft and expenses outstanding. The ideal current ratio of a sound business firm is 2:1.¹

**Acid Test Ratio**

The acid test ratio indicates the relationship between liquid assets and liquid liabilities. Liquid assets comprise of all current assets excluding stock and prepaid expenses. Liquid liabilities comprise of all current liabilities excluding bank overdraft. It is also called as quick ratio or liquid ratio.

\[
\text{Acid Test Ratio} = \frac{\text{Liquid Assets}}{\text{Liquid Liabilities}}
\]

In general, the acid test ratio of 1:1 is considered as satisfactory that a firm can easily meet all current claims. If the ratio is less than 1, the financial position of the firm shall be deemed to be unsound.

**LEVERAGE RATIOS**

The leverage ratios are discussed in the financial structure of the company. It consists of the debt-equity ratio, capital gearing ratio and interest coverage ratio which deal with the different sources of finance.

**Debt-Equity Ratio**

The financing of total assets of a business concern is done by owner's equity as well as outside debts. How much fund has been provided by the owners and how much by outsiders in the acquisition of total assets is a very significant factor affecting the

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¹ R.S. N. Pillai and Bagavathi, *Management Accounting*, S. Chand and Company Ltd., New Delhi, p.75.
long term solvency position of a concern. It is the relationship between borrowed funds and owners’ capital.

Debt-Equity Ratio = \[
\frac{\text{Outsiders’ Fund}}{\text{Shareholders’ Fund}}
\]

An acceptable norm for this ratio is considered to be 2:1. A higher debt–equity is allowed in case of capital intensive industries. A very high debt–equity ratio is unfavorable from the firm’s point of view. A high debt company is also known as highly leveraged or geared. A low debt-equity ratio implies a greater claim of owners than creditors. It represents a satisfactory capital structure of the business since a high proportion of equity provides a larger margin of safety for them.

**Capital Gearing Ratio**

Capital gearing ratio is also known as capitalisation ratio or leverage ratio. The capital gearing refers to the proportion between fixed interest or dividend bearing funds and non-fixed interest (or) non-dividend bearing funds.

\[
\text{Capital Gearing Ratio} = \frac{\text{Fixed Interest or Dividend Bearing Funds}}{\text{Equity Shareholder’s Fund}}
\]

The capital gearing ratio shows the mix of finance employed in the business. High gearing means high speed and low gearing means low speed.

**Interest Coverage Ratio**

This ratio measures the debt servicing capacity of a firm in so far as fixed interest on long term loan is concerned. It is the relationship between Earnings Before Interest and Tax (EBIT) and fixed interest charges.

\[
\text{Interest Coverage Ratio} = \frac{\text{EBIT}}{\text{Fixed Interest Charges}}
\]
This ratio shows how many times the interest charges are covered by EBIT out of which they will be paid. It highlights the ability of the firm to raise additional funds in future.

**Current Assets to Total Asset Ratio**

The ratio between current assets and total assets expresses the relationship between the amount of current assets and the amount of investment in total assets. It helps to assess the importance of current assets in the total assets of a concern.

\[
\text{Current Assets to Total Assets Ratio} = \frac{\text{Current Assets}}{\text{Total Assets}}
\]

Higher ratio indicates that the major portion of the total investment of the company has been made for working capital purpose.

**Current Assets to Net Fixed Assets Ratio**

The current assets to net fixed assets ratio indicates the closeness of these two sources available within the organisation. Normally, the value of fixed assets is always higher than that of current assets. In the case of a banking company, the availability of current assets is always greater than that of fixed assets.

\[
\text{Current Assets to Fixed Assets Ratio} = \frac{\text{Current Assets}}{\text{Net Fixed Assets}}
\]

**Current Assets to Capital Ratio**

It indicates the relationship between the capital and current assets. The study unit has many current assets including cash, bank balance, stock and debtors. The ratio indicates the significance of current assets to capital.
Current Assets to Capital Ratio = \frac{\text{Current Assets}}{\text{Capital}}

Cash and Bank Balance to Capital Ratio

The capital of the study units is contributed by the members who include individuals, societies, and government. The amount of capital is the basis for future progress of the company. The relationship between the capital and cash and bank balance indicates the relative importance of these two items to capital.

Cash and Bank Balance to Capital Ratio = \frac{\text{Cash and Bank Balance}}{\text{Capital}}

Working Capital to Capital Ratio

The functioning of any company depends upon its fund position. The short term requirements of any organisation are met only through the short term resources available within the organisation, namely the working capital. The relationship of capital and working capital is highly important to understand the relationship between the long term and short term resources.

Working Capital to Capital Ratio = \frac{\text{Working Capital}}{\text{Capital}}

Cash to Current Assets Ratio

Cash is the most vital component of working capital. Though the share of current assets held in the form of cash is very small, yet the solvency of an industry depends on the efficient management of cash. A higher ratio of cash to current assets would indicate a large volume of cash and a corresponding high level of liquidity but it would also suggest that the management was not bothering to manage its cash and was wasting its
resource. So, an industry is said to be successful if it can operate with lowest volume of cash without affecting the capability to meet its current obligation.

\[
\text{Cash to Current Assets Ratio} = \frac{\text{Cash}}{\text{Current Assets}}
\]

**TURNOVER RATIOS (ACTIVITY RATIOS)**

The turnover ratios represent the activity of the company. They are related to so many facts in the financial statement. The usual measure taken for analysing the activity is net sales or cost of goods sold (sales - gross profit). The important turnover ratios are discussed below.

**Stock Turnover Ratio**

This ratio is used to measure the adequacy of the quantum of capital and its justification for investing in inventory. It is the ratio of cost of goods sold and average inventory. This ratio helps the financial manager to evaluate inventory policy.

\[
\text{Stock Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}
\]

A high inventory turnover ratio reflects the efficient business activities.

**Debtors Turnover Ratio**

It is also called as debtors velocity. Debtors turnover ratio shows how the efficiency of the company makes use of its debtors for sales. It means if the firm has not been able to collect its debts within a reasonable time, its funds are unnecessarily locked up in receivables. In such a case, short term loans have to be arranged for paying off its current liability. The liquidity position of the firm depends on the quality of debtors to a great extent.
Debtors Turnover Ratio = \[
\frac{\text{Net Credit Sales}}{\text{Average Debtors}}
\]

Whereas Average Debtors = \[
\frac{\text{Opening Balance} + \text{Closing Balance}}{2}
\]

Creditors Turnover Ratio

A business firm usually purchases goods, raw materials and services from other firms on credit. The amount of total payables of a business concern depends upon the purchase policy of the concern, the quantity of purchases and suppliers’ credit policy. Creditors turnover indicates the number of times the payables rotate in a year. It signifies the credit period enjoyed by the firm.

Creditors Turnover Ratio = \[
\frac{\text{Net Credit Purchases}}{\text{Average Accounts Payable}}
\]

Working Capital Turnover Ratio

This ratio is a measure of the efficiency of the employment of the working capital. This ratio finds out the relation between cost of goods sold and working capital. It helps in determining the liquidity of a firm in as much as it gives the rate at which inventories are converted into sales and then into cash.

Working Capital Turnover Ratio = \[
\frac{\text{Cost of Goods Sold}}{\text{Working Capital}}
\]

Capital Turnover Ratio

The efficiency and effectiveness of the operations are judged by comparing the cost of goods sold with the amount of capital employed in the business. The capital invested includes the fixed and working capital or owned and borrowed capital.
Capital Turnover Ratio = \[
\frac{\text{Cost of Goods Sold}}{\text{Total Capital Employed}}
\]

Whereas Total Capital Employed = Total Assets - Current Liabilities

PROFITABILITY RATIOS

Profit earning is the main objective of each business concern. A measure of profitability is the overall measure of efficiency. The profitability may be related to sales or investments. The profitability ratios are discussed below.

**Gross Profit Ratio**

The gross profit ratio shows the gap between revenue and trading costs. An analysis of gross profit margin should be carried out in the light of information regarding purchase, increasing or reducing the sale price of goods depending on credit or cash sales and merchandising policies.

\[
\text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Net Sales}}
\]

A gross profit ratio of 25 per cent to 30 per cent may be considered as good.

**Net Profit Ratio**

The profit margin is indicative of management’s ability to operate the business with sufficient success not only to recover from revenues of the period, the cost of merchandise or services, the expenses of operating the business and the cost of borrowed funds but also to leave a margin of reasonable compensation to the owners for providing their capital at risk. The higher the ratio of net operating profit, the better is the operational efficiency of the concern.

\[
\text{Net Profit Ratio} = \frac{\text{Net Profit}}{\text{Net Sales}}
\]
Return on Total Assets Ratio

This ratio is used to measure the profitability of investments. It is the relationship between net profit and total assets.

\[
\text{Return on Total Assets Ratio} = \frac{\text{Net Profit}}{\text{Total Assets}}
\]

Return on Capital Employed Ratio

It indicates the percentage of return on capital employed in the business. It is used to show the efficiency of the business as a whole.

\[
\text{Return on Capital Employed Ratio} = \frac{\text{Operating Profit}}{\text{Capital Employed}}
\]

The primary objective of making investments in any business is to obtain satisfactory return on capital invested. The total capital employed is equivalent to net working capital plus owner’s equity.

REVIEW OF LITERATURE


C.I. Altman (1968),\(^6\) in his study entitled “Financial Ratios Discriminant Analysis and the Prediction of Corporate Bankruptcy,” analysed 22 financial ratios to find out the discriminatory variables. The Z score analysis selected five significant

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variables as discriminators, namely the ratio between working capital and total assets, retained earnings and total assets, EBIT and total assets, market value of equity and book value of total debt and sales to total assets. The cut off value for the bankruptcy was determined as 2.675.

V. Srinivasan et.al., (1978)\(^7\) in their study on “The Application of Multiple Regression Analysis to Financial Ratios of Public Enterprises” concluded that gross profit margin affects the return on capital to the largest extent. The other two in decreasing importance are turnover of capital employed and working capital. The regression coefficient for working capital turnover implies that as the turnover of working capital increases its contribution to return on capital employed decreases. It shows that the company has lesser working capital and it should be more than what it is now.

L.C.Gupta (1979),\(^8\) in his study entitled “Financial Ratio as Forewarning Indicators of Sickness,” analysed 41 Indian textile companies. The companies were classified into 20 sick and 21 non-sick companies. The financial ratios of the companies, 63 in total, were taken to test the predictive power of sickness. Out of 63 financial ratios two ratios were declared as significant. They were earning before depreciation, interest, and tax to sales and operating cash flow to sales.

D.B.Kadams (1981),\(^9\) in his study entitled “Financing of Sugar Co-operatives,” focussed on the importance of co-operative sugar mills in Maharashtra. The study


reveals the magnitude of sugar production in the co-operative sugar mills in Maharashtra.


S.S.Srivastav and R.A.Yadav (1986)11 developed a discriminant function of 18 Indian companies and declared the significant discriminators of profitability of the companies as EBIT to total tangible assets, current assets to current liabilities; net sales to total tangible assets and defensive assets to total operating expenses. Among the different discriminatory variables, the EBIT to total tangible assets alone contributed more. The cut off value for overall profitability was declared as 1.425.

P. Alexander Prezas (1987)12 in his study on “Effects of Debt on the Degree of Operating and Financial Leverage” claimed that the degree of operating and financial leverage will be affected when the firms capital structure changes. The degree of financial leverage is changed due to changes in the interest payments. The changes in degree of financial and operating leverage is highly influenced by the relative size of the debt elasticities of real capital and contribution margin.

J.O. Thomas, Brient and A. Paul Vanderheiden (1987)\textsuperscript{13} in their study on "Empirical Measurement of Operating Leverage for Growing Firms" state the relationship between the degree of operating leverage and the ratios between total assets to net sales, depreciation to net sales, fixed assets to total assets and depreciation to total assets are $-0.059$, $-0.045$, $0.043$ and $-0.028$ respectively. There is a very low degree of negative correlation between them and the same is not significantly different from zero also. The above said ratios are not at all related to the degree of operating leverage of the selected firms.

T. Rose John (1988)\textsuperscript{14} used Return On Assets (ROA) and Return On Equity (ROE) as the performance indicators. The first set of regression estimates the relationship between the performance measure ROA and a vector of bank specific attributes. The second set of regression evaluates the relationship between ROE and the same vector of bank specific attributes.

S. Alam (1989)\textsuperscript{15} in his study analysed the cost structure and profitability of North Bengal Paper Mills and revealed the essentials of better management to overcome the adverse financial position of the mills. The liquidity position of the paper mills was far from satisfactory level which was a main cause of poor performance of paper mills in Bangladesh.


K. Sivasubramanian and A. Vijayakumar (1992),\textsuperscript{16} in their study titled “Financial Appraisal of Salem Co-operative Sugar Mills Ltd,” had recorded the financial aspects such as profitability, capital structure, fixed assets and working capital of the sugar mills.

Syed Zalid Hussain (1994)\textsuperscript{17} in his study entitled “Cash Management in Public Sector Textile Units in Bangladesh” found that the public sector textile mills have been adversely affected by liquidity and solvency because of the failure to generate sufficient internal funds to cope with working capital needs. The units have not been able to make effective utilization of cash budget and cash reports and failed in controlling and utilizing liquid funds effectively.

P. Indrasena Reddy and G. Srinivasa Rao (1995)\textsuperscript{18} revealed that the profitability of the paper industry was not up to the expected level. The industry’s ability in utilising assets for generation of sales did not improve and also in turnover ratios during the period. The overall financial performance of industry was satisfactory except the profitability and turnover. It was because of the dependence on borrowed funds which had been declining and generation of more internal funds in the form of retained earnings.


P.K. Jain (1995)\textsuperscript{19} et al. concluded that the corporate firms had a marked preference for debt to equity in designing capital structure. The company preferred to raise funds from financial institutions only. Flexibility in payments, relatively lesser time involved in getting funds and no floatation costs are some of the major reasons specified for such preference. It is significant to note that corporate firms are finding their experience of interacting and dealing with financial institution as the most satisfying.

T.V. Ratinam and Indra Doraisamy (1995)\textsuperscript{20} showed that average operating profit for the mills during the five year period 1990-1995 was about 11 per cent of sales value, gross profit amounting to about 6 per cent and profit before tax averaging slightly above 2 per cent. Close to one sixth of the mills registered good net profit, over 9 per cent of sales, however, over one-fourth of the mills incurred losses after providing for depreciation and interest.

Sukamal Datta (1995)\textsuperscript{21} in her study on “Working Capital Management through Financial Statements Analysis of Paper Industry in West Bengal” showed that there is an unsatisfactory performance of the industry regarding working capital management. These are caused by continuous losses, large scale expansion of fixed assets, and higher ratio of sales to working capital.

S. Aramvalarthan (1996), in his study on "Estimating Working Capital Requirements," used two approaches, namely, regression analysis and operating cycle. In the regression analysis, he took inventory and sales as dependent variables. In operating cycle approach, the operating cycle was treated as a combination of period of production, period of turnover of finished goods stock, period of credit taken by customers and the difference between the period of turnover of raw-materials and stores, and period of credit granted by suppliers.

C.J. Areue (1996) revealed that the credit worthiness of farmers is directly related to income, farm size, age of farmers and level of formal education of farmers and inversely related to household size. The highly significant discriminator of credit worthiness is income. The major problems reported by the farmers were bad weather, pests and diseases, low yield, low prices of their rice produce, high cost of farm inputs and high interest charges.

P. Indrasena Reddy and K. Someshwar Rao (1996) in their study on "Working Capital Management in Public Sector Undertakings - A Case Study" revealed that the liquidity position of HCL was satisfactory. The turn over ratios of HCL revealed that the company’s ability in managing the current assets for generation of sales had not been improved much during the study period. On the whole, it can be concluded that the

working capital management was not up to the expected level. It needed to be improved by effective utilisation and control of current assets.

Ramkumar Kakani and V.N. Reddy (1996)\textsuperscript{25} in their study on "Econometric Analysis of the Capital Structure Determinants" found that the profitability of the firm was negatively related to its capital structure of the firm. Capital intensity of the firm was also negatively related to the short term debt and total debt ratio of the firm. The earnings volatility and non-debt tax shields were significantly negatively related to short term and total debt of the firm. Uniqueness of the firm becomes a significant factor in the determination of the short term and total leverage of the firm.

Suresh Kataria (1996)\textsuperscript{26} in his study on "Analysis of Published Statements of Accounts of Corporate Units (Cotton Textile Industry of Malwa region-A Case Study)," found that the financial strength of the industries were weak and disappointing. The profitability of the industries were increasing by negative. The fixed assets were mainly financed through owner's fund. There was no proper and effective management of working capital and the major inflow of funds was long term borrowings.

A. Vijayakumar (1996),\textsuperscript{27} in his study on "Assessment of Corporate Liquidity - A Discriminant Analysis Approach," claimed that the industries with lower current and liquid ratios are in the good risk group and the industries with higher current and liquid ratios are in the poor risk group where the standard current and liquid ratios are 2:1 and 1:1 respectively. According to his study, the private sector sugar industries have

\textsuperscript{26} Suresh Kataria, "Analysis of Published Statements of Accounts of Corporate Units (Cotton Textile Industry of Malwa Region-A Case Study)", \textit{Finance India}, 10 (1), March 1996, pp. 11-115.
maintained a better liquidity position than the co-operative sector sugar industries during the study period.

C.Zimmerman Gary (1996)\textsuperscript{28} used a large number of financial ratios to identify the characteristics that distinguish financially successful banks from poor performance banks. These ratios are categorised according to the specific areas of bank's performance which they are expected to measure. They are grouped into seven different categories measuring the bank's overall performance indicators Return on Assets and Return on Equity as dependent variables; management quality, credit policy, liquidity leverage, credit risk and growth of assets.

Asok Mukhopadhyay (1997),\textsuperscript{29} in his study "Relationship between the Prices of Share and Gold," revealed that there is no significant linear relationship between the share prices and gold prices. The result of non-linear regression between share price and gold price of Mumbai market is highly significant. The share price index also plays a significant role together with gold prices and the term does not remain constant.

M.Beumont Smith (1997)\textsuperscript{30} in his study on "Modelling Associations between Working Capital and Operating Profit: Survey Findings," stated that the current liabilities divided by funds flow account for most of the variability in operating profit. The traditional working capital leverage measure of total current liabilities divided by gross funds flow displays the greatest associations with operating profit. A decrease in


\textsuperscript{29}Asok Mukhopadhyay, "Relationship between the Prices of Share and Gold," \textit{The Management Accountant}, 14 (1), November 1997, pp. 845-848.

total current liabilities divided by gross funds flow could indicate an improvement in operating profit.

Habibur Rahman Akon et al. (1997), in their study on "Financing of Working Capital- A Case Study of Bangladesh Textile Mills Corporation," found that the BTMC had exploited the entire short term sources available to it without considering the actual needs. A large amount of short-term finance was used in financing fixed assets in addition to financing current assets to the extent of 100 per cent. This approach had aggravated the problem of poor profitability of the corporation besides increasing the risk of financial insolvency. The unsound working capital financing policy was at the heart of the liquidity problems of BTMC.

R.L.Hyderabad (1997), in his study on "EPS Management: An Analysis," stated that the EPS is linearly related to the amount of EBIT, amount of debt and preferred stock. An increase in these determinants increases EPS, other things being equal. The tax rate, cost of debt and preferred stock affect negatively on EPS, other things being equal. All these determinants may change simultaneously and in different directions. This analysis helps in mitigating the evil effects of adverse changes and magnifying the favourable changes.

R.V.S.Reddy (1998), in his study on "Financial Performance of Public Transport Corporations - A Study of APSRTC," revealed that the physical and

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operational performance were good while the financial performance was declining. The reason for poor financial performance was due to the rise in cost of operation though there was an increase in fares. The corporation is required to act on business principles but in actual practice, various policies pursued by the Government do not allow the corporation to function on ‘Business Principles’ which lead to loss.

Sanjay Kumar (1998)\(^{34}\) in his study on “Profitability of Indian Commercial Banks - The Key Discriminators,” concluded that the discriminant analysis of profitability provides a model which not only has a very high classification/prediction rate, but at the same time is parsimonious by selecting only four most discriminating variables out of as many as 14 variables. This reduced set of four key discriminators can be effectively used in profitability analysis of banks for measuring their financial health and prudent selection of banks for investments and for lending of deposits by bankers.

D.K. Dash (1999)\(^{35}\) in his study, “Financial Performance Evaluation Through Ratio Analysis: A Case Study of Nawanagar Co-operative Bank, Jamnagar,” revealed that 94 per cent of the banks income came from interest earned out of advances and investments. Interest paid on borrowings and deposits was the main expenditure for the bank. The percentage of expenditure to the total income earned was 72 per cent. The ratio of net profit to total assets varied from 0.03 to 0.04 per cent. The productivity of bank was satisfactory. Even though the solvency position of the bank at that time was sound, the future success rested on the continuous endeavour of the members, management and staff of the bank.


M.A. Iyoha (1999) et al., in their study on “Prediction of Bank Failure in Nigeria using Financial Ratios and a Logit Regression Model,” found that the bank failure in Nigeria was primarily determined by bank specific factors like ratio of total liquid assets to total assets, ratio of net income to total assets and total loan to total deposits (credit risk). The key predictive variables are liquidity and credit risk. The goodness of fit measures show a fairly impressive 74 per cent overall correct prediction.

M. Sakthivel Murugan (1999), in his study on “Working Capital Management – A Case Analysis,” revealed that one of the several indicators of efficient management of working capital is to examine whether adequate liquidity is maintained. The Z score analysis reveals that the organisation maintains the Z score above 3 points for all the years taken for the study. This shows that the company is maintaining adequate working capital by investing sufficient funds in its current assets. With the help of adequate current assets, it is also able to meet the current obligations without inviting the risk of bankruptcy.

Saveeta Bhatia and Satish Verma (1998-99) found that the priority sector advances influenced negatively the profitability of public sector banks in India. The difference between spread and burden depends to a great extent on the management. Acumenship of the bank staff also influenced, as expected, positively and significantly the profitability of the banks. The ratio between fixed and current deposits influenced

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inversely their profitability. The credit-deposit ratio was also observed to be influencing positively their profitability.

S.A. Siddhanti (1999)\textsuperscript{39} found that the financial health of the IFFCO was good during 1992-93 while in the rest of the period it was not satisfactory since the $Z$ scoring declined from 2.72 to 1.74. The yard stick for financially good performance is calculated by $Z$ score which is 2.66. The most discriminatory variable of financial performance is the ratio between earnings before interest and tax (EBIT) to total assets. The overall performance of the IFFCO was quite satisfactory but showed aggressive financial results in the absence of subsidy factor.

Soumyendra Kishore Dutta (1999)\textsuperscript{40} showed that the profitability of textile industries in India has been generally on a decreasing trend. The working capital requirements have been increasing with a rise in price level. The composite type of mills are burdened with rising debt over time, can hardly generate resources sufficient to carry through the programme of modernisation and renovation of existing plant and machinery in an efficient way. The past profitability ratios have a significant impact on current profitability.

T.K. Suresh Babu and P.K. Jain (1999)\textsuperscript{41} in their study on “Short Term and Long Term Debt Financing in India – An Empirical Study of the Private Corporate Sector” revealed that the economic and financial reforms have caused significant increases in the use of long term debt in financing the assets of the private corporate sector. Majority of

Corporate firms are exposed to a very high degree of risk and subjected to financial distress which are ranging from minor liquidity shortages to bankruptcy. The notable finding of the study is that there is a shift towards preference for long term debt in lieu of short term debt.

A. Vijayakumar (1999)\textsuperscript{42} in his study, “Estimating Demand Functions of Working Capital - Partial Adjustment Model”, found that the sales’ elasticity varies from 0.99 for net working capital to 3.34 for inventory. The sales elasticity is the smallest for net working capital followed by gross working capital, receivables, cash and inventories. These elasticities are consistently uniform in all cases except net working capital, suggesting diseconomies of scale. The target level of net working capital is much more sensitive to capital cost fluctuations as compared to the target level of cash, inventories, receivables and gross working capital. The target level of inventory is least sensitive to fluctuations in capital cost.

Yashavantha Dongre (1999)\textsuperscript{43} et al., in their study on “Performance Evaluation Model for Primary Agricultural Credit Societies,” showed that the society is potential enough to be highly profitable but the problem lies with the deployment of funds profitably on different assets. The yield on assets is not sufficient to cover the fixed cost. This calls for some adjustments in the funds deployed on different assets so that the situation can be improved. Considering the low level of education and technical skill of the staff and board members, this scale is simple enough to understand and apply when compared to evaluation models based on ratios.


B.H. Desai (2000), in his study on “Assessment of Capital Structure and Business Failure,” showed that the sicknesses might have been caused by non-accounting factors. There is no single non-accounting factor responsible for sickness; the following financial and accounting factors can be broadly stated as causing sickness; the company has earned very inadequate returns on total assets which is correlated to the over capitalised financial plan. The financial institutions have not granted funds to the company on the ground of declining operations found from its annual published accounts. It shows that its credit rating must have been adversely affected.

L.Gopal Krishna Swami (2000), in his study on “A Forecasting Model for Sustainable Corporate Growth,” concluded that the company’s liquidity levels will be drastically affected. The performance of companies are below their sustainable levels. The idle funds, if not used for expansion purpose or if there is no increase in dividends, could lead to fall in return on assets and return on equity and the firm’s stock price will decline. The usage of sustainable growth models helps management to plan for a growth rate in sales that is consistent with its financial policies, its resources and strategic objectives.

Muhammad Rafiqual Islam (2000), in his study entitled “Working Capital Management of Paper Mills in Bangladesh-An Overall View,” found that all the units of the paper industry failed to manage their working capital requirements properly. Moreover, all the units had inadequate working capital. The reasons for the above

situation might be attributed to improper use of short term funds, operating losses, overstocking of stores and spares and non-availability of raw materials.

K.Ashish, Rastogi et al., (2001), in their study on “Working Capital Management in Oil Industry in India,” revealed that the liquidity position of Bharat Petroleum Corporation Ltd (BPCL) and Hindustan Petroleum Corporation Ltd., (HPCL) were not satisfactory. BPCL and HPCL had better inventory turnover in days in comparison with the industry average and Indian Oil Corporation Ltd., (IOCL) had performed poorer than industry average. The average debtors days were low at 9.08 for the industry. HPCL had the best performance of 4.29 days as average debtor days. BPCL and IOCL performance in the area of working capital management was not good due to decline in the average working capital turnover ratio.

Asok Mukhopadhyay (2001) found that the current ratio, quick ratio, working capital ratio, debtors turnover ratio, current assets turnover ratio and average collection period are the most important ratios to feel the financial solvency of an organisation. It helps to diagnose the soundness of pattern of working capital management of a corporate.

Debasish Sur (2001), in his study entitled “Liquidity Management: An Overview of Four Companies in Indian Power Sector” applied rank correlation coefficient analysis to find out the relationship between liquidity and profitability of Ahmedala Electricity Co. Ltd., (AEC), Bombay Sub-urban Electric Supply Ltd.,

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(BSEC), Calcutta Electric Supply Corporation Ltd., (CESC) and Surat Electricity Co. Ltd., (SEC). The rank correlation coefficients were positive. The influence of liquidity on profitability was significant in BSEC and CESC. Eventhough the rank correlation between liquidity and profitability was positive in AEC and SEC, the influence of liquidity on profitability was very low which confirms inefficiency in liquidity management of the two companies.

T.S. Mohan Chandralal (2001),\textsuperscript{50} in his study on "Capital Structure and Managerial Performance: A study of Tamil Nadu Electricity Board," revealed that the influence of capital assets on total assets and profitability is significant while the influence of gross surplus sales is insignificant. Sales has modest influence on the debt-equity ratio. Lack of income from supply of power to the farm sector, which is more due to political considerations, loss of power due to technical and non-technical reasons, theft of power, misuse of concessions are the reasons for the huge loss in Tamil Nadu Electricity Board.

Navdeep Aggarwal and S.K. Singla (2001),\textsuperscript{51} in their study on "How to develop a Single Index for Financial Performance," analysed eleven ratios to distinguish between profit making and loss making units. Only four ratios namely net profit to assets, interest coverage ratio, earning per share and inventory turnover ratio were significant as the discriminatory variables. The discriminant mean score of profit and loss making units were 0.7425 and 3.2441 respectively. The cut off per cent for discrimination was found as 1.99186.


R. Shanmugham and S. Poornima (2001), in their study on “Working Capital is Still Most Crucial,” claimed that the working capital management plays a crucial role in the success of a business firm. The Chief Executive officer of a firm spends majority of his time on working capital management. In most of the firms, the market for raw-material as well as the finished product is a key factor of determining the working capital requirements. Budgetary control is widely used to control working capital. The main forms of working capital finance are cash credit facility and fixed deposits.

I. Udeqbumam Ralph, (2001) found that there was a performance difference among commercial banks in Nigeria. The widespread financial distress and bank failures were primarily determined by return on assets among banks, total expense to total assets, assets utilisation ability of the management, equity capital to total assets and loans to total deposits. The performance of commercial banks is influenced by capital adequacy, credit risk and management efficiency.

S. Krishnamoorthy (2001), in his study entitled “State Transport Undertaking - An Analysis,” analysed the reasons for poor financial performance of state transport in Tamil Nadu. The major reasons were rise in cost of operation, administered price system and social obligation costs. Thus the State Transport undertaking suffered from an accumulated loss of more than Rs.2000 crores and highly dependent on grant and subsidies of the state government for their survival.

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Mansur A. Mulia (2002),\textsuperscript{55} in his study titled "Use of Z-score Analysis for Evaluation of Financial Health of Textile Mills: A Case Study," revealed that the financial health of the textile mill was never in the too healthy zone. The mill faced the problem of over-trading and inadequate working capital. The existence of negative EBIT was because of huge loss which had eaten the vital current assets and working capital. The mill had failed to achieve sales target for many years due to the low achievement of production performance, under utilisation of available capacity and also the managerial incompetence.

Mahesh Chand Garg and Chander Shekhar (2002),\textsuperscript{56} in their study on "Determinants of Capital Structure in India", found that the assets composition, collateral value of assets, life of the company and the corporate size were significantly influencing the capital structure whereas the business risk was found to be insignificant in deciding the leverage of the firm. Asset composition was found to be significantly positively related with total debt equity ratio in cotton and engineering industries and negatively related in chemical and pharmaceuticals industries and cement industries. Life of the company was significantly positively related in the long term debt equity ratio in cotton, chemical, pharmaceutical and cement industries. Business risk was statistically significant in positive direction in engineering industry only with long term debt equity ratio.
