CHAPTER I

AN INTRODUCTION TO CORPORATE PERFORMANCE EVALUATION
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1.1 CORPORATE PERFORMANCE

Corporate performance is a function of organisational characteristics and influences presented by environmental uncertainty, complexity, change including internal challenges. Its performance broadly depends on the strategic choices by the management concerned that direct the organisation’s activities in the prevailing internal environment. The external environment of a company constitutes the totality of natural, political, social, economic technological and regulatory forces that have bearing on the present and future performance of the company. These forces could be operating at various geographical levels, namely, global, national, local or community. Changes in these forces affect the achievement of short and long-term objectives of the company.

1.2 EVALUATION OF PERFORMANCE

Evaluation of a company’s performance as a whole is frequently viewed more an important and interesting subject for the management in order to ascertain the position of the company and the direction towards it moves in the competitive environment. Only an efficient evaluation technique will provide a broad based information to decision makers which is more important to take strategic decisions. The focus of performance evaluation can rest on various levels of hierarchy. Some approaches are appropriate for examining the performance of a company as a whole:
some others concentrate on sub units. At one end of the spectrum, there are approaches which are virtually based on the views of a single interest group such as management, creditor, investor or labour. These are termed uni-rational in contrast to multi-rational approaches where performance is viewed from multiple perspectives. With a multi-rational perspective, the main aim would be to accommodate the views of the various interest groups equally and therefore equitably, i.e. achieving a consensus on what constitute a good performance. Performance evaluation becomes more important to facilitate comparison of a company of its own with the past and more so with that of companies in the similar industry.

1.3 NEED FOR CORPORATE PERFORMANCE EVALUATION

We have been witnessing business failures in the corporate sector and it has become a common phenomenon world wide. Business failures have not confined to small scale industry but in the giant companies too. The recent collapse of Yamaichi Securities Ltd. (1997), the fourth largest securities company in Japan is a glaring example for the big business failure. The number of companies becoming sick are always on the increase in the corporate culture. Company failure affects not only those most immediately concerned, those employed by and trading with the company, but also industry in general, the overall economy and the well-being of the country.

Business failure is never a pleasant subject and therefore deserves the most serious study. Corporate performance evaluation is topic of much interest in recent years. Researchers and analysts are devoting their attention to develop models in the
prediction of business failure as early as possible in order to overcome the problems that are likely to occur in the post bankrupt scenario.

In the developing country context, especially in India, there is an urgent need to develop suitable corporate performance measure which would benefit large number of individual and institutional investors, corporate managers, lending institutions including the banks and government agencies for appropriate decision making purposes.

1.4 INDUSTRIAL SICKNESS IN INDIA

The Reserve Bank of India has identified the number of sick companies in India as on 31st December, 1989 at (a) 765 large scale sick units involving Rs.3,874 crores; (b) 1483 medium scale sick units with an outstanding amount of Rs 276 crores and (c) 1,41,340 small scale sick units involving about Rs.9,840 crores. The number of sick companies had progressively increased from the year 1985 quite drastically and the increase is extremely alarming. Though the Planning Commission itself in its paper has admitted that certain degree of industrial sickness was inevitable as part of the process of industrialization in India, yet the dismal growth of these sick companies is posing serious problems not only for these companies but for the Government as well (Madhavan, 1991).

1.4.1 Definition of 'Sickness'

There have been numerous definitions of sickness. A few of the definitions are given below: The sick unit is defined by the Reserve Bank of India (RBI), as "A unit which has incurred cash losses for one year and in the judgement of the bank, it is likely
to continue to incur cash losses for the current year as well as the following year and which has an imbalance in its financial structure such as current ratio of less than 1:1 and worsening debt equity ratio.

According to Industrial Credit and Investment Corporation of India (ICICI), "Sick Industry" is one whose financial viability is threatened by adverse factors present and continuing. The adverse factors might relate to management, market, fiscal burden, labour relations, and any other.

According to the Sick Industrial Companies(Special Provisions) Act, 1955, "sick industrial company" means an industrial company (being a company registered for not less than seven years) which has at the end of any financial year accumulated losses equal to or exceeding its entire net worth and has also suffered cash losses in such financial year and the financial year immediately preceding such financial year.

All these definitions, however, are based upon financial ratios derived from the company's published accounts.

1.4.2 Causes of Sickness

There are a number of causes for the business failures in India. Generally, the causes can be grouped into internal and external. The reasons are outlined in the following paragraphs.
1.4.2.1 Internal Causes

The internal factors are those which are within the control of the management of a unit. Sickness is normally caused by internal factors which are mostly related with the mismanagement in various areas of operations such as technical, financial, operational, marketing, and others.

1.4.2.2 External Causes

The external factors usually affect an industrial group as a whole and on these the industry has no direct control. Some of the external factors may include high incidence of indirect taxes, control on prices and distribution, government regulation of production, credit squeeze, high interest rates, frequent changes in the import policy and others.

1.5 PURPOSE OF CORPORATE PERFORMANCE EVALUATION

Corporate performance evaluation has been done by a variety of users such as management, creditors including banks and financial institutions, credit rating agencies, researchers and analysts, investors, and others. The criteria used for corporate performance evaluation by these users vary significantly based on the purpose of the investigation. A brief explanation about the purpose of evaluation of the users is given below.
1.5.1 Performance Evaluation by Management

The owners have primary interest in the performance of their company as they have entrusted the financial resources to the same. Equally, the management has a dual interest in the analysis of financial performance - to assess the efficiency and profitability of operations and to judge how effectively the business resources are being used. The assessment of operations is largely based on an analysis of the operating income statement, while the effectiveness of resource use is usually measured by a review of both the balance sheet and the income statement.

1.5.2 Performance Evaluation by Creditors

Creditors who supply necessary financial resources need accounting information to evaluate the firm's performance to determine the degree of risk to which they are exposed. Their main concern is the return of the principal and interest. Prior to the development of quantitative measures of company performance, agencies were established to supply a qualitative type of information regarding company performance. Subsequently, ratio analysis was developed and it began with a single ratio, namely, current ratio, for evaluating the credit worthiness of a company. Further development in this direction involved the use of multiple ratios for the same purpose. Thus it is evident that financial information are very much essential for the purpose of evaluation by the creditors in order to take appropriate decisions regarding the quantity of credit.
1.5.3 Performance Measures for Credit Rating

The primary objective of credit rating is to provide an independent and unbiased report on the credit worthiness of a company to enable it directly mobilise savings from individuals at competitive cost. It also aims to disclose reliable financial information to investors with confidence. Credit rating involves evaluation of a company by using both qualitative and quantitative criteria. It is not only the examination of various financial ratios and the cash flow and funds flow statements, but a total review of the company’s competitive position, its strength and weaknesses, its management and business strategies.

1.5.4 Evaluation by Researchers and Analysts

More importantly, academics and researchers are interested in the financial information of the firms in different industries for the construction of ratio models in the areas of credit lending, bankruptcy and portfolio analysis. The newly developed models are likely to be beneficial to the managers, creditors and investors for suitable decision making purposes.

1.5.5 Evaluation by Investors

Potential investors make use of the services of financial analysts in evaluating the performance of the firms to get an idea about the firm’s financial strength from its financial reports, in order to maximise their earnings. The financial analysts, on the other hand, provide necessary accounting information in the form of ratio relating to the earning capacity of the firms including the growth trend.
1.5.6 Evaluation by Others

Employees and trade unions also make use of the financial information revealed in the financial statements. They can bargain on matters relating to salary determinations, bonus, fringe benefits or working conditions on the basis of the accounting information. Accounting information is also useful to the employees as they get insight into matters affecting their economic and social interest. The financial information is useful to the customers about the prices charged by the firm. The government is much interested in the determination of the taxable income of the firm.

1.6 CORPORATE PERFORMANCE EVALUATION MEASURES

Generally, the corporate performance measures are categorised as quantitative and qualitative factors. The quantitative factors, otherwise known as the financial factors are the financial information taken from the financial statements of a company. The qualitative factors that influence the corporate performance include, the leadership qualities, presence of multiple trade unions, marketing strategies, research and development and others. The external environment that influences the performance of a company may be, natural, political, social, economic, technological, and regulatory forces. Though the non-financial criterion are influencing the performance of a company, no standard measure including these criterion is in vogue. The number of corporate performance measures that could serve as dependent variable are almost infinite. However, a system based approach tends to lean heavily towards quantitative measures.
A commonly held view is that performance evaluation is the sum total of all the management accounting techniques employed in an organisation which leads to an appraisal system which only considers quantitative aspect. Financial statements are providing the necessary quantitative variables required for the purpose of corporate performance evaluation. A brief overview on the nature of the financial statements is explained below.

1.7 FINANCIAL STATEMENT ANALYSIS

Financial statement contains wealth of information. If properly analysed and interpreted, they can provide valuable insights into a firm’s performance and position. Analysis of financial statements would be of interest to a lender, investor, a security analyst, a manager or a business observer. Financial statements quantify information concerning the financial position of an equity and the results of its operations. An auditors’ report adds a qualitative dimension to that information. The auditor is an intermediary between preparers of financial statements and users of those statements. Financial statements consists of two statements, namely, income statement (Profit and Loss Account in India) and balance sheet. The purpose of these two statements are briefly explained below.

1.7.1 Profit and Loss Account

The income statement expresses the flow of funds resulting from the company’s operations over a period of time. It is a record, under standard categories, of the payments received by the corporation in return for its goods or services. The difference
between the payments and the costs represents the profit or loss resulting from the firm's operation during the year.

1.7.2 Balance Sheet

The balance sheet is a financial snapshot of the corporation at a given point of time (Prasanna Chandra, 1993). One side of the balance sheet, represents everything the corporation has of value, under a number of mutually exclusive and exhaustive categories. Assets can range from cash in the bank to buildings and equipment owned to goods in the warehouse for sale.

The other side of the balance sheet represents claims on the corporation's assets. These claims fall into two categories. The first, liabilities, is the money that the firm has a legal obligation to repay to outsiders. Liabilities include such items as unpaid bills from suppliers and long term mortgages on property.

The second claim on the firm's assets, equity, represents the ownership interest of shareholders. The shareholder's equity is simply whatever remains after all outstanding obligations are subtracted from the assets.

1.8 LIMITATION OF FINANCIAL STATEMENT ANALYSIS

Ratios can be a powerful tool if properly considered for the performance of companies. However, there are certain issues encountered in such analysis which calls for attention, circumspection, and judgement in such an exercise. The following are the points to be remembered before it is included in the study.
1.8.1 Development of Benchmark

Meaningful benchmarks may be available only for firms which have well defined industry classification. In India, the big business houses have operations spanning a wide range of industries and it is really a very difficult task to develop benchmarks for evaluation of the financial performance of companies. Therefore, meaningful inferences may not be possible with the available industry averages.

1.8.2 Window Dressing

Firms may resort to window dressing to project a favourable financial picture. For example, a firm may prepare its balance sheet at a point when its inventory level is very low. As a result, it may appear that the firm have a very high turnover of inventories. Under these circumstances, the analyst should not look into the closing stock and rather he can rely on the average stock.

1.8.3 Price Level Changes

Financial accounting does not take changes of price level into account and as a result, the balance sheet figures are distorted and profit are misreported.

1.8.4 Variation in Accounting Practices

Accounting practice with respect to depreciation, valuation of stock, preliminary expenses, research and development expenses, and revaluation of assets widely differs and hence comparison of firms becomes highly difficult.
1.8.5 Interpretation of Results

Though industry average has been accepted as a benchmark, it is difficult to conclude whether a particular ratio is good or bad. For example, a high current ratio indicates a strong short-term liquidity which is a good one for the company. It may indicate an excessive inventory, which is a bad symptom for the company. Another common problem of interpretation is that it becomes very difficult to conclude when some ratios are favourable and some others are unfavourable. However, by applying scientific methods such as multiple discriminant analysis, regression analysis, and probit and logit analysis the net effect may be sorted out. It has been in practice that the results concluded after applying such statistical technique are reliable than any traditional techniques.

1.9 TYPES OF FINANCIAL ANALYSIS

Financial analysis may be done for a variety of purposes, which may range from a simple analysis of the short-term liquidity position of the firm to a comprehensive assessment of the strengths and weaknesses of the firm in various areas. The common tools of financial statement analysis are:

a) Common Size Analysis,
b) Du Pont Analysis,
c) Funds Flow analysis, and
d) Ratio Analysis
1.9.1 Common Size Analysis

In common size analysis, the items in the balance sheet are stated as percentages of total assets and the items in the income statement are expressed as percentages of total sales. Such 'Percentage' statements are called common size statements. The common size reinforces the findings of time series analysis. It provides a useful perspective and facilitate better understanding about the trend in the various items of profit and loss account balance sheet.

1.9.2 Du Pont Analysis

The Du Pont company of the US pioneered a system of financial analysis which has received widespread recognition and acceptance. It is a useful system of analysis, which considers important interrelationships based on information found in financial statements.

1.9.3 Funds Flow Analysis

Funds flow analysis deals with the sources of funds and application of funds during a period. It provides an insight into the movement of funds and helps in understanding the changes in the structure of assets, liabilities, and owner’s equity.

1.9.4 Ratio Analysis

Financial ratio is the "relationship between two or more accounting figures expressed mathematically". The absolute accounting figures reported in the financial statements do not provide a meaningful understanding of the performance and financial
position of a firm. Instead of absolute values, financial ratios are used, basically in order
to facilitate comparison by adjusting the size. Ratios help to summarise the large
quantities of financial data and to make qualitative judgement.

The ratios are computed from the income statement, balance sheet as well as
from both. Numerous ratios can be computed from the financial statements. Different
ratios are bound to measure different types of performance such as liquidity,
profitability, and solvency.

1.10 TYPES OF RATIOS

Financial ratios can be classified into several types. In general, ratios can be
divided into:

a) liquidity ratios,
b) leverage ratios,
c) turnover ratios,
d) profitability ratios, and
e) valuation ratios.

A brief explanation about each of these is given below.

1.10.1 Liquidity Ratios

Liquidity refers to the ability of a firm to meet its obligations in the short run,
usually one year. It is based on the relationship between current assets and current
liabilities. The important liquidity ratios are current ratio, acid-test ratio, and fund flow
ratio. Higher the current ratio, the greater the short-term solvency. However, in
interpreting the current ratio the composition of current assets must not be overlooked. A firm with a high proportion of current assets in the form of cash and accounts receivable is more liquid than one with a high proportion of current assets in the form of inventories even though both the firms have the same current ratio. The ideal current ratio is 2:1.

Some of the ratios included in this category are:

a) Cash to total assets
b) Quick assets to total assets
c) Currents assets to total assets
d) Working capital to total assets
e) Cash to current liabilities
f) Quick assets to current liabilities
g) Current assets to current liabilities

1.10.2 Leverage Ratios

These ratio refers to the use of debt finance. It helps in assessing the risk arising from the use of debt capital. The important leverage ratios are debt-equity interest coverage ratio. In general, the lower the debt-equity ratio, the higher the degree of protection enjoyed by the creditors. On the other hand, interest coverage ratio, purportedly, measures the margin of safety the firm enjoys with respect to its interest burden. A high interest coverage ratio means that the firm can easily meet its interest burden even if earnings before interest and taxes suffer a considerable decline. A low
interest coverage ratio may result in financial embarrassment when earnings before interest and taxes decline.

The leverage ratios are:

a) Debt to equity ratio,
b) Debt to asset ratio,
c) Interest coverage ratio, and
d) Fixed charges coverage ratio.

1.10.3 Turnover Ratios

These ratios are also called as activity ratios and it measures how efficiently the assets are employed by the firm. These ratios are based on the relationship between the level of activity, represented by sales or cost of goods sold, and levels of various assets.

The turnover ratios are:

a) Inventory turnover,
b) Receivables turnover,
c) Fixed assets turnover, and
d) Total Assets turnover.

The inventory turnover ratio is deemed to reflect the efficiency of inventory management. The higher the ratio, the more efficient the management of inventories and vice versa. As a rule of thumb, the average collection period should not exceed 1.5 times the credit period. Receivables turnover ratio and the average collection period are related. Obviously, the shorter the average collection period the higher the receivables
turnover ratio. In the case of fixed assets turnover ratio, a high ratio indicates a high degree of efficiency in asset utilisation and a low ratio reflects inefficient use of assets. The total assets turnover ratio measures how efficiently assets are employed, overall.

1.10.4 Profitability Ratios

Profitability reflects the final result of business operations. There are two types of profitability ratios: profit margin ratios and rate of return ratios. Profit margin ratios show the relationship between profit and sales. The two popular profit margin ratios are: gross profit ratio and net profit ratio. The gross profit ratio shows the margin left after meeting manufacturing costs. It measures the efficiency of production as well as pricing. The net profit ratio shows the earnings left for shareholders as a percentage of net sales. It measures the overall efficiency of production, administration, selling, financing, pricing, and tax management. Jointly considered, the gross and net profit margin ratios provide a valuable understanding of the cost and profit structure of the firm and enable the analyst to identify the sources of business efficiency.

The return on investment ratio, being the most important among the rate of return ratios, measures the business performance which is not affected by interest charges and tax payments. It abstracts away the effect of financial structure and tax rate and focuses on operating performance. Hence, it is eminently suited for inter-firm comparisons. Further, it is internally consistent.

The profitability ratios include:

a) Gross profit margin ratio,

b) Net profit margin ratio,
c) Net profit to total assets.

d) Return on investment, and

e) Return on equity.

1.10.5 Valuation Ratios

Valuation ratios indicate how the equity stock of the company is assessed in the capital market. Since the market value of equity reflects the combined influence of risk and return, valuation ratios are the most comprehensive measures of a firm's performance.

The valuation ratios are:

a) Price earnings ratio.

b) Yield ratio, and

c) Market value to book value ratio.

The price-earning ratio reflect growth prospects, risk characteristics, shareholder orientation, corporate image and degree of liquidity. The market value to book value ratio reflects the contribution of a firm to the net wealth of the society.

1.11 USE OF FINANCIAL RATIOS

The properties and characteristics of financial ratios have received considerable attention with interest primarily focussed on determining the predictive ability of financial ratios and related financial data. Principal areas of investigation have included the prediction of corporate bond ratings and the financial impairment. Related studies have examined the characteristics of merged firms, the differences in financial ratio
averages among industries, whether firms seek to adjust their financial ratios towards industry averages, the relationship between the accounting determined and market-determined risk measures and the influence of financial ratios on analyst’s judgements about impending bankruptcy. The general conclusion to emerge from these various research efforts is that a number of financial ratios have predictive and descriptive utility when properly employed.

1.12 PREDICTIVE POWER OF FINANCIAL RATIOS

The use of ratios is justified by the fact that the selection of pertinent material from a number of published information. Financial ratios reduces the size of the data disclosed in financial statements to relatively small set of readily comprehended and economically meaningful indicators. If the actual relationship exhibits a significant departure from the normative relationship it acts as a precursor some event in future. The prediction of future event is of great interest to the varied users of financial statements since prediction is a necessary and prior condition for decision making. The predictive ability of financial ratios have assumed great significance in the past few decades that it is now used as a criterion for judging the usefulness of ratios (Beaver et. al., 1968). The predictive capability as a criterion for judging the usefulness of financial ratios is generally justified by the fact that it circumvents the enormity of task required for a complete specification of decision making.

1.13 LITERATURE ON THE USE OF RATIOS

A number of studies have been conducted by researchers in many countries about the utility of financial ratios for the purpose of evaluation of company performance.
Remarkable insight into the relationship between financial ratios was presented by Pinches, Mingo and Caruthers (1973). They developed empirically based classification system for financial ratios using factor analysis. The approach introduced by these authors has been applied by many researchers like Johnson (1978), and Laitinen (1983) and they empirically found that profitability ratios and cash flow ratios form separate ratio classes and they do not measure the same characteristics of firm performance.

A considerable volume of research has emerged on the analytical, empirical and statistical properties of financial ratios too. The seminal work and procedures were laid down by Lev (1969), Deakin (1976), Bird and McHugh (1977), Lev and Sunder (1979), and Whittington (1980). The subsequent works of Barnes (1982), Frecka and Hopewood (1983), McDonald and Morris (1984, 1985), Lee (1985), McLeay (1986), McLeay and Fieldsend (1987), So (1987), Ezzamel et. al., (1987), Kolari, McInish and Saniga (1989), Ezzamel and Mar-Moliner (1990), have emphasized the use of financial ratios in corporate performance evaluation. Mark Tippet (1991), explored the contribution of the financial ratios in the performance of companies by subjecting the ratios into continuous time stochastic calculus models. Boldt and Malindretos (1996), compared the Altman (1968) and the Beaver (1966) model and concluded that financial figures and reports are the score keeping methods used in the game of business. The score will indicate how one is doing and the bankruptcy models can be an important score to monitor. But to improve the score, it is necessary to look beyond it to the skills and techniques used in the game. Strategies, marketing, sales, manufacturing organisation, human resources development and sound financial management are the skills to improve in order to truly post a winning score.
1.14 PROBLEM IN SELECTING SUITABLE RATIOS

Confronted with the arduous task of selecting a parsimonious set of ratios from among the diverse array encountered in the literature, researchers have typically relied on one of several existing systems for classifying or grouping ratios. By selecting a single ratio from each group, the researcher has sought to identify a set of ratios which completely describes the salient characteristics of a firm's activities and in which each ratio conveys unique information about those activities. Since the empirical similarity of financial ratios is fully known, existing classification systems are inherently ad hoc in that they reflect relationship presumed to exist among individual ratios. As a consequence, the ratios chosen for study is rarely identical to that examined in other studies. Without the knowledge of the empirical relationships existing among individual financial ratios, attempt to draw conclusions from individual studies or to compare results across studies are unsuccessfully confounded.

1.15 NEED FOR A FOREWARNING SYSTEM

We have been witnessing failures of business corporations, manufacturing units, service organisations including banks and financial institutions all over the world. The fourth largest securities company, Yamaichy Securities Ltd. in Japan failed recently can be an example for this purpose. This has been causing more concern to the policy decision makers, workers, auditors, other institutions and investing public. Hence, there is a need to detect early the possible symptoms of sickness of organisations and to forewarn or to prevent the incidence of failure. The causes of deteriorating performance
of any organisation could be either internal, external or both. The failure of an organisation may be due to technical or financial or managerial or all the three aspects.

The rationale of prediction of sickness in advance of its occurrence is to prevent the spread of industrial sickness and by doing so, to save crores of rupees of banks, financial institutions and other investors for better use which otherwise would be locked up in sick units with little chance of recovery. Therefore, it becomes necessary that sickness in units should be predicted and closely monitored to safeguard the interest of all concerned.

1.16 THE PRESENT STUDY

The traditional approach of presenting the financial information in the form of raw data has been shifted to providing them in computer based analytical models to take strategic decisions at different stages in the competitive environment. Essentially, it is the set of key ratios provided by the management based on which the decisions are likely to influence the performance of a firm in future. Thus, the present study attempts to establish the feasibility of developing comprehensive procedures towards efficient evaluation of company’s performance which would benefit corporate entities, credit lenders, investors and others.

1.17 ORGANISATION OF THE STUDY

As a background to this study, we have given in Chapter II commenting on selected empirical work done in the area of evolving financial ratio analysis for
predictive, forwarning and other purposes. In addition to the above, selection of data, selection of ratios, and methodologies applied have also been discussed.

Chapter III deals with the scope of the statistical techniques such as factor, cluster, and stepwise discriminant analysis and its application on the data of five industries to reduce the ratio dimension.

Chapter IV explores the possibility of applying computer based Composite Rule Induction System in the area of financial ratio analysis.

Chapter V. attempts to provide the different hypothetical combination of generated financial ratios using Simulation technique.

Finally, a discussion on the summary of findings and conclusion is presented in Chapter VI.