Financial Distress in Small and Medium Enterprises (SMEs) of Bangladesh: Determinants and Remedial Measures

Mohammad Saleh JAHUR[1]
S. M. Nasrul QUADIR[2]

ABSTRACT
Financial distress in SMEs is a common phenomenon across the world, which has been a subject matter of academicians, professionals and government. Although SMEs are contributing to the economy in the form of employment, supply of products and services by using indigenous technologies, social entrepreneurship, income generating activities etc. SMEs are found most vulnerable to the macro-economic as well as internal management crises. Consequently, they fall into financial distress. In view of this, the present study has been undertaken aiming at identifying the causes of financial distress in SMEs of Bangladesh. The study has employed both financial and statistical techniques for analyzing the data collected for the study. The study has identified some potential problem areas related to financial distress such as rate adequacy, sales trends, indebtedness, management capability, financial planning, etc. The study has also identified some most important causes of financial distress such as fund management & resource crunch, poor accounting system, poor financial control, poor productivity and profitability and management succession. The study has finally come out some strategic and policy related measures for both viable and financially distressed SMEs for preventing them from the exposition to financial and operating risk.

KEYWORDS: *SMEs, Financial Distress, Accounting System, Fund Crunch, and Productivity.*

JEL CLASSIFICATION: *L20, L26, L53, M10*

1. INTRODUCTION

SMEs are considered to be the buffer of national economy for their contribution to the development of economy by generating employment opportunities, developing entrepreneurship, using indigenous skills and technologies, making market competitive though innovativeness and growth of industrial linkage, and finally enabling government to accomplish poverty free society. These sectors are expected to offer ample opportunities to different cross sectional people of the society to get involved into income generating activities-traditional, technological, vocational and other activities and thereby strengthening the efforts towards achieving high and sustainable economic growth which

[1] Professor of Accounting and Finance, Department of Finance and Banking, University of Chittagong, Chittagong, Bangladesh, E-mail:sjahur2000@yahoo.com
[2] Associate Professor, Department of Finance and Banking, University of Chittagong, Chittagong, Bangladesh, E-mail: nasrul1964@yahoo.com

are most important prerequisites for triggering an exit from vicious poverty circle. A recent study **(**Papanek, Financial Express, April 19, 2010) has found that the decline in china's ability to compete opened up a once-in-a- lifetime opportunity for 10% growth, economic transformation and dramatic cut in poverty. This can be accomplished by establishing labour intensive SMEs in rural areas of the country where cheap labour should be key competitive advantage.

The growing economic significance of SMEs as source of development of entrepreneurship- traditional and technology social venture, and employment generation in the developed, OECD countries especially since 1970s is now widely recognized in an increasingly growing volume of literature (OECD, 1997). The world economy has been experiencing a paradigm structural shift from mass production to more flexible production in order to cope with the change and avail of opportunities in the market. This has led SMEs to a notable resurgence in the developing countries like Bangladesh.

SMEs are considered as one of the priority sectors of Bangladesh economy since independence. Economic history conveys that healthy economic structures are usually based on a complex network of large, medium-size and small enterprises. The intensity and quality of relationships that exists between different size of companies -the input and output they give and receive, the exchange of experiences and ideas - largely determine the dynamism and the sustainability of economic development. Very small, small and medium enterprises form the seedbed of the national economy. This sector also offers the best chance of achieving two objectives that have been mutually exclusive in the past: economic growth and fairer distribution of opportunities.

Small businesses are numerous in Bangladesh and form a large majority in the domestic markets. According the estimate of BSCIC there are about 523 thousands of small enterprises including cottage industries in the country employing about 2.3 millions of people, which is around 82 percent of total industrial labor forces (Khan, 2000). Quoting informal planning commission estimates, the SMDF puts the number medium enterprises to be around 20,000 industrial units. Different definitions of SMEs emerge in different countries. In Bangladesh, an SME is having 10 or less number of workers. According to the BSCIC a company with Tk. 10 Crore or less assets or employing not more than 50 is considered as SME. According to the Industrial Policy 2005, SMEs can be defined as follows (Table 1):

Table 1. Type of SMEs

Type of SMEs	**Small Enterprises**	**Medium Enterprises**
Manufacturing Sector	Value/replacement cost of durable resources other than land and factory buildings is under Tk.15 million.	Value/replacement cost of durable resources other than land and factory buildings is between Tk.15 million and Tk. 100 million.
Service Sector (Non-Manufacturing Sector)	Fewer than 25 workers Work.	25 to 100 workers work.

Source: GOB, Industrial Policy, 2005

The present study has selected small and medium enterprises on the basis of definition laid down in Industrial Policy 2005.

SMEs of Bangladesh have been vulnerable to frequent policy changes of Government from time to time. Besides, they are facing severe competition in and outside the country. As a result, the profitability of SMEs has got squeezed and many of them have got financially distressed. Country's half of the ready-made garments (RMG) units have fallen sick due to global crises, slump in the business as well as other industrial constraints at home. The sick industries in various sectors include textile, leather, medicine, loom, food, chemical and rubber. At least 200,000 employees were employed in those industries, and now at least 50,000 of them are unemployed leading inhuman life in absence of any alternative income source. Country's civil society that includes noted economists, entrepreneurs and chamber leaders called for revival of such sick industries in order to protect jobs and boost economy.

1.1 Statement of the Problem

SMEs generate employment, add value, bring in foreign currency and investment, improve labour skills, and have linkages with large enterprises. Although SMEs represent a majority of Bangladesh's national economy in terms of output, employment and effective utilization of regional resources, they are characterized by poor management and/or administrative skills, limited marketing skills, minimal technology skills, and lack of access to government and institutional credit facilities. SMEs lack of access to capital and high interest rates charges are partially the result of incomplete (or no) accounting records, and the inefficient use of accounting information. Poor record keeping and accounting information make it difficult for financial institutions to evaluate potential risks and returns (World Bank, 1978), making them unwilling to lend to SMEs. As a result, SMEs pay high interest rates or fall back on the middlemen or moneylenders, whose loans are costly and often restrictive. The misuse and inaccuracy of accounting information causes SMEs to inaccurately assess their financial situation, and make poor financial decisions, as well as leads them to face with the high failure rate (Byron & Friedlob, 1984; DiPietro & Sawhney, 1977; Fredland & Morris, 1976: quoted in Seminar Paper, Sarapaivanich, 2003).

Due to the lack of access to the capital markets, the allocation of capital in small firms is very important. Capital assets involve a large amount of money. It should be planned to be sure funds are available. The result of capital budgeting decisions continues for many years. Unnecessarily high expense (depreciation and others) will occur, if the firm invests too much. In contrast, uncompetitive production and loss of market share due to insufficient model and inadequate capacity of equipment may arise, if the firm does not invest enough. An incorrect forecast of asset requirements can have serious consequences. Effective capital budgeting can improve asset acquisitions (Brigham, Gapenski & Ehrhardt, 1999). Although capital budget is important to small firms, they do not use the tools that have been developed to improve these decisions (Runyon, 1983). Studies show that many small firms are more likely to rely on the payback approach, even though the NPV and IRR methods are both superior to the payback (Graham & Harvey, 1999 quoted in Brigham & Houston, 2001; Walker, Burns & Denson, 1993). Runyon (1983) showed that a small business may put itself at a serious competitive because it fails to use sophisticated discounted cash flow methods.

Even though SMEs are the base of the country’s economy, little research has been done on the implication of accounting and financial information that causes financial distress in SMEs of Bangladesh. Most of studies (Jahur, 2005; Uddin, 1999;) have been made on the constraints to the growth of SMEs, characteristics on the development of small

entrepreneurship etc. In view of this, the present study has been undertaken aiming at studying the status and causes of financial distress of SMEs of Bangladesh.

1.2 Objectives of the Study

The principal objective of the study is to evaluate the status and causes of financial distress in SMES of Bangladesh. To accomplish this objective, following specific objectives have been covered:

a) To highlight the theoretical dimensions of financial distress in SMEs of Bangladesh.
b) To identify the potential problem areas related to financial distress of sample SMEs.
c) To examine the degree of financial distress of sample SMEs.
d) To identify the causes of financial distress of sample SMEs of Bangladesh.
e) To suggest some strategic measures to the Accountants and other policy makers for the improvement of financially distress of SMEs.

1.3 Scope of the Study

The study has covered 20 small and medium enterprises of different economically important sectors. It has also covered financial activities of these sample firms for five years from 2004 to 2008.

Table 2. List of Sample Small and Medium Enterprises

Industry Sub-Sector	Number of Samples	Percentage
Light Engineering Works	4	20
Printing and Publishing	3	15
Readymade Garments	5	25
Plastic Products	3	15
Automatic Servicing and Repairing	2	10
Flour Mills	3	15
Total Number of Sample	20	100

1.4 Methodology of the Study

The study has been both theoretical and empirical one. Both primary and secondary data have been used in this study.

1.4.1 ***Collection of Primary Data:*** Researcher has prepared a questionnaire for collecting primary data on the basis of literatures survey and opinion of experts/professionals. For that researcher has selected 30 SMEs for the purpose of collecting data conveniently. He has attempted to conduct interview of 30 concerned persons of the sample SMEs and to collect the financial statements. Finally he has been able to conducted interview of 23 concerned persons of the sample SMEs and 14 experts engaged in business and academic fields; and has collected usable financial statements of 20 sample SMEs. In this case, the opinions of sample respondents have been captured on five point likert scale (5-Most Important, 4-Important, 3- Indifferent, 2-Less Important, and 1-least Important).

1.4.2 ***Collection of Secondary Data***: The study has collected secondary data by consulting existing literature, journals, magazines, websites, and annual reports of the sample SMEs.

1.4.3 ***Analysis of Data:*** The data thus collected has been tabulated first. Then the data tabulated has been analyzed by applying different financial ratios, Altman's Z score analysis, and factor analysis. Financial ratios have been used to assess the financial status as well as to determine the potential problem areas of financial distress of sample SMEs; Altman's Z score, for assessing the degree of financial distress; and factor analysis, for identifying the causes of financial distress in sample SMEs. The financial variables used and causes studied have been described in the section - theoretical dimensions of financial distress in business firms (section 2.1).

1.4.4 ***Factor Analysis:*** Factor analysis is a method of reducing a large number of variables (tests, scales, items, persons and so on) to a smaller number of presumed underlying hypothetical entities called factor (Fruchter, 1967). It tries to simplify and diverse relationship that exist among a set of observed variables by uncovering common dimensions or factors that link together the seemingly unrelated variables and consequently provides insight into the underlying structures of the data (Dillion & Goldstein, 1984). The purpose of factor analysis is mainly two folds: data reduction and substantive interpretation. In the present study, 'Principal Components Varimax Rotated Method' of factor analysis has been used in order to identify the causes of financial distress in SMES of Bangladesh.
Principal component factor explains more variance that the loadings obtained from any method of factoring. In order to define the group membership, an algorithm may be used to uncover a structure purely on the basis of the correlation structure of the input variables. Then the number of principal components to be retained in the study has been decided on the basis of Kaiser's criterion (1958) of Eigen value ≥ 1**.** Principal components having higher reliability coefficients are more reliable in the sense that the corresponding factors would be replicable in other similar kind of studies. Then Communality, symbolized by h^{2} are then worked out which show how much of each variable is accounted for by the underlying factors taken together. Then, factor scores have been generated on the basis of weighted average of Principal Factor loadings and average of respective variables included into the concerned group. Ranking of each factor has been made on the basis of scores derived.

1.5 Organization of the Study

The study has been segmented into three sections. First section has covered introduction, statement of the problem, objective, and research methodology of the study; second session has focused on the findings and their analysis; and third session has covered summary of the findings, policy implications and conclusion.

2. FINDINGS AND THEIR ANALYSES

The study has concentrated to financial distress in SMEs of Bangladesh. Keeping this in mind, it has recoursed to existing literatures for developing theoretical dimensions of financial distress; analyzed financial statements for identifying the potential problem areas; and analyzed the various causes of financial distress of SMEs for ranking the causes in order of their magnitudes. These have discussed in the following paragraphs:

2.1 Theoretical Dimensions of Financial Distress

Financial distress means severe liquidity problems that cannot be resolved without a sizable rescaling of the entity's operations or structure (Foster, 2005, p.535). Financial distress refers to the inability of the firm to pay current obligations on the dates they are due (Baldwin & Mason, 1983). Any enterprise is susceptible to financial distress if it has frequent cash shortages and few revenue streams. Therefore, small enterprises are more likely to experience financial distress. Companies facing insolvency often liquidate assets to settle debts. However, small enterprises have few assets to sell and tend to fall victim to secured creditors who focus on debt collection to the detriment of the firm (Gopinath, 1995).

Several streams of research have explored financial distress. The literature on organizational decline describes this phenomenon in terms of a loss of slack or the surplus resources that cushion the firm against environmental jolts. According to studies by Weitzel and Jonsson (1989), financial distress arises from internal weaknesses such as low employee morale, resistance to change, flawed business plans and inefficient operations.

The signs of financial distress are:

1. Your Company is desperately short of cash;
2. Your suppliers are pushing for faster payments but your borrowings are at or close to the maximum; and
3. If you have monthly accounts, they show that the business is losing money consistently.

Now that you have recognized the problem there is a chance that something can be done about it to turnaround your business.

The Causes of Business Failure/Financial Distress

The common causes of financial distress and business failure are often a complicated mix of problems and symptoms but the common causes of business failure and financial distress include:

- Inadequate financing - the business didn't start with enough finance and has struggled from day 1.
- The management team is unbalanced and there are essential skills missing.
- A small number of big decisions have been made which were wrong.
- The economy has turned nasty, reducing demand, increasing interest rates and a worsening foreign exchange rate.
- There is inadequate financial control and the senior managers are not aware of how badly the business is performing.
- Innovative products from competitors or from substitute solutions reduce the attractiveness of the company's products and services.
- The business is in a price war.
- The owner/CEO suffers severe ill health or dies and there is no management succession.
- The business suffers a catastrophic loss e.g. the factory burns down, a major customer is bankrupt creating a major bad debt or the business has a massive legal claim against it.
- Low price overseas competition.
- High cost structure for inefficiency in the production and overcrowded human resources.
- Higher Turnover of workers.
- Dwindling productivity and profitability

- Counter party default.
- Financial Indiscipline
- Lack of Access to Credit.
- Lack of proper keeping of financial records.
- Policy changes of Government.
- Shortage of skilled manpower.
- Poor practice of accounting standards.

The Stages of Business Decline

Two academic researchers, Weitzel and Jonsson (2009) identified five stages of decline based on studying business failure.

I. **The blinded stage:** The managers do not recognize the threat to long term survival.
II. **The inaction stage:** The managers have noticed the threats or the worsening performance but don't do anything about it. They believe that "things will get better."
III. **The faulty action stage**: The managers now recognize that something must be done but take symptoms rather than the underlying causes. This may be because they are too close to their business or they fail to recognize the cause and effect relationships in their business. There is a temptation to try proven remedies to old solutions which have worked in the past or to try to do more of what has caused the problem.
IV. **The crisis stage:** The business financial distress is severe and the business is now in crisis. Managers are unsure what to do next because they have tried the obvious remedies and the money is running out.
V. **Dissolution and collapse**: The business passes the point of no return and failure becomes inevitable.

Measures of Financial Distress

There are two types of models used in predicting financial distress as follows:

a) Univariate Models of Distress Prediction: This involves the use of single variable in a prediction model under two assumptions
   - The distribution of the variable for distressed firms differ systematically from the distribution of the variable for the non-distressed firms; and
   - The systematic distribution difference can be exploited for prediction purpose.

Table 3. Key Financial Ratios Used in Assessment of Financial Distress

Ratio	Ratio Type	Definition	Relation to Failure
X_1	Profitability	Cash Flow to Sales	-----
X_2	Liquidity	Current Assets to Current Liabilities	-----
X_3	Leverage	Book Common Equity to Total Assets	----
X_4	Profitability Trend	Retained Earnings to Common Equity	-----
X_5	Growth and Efficiency	Sales to Total Assets	-----
X_6	Efficiency and Profit	Operating Revenues to Operating Expenses	-----
X_7	Profitability	Net Income to Sales	-----
X_8	Leverage	Total Debt to Total Assets	----
X_9	Liquidity	Net Fixed Assets to Total Assets	-----
X_{10}	Leverage	Current Liabilities to Total Debt	-----

Source: authors

b) Multivariate Models of Financial Distress Prediction

The statistical techniques used in most research studies can be classified into three categories:

I. Discriminant Analysis where the aim is to classify observation into one of two groups, based on a set of pre-designated variables (Altman, Haldeman & Narayanan, 1977);
II. Logit or Probit Analysis where the aim is to estimate the probability that an event (for example, bankruptcy); and
III. Recursive partitioning, which is non-parametric classification technique, based on pattern recognition (Marais, Patell & Wolfson, 1984; Frydman, Altman & Kao, 1985).

Table 4. Comparison of Key Ratios used in Financial Distress Model

Ratio Type	**Key Ratios**		
	Altman Model (1983 & 1991)	Platt and Platt Model	Jahur and Quadir (2001)
Profitability	Operating Income to Total Assets	Cash Flow to Sales	Net Profit to Total Assets (X_5)
Leverage	Market Value of Equity to Book Value of Debt	Total Debt to Total Assets	Interest Coverage Ratio (X_6)
Liquidity	Current Assets to Current Liabilities	Net fixed Assets to Total Assets	Net Sales to Average Inventory (X_9)
Profit Trend	Retained Earnings to Total Assets	Sales Growth to Industry Growth	Earnings Per Share (X_8)

Source: authors

2.2 Identification of Potential Problem Areas Related to Financial Distress of Sample SMEs

The existing models – Univariate and Multivariate cannot be considered to be the best models for identifying potential problem areas related to financial distress in order to give early signal to concern enterprise in financial distress. The effectiveness of these models varies from company to company depending on firm's policy, tax environment, modus operandi, type of company etc. For example a financial ratio can be interpreted in different ways under different circumstances in the same company. However, the present study has critically analyzed the financial statements-income statement, balance sheets, notes to the accounts, and cash flow statement (of six sample SMEs) for 5 years from 2004 to 2008 by applying financial ratios as stated in Table –I. Financial ratios are : X_1 (Profitability), X_2 (Liquidity), X_3 (Leverage), X_4 (Profitability Trend), X_5 (Growth and Efficiency), X_6 (Efficiency and Profitability), and X_7 (Profitability). Besides, the study has examined trends, growth, variability in different operating variables for identifying the probable problem areas related to financial distress of sample SMEs. The study has applied an integrated approach in this section. It has come out with results derived from the analyses of financial statements of all 20 sample SMEs together as follows:

Table 5. Potential Problem Areas Related to Financial Distress of Sample SMEs

Ratio Type	Financial Ratios	Potential Problem Areas
X_1 (Profitability)	Net Income + Depreciation to Annual Operating Revenues	Rate Adequacy-Inadequate Depreciation Rates-High Sales Trend-Volatile Expenses-Getting Larger Financial Planning-Absent Management Capability-Poor
X_2 (Liquidity)	Current Assets to Current Liabilities	Liabilities-Larger Capitalization Financial Planning-Absent
X_3 (Leverage)	Book Common Equity to Total Assets	Equity Needs-Huge Gap Interest Coverage Ratios-Marginal Indebtedness-High
X_4 (Profitability Trend)	Retained Earnings to Common Equity	Equity Needs-Huge Gap Sales Trends-Volatile
X_5 (Growth and Efficiency),	Annual Operating Revenues to Total Assets	Sales Trends- Volatile Rate Adequacy- Inadequate Assets Turnovers-Getting Lower
X_6 (Efficiency and Profitability)	Annual Operating Revenues to Annual Operating Expenses	Sales Trend-Volatile Rate Adequacy-Inadequate Financial Planning- Absent Management Capability-Poor
X_7 (Profitability)	Net Income to Annual Operating Revenues	Rate Adequacy-Inadequate Sales Trends-Volatile Financial Planning-Absent Management Capability-Poor

The study has applied Univariate model for tracing the potential problem areas as financial distress of sample NGOs (see Table-3). It has identified some potential problem areas such as financial planning, management capability, equity needs, sales trends, indebtedness, rate adequacy, capitalization, interest coverage ratio, assets turnovers, liabilities etc. These problems are likely to be critical over the passage of time if they are addressed in time. Finally these lead the sample SMEs to the financial bankruptcy.

2.3 Examination of Degree of Financial Distress in Sample SMEs through MDA Model

The Study has employed the MDA technique. The basis purpose of MDA technique is to distinguish between non-distressed units and distressed units. A study (Jahur & Quadir, 2001) has developed MDA model in order to judge the financial performance of Textile and Clothing Industry of Bangladesh. The Discriminant function can be expressed as follows:

$$\mathbf{Z = 13.1146\ X_5 + 0.2323\ X_6 + 0.0156\ X_8 + 0.2183\ X_9} \quad (1)$$

Where, X_5 = Net Profit to Total Assets; X_6 = Interest Coverage Ratio
X_8 = Earnings per Share; X_9 = Inventory Turnover Ratio

The Z value (Discriminant Score) is calculated for each company to classify it as financially distressed or financially non-distressed unit. For the classification, the cut-off score is 1.99186. Any enterprise with a discriminant score less than 1.99186 will be

classified as financially distressed; and with a discriminant score of 1.99186 and above will be classifies as financially non-distressed company. The status of financial distress in sample SMEs has been exhibited in the following Table 6:

Table 6. Showing the Degree of Financial Distress in Sample SMEs

Z Equation Samples	**13.1146 X5 + 0.2323 X6 + 0.0156 X8 + 0.2183 X9 = Z**	**Financial Status**
Sample -1	0.5574 + 0.6128 + 0.4415 + 1.6268 = 3.2398	Non-Distressed
Sample-2	0.5570 + 0.06523+ 0.4490 +1.4851 =3.1634	Non-Distressed
Sample-3	0.5114 + 0.5895 + 0.3959 + 2.4832 = 3.9800	Non-Distressed
Sample-4	0.6505 + 0.6290 + 0.3492 + 1.5936 = 3.1683	Non-Distressed
Sample-5	0.5508 + 0.5895 + 0.4271 + 1.5178 =3.0852	Non-Distressed
Sample-6	0.6295 + 0.5616 + 0.4740 + 1.6274 = 3.2295	Non-Distressed
Sample-7	0.5246 + 0.6109 + 0.6056 + 2.2665 = 4.0076	Non-Distressed
Sample-8	(0.1298) + 0.0580 + (0.0079) + 1.3604 = 1.2807	Distressed
Sample-9	(0.1967) + 0.0445 + (0.0987) + 1.6449 = 1.3940	Distressed
Sample-10	(0.3878) + 0.0465 + (0.1265) + 1.3942 = 0.9864	Distressed
Sample -11	(0.6657) + 0.0638 + (0.0675) + 0.9583 =0.2989	Distressed
Sample-12	(0.4590) + 0.0267 + (0.1159) + 0.8376 = 0.2938	Distressed
Sample-13	(0.7868) + 0.0722 + (0.0719) + 1.3637 = 0.5772	Distressed
Sample-14	(1.1803) + 0.0236 + (0.0092) + 1.1620 = 0.0039	Distressed
Sample-15	(0.6557) + 0.0454 + (0.1040) + 0.7682 = 0.0539	Distressed
Sample-16	(0.1311) + 0.0553 + (0.0493) + 0.7492 = 0.6241	Distressed
Sample-17	(0.2098) + 0.0620 + (0.0338) + 0.6444 = 0.4628	Distressed
Sample-18	(0.0026) + 0.0442 + (0.0556) + 1.0033 = 0.9893	Distressed
Sample-19	(0.1967) + 0.0721 + (0.0716) + 1.5898 = 1.3936	Distressed
Sample-20	(1.1934) + 0.0489 + (0.1185) + 1.4721 = 0.2091	Distressed

Source: authors

From the above table, it is evident that 14 out of 20 sample SMEs have been found financially distressed and the remaining 6 has been financially found financial sound. This implies that a large number of SMEs are within the vicious circle of financial poverty. Addressing this issue vigorously is an urgent task of practitioners and others involved in the area of financial management and accounting. To address this issue properly, one has to identify the root cause of financial distress of SMEs of Bangladesh.

2.4 Identification of Causes of Financial Distress in SMEs of Bangladesh

The study has collected opinion of 23 sample SMEs and 14 professionals on 5 point likert scale in order to identify the causes of financial distress in SMEs of Bangladesh. Varimax Rotated Factor Analytical technique has been employed for grouping the variables on the basis of their inherent relationship and finally ranking the group on the basis of their magnitudes.

2.4.1 Identification of Causes of Financial Distress on Mean Weighted Scores

The study has identified the causes undertaken for the study most significant, significant and insignificant on the basis of mean score of opinions taken of 5 point likert scale as follows:

Table 7. Identification of Causes of Financial Distress on Mean Weighted Scores

Variables	Factor Variables	Mean Score
Most Significant		
X1	Inadequate Financing	**4.6486**
X16	Lack of Access to Credit	**4.3243**
X19	Shortage of Skilled Manpower	**4.1351**
X20	Poor Accounting Records	**4.1081**
X2	Poor Management	**4.0811**
X11	High Cost Structure	**4.0000**
Significant		
X17	Lack of Proper Keeping of Financial Records	**3.9730**
X15	Financial Indiscipline	**3.9730**
X13	Dwindling Productivity and Profitability	**3.9459**
X18	Policy Changes of Government	**3.8378**
X7	The Business is in Price War	**3.7568**
X5	Inadequate Financial Control and Lack of Awareness	**3.7291**
X12	Higher Turnover of Workers	**3.6486**
X8	Management Succession	**3.5676**
X3	Improper Capital Decision	**3.3514**
X10	Low Price Overseas Competition	**3.2703**
X14	Counter Party Default	**3.0541**
Insignificant Causes		
X4	Contraction of Economy and Macro-Economic Factors	**2.5676**
X6	Customer's Loyalty to the Product/Services	**2.3514**
X9	Contingent Problems	**1.8919**

It is evident from the Table 7 as stated above that the study has identified six most significant problems, eleven significant and three insignificant causes of financial distress in sample SMEs of Bangladesh. The causes of financial distress identified by the study have been found to belong to lack of financial planning, cost structures, poor management, poor accounting records, lack of access to credit, low financial control etc. These findings are similar to the findings –potential problem areas related to financial distress in **section 2.2.**

2.4.2 Identification of Causes of Financial Distress in SMEs of Bangladesh on Varimax Rotated Factor Analysis

The study has estimated zero-order correlation of all 20 variables considered for study. The correlation matrix has shown that Variables understudy have formed several groups on the basis of relationship underlying between variables. Variables within the group have been found to have significant relationship at different level of significance. The correlation matrix of all 20 variables has been further subjected to principal component analysis. The Eigen values, the percentage of total variance, and rotated sum of squared loadings have been shown in Appendix-1. The factor matrix as obtained in the principal component analysis has also been further subjected to Varimax Rotation. An examination of Eigen values has led to the retention of eight factors. These factors have accounted for 18.245%, 11.674%, 10.998%, 9.844%, 7.825%, 6.769%, 6.232%, and 6.030% of variation. This implies that the total variance accounted for by all eight factors is 77.62% and the remaining variance is explained by other factors.

The rotated factor matrix has been shown in Appendix-2. This shows that variables understudy have constituted eight groups/factors which have been discussed in the following paragraphs:

Factor-I: Poor Accounting System
Factor-I explains 14.746 percent of the total variations existing in the variable set. This includes variables- $X_{17,}$ $X_{15,}$ and X_{20}. This factor has significant factor loadings on these variables which have formed this major cluster. This factor belongs to internal organizational factor of financial and accounting. So, this factor provides a basis for conceptualization of a dimension, which may be identified as poor accounting system.

Factor-II: Productivity and Profitability Factor
Factor-II explains 14.012 percent of the total variations existing in the variable set. This includes variables-X_{13}, $X_{11,}$ X_{19} and $X_{3.}$ This factor has also significant factors loading on these variables which formed second important cluster with respect to the variation. This factor is concerned with the productivity and profitability of SMEs. So, this has provided a dimension of conceptualizing investor related variables, which may be identified as productivity and profitability factor.

Factor-III: Fund Management and Credit Crunch
Factor-III explains 10.382 percent of the total variations existing in the variable set. This includes variables- X_1, $X_{16,\ and}$ $X_{6.}$ This factor has moderate factor loadings on these variables which have formed a third important cluster. This factor is related to fund management and resource crunch. So, this factor has provided a basis for conceptualization of a dimension, which may be called 'Fund Management and Credit Crunch'.

Factor-IV: Liquidity Factor
Factor-IV explains 9.276 percent of the total variations existing in the variable set. This includes variables- $X_{10,}$ and $X_{14,\ .}$ This factor has high factor loadings on these variables which have formed a fourth important cluster. This factor has provided a basis for conceptualization of dimension which may be called Liquidity Factor.

Factor-V: Sensitivity to the Government Policy Change Factor
Factor-V explains 8.577 percent of the total variations existing in the variable set. This includes variables- X_2 and $X_{18\ .}$ This factor has high factor loadings on these variables which have formed a fifth important cluster. This factor has provided a basis for conceptualization of dimension which may be called Liquidity Factor

Factor-VI: Macro-Economic Factor
Factor-V explains 7.1897 percent of the total variations existing in the variable set. This includes variables- X_{12}, and $X_{4.}$ This factor has factor loadings ranging from moderate to high on these variables which have formed a sixth important cluster. This factor is concerned with the macroeconomic factor. This factor has provided a basis for conceptualization of dimension which may be called 'Macro-economic Factor'.

Factor-VII: Management Succession Factor
Factor-V explains 6.967 percent of the total variations existing in the variable set. This includes variables- X_9 and $X_{8.}$ This factor has factor loadings ranging from moderate to high on these variables which have formed a seventh important cluster. This factor is concerned with the management succession. This factor has provided a basis for conceptualization of dimension which may be called 'Management Succession Factor'.

Factor-VIII: Financial Control Factor

Factor-VIII explains 6.466 percent of the total variations existing in the variable set. This includes variables- $X_{7,}$ and $X_{5.}$ This factor has high loadings on these variables which have formed a eighth important cluster. This factor is concerned with the pricing and financial control of SMEs. This factor has provided a basis for conceptualization of dimension which may be called 'Financial Control Factor'.

Finally, the rankings obtained on the basis of factor wise average scores are shown in the Table 8.

Table 8. Rankings of the Factors Influencing Financial Distress

	Factor	Average Score	Rank
I	Poor Accounting System	3.500	2
II	Productivity and Profitability Factor	3.400	4
III	Fund Management and Credit Crunch	3.600	1
IV	Liquidity Factor	2.600	6
V	Sensitivity to the Government Policy Change Factor	1.770	8
VI	Macro-Economic Factor	2.100	7
VII	Management Succession Factor	3.250	5
VIII	Financial Control Factor	3.455	3

Source: authors

The factor ranking show that Factors III: Fund Management and Credit Crunch is the most important factor that causes financial distress of sample SMEs of Bangladesh. This factor includes variables such as inadequate financing, innovativeness and lack of access to credit. This has really reflected the actual scenario of being financial distress in SMEs. The second most important factor is Poor Accounting System Factor. This factor includes variables such as financial discipline, lack of proper keeping of accounting records and poor accounting standards. These variables have been found rendering SMEs financially distressed. The third important factor is the financial control which includes variables such as lack of proper financial control and pricing competition. The fourth important factor is productivity and profitability factor which includes high cost structure, dwindling productivity and profitability, shortage of skilled manpower and improper financial decision. Other important factors are management succession factor, liquidity factor, macro-economic factor and sensitivity to government policy change factor in order of their magnitudes.

3. SUMMARY, POLICY IMPLICATION AND CONCLUSION

The study has been both empirical and theoretical one. Both primary and secondary have been used. The study has analyzed data by employing financial techniques and statistical techniques.

3.1 Summary of the Findings

I. The study has identified some important potential problem area of financial distress such as Rate Adequacy, Depreciation Rates, Sales Trends, Expenses, Financial Planning, Management Capability and indebtedness. These findings are similar to findings on means score basis in section 2.4.1.

II. The study has identified following causes with the help of sophisticated multivariate technique-Varimax Rotated Factor Analysis:
   a) Fund Management and Credit Crunch;
   b) Poor Accounting System;
   c) Financial Control Factor;
   d) Productivity and Profitability Factor; and
   e) Management Succession Factor.

3.2 Policy Implications

Financial distress is characterized by different features. Parties interested in the firm always take care of these features; and accordingly take their own strategic position. SMEs are contributing to the economy as a buffer of the economic system. So, preventing SMES from being financially distressed is the most important job of Government, Apex Body, Regulatory Agencies, Profession Bodies and Non-Government Agencies. So, following policy and strategic measures have been suggested for developing the non-distressed SMEs as well as for strengthening distressed SMEs in all fronts so that they can get out of financial distressed circle:

a) SMEs should have proper financial planning. They should undertake both financing and investment program according to financial planning.
b) SMEs should keep all records of financial transactions in a system way. In this case, they should appoint professional accountants so that financial statements can be prepared by adopting rules of Companies Act 1994, and International Financial Reporting Standards adopted by ICAB. This will provide accurate accounting and financial information for making both routine and non-routine managerial decisions by the management of SMEs. This will also enable lending agencies to conduct credit risk analysis; and rating agency to carryout the rating job for the SMEs.
c) SMEs should introduce internal audit to restore effective financial control in the SMEs.
d) SMEs need to have an effective management system as well as skilled manpower. This is expected to exert a positive influence in efficiency as well as productivity of SMEs. Good culture in the firm develops leadership in the organization who can be able to trace the financial distress early and thereby prevent SMEs from the exposition to financial and operating risk.

3.3 Conclusion

SMEs being integral part of economy have been an important subject of different interested parties including Government of Bangladesh. Bangladesh Bank has already declared 'Loan Policy For SMEs' and directed all commercial banks and non-banking financial institutions to simplify the SME Loan procedures by opening separate SME Loan Centre. At this juncture, the inferences drawn by the present study and strategies & policies suggested can be of immense interest to related parties to SMEs for giving this sector appropriate direction towards development of economy of the country.

REFERENCES

Altman, E. I. (1983). *Corporate Financial Distress*, New York: John Wiley & Sons.

Altman, E. I. (1991). *Distressed Securities: Analyzing and Evaluating Marketing Potential and Investment Risk*, Chicago: Probus Publication.

Altman, E.I., Haldeman, R.G. and Narayanan, P. (1977). Zeta Analysis: A New Model to Identify Bankruptcy Risk of Corporation, *Journal Banking and Finance*, Amsterdam: North Holland Publishing Company, 29-54.

Dillion, W.R. and Goldstein, M. (1984). *Multivariate Analysis: Methods and Applications*, John Wiley & Sons, London.

Foster, G. (2005). *Financial Statement Analysis*, Delhi: Pearson Education, Fourth Edition.

Frydman, H.E., Altman, E.I., and Kao, D.L. (1985). Introducing Recursive Partitioning for Financial Classification: The Case of Financial Distress, *The Journal of Finance*, 269-291

Gopinath, C. (1995). External influence on firms: An exploratory model of bank strategies. *Journal of Business Research* 34: 133-143.

Graham, J.R. and Harvey, C.R. (1999), The theory and practice of corporate finance: Evidence from the field *Journal of Financial Economics* 61 (2001) 000-000, USA.

GOB. (2006). *Industrial Policy 2005*, Dhaka: Ministry of Industry, Government of the People Republic of Bangladesh.

Jahur, M.S. (2005). Factors Influencing the Growth and Development of SMEs in Bangladesh-An Explorative Study, Seminar Proceeding of AMDISA, Dhaka: IBA.

Jahur, M.S. & Quadir, S.M. (2001). Determinants of Financial Performance of Textile and Clothing Industry: An Application of Multiple Discriminant Analysis. *Journal of Business Administration*, 27(1), January and April.

Khan, A.K. (2000). *Entrepreneurship Small Business and Lives of Successful Entrepreneurs*, Dhaka: Rubi Publications, Bangladesh

Marais, M.L., Patell, J.M., and Wolfson, M.A. (1984). The Experimental Design of Classification Models: An Application of Recursive Partitioning and Bootstrapping to Commercial Bank Loan Classification, *Journal of Accounting Research*, vol. 22 Supplement, 87-114.

OECD, (1997). *Globalization and SMEs*, Volume 1, Synthesis Report, Paris.

Papanek,V. J. *Financial Express*, Dhaka, Bangladesh, April 19, 2010

Runyon, L.R. (1983). Capital expenditure decision making in small firms. *Journal of Business Research*, *11*(3), 389-397.

Sarapaivanich, N. (2003). The Use of Financial Information in Financial Decisions of SMEs in Thailand, *16th Annual Conference of Small Enterprise Association of Australia and New Zealand*, *28 September – 1 October*, Hosted by University of Ballarat, Ballarat, Australia

Uddin, A. M. (1999). Development of Small-Scale Industries in Bangladesh in the New Millennium: Challenges and Opportunities. *Asian Affairs*, *21*(1), Jan-March.

Walker, J., Burns, R. & Denson, C. (1993). Why small manufacturing firms shun DCF. *Journal of Small Business Finance*, 2, 233-249.

Weitzel, W. and Jonsson, E. (2009), Decline in Organizations: A Literature Integration and Extension, *Administrative Science Quaterly* 34, 91-109.

Appendix 1

Total Variance Explained

Component	Initial Eigen Values			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.649	18.245	18.245	2.949	14.746	14.746
2	2.335	11.674	29.919	2.802	14.012	28.757
3	2.200	10.998	40.916	2.076	10.832	39.140
4	1.969	9.884	50.760	1.855	9.276	48.416
5	1.565	7.825	58.585	1.715	8.577	56.993
6	1.354	6.769	65.354	1.438	7.189	64.182
7	1.246	6.232	71.586	1.393	6.967	71.149
8	1.206	6.030	77.616	1.293	6.466	77.616
9	0.902	4.509	82.125			
10	0.783	3.916	86.040			
11	0.683	3.192	89.233			
12	0.521	2.603	91.836			
13	0.478	2.389	94.226			
14	0.347	1.735	95.960			
15	0.261	1.303	97.264			
16	0.230	1.152	98.416			
17	0.148	0.742	99.158			
18	0.105	0.524	99.682			
19	0.0064	0.318	100.00			
20	-1.956	-9.782	100.00			

Appendix 2

Rotated Factor Matrix

Variable	Component							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
X17	0.976							
X15	0.976							
X20	0.802							
X13		0.878						
X11		0.832						
X19		0.757						
X3		0.519						
X1			0.839					
X16			0.710					
X6			-.505					
X14				0.894				
X10				0.862				
X2					0.870			
X18					0.807			
X12						0.801		
X4						-0.612		
X9							0.746	
X8							0.538	
X7								0.788
X5								0.673