FINANCIAL PLANNING AND CONTROL IN PUBLIC SECTOR INDUSTRIES IN BANGLADESH

THE THESIS SUBMITTED IN FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

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A B S T R A C T

The performance of the public sector industries mainly in terms of producing goods and services, gross domestic product and value added in manufacturing, generating surplus and per employee investment has not been satisfactory in Bangladesh especially since liberation. Of the many factors contributing to such poor performance, management inefficiency, especially, financial management indiscipline was the major one. Since financial planning and control form the core of financial management, the study of the various aspects of financial planning and control is the vital one. In this background, the main purpose of the study is to make a critical assessment of the financial planning and control practice in the selected public sector industries in Bangladesh, indicating the main problems, deficiencies and shortcomings encountered in this field; and also examining the impact of the problems, deficiencies etc. on the performance of such industries.

Financial planning and control include mainly the following aspects viz., organisation of finance function including financial administration, capital expenditure planning and control, working capital planning and control, profit planning and control and communication and financial reporting.

Some irregularities have been observed in the finance functions performed in the industries. Some important finance functions have not been included in the Organisation Manuals and/or Financial Codes/Rules of the Selected Corporations although these are duly recognised by the classical writers; and

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again, some other important finance functions have not been efficiently performed inspite of the proper emphasis put on them by such Manuals, Financial Codes etc.

Capital expenditure planning and control have been insufficient in the industries due to inaccurate estimate of fixed capital requirements, defective procedures involved in capital investment decision, inappropriate determination of capital structures of the enterprises, defective system followed in capital expenditure financing, inefficient treasury control and budgetary control as practised in the enterprises etc. As a result, high rates of debt capital as compared to equity capital and high rates of unfavourable variances between actual costs and budgeted costs of the projects have been noticed in most of the cases.

Working capital planning and control have also been inadequate in the industries because of inaccurate estimate of working capital requirements, poor inventory, accounts receivable and cash policies, defective system followed in financing working capital requirements, and lack of performance budgeting in these cases. Consequently, there occurred working capital shortages creating liquidity problems, and steep unfavourable variances between the actual and budgeted total costs have been observed in the enterprises concerned.

Profit planning and control as well as communication and financial reporting as practised in the industries have also been insufficient due to inaccurate formulation of profit plans and targets, unduly delayed communication of profit plans and targets by the Corporation level executives to the enterprise level executives for their execution, non-application of break-even analysis, standard costing and proforma operating statement

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analysis in the enterprises, absence of any specific lines of responsibility in a particular enterprise, communication of the same set of financial reports etc. to all the different levels of management ignoring each of their own specific requirements and lack of relevance, reliability, understandability, consistency, variance analysis and effective feedback of financial information in the enterprises.

All the aforesaid inadequacies encountered in the various aspects of financial planning and control have made the financial planning and control inappropriate and unsound in the concerned industries which in turn produced adverse impacts on the profitability of the said industries. Therefore, the improvement in the financial planning and control in the selected enterprises will lead to higher profitability and in turn to better performance of these enterprises.

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List of Tables, Diagrams etc.

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CHAPTER I

BACKGROUND, OBJECTIVE AND METHODOLOGY

1.1 Role of Industrialisation in Economic Development of Bangladesh

Industrialisation plays a vital role in accelerating the economic development of a country. It offers substantial dynamic benefits that are important for changing the traditional structure of the less developed economy, and the advocacy of industrialisation may be particularly compelling for primary export countries that confront problems of a lagging export demand while having to provide employment for a rapidly increasing labour force[1]. In a predominantly agricultural country like Bangladesh, industrialisation is one of the most significant processes in economic development of the country in so far as industries process agricultural products into manufactured goods; supply both consumers' and producers' goods mostly for the use by the people of the country; create job opportunities for employment of the growing labour force; earn foreign exchange through exports of the goods; save foreign exchange by substituting imports of the goods; generate income for investment in various sectors of the economy; reduce dependence on foreign countries for essential commodities and help develop backward regions of the country thereby correcting regional imbalances in the industrial sector.

The present Bangladesh has a sizeable number of industries mostly inherited from the pre-liberation days. The large-scale manufacturing industries in Bangladesh consist of about a thousand enterprises each employing, on the average,

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[1] Meir, Gerald M., Leading Issues in Economic Development: Studies in International Poverty, 2nd ed., Oxford University Press, 1970, p. 391.

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just over 230 workers.[2] The contribution of these industries to economic development of the country can be seen mainly in terms of their contribution to the Gross Domestic Product(GDP) of the country. A study of the performance of large-scale manufacturing industries in Bangladesh shows that the contribution of the industrial sector to economic development of the country was significant during pre-liberation Bangladesh, particularly, over the period 1959-60 to 1969-70. The contribution of manufacturing industries to the total GDP of the country was less than 3 percent in 1959-60[3], but in 1969-70 it rose to about 9 percent.[4]

1.2 Industrial Policies of Bangladesh

Bangladesh as a part of the former Pakistan started with almost nil industrial base. In the early 50's the industrial base in Bangladesh was almost non-existent.[5] To promote the growth and development of industries in the country, Government

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[2] The 1967-68 Census of Manufacturing Industries in East Pakistan, quoted in Khan, A.R., The Economy of Bangladesh, Macmillan Co. of India Ltd., India, 1973, p.65.

[3] Rabbani, A.K.M.Ghulam,, "Planned Development in East Pakistan - 1958-67: Some Problems and Future Prospects", Souvenir on the Planning Week (August 12-21, 1968), Planning Department, Government of East Pakistan, Dacca, 1969, pp.24-25. Also see Ministry of Finance, Government of Pakistan, Pakistan Economic Survey, 1969-70, Islamabad, p.22.

[4] Planning Department, Government of East Pakistan, Economic Survey of East Pakistan, 1969-70, Dacca, 1970, p.58.

[5] Alamgir, M. and Rahman, A., Savings in Bangladesh: 1959/60 - 1969/70, Bangladesh Institute of Development Studies, Dacca, 1974, p.118.

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declare some policy measures in the Statements of Industrial Policies as issued from time to time. The first Industrial Policy Statement of the former Pakistan of which the present Bangladesh was a province was announced in April, 1948 and it was revised in February, 1956. The Industrial Policy Statement of 1948[6] laid down the policy of processing the available raw materials into finished products for which there was an assured market, at home and/or abroad thereby establishing consumer goods' industries so that dependence on foreign sources of supply could be reduced. The revised Industrial Policy Statement of 1956[7] gave the highest priority to essential industries and those having export potentialities and also emphasised the diversification of industries and standardization of industrial commodities. In both these Policy Statements, the respective roles of the public and private sectors in industrial development of the country were recognised. The Government's responsibility was limited to the provision of some basic facilities, such as power, imported materials, spares and components, machineries and equipment; transport, communication etc. to industrialisation.

It is observed that during the period of the first Industrial Policy, interest of the private sector was concentrated mostly on the establishment of such industries which would require less capital, simple technology, low gestation period, but would provide enough profits. But the industries requiring large capital, complex technology, high gestation period with a comparatively lower prospect of profits remained neglected by the private sector. As a result, growth of the

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[6]Ministry of Industries, Government of Pakistan, The Industrial Policy Statement of 1948.

[7]Ministry of Industries, Government of Pakistan, The Revised Industrial Policy Statement of 1956.

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industries in Bangladesh was slow during the first decade of the emergence of the former Pakistan.

The Government established the Pakistan Industrial Development Corportation (PIDC) in January, 1952 for the growth and development of particular industries of national importance as a means of attracting the private enterprise. This Corporation was set up with some major objectives viz., (i) establishment of industries in those sectors[8] where private enterprise was not forthcoming adequately; (ii) encouragement of the private enterprise into collaboration with the PIDC in the establishment of industries and (iii) disinvestment of the completed enterprises in favour of the private sector and thus revolving public sector funds for balancing, modernisation and replacement of the existing enterprises. After the creation of the PIDC, private enterprises also showed interest in setting up industries in collaboration with the PIDC. On July 1, 1962 the Government bifurcated the PIDC into two provincial bodies viz; East Pakistan Industrial Development Corporation (EPIDC) for the erstwhile East Pakistan and West Pakistan Industrial Development Corporation (WPIDC) for the erstwhile West Pakistan. The EPIDC came into existence with the same objectives as were pursued by the former PIDC. The manifest aim of the bifurcation policy was to give the former East Pakistan (present Bangladesh) more autonomous power to accelerate the pace of industrial development in the country. That the said policy had produced fruitful results is evident from the fact that the rate of capital investment had increased from Taka 49.39 million in 1960-61 to Taka 335.28 million in 1968-69; the average annual

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[8] These sectors included Jute, Cotton Textiles, Sugar, Fertilizer, Heavy Chemical, Iron and Steel, Heavy Engineering, Shipbuilding, Paper and Paperboard, Pharmaceuticals, Dyestaffs, Cement etc., cf. Charter of the PIDC, quoted in Pakistan, 1955-56, Pakistan Publications, Karachi, August, 1956, p.119.

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investment in public sector during the EPIDC period was about Taka 223.92 million as against Taka 67.38 million during the time of the former PIDC.[9] After the emergence of the EPIDC, the interest of the private enterprise in the establishment of industries in collaboration with the corporation had also increased. Out of the total number of 51 enterprises established by the EPIDC during 1962-70, 34 enterprises were set up by the private enterprise in collaboration with the EPIDC.[10] Whereas of the total number of 21 enterprises established by the PIDC during 1952-62, 12 enterprises were set up by the private enterprise in collaboration with the PIDC.[11]

After liberation, role of the public sector, in the industrial development of Bangladesh, has increased phenomenally, as Government nationalised the major large-scale manufacturing industries of the country as a state policy. In March, 1972, under the Nationalisation Order[12], the Government nationalised all the industrial units under Jute, Sugar and Cotton Textile (excepting Handloom) sectors and most of the units under large-scale manufacturing industrial sectors viz., Steel, Engineering and Shipbuilding, Chemical and Fertilizer, Paper and Paperboard, Food and Allied etc. Furthermore, Government took over the management of the abandoned industrial enterprises with assets above Taka 1.5 million[13]. Thus, by 1974, public sector industries

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[9] East Pakistan Industrial Development Corporation, Progress Report, 1968-69, Dacca, 1970, p.11.

[10] East Pakistan Industrial Development Corporation, EPIDC At Work, 1952-70, Dacca, 1970, pp. 2-6.

[11] East Pakistan Industrial Development Corporation, Progress Report, 1968-69, op.cit., p.60.

[12] President of Bangladesh, Bangladesh Industrial Enterprises (Nationalisation) Order, 1972 (President's Order No.27 of 1972), The Bangladesh Gazette, March 26, 1970.

[13] As per decision took on the Cabinet Meeting, held on February 28, 1972.

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consisted of about 406 nationalised enterprises placed under the management of 11 Sector Corporations and about 375 abandoned units placed under the management of Disinvestment Board, Sena Kalyan Sangstha and Freedom Fighter Foundation[14].

As a result of nationalization and Government measures, the share of public ownership in total industrial assets of the country went up from 36 percent before liberation to 86 percent after liberation[15]. This fact is an index of assumption of the greater role of public sector in industrial growth and development in Bangladesh.

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[14] The distribution of industrial units placed under the management control of Sector Corporations, Disinvestment Board under the Nationalised Industries Division, Sena Kalyan Sangstha and Freedom Fighters Foundation was as follows: 74 enterprises under Bangladesh Jute Mills Corporation (BJMC), 77 enterprises under Bangladesh Textiles Mills Corporation (BTMC), 17 enterprises under Bangladesh Sugar Mills Corporation, 20 units under Bangladesh Steel Mills Corporation, 51 units under Bangladesh Fertilizer, Chemical and Pharmaceutical Corporation, 17 units under Bangladesh Paper and Paperboard Corporation, 37 units under Bangladesh Engineering and Shipbuilding Corporation, 54 units under Bangladesh Food and Allied Industries Corporation, 23 units under Bangladesh Forest Industries Development Corporation, 30 units under Bangladesh Tanneries Corporation, 6 units under Bangladesh Minerals Exploration and Development Corporation, 340 units under Disinvestment Board, 20 units under Sena Kalyan Sangstha and 15 units under Freedom Fighters Foundation; cf. Annual Reports of the Sector Corporations, Disinvestment Board and Sena Kalyan Sangstha for the year 1974-75.

[15] Sobhan, Rehman; "Nationalisation of Industries in Bangladesh: Background and Problems", The Economic Development of Bangladesh Within a Socialist Frame-work, (ed. by Robinson and Griffin), Macmillan, 1974, pp.181-185.

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In order to improve the management control in the Sector Corporations, in 1976, Government decided to disinvest relatively small taken over units to the private enterprises and accordingly reduced the number of Sector Corporations to 7 only viz., Bangladesh Jute Mills Corporation (BJMC), Bangladesh Textile Mills Corporation (BTMC), Bangladesh Sugar and Food Industries Corporation(BSFIC), Bangladesh Steel and Engineering Corporation (BSEC), Bangladesh Chemical Industries Corporation (BCIC) and Bangladesh Forest Industries Development Corporation (BFIDC) and Bangladesh Minerals Exploration and Development Corporation (BMEDC). These Corporations have been playing a dominant role in the industrial development of post-liberation Bangladesh.

A study of the growth of industries in Bangladesh during the period of PIDC - EPIDC reveals that during 1952-70, a total number of 71 projects were set up in the public sector at a total cost of Taka 2417.26 million[16]. In response to the Disinvestment Policy of the Corporations, the former EPIDC, during the period 1963-69 completely disinvested and/or refunded loan/capital of a total number of 11 enterprises at a total amount of Taka 184.86 million[17]. After liberation, during 1972-80, the period of the selected Sector Corporations viz., BJMC, BTMC, BSFIC, BSEC and BCIC, a total number of 24 projects were established in the public sector at a total cost of Taka 8736.96 million[18].

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[16] East Pakistan Industrial Development Corporation, Progress Report, 1965-66, Dacca, 1967, pp.49-50 and East Pakistan Industrial Development Corporation, EPIDC At Work 1952-70, op., cit., pp.2-6.

[17] East Pakistan Industrial Development Corporation, Progress Report, 1968-69, op., cit., pp.56-59.

[18] vide Official Records of the Planning Department under BJMC, BTMC, BSFIC, BSEC and BCIC for the related period.

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In response to the Industrial Policy of 1975[19] as issued by the Government, the Disinvestment Board disinvested a total number of 162 taken over units at a total sale price of Taka 6.73 crore during the First Five Year Plan period of 1973-78[20].

1.3 Corporate Objectives in Public Sector Industries in Bangladesh

A corporate objective is a specific category of purpose that includes attainment by an organization of certain states or conditions, such as satisfaction of interests of the members of the organization and their employees, production of goods and services, efficiency, mobilisation of resources, rationality, observance of codes or disciplined behaviour and so on[21]. Thus, corporate objectives are the goals, aims or purposes that executives, managers and administrators wish their organizations to achieve over varying periods of time. Corporate objectives may be of two types namely, primary objectives and collateral objectives[22]. The primary objectives are all the activities which are directly concerned with producing and selling goods and services at a profit. For example, survival, growth, economic

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[19] This Industrial Policy is the second revised policy of the Government of present Bangladesh. The original Industrial Policy was announced in 1973 and then it was revised for the first time in 1974.

[20] Planning Commission, Government of the People's Republic of Bangladesh, The Second Five Year Plan, 1980-85 (Draft), Dacca, 1980, p.XIII-136.

[21] Mc Farland, D.E., Management: Principles and Practices, 3rd ed., Macmillan Company, New York, p.171.

[22] Batty, J., Corporate Planning and Budgetary Control, Macdonald and Evans, London, 1970, p.70.

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contributions and profit-making are the major primary objectives[23]. The collateral objectives are the subsidiary objectives necessary to carry out the primary objectives and are concerned with the employees - their interests and job satisfaction, means of motivating them and their other personal aspects. For example, creation of job opportunities, providing economic and financial benefits, civic right and recreation facilities to employees and providing opportunities to executives to take part in community affairs are the major collateral objectives[24].

In theory the public industries sector is expected to derive its goal-structure from aims which have been proclaimed for the national economy[25]. Within the industries such national goals are expected to be converted in terms of operational and investment policies so that public enterprises can be used as instruments for the realisation of national goals.

The national goals of Bangladesh as reflected in the First and Second Five Year Plans[26] are: (i) removal of poverty; (ii) reduction of inequalities; (iii) generation of surplus; (iv) expansion of employment; (v) acceleration of economic growth and (vi) promotion of self-reliance.

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[23] Mc Farland, D.E., Management: Principles and Practices, op. cit., p.175.

[24] ibid, pp.180-181.

[25] Sobhan, Rehman and Ahmad, Muzaffar, Public Enterprises in an Intermediate Regime: A Study in the Political Economy of Bangladesh, Bangladesh Institute of Development Studies, Dacca, 1980, p.277.

[26] Planning Commission, Government of the People's Republic of Bangladesh, The First Five Year Plan, 1973-78, Dacca, November, 1973, pp.9-10 and The Second Five Year Plan, 1980-85, op.cit., pp.II-1-3.

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The analysis of the aforesaid goals and strategies at the national level signifies that there had been multiplicity of national objectives in Bangladesh. Because of the multiplicity of national objectives it was not possible to fix any single operational objective for individual public sector industries. In fact, in most cases the multiple national objectives had also been imposed as industry objectives without indicating in precise terms their relative importance. One expert[27] has indicated in a study that a typical public enterprise is expected to fulfil a varying combination of a number of operational objectives namely, increasing employment, raising output, reducing income inequality, promoting regional development, stabilising prices, increasing national self sufficiency, earning and/or saving foreign exchange, earning profits for investment, utilizing resources efficiently, training managers and technicians etc. Again, another expert[28] has pointed out in a study some objectives which a public enterprise is expected to fulfil namely, providing strategic infrastructure facilities, preserving natural resources, filling the gap created by inability or unwillingness of private enterprises to invest, reducing or eliminating foreign economic domination, social control and public welfare etc.

In concrete terms, the First and Second Five Year Plans of Bangladesh[29] indicate the following varied types of objectives to be fulfilled by the public industries sector:

(a) Production and supply of such consumers' and producers' goods which are not produced by the private enterprise or the

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[27] Jones, Leroy P., Public Enterprise and Economic Development: The Korean case, Korean Development Institute, Seoul, 1975, pp.145-149.

[28] Khan, Irshad H., "Management Development", Pakistan Management Review, Vol.XIX, No.2, Second Quarter,1978, Pakistan Institute of Management, Karachi, p.21.

[29] Planning Commission, The First Five Year Plan, 1973-78, op.cit., pp.208-209 and The Second Five Year Plan,1980-85, op. cit., pp.XIII,7-9.

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production of which is not encouraging in the private sector due to the requirements of heavy investment, long gestation period, complex technology or poor profitability or a combination of these;

(b) creation of job opportunities to employ the surplus labour force of the agricultural sector and other unemployed labour force of the country;

(c) provision of economic and financial benefits, civic rights and recreation facilities for the employed labour force in the industrial sector;

(d) earning and/or saving of foreign exchange through exporting products and/or by substituting imports of the products;

(e) running the business of the enterprises under the public sector industries on commercial principles;

(f) generation of adequate surplus in order to sustain the development efforts of public sector industries, on one hand; and to promote the growth of a self-reliant economy of the country through providing opportunities for investment of such surplus in other sectors of the economy, on the other; and

(g) development of the backward regions of the country with necessary industries and correction of regional imbalances in industrial sector of the country.

It may be noted that although the public sector industries have a number of objectives to realise, emphasis is also given on the running of the business on commercial principles. Running the business on commercial principles demands that the enterprises are expected to run their businesses with the motive of attaining commercial profitability in order to mainly sustain their development programmes and also follow the principles, methods and techniques of modern accounting and financial management while taking various decisions and preparing final accounts.

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1.4 The Problem

All available information indicate that the objectives of the public sector industries in Bangladesh could not be achieved to the desired level particularly since the liberation of the country. A study of the performance of public sector industries in Bangladesh reveals that in terms of profitability, production, contribution to GDP, value added in manufacturing and investment per employee, the position of public sector industrial enterprises during the past years have been far from satisfactory.

The average return on investment (i.e. Profits before Interest and Taxes on Total Tangible Assets)for public sector industrial enterprises under Jute,Cotton Textile,Sugar and Food, Steel, Engineering and Shipbuilding, Chemical and Fertilizer, and Paper and Paperboard industries for the period 1975-76 to 1977-78 was only 0.1 percent[30]. This return was quite low when compared with the position of pre-liberation days of Bangladesh on one hand, and with the position of India and Pakistan[31] on the other. The average return on investment during

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[30] vide Appendix VI (A) to the end of the study.

[31] Since the economy of Bangladesh, India and Pakistan is similar having mixed economy where both the public and private sectors play the vital role in the economic development, particularly, in the industrial development of the country; it seems appropriate to compare the profitability of public sector industries in Bangladesh with that of India and Pakistan. In this perspective, the position of Bangladesh in various respects, wherever possible, has been compared with India and Pakistan throughout the study.

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1968-69 for the enterprises under the aforesaid industries in pre-liberation Bangladesh was around 12 percent[32]. Again, the average return on investment for the period 1972-73 to 1975-76 for public sector industrial and commercial enterprises in India was about 7 percent[33]. The average return on investment during 1974-75 for the public sector manufacturing enterprises in Pakistan was around 6 percent[34]. Moreover, the low return on investment for public sector enterprises during post-liberation Bangladesh could not even cover the cost of capital. The rates of bank deposits (fixed or term deposits for a period of 3 years or more) were 9.25 percent during July, 1974 to March, 1976 and 10.25 percent on and after April, 1976[35].

The level of production of some of the main industrial goods during the post-liberation Bangladesh could not reach that of the pre-liberation days. As for example, the production of jute goods, cotton yarn, matches, paper (printing, writing and other), newsprint, cigarettes, mild steel products and sulphuric acid was lower even during 1977-78, the last year of the First

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[32] Alamgir, M. and Rahman, A., Savings in Bangladesh, 1959/60-1969/70, op.cit., p.150.

[33] Bureau of Public Enterprises, Lok Udyog, December, 1976, quoted in Chatterjee, S.K., Management of Public Enterprises (with special reference to India), Surjeet Publications, Delhi, 1979, p.164.

[34] Syed, Reza H., ed., Role and Performance of Public Enterprises in the Economic Growth of Pakistan, Investment Centre of Pakistan, p.LXI, App. H-II.

[35] Rahim, A.M.A., "Interest Rate Structure - A Review of Policy Implication, 1971-77", Current Issues of Bangladesh Economy (ed. by A.M.A. Rahim), Bangladesh Books International Ltd., 1978, p.87.

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Five Year Plan by 2.7 percent, 17.8 percent, 61.1 percent, 31.3 percent, 28.6 percent, 48.5 percent, 19.1 percent and 43.5 percent respectively, as compared to the pre-liberation period of 1969-70[36].

The contribution of nationalised manufacturing sector in present Bangladesh to GDP of the country has been nearly 6 percent[37], as against about 9 percent in the pre-liberation period of 1969-70[38].

In respect of value added in manufacturing, it is noted that although the amount of value added increased from Taka 329.80 crore in 1972-73 to Taka 513.30 crore in 1977-78, indicating an annual growth rate of 9.2 percent over the period, it was in fact a period of recovery and the progress was only marginal as compared to the peak level of 1969-70[39].

The average investment per employee for the period 1975-76 to 1977-78 for nationalised large-scale manufacturing

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[36] Bangladesh Bureau of Statistics, Government of the People's Republic of Bangladesh, Statistical Year Book of Bangladesh, 1979, Dacca, 1979, p.238.

[37] Rahim, A.M.A., "Better Management of Nationalised Industries: Search for Performance Measurement", Bangladesh Economy: Problems and Issues, (ed. by A.M.A.Rahim), University Press Ltd., Bangladesh, 1977, p.261.

[38] After liberation, since roughly 86 percent of the manufacturing industrial assets in the country had been nationalised the comparision of the contribution of the nationalised manufacturing sector in post-liberation Bangladesh has been made with that of the manufacturing sector in pre-liberation Bangladesh.

[39] Planning Commission, The Second Five Year Plan, 1980-85, op. cit., p.XIII-1.

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industries in post-liberation Bangladesh was about Taka 32,142[40], as against the figure of about Taka 44,768 in the pre-liberation period of 1969-70[41].

Of the many factors contributing to poor performance of public sector industries, management inefficiency appeared to be the major one. Of the various aspects of management viz., production management, purchase management, sales management, personnel management, financial management etc., financial management seemed to be the most weak in the case of the public sector industries. The planners, policy makers and economists of the country had also recognised this fact. The Planning Commission[42] observed that viability of public sector enterprises had suffered badly due to inadequacies in organizational structure, policies and programmes for personnel development, financial accounting practices including procurement, purchase and sales policies, technical management, capital investment decisions, various administrative parameters, such as proper deliniation of duties and responsibilities, span of control at different levels, supervision and communication practices, delegation of authority commensurate with responsibility at different levels etc.* An eminent economist[43] observed in a study that at the public sector industrial enterprises level adequate management information were not maintained,

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[40] vide Annual Reports for the years 1975-76, 1976-77 and 1977-78 of the Enterprises under BJMC, BTMC, BSFIC, BSEC and BCIC.

[41] East Pakistan Industrial Development Corporation, Annual Report, 1969-70. Dacca, 1970, pp.16-33.

[42] Planning Commission, The Second Five Year Plan 1980-85, op.cit., pp.XIII-24-25.

[43] Ahmed, Q. Kholiquzzaman, "The Management of Nationalised Industries Sector in Bangladesh: Some Comments on the First Five Year Plan Proposals", Political Economy, Vol.I, No.1, Bangladesh Economic Association, Dacca, 1974, p.257.

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proper costing was not done, appropriate budgetary control was not applied and there existed very little cost conciousness amongst the executives. Another expert[44] pointed out in a study some deficiencies in the organization of finance function, capital investment decision, material management, inventory control procedures and pricing policy in the case of the public sector industries in Bangladesh. Moreover,a study undertaken by two other noted economists[45] indicated some financial problems in the nationalised industries in Bangladesh, such as problem of inherited liabilities of abandoned and taken over units, problem of liquidity gap, capital structure problem, problem relating to determination of rates of return on funds provided by the Government, problems relating to the specialised financial institutions etc.

Thus, it appears that inefficiency of financial management was the most vital factor leading to poor financial performance in the public sector industries. Financial management is concerned with the management of finance function embracing proper planning and decision-making, coordination and facilitation and analysis, review and control of the financial affairs. It is the core of management since every decision in an enterprise is ultimately a financial decision. Of the various aspects of financial management, financial planning and control are the most

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[44]Islam, Nurul; Development Planning in Bangladesh: A Study in Political Economy, University Press Limited, Bangladesh, 1979, pp.155, 165-66 and 229.

[45]Sobhan, Rehman and Ahmad, Muzaffer, Public Enterprise in an Intermediate Regime: A study in Political Economy of Bangladesh, op. cit., pp. 489-508.

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vital since they help an enterprise selecting proper sources of funds, collecting requisite funds from the desired sources with minimum of cost, utilising such funds efficiently and controlling financial operations effectively. Financial planning and control include mainly capital expenditure planning and control, working capital planning and control, profit planning and control and communication and financial reporting.

It appears that in the case of public sector industries in Bangladesh little attention has so far been given to these aspects of financial planning and control. Thus, financial planning and control proved to be weak in these industries. Although planners and policy makers of the country had recognised poor financial planning and control systems in public sector industries, exact reasons for such situation were not, however, known. There appeared to be no comprehensive study in the country on the subject "Financial Planning and Control in Public Sector Industries in Bangladesh". It might be that the appropriate codes, principles, methods and techniques of modern financial management were not adequately followed in these industries. The extent of non-compliance with these principles, methods etc. in public sector industries and its impact on the performance of these industries are the core of the present study on the subject entitled "Financial Planning and Control in Public Sector Industries in Bangladesh".

1.5 Objectives of the Study

The main objective of the study is to make a critical assessment of the existing practice of financial planning and control in public sector industries in Bangladesh. In precise terms, following are the specific objectives of the study:-

(i) To study the nature and scope, organisation etc. of finance functions as performed by the public sector industries.

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(ii) To evaluate the principles, procedures and methods adopted in capital expenditure planning and control;

(iii) To evaluate the principles, procedures and methods adopted in working capital planning and control;

(iv) To evaluate the principles, procedures and methods adopted in profit planning and control;

(v) To assess the financial performance of the selected industries;

(vi) To study the effectiveness or otherwise of feedback of management information for control purposes and

(vii) To examine the impact of financial planning and control on the performance of the selected industries.

1.6 Methodology of the Study

The conceptual foundations and their practical applications constitute the core of the subject matter. The concepts and techniques in current use by the selected public sector industrial enterprises were introduced in generic terms and then explained in detail to permit application to the industry-wise financial management problems. A significant feature of the study is the use of both primary and secondary data and information. Published data on the financial results of public sector large-scale manufacturing industrial enterprises have been extensively used in the study. The important secondary sources have been the Corporations' Annual Reports, Budget Statements, Annual Progress/Performance Reports etc. On the

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other hand, the main primary sources are the top financial executives, office memoranda, official records, documents etc. of the selected sector corporations and enterprises.

Most of the secondary data have been collected from the selected Sector Corporations and the BIDC cell under Nationalised Industries Division; while the primary data have been collected from the selected corporations and enterprises. The primary data have been collected by direct interview of the top financial executives of such corporations and enterprises. The data and information thus collected have been analysed and examined critically in order to make the study more analytical, informative and useful. Certain aspects of the current financial practices have been examined from the view-point of logic and stability.

1.7 Plan of the Chapters of the Study

The study on the subject entitled "Financial Planning and Control in Public Sector Industries in Bangladesh" is divided into nine Chapters. Chapter 1 is in the nature of an introduction. Chapter 2 deals with finance functions in public sector industries in Bangladesh. Chapter 3 discusses capital expenditure planning and control. Chapter 4 is devoted to working capital planning and control. Chapter 5 deals with profit planning and control. Chapters 6 and 7 are concerned with financial analysis of industrial enterprises and communication and financial reporting respectively. Chapter 8 examines the impact of financial planning and control on the performance of the industries. The last chapter i.e. Chapter 9 forms the summary and conclusion of the study.

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1.8 Limitation of the Study

It has already been mentioned in section 1.4 that no comprehensive study appeared to have been made on the subject so far in Bangladesh. Therefore, this study may be the first of its kind in the country. However, it has some limitations. Firstly, not much literature on the subject in the form of text books, research studies, reports etc., journals and magazines were available in the country. However, efforts have been made to procure them from abroad, as far as possible, and to use these for the purpose. Secondly, some of the data and information have been used after bringing them in desired forms, as these were not available as such in the sources. This might be due to the fact that less importance was attached to them by the concerned source agencies. Lastly, there were some sources which could not be utilised in the study for want of desired co-operation from the agencies concerned and their unwillingness to make available some known materials.

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CHAPTER 2

FINANCE FUNCTIONS IN PUBLIC SECTOR INDUSTRIES IN BANGLADESH

Financial Management is a technique of management which concerns the financial decision-making and other financial aspects of an enterprise. Thus, it involves financial planning and control, co-ordination and facilitation, financial merger and combination, insurance and tax management etc. To make the financial management efficient in an enterprise, it is necessary to perform the finance functions as effectively as possible. Therefore, before going into the detailed discussion of financial planning and control, the central areas of finance functions, the need for a look into the finance functions in public sector industries in Bangladesh is imperative. An attempt is made, in this Chapter, to discuss the nature, scope and organisation of finance functions, financial duties and powers of the different levels of management, and finally evaluation of the finance functions as performed in the selected industries.

2.1 Nature and Scope of Finance Functions

Meaning of Finance Function and its Relation with other Business Functions

The classical writers of financial management while defining the subject have laid special stress on the finance functions. But the finance functions have been viewed by different writers in different ways. Some writers[1] think that finance function is concerned with procurement of funds. In this narrow sense, finance function is concentrated on the task

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[1] Weston, J. Fred, "The Finance Function" Journal of Finance, Vol.IX, September, 1954, American Finance Association, pp.265-266; and Curtis, Edward T., "Company Organisation of the Finance Function", American Management Association, Research Study, No.LV, New York, 1962.

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of providing the funds needed by an enterprise. But, in practice, it is much broader in scope than mere procurement of funds. Therefore, some other writers[2] opine that finance function deals with procurement as well as utilisation of funds. In this broad sense, finance function is concerned with investment, financing and dividend decisions of an undertaking. But, in practice, there is another group of functions which needs to be executed by the financial executives and such functions may also be included in the finance functions. The custody and safe-keeping of funds fall under this group. Some writers[3] classify such functions as incidental finance functions; while the former groups of functions, in their views, fall into executive finance functions. Thus, finance function is concerned with procurement of funds, utilisation of funds and custody and safekeeping of funds to fulfil the desired goals of the enterprises.

In manufacturing industries there are three primary business functions which must be performed if goods are to be produced and distributed to the members of society; these are

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[2] Moag, Joseph S., Carleton, Williard T., and Lerner, Engene M., "Defining the Finance Function: A Model System Approach", Journal of Finance, Vol. XXII, December, 1967, pp.543-544; Solomon, Ezra; The Theory of Financial Management, Columbia University Press, New York, 1967, p.2; Peirson, C.G.and Bird, R.G., Business Finance, Mc Grow Hill Book Company, Sidney,1972, p.25; Weston, J. Fred and Brigham, F. Engene, Managerial Finance, Holt Rinehart and Winston, New York, 1969, pp. 2-7, and Vanhorne, James C., Financial Management and Policy, Prentice Hall International Inc., London, 1977, p.9.

[3] Kent, Raymond P., Corporate Financial Management, Richard D. Irwin, Inc., Homewood Illinois, 1969, p.67 and Kuchhal, S.C., Financial Management: An Analytical and Conceptual Approach, Chaitanya Publishing House, Allahabad, 1976, p.3.

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production, distribution and finance.[4] Finance function has a close relation to both production and distribution functions. Because, almost all kinds of actions in the area of production, distribution or marketing directly, or at least indirectly, involve the acquisition and use of money.[5] The direct involvements of the acquisition and use of finance in the areas of production and marketing functions are evident from the following two examples. Firstly, determination of factory employment policy also requires finance for the payment of wages and salaries, allowances and other fringe benefits to the employees. Secondly, determination of advertising policy also requires outlays of cash for executing such policy which obviously involves finance. It goes without saying that where there is the involvement of finance, the question of finance functions naturally arises.

Importance of Financial Planning and Control

Financial planning is the act of deciding in advance the financial activities that are essential if the enterprise is to achieve its desired objectives. In other words, financial planning without emphasising much the operative aspects which are associated with organising and controlling, is concerned with the evolution of a basis that will guide not only the process of fund raising but also the way in which funds would be used for specific activities at a particular point of time. Financial planning, therefore, is to serve as the point of contact between the uses of funds within an enterprise and its sources of funds.[6] It involves three fundamental steps: one, determining both long-term and short-term financial objectives; two, formulating and promulgating financial policies and three, developing procedures that aid in the promulgation of the enterprise's financial policies.

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[4]Walker, Ernest W. and Baughn, Willium H., Financial Planning and Policy, Harper and Row, New York, 1961, p.10.

[5]Kent, Raymond P., Corporate Financial Management, op.cit., p.67.

[6]Solomon, Ezra, The Theory of Financial Management, op.cit., p.11

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Planning should, however, be complemented by control. The result of the enterprises should be measured concurrently against projections. To judge the effectiveness of financial planning, financial control is the most important process of financial management. Control implies action - the action of managers in so controlling the affairs of the business that the plan is carried out.[7] Control is the final management function which should be exercised by the executive personnel if the business enterprise is to achieve the goals established by the planning function. This financial control function is composed of four distinct phases and each phase is referred to as a step. These steps are : one, determination of operational standards; two, evaluation of the enterprise's actual performances in relation to predetermined standards; three, instigation of corrective action in the case of deviations and four, follow-up action to ascertain whether corrective action is affective.

Financial Planning, dealing both with sources and uses of funds, has now assumed a big role in top managerial decision making.[8] The core of financial management is financial planning and control. The complex nature of the business enterprise demands that management is expected to lay greater emphasis upon financial planning and control. Financial planning and control can help the enterprise selecting proper sources of funds with an eye on maximum return at minimum cost; determining how to proceed with the funds for investing in the projects both as fixed and working capital and how to spend cash efficiently; checking and controlling the financial operations; and finally minimizing the financial risks and thus bringing the desired results in favour of the owners.

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[7] Taylor, A. H., and Palmer, R.E., Financial Planning and Control, Pan Books Ltd., London, 1969, p.134.

[8] Cohen, J.B., and Robbins, S.M., The Financial Manager: Basic Aspects of Financial Administration, Harper and Row, New York, 1966, p.7.

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In the case of public sector industries in Bangladesh the importance of financial planning and control can further be emphasised from the fact that Finance Director, the chief financial executive in a Corporation and the Chief or Deputy Chief Accountant, the head of finance in an enterprise would be the member of the Corporation Board and Enterprise/Management Board respectively. Moreover, the duties of financial executives would be concentrated not only on the finance area but also on the other areas of business namely, production, marketing and distribution and personnel where there are financial implications, major or minor.

Recognition of Finance Functions

Having discussed the meaning of finance function and its relation with the other business functions, it is essential at this stage to focus attention on the finance functions as recognised by the interest groups.

In order to know the activities that are included in finance functions the following "Finance Functions Matrix" has been presented. In this Matrix, finance functions as recognised by the classical writers of financial management, finance functions as stated in the Organization Manuals and/or Financial Codes/Rules of the selected Sector Corporations, and finance functions as practised by the financial executives of these Corporations have been mentioned in Columns 1, 2 and 3 respectively.

FINANCE FUNCTIONS MATRIX

FINANCE FUNCTIONS AS RECOGNISED BY THE CLASSICAL WRITERS OF FINANCIAL MANAGEMENT[9] 1	FINANCE FUNCTIONS AS STATED IN THE ORGANISATION MANUALS AND/OR FINANCIAL CODES/RULES OF THE CORPORATION[10] 2	FINANCE FUNCTIONS AS PRACTISED BY THE FINANCIAL EXECUTIVES OF THE CORPORATION[11] 3
EXECUTIVE FINANCE FUNCTIONS		
1. Determination of Financial Objectives Determining long-term financial objective viz., profitability objective and short-term financial objectives viz.,maintaining liquidity and solvency and minimising cost of short-term funds.	EXECUTIVE FINANCE FUNCTIONS 1. Determination of Financial Objectives Determining only long-term financial objective viz.profitability objective.	EXECUTIVE FINANCE FUNCTIONS 1. Determination of Financial Objectives Determining only long-term financial objective viz.,profitability objective.

[9] Cohen J.B. and Robbins, S.M., The Financial Manager: Basic Aspects of Financial Administration, op. cit., Kent, Raymond P., Corporate Financial Management. op. cit., Kuchhal, S.C., Financial Management: An Analytical and Conceptual Approach, op.cit., Curtis, Edward T., Company Organisation of the Finance Function, op.cit., Solomon, Ezra: The Theory of Financial Management, op.cit., Lerner, Eugene M., Managerial Finance: A System Approach, Harcourt Brace Co. Inc., New York, 1971, Walker, Earnest W. and Baughn, William, H. Financial Planning and Policy op.cit., and Mohsin, M. Financial Planning and Control, op. cit.

[10] Bangladesh Jute Mills Corporation, Bangladesh Textile Mills Corporation, Bangladesh Sugar and Food Industries Corporation, Bangladesh Chemical Industries Corporation and Bangladesh Steel and Engineering Corporation.

[11] Views of a total number of 25 financial executives, 5 from each of the selected corporations. Such executives were the heads of Finance, Accounts, Cost and Budget, Management Information System (Statistics in case of BJMC) and Audit Divisions of each of the Corporations.

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1	2	3
2. Establishment of Policies Governing Total Capital Requirements: Planning fixed capital and working capital - forecasting and estimating fixed capital and working capital requirements for capital expenditure and for revenue expenditure respectively.	2. Establishment of Policies Governing Total Capital Requirements: Planning fixed capital and working capital-forecasting and estimating fixed capital and working capital requirements for capital expenditure and for revenue expenditure respectively.	2. Establishment of Policies Governing Total Capital Requirements: Planning fixed capital and working capital-forecasting and estimating fixed capital and working capital requirements for capital expenditure and revenue expenditure respectively.
3. Selection of Sources of Financing and Negotiating of Financing Total Capital Requirements: a) Selection of appropriate long-term as well as short-term sources for financing fixed capital and working capital requirements respectively. b) Negotiating with prospective share and stock ~~xxxxx~~ buyers, arranging a line of credit with financial institutions and commercial banks and working out details of loan contracts.	3. Selection of Sources of Financing and Negotiation for Financing Total Capital Requirements. a) Selection of appropriate long-term and short-term sources for financing fixed capital and working capital respectively. b) Negotiating with prospective share and stock buyers, arranging a line of credit with financial institutions and nationalised banks and working out details of loan contracts.	3. Selection of Sources of Financing and Negotiation for Financing Total Capital Requirements: a) Selection of appropriate long-term and short-term sources for financing fixed capital and working capital requirements respectively. b) Negotiating with prospective share and stock buyers, arranging a line of credit with financial institutions and nationalised banks and working out details of loan contracts.

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1	2	3
4. Establishment of Assets-management Policies: a) Fixed-assets management policies-Planning fixed-asset expenditure, allocating requisite funds to fixed assets, and controlling fixed-asset expenditure through treasury control viz., authorisation and recording of capital expenditure, evaluation of progress reports, arranging post audit for expenditure, and through budgetary control viz., comparing actual expenditures with budget estimates and the analysis of the variances between them.	4. Establishment of Assets-management Policies: a) Fixed-assets management policies-Planning fixed-asset expenditure, allocating available funds to fixed-assets and control of fixed-asset expenditure through treasury control namely, authorisation and recording of capital expenditure and evaluation of progress reports.	4. Establishment of Assets-management Policies: a) Fixed-assets management policies-Planning fixed-asset expenditure, allocating available funds to fixed-assets, control of capital expenditure through treasury control namely, authorisation and recording of capital expenditure and evaluation of progress reports.
b) Inventory management policy-Planning inventory, determining inventory turnover policies, purchasing policies, inventory valuation policies etc. and control of inventory through arranging internal check and audit of inventory, co-ordinating between sales, production, purchase and inventory budgets, comparing actual inventory with budget estimates and the analysis of variance between them.	b) Inventory management policy-Planning inventory, determining inventory turnover policies, purchasing policies and inventory valuation policies and control of inventory through internal check and internal audit.	b) Inventory management policy-Planning inventory, determining inventory turnover policies, purchasing policies and inventory valuation policies and control of inventory through internal check and internal audit.

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1	2	3
c) Accounts-receivable management policy-planning accounts receivables, determining the credit policy and collection policy and control of accounts receivable by arranging internal theck and audit of accounts receivable and credit sales, comparing actual accounts receivables with budget estimates and the analysis of variance between them.	c) Accounts receivable management policy-planning accounts receivables, determining the credit policy and collection policy, and control of accounts receivable by internal check and internal audit.	c) Accounts receivable management policy-planning accounts receivables, determining the credit and collection policies and control of the item by internal check and internal audit.
d) Cash management policy-cash planning i.e. estimating cash requirements, both cash inflows and cash outflows and determining the size of cash balance to be maintained and control of cash by arranging internal check and internal audit of cash transactions, comparing actual cash inflows and outflows with budgeted cash inflows and outflows respectively and making variance analysis between them.	d) Cash management policy-cash planning i.e. estimating cash requirements both cash inflows and cash outflows, and determining the size of cash balance to be maintained and control of cash by internal check and internal audit of cash transactions.	d) Cash management policy-cash planning i.e. estimating cash requirements, both cash inflows and cash outflows, and determining the size of cash balance to be maintained, and control of cash through internal check and internal audit of cash transactions.
5. Determination and Distribution of Income: Allocation of net profits after payment of taxes, duties etc., determination of dividend policy and retention and proper investment of surplus profit for the expansion of the business.	5. Determination and Distribution of Income. Allocation of net profits after the payment of taxes, duties etc. determination of dividend policy and retention and proper investment of surplus profit, if any.	5. Determination and Distribution of Income: Allocation of net profits after the payment of taxes, duties etc. determination of dividend policy, if there is any net profit and retention and proper investment of surplus profit.

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1	2	3
INCIDENTAL FINANCE FUNCTIONS 1. Custodial-Supervision of cash receipts, disbursements, balances and banking; and the protection and custody of funds, securities and financial instruments. 2. Accounting - Arranging performance of various accounting functions including the corporate, general financial and cost accounting operations, together with the methods and systems activities embracing the design, installation, and ~~forms~~ custody of accounting books, records and forms and the co-ordination of the clerical and office systems and facilities throughout the company.	INCIDENTAL FINANCE FUNCTIONS 1. Custodial-Supervision of cash receipts, disbursements, balances and banking; and the protection and custody of funds, securities and financial instruments. 2. Accounting-Arranging performance of various accounting functions including cost accounting operations together with the methods and systems activities embracing the design and installation and the custody of all accounting books, records and forms and the co-ordination of the clerical and office systems and facilities throughout the enterprise.	INCIDENTAL FINANCE FUNCTIONS 1. Custodial-Supervision of cash receipts, disbursements, balances and banking; and the protection and custody of funds, securities and financial instrumente. 2. Accounting-Arranging performance of various accounting functions including cost accounting operations, together with the methods and systems activities embracing the design and installation, and the custody of all accounting books, records and forms, and the co-ordination of the clerical and office systems and facilities throughout the enterprise.

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3. Auditing - including the
blishment and maintenance o
control, audit of the recei
disbursements, general inte
auditing, and general relat
with the company's public a

4. Tax functions - includin
the assembly of information
preparation of returns for
excise and pay-roll taxes,
the general relationship wi
tax agents and auditors.

1	2	3
3. Auditing - including the establishment and maintenance of internal control, audit of the receipts and disbursements, general internal auditing, and general relationship with the company's public accountants.	3. Auditing - including the establishment and maintenance of internal controls, audit of the receipts and disbursements, general internal auditing and general relationship with the enterprises' public accountants.	3. Auditing - including the establishment and maintenance of internal controls, audit of the receipts and disbursements and general internal auditing and general relationship with the enterprises' public accountants.
4. Tax functions - including the assembly of information and preparation of returns for income, excise and pay-roll taxes, and the general relationship with the tax agents and auditors.	4. Tax functions - including the assembly of information and preparation of returns for income, excise and pay-roll taxes and the general relationship with the tax agents and auditors.	4. Tax functions - including the assembly of information and preparation of returns for income, excise and pay-roll taxes, and the general relationship with the agents and auditors.

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1	2	3
5. Interpretative functions-including the preparation,analysis,and explanation of financial statements, returns, facts, figures and statistics.	5. Interpretative functions-including the preparation, analysis and explanation of financial statements, returns, facts, figures and statistics.	5. Interpretative functions-including the preparation,analysis and explanation of financial statements, returns, facts,figures and statistics.
6. Communication and reporting functions - including collection and collation of data and information, preparation of suitable statements, returns, forms and reports, and communicating and also reporting these to the directors, officers and the general management and the other external parties.	6. Communication and reporting functions-including collection and collation of data and information, preparation of suitable statements, returns, forms and reports, and communicating and also reporting these to directors, officers and the general management of the enterprise and its head office and the other external parties.	6. Communication and reporting functions-including collection and collation of data and information, preparation of various statements, returns, forms and reports and communicating and reporting these to the directors, officers and the general management of the enterprise and the Corporation and the other external parties.

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A study of the above Matrix indicates that the following finance functions had not been chartered in the Organisation Manuals and/or Financial Codes/Rules of the Corporations although these were recognised by the classical writers:

(i) Determination of short-term financial objectives of the enterprises, such as maintenance of liquidity and solvency and minimisation of the cost of short-term funds;

(ii) Control of capital expenditure through arranging post audit of such expenditure and through budgetary control viz., comparing actual expenditures with budget estimates and analysis of the variances between them; and

(iii) Control of the important components of working capital viz., inventory, accounts receivables and cash through budgetary control, e.g., comparison of actual amount of such items with their respective budget estimates and analysis of the variances between these two.

On the other hand, the following finance functions had not been performed efficiently although these were chartered in the manuals, codes etc:

(i) Following standard costing, the important system of costing for the purpose of installing budgetary control;

(ii) Analysing and evaluating the monthly performance reports for further improvement of the enterprises;

(iii) Preparing industry-wise consolidated statements and circulating these to the concerned parties for information and necessary action. This has frequently been done belatedly, say, 5 to 7 months after the submission of these by the concerned enterprises; and

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(iv) Analysing the financial statements of the enterprises through fund flow and breakeven techniques.

2.2 Organisation of Finance Functions

The efficient performance of finance functions depends to a greater extent on the proper organisation of such functions[12]. Thus, every enterprise, whether in public or private sector, should have properly organised its finance functions. Before going into the organisation of finance functions, a look into the management pattern of the public sector industries in Bangladesh is necessary.

A three-tier level of management had been introduced in the public sector industrial enterprises. At the base, i.e. at the enterprise level, there had been enterprise management, the top management being the Management/Enterprise Board.[13] At the Sector Corporation level, there had been corporation management, the top management being the Corporation Board. At the Government level, there had been supervisory authority, the top management being the controlling ministries.[14]

The Management/Enterprise Board, departmental head executives and other staff as shown in Appendix I(A) would constitute the enterprise level management. The general manager or manager together with the departmental heads and other assistants and staff would perform all the day-to-day activities

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[12] Mohsin, M., Financial Planning and Control, op.cit., p.5.

[13] The Board formed in the case of the enterprises which had already been either formed as or converted into public limited companies according to the Companies Act,1913 was known as Management Board. The Board formed in the case of other enterprises was known as Enterprise Board.

[14] The Ministry of Industries had been the controlling ministry for Sugar and Food, Steel and Engineering and Chemical and Fertilizer Industries and Ministry of Jute and Ministry of Textile had been the controlling ministries for Jute and Cotton Textile industries respectively.

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of the enterprise. But their work was subject to the control, direction and supervision of the Management/Enterprise Board.

The Corporation Board including departmental head executives and other staff as shown in Appendix I(B) would constitute the corporation level management. The functions of the departmental head executives had been subjected to the direction and control of the Corporation Board.

The controlling ministries together with assistance of the respective secretariate[15] would supervise functionings of the respective Sector Corporations.

Organisation or grouping of finance functions had been more or less the same in the case of selected industrial enterprises as well as in the case of selected Sector Corporations. As a general rule, the size and nature of the enterprise determine the number and kinds of departments and sections into which the various finance functions of an enterprise can be grouped.[16] But here only the common departments and sections into which finance functions were grouped in the case of enterprises would be mentioned.

Diagram 1 as shown in page 37 indicates that Chief or Deputy Chief Accountant (i.e., Chief Finance Officer) would stand on the same scale as Managers of Production, Sales/Marketing, and Personnel; and report directly to General Manager or Deputy General Manager, the Chief Executive of the individual enterprises. Moreover, sectional finance officers viz.,auditor,

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[15] Nationalised Industries Division, Jute Secretariate and Textiles Secretariate would act as the respective Secretariate for the Ministry of Industries, Ministry of Jute and Ministry of Textiles.

[16] Walker, Ernest W., Essentials of Financial Management, 2nd ed., Prentice - Hall of India Private Limited, New Delhi, 1974, p.7.

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cost and budget officer, finance officer (i.e. cashier) and accountant had to report directly to the Chief Finance Officer.

Again, Diagram 2 shown in page 38 indicates that Finance Director would stand on the same scale as Directors of Planning and Development, Production and Marketing; and report directly to the Chairman, the Chief Executive of the Corporation. Moreover, the departmental head financial executives had to report directly to the Controller of Accounts or Chief Accountant who in turn, was to report to the Director - Finance. While discussing the relationship between the enterprise level and Corporation level financial executives, it can be said that the enterprise level financial executives were accountable to the Chief Executive of the enterprise who in turn, was accountable to the Chief Financial Executive and also to the top-most management of the Corporation.[17] The following Diagrams 1 and 2 show the organisation of finance functions in the enterprises and the Corporations respectively.

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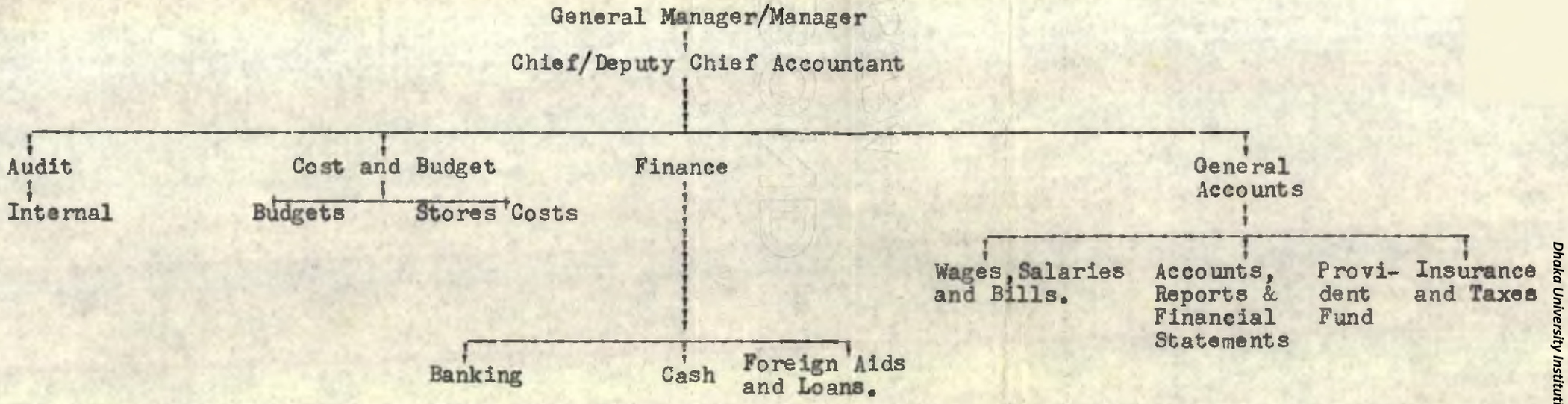
[17] For detailed discussion of such relationship see Financial Rules/Codes of the selected Corporations.

DIAGRAM I

Organisation of Finance Functions in Public Sector Industrial Enterprises in Bangladesh



Source: Office Memeranda of the selected Enterprises under each of the Selected Sector Corporations viz., BJMC, BTMC, BSFIC, BSEC & BCIC.

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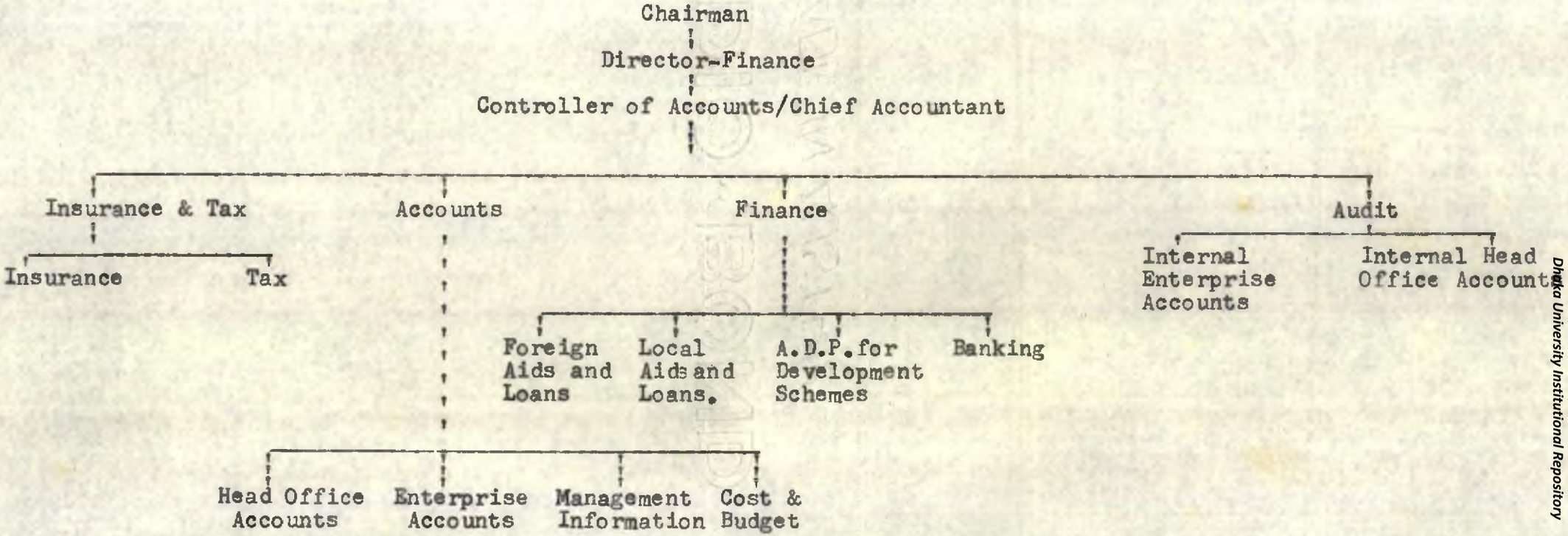
DIAGRAM 2

Organisation of Finance Functions in the selected Sector Corporations in Bangladesh



[Source: Organisation Manuals and Financial Codes/Rules of the selected Sector Corporations viz., BJMC, BTMC, BSFIC, BSEC & BCIC.]

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The method most commonly used to organise the duties of the Chief Financial Executives in both the enterprises and Corporations was function-oriented. To illustrate, Diagram 1 shows that the various duties of the Chief Financial Executives in the enterprises had been grouped in the following functional divisions viz., General Accounts, Finance, Cost and Budget and Audit; and the following sub-divisions namely, wages and salaries, accounts, reports and financial statements, provident fund and insurance and taxes under General Accounts; banking, eash and foreign aids and loans under Finance, budgets and stores costs under Cost and Budget; and internal audit under Audit Divisions. Again, Diagram 2 shows that the various duties of the Chief Financial Executives in the Corporations had been grouped in the following functional divisions viz., Accounts, Finance, Audit and Insurance and Taxes; and the following sub-divisions viz., head office accounts, enterprise accounts, management information and cost and budget under Accounts; foreign aids and loans, local aids and loans, A.D.P. for development schemes, and banking under Finance; internal audit of enterprise accounts and internal-audit of head office accounts under Audit; and insurance and tax under Insurance and Tax Divisions.

2.3 Financial Duties and Powers of the different Levels of Management

Under the three-tier level of management as introduced in the public sector industries in Bangladesh, the ministrial level management would act as the supervisory authority, corporation level management as the decision-making and controlling authority, and enterprise level management as the operating and executing authority. At this stage, it is necessary to study the financial duties and powers of the different levels of management i.e. to see the centralisation and decentralisation process in the enterprises. Stated briefly, from the viewpoint of the total organisation when decision-making tends to be concentrated, centralisation is present; and when decision-making tends to be

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dispersed, decentralisation is present.[18] The determining issue is how much decision-making functions is performed by managers at the lower organisation level and also by the non-managers. Such decentralisation or delegation of financial powers and duties is essential to effective and flexible management in any organisation, and above all in an enterprise which is seeking to grow.[19]

In Bangladesh, the Rule of Business and/or Financial Codes/Rules of the Sector Corporations had mentioned the financial duties and powers of the different levels of management particularly, corporation level and enterprise level management . The top financial executives of all the concerned Corporations had more or less the same financial duties and powers. Likewise, the top financial executives of all the individual enterprises had more or less the same financial duties and powers.

The following major financial duties and powers had been performed by the Corporation level financial executives:

(i) Taking the major decisions of the enterprise, such as capital investment decision, capital structure decision and financing decision; fixation of financial objectives;formulation of financial and other important policies; fixation of the main targets etc.,

(ii) Selection of the sources of both fixed capital and working capital and also arranging these types of capital;

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[18] Terry, G.R., Principles of Management, Richard D. Irwin Inc., Homewood, Illinois, 1977, p.275.

[19] Brech, E.F.L., Organisation - The Framework of Management, The English Language Book Society and Longman Green and Co. Ltd., London,1963, p.296.

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(iii) Assisting individual enterprises in the preparation of revenue, cash and capital budgets; scrutinising such budgets; and getting these budgets approved by the Corporation Board and the concerned ministry;

(iv) Developing, designing and introducing proper accounting, costing and store accounting systems in the enterprises;

(v) Arranging introduction of internal auditing, external auditing, and Government commercial auditing in the enterprises;

(vi) Exercising full financial powers by the Corporation Board of Directors and limited financial powers by the Corporation level top executives in respect of certain specific financial matters, such as approval of all capital works and special repair works; acceptance of tender for works; according approval to purchases; accepting excess over original works; purchasing raw materials, spares and stores, and machinery and other equipment involving foreign exchange; selling those products which were controlled and would require co-ordination with the various Government agencies and so on.[20]

On the contrary, enterprise level top executives had to execute the objectives and policies, and implement the decisions and instructions as formulated and given by the Corporations. In precise terms, the following main financial duties and powers had been executed by the enterprise level financial executives:

(i) Co-ordination of production, marketing and distribution, personnel and finance functions of the enterprises in order to execute policies and decisions as formulated by the Corporations for the purpose of achieving the various objectives and targets as fixed up by the Corporations;

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[20] For detailed financial powers of the Corporation Board of Directors and top executives see Appendix II to the end of the study.

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(ii) Using proper system of accounting, costing and store accounting as designed by the Corporation in order to make use of the financial resources of the enterprise;

(iii) Preparing and submitting to the Corporations for final approval the annual revenue, cash and capital budgets, and revenue accounts, profit and loss accounts and balance sheets in the form and manner prescribed by the Corporation;

(iv) Preparing and furnishing to the Corporations for information and necessary action the monthly performance reports and other returns and statements in the form and manner prescribed by the Corporation;

(v) Making all sales invoices, whether local or foreign and collecting debts arising out of credit sales;

(vi) Supplying all relevant data and information to the internal, external and Government commercial audit teams respectively as and when required by each of them;

(vii) Exercising full financial powers by the Chief Executive of the enterprises in respect of certain minor matters, such as approval of all annual maintenance and repair works, sale of products which were not controlled, passing of bills etc.[21]

2.4 Evaluation of Finance Functions

An analysis of the finance functions Matrix, organisation of finance functions and the financial duties and powers of the different levels of management indicates that the following main defects and problems had been encountered

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[21] For detailed financial powers of the chief financial executives of the enterprises see Appendix II to the end of the study.

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in the finance functions in the case of the concerned enterprises:

(i) There had been some anomalies in the finance functions as recognised by the different interest groups. Firstly, there were some important finance functions which had not been chartered in the Organisation Manuals and Financial Codes/Rules of the selected Corporations, although these were recognised by the classical writers of financial management. Therefore, in practice, the financial executives would attach less importance to these functions, the result being the poor execution of these functions in the enterprises. Secondly, there were some other important functions which had not been performed efficiently by the financial executives inspite of their being included in the Manuals and Codes/Rules with due importance.

(ii) The different levels of management had curtailed the autonomy of the enterprise operating management. There had been overlapping in some financial functions between the Corporation and Government level management. For example, the individual enterprise budgets had to be approved both by the Corporation Board and Government Ministry. This would create unnecessary delays in the approval of the enterprise budgets. Again, the accounts and affairs of the enterprises had been subjected to three different types of audits namely, internal audit by the Corporation level auditors, external audit by the private auditors and commercial audit by the Government auditors. Moreover, there had been anticorruption drives from time to time.

(iii) Centralisation of decision-making functions of the enterprises had deprived the operating management from determination and formulation of basic financial objectives, policies and targets; initiating procedures to execute such objectives

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and policies; and thus steering out a course of action. Again, the limited delegation of financial powers and duties to the enterprise management had curtailed the financial autonomy of the operating management. Some authors[22] have pointed out in a study that there had been limited delegation of duties and powers to the enterprise management in that for all decisions, major or minor, matters of personnel, procurement, purchase, finance, sales, price, investment, etc., they had to turn at least to the Corporations. Moreover, they could not enjoy operational autonomy even within the frame-work of their budgets and programmes.

All the aforesaid defects and problems might have direct adverse impact on financial planning and control leading to poor financial management in the case of public sector industries. Moreover, these might have indirect adverse effects on profitability of the enterprises. Such impacts will be examined in the succeding Chapters, particularly, in Chapter 8.

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[22] Sobhan, Rehman and Ahmad, Muzaffer, Public Enterprises in an Intermediate Regime: A Study in the Political Economy of Bangladesh, op. cit., p.309.

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CHAPTER 3

CAPITAL EXPENDITURE PLANNING AND CONTROL

The success of a company depends to a great extent on correct decisions on major capital expenditure.[1] Planning and controlling capital expenditure are among the major tasks of the financial manager. The process involves not only a short and long range estimate of the inflow of funds but also realistic estimates of probable and proposed expenditure.[2] In its broadest economic sense, capital expenditure includes all outlays expected to produce benefits in the long-run rather than in the current period. However, businessmen and accountants usually limit the term to outlays for the fixed assets.[3] It is, therefore, obvious that "a capital expenditure usually gives rise to a fixed asset on the balance sheet".[4] The capital expenditure planning and control process involves the answer of the following main questions.[5]

1. How much money in total will be needed for capital expenditure in the coming planning period?

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[1] Childs, John F., "Profit Goals for Management", Financial Executive, Vol.XXXII, February, 1964, p.13.

[2] Cohen, J.B. and Robbins, S.M. Financial Manager: Basic Aspects of Financial Administration, op.cit., p.664.

[3] Guthmann, H.G. and Dougall, H.E., Corporate Financial Policy, 4th ed., Prentice Hall Inc., Englewood Cliffs, New Jersey, p.105.

[4] Johnson, R.W., Financial Management, 4th ed., Allyn and Bacon, Inc., Boston, p.150.

[5] Dean, Joel, Capital Budgeting, Columbia University Press, New York, 1951, pp.4-10.

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2. How much money is available in total for such perspective investment? and

3. How are available funds to be efficiently utilised in the projects?

An industrial undertaking, whether in the public or private sector, passes through three important periods viz., pre-gestation period, gestation period and operating period.[6] During the pre-gestation period capital expenditure planning relating to setting up of the enterprise needs to be made. Such capital expenditure planning covers the procedural aspects of capital investment decisions. During the gestation period capital investment decisions need to be executed. Lastly, during the operating period working capital planning and control including other financial planning and control need to be made and executed and these are the subject matter of the next Chapters. This Chapter deals with the following aspects of capital expenditure planning and control :

(1) Capital Investment Decisions;

(2) Formulation and Execution of Long-term Financial Policies; and

(3) Control of Capital Expenditure.

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[6] Pre-gestation period refers to the period immediately before the gestation period. Gestation period denotes the period upto the point when the plants or all the sub-sections of the plants reach the point of production. Operating period denotes a stage of an enterprise during which goods are produced and put for sale.

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3.1 Capital Investment Decision

Generally speaking, the word 'investment' refers to the decision to invest and the capital invested. It involves the sacrifice of a present and certain satisfaction in exchange for a future return.[7] An investment involves the outlay of resources at one point of time in anticipation of receiving a return at some time in the future. Characteristically, a capital investment decision involves a largely irreversible commitment of resources that is generally subject to a considerable degree of risk.[8] Thus, capital investment decision is the choice to make investment of funds in the establishment of development or capital projects and also in expansion, balancing, modernization and replacement of such projects.

In the case of public sector industries in Bangladesh there had been two important types of capital investment decisions. The first one would relate to the investment of funds in the establishment of new industrial projects; and the second one would relate to the investment of funds in Balancing, Modernization and Replacement (BMR) of old projects. These new and BMR projects would be integrated with the national economic plan of the country, as embodied in the Five Year Plans and Annual Development Plans of the country while taking capital investment decision.

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[7] Philippatos, G.C., Financial Management: Theory & Techniques, Holden-Day Inc., San Francisco, 1973, p.61.

[8] Wilson, R.M.S., Financial Control: a systems approach, Mc Grow-Hill Book Company (UK) Ltd., London, 1974, p.214.

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The overall capital investment decision for setting up of new industrial projects had been taken by the concerned ministries of the Government in consultation with the Planning Commission. But the capital investment decision relating to BMR of old projects had been taken by the concerned Sector Corporations. Every project, whether new or BMR, had a three-stage cycle viz., formulation, evaluation and implementation. Each of these stages has been briefly discussed below.

Formulation of a Project:

The industrial projects under the public sector are sponsored by the respective Sector Corporations. Such Corporations after the preliminary selection of the projects arrange undertaking feasibility study including technical specification of the projects. Normally such feasibility study is conducted both by the local and foreign consultants. Then, the projects are formulated by the concerned Corporations on the directions, as indicated by the Planning Commission, Government of Bangladesh in the approved Project Proforma (PP)[9]. The PP contains the following information which are to be considered while formulating a project:

(i) Project Digest:

This includes name, objectives, estimated cost, location, plan allocation, proposed dates of commencement and completion of the project and administrative authorities responsible for sponsoring, preparing and executing the project.

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[9]This PP is a proforma, as approved by the Planning Commission, Government of Bangladesh, for the preparation and presentation of a development project under public sector. During the pre-liberation days the PP was known as Planning Commission I (PC I).

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(ii) Project Description:

This covers nature and purpose of the project, importance of the project to the concerned sector and to the economy as a whole, physical works involved, physical targets and other information such as availability of raw materials, marketing of the finished products etc.

(iii) Cost Estimates:

This includes total investment cost showing local currency and foreign currency costs involved, annual break-down of the investment costs and operating costs for gestation period and for the life time of the project respectively, estimated working capital requirements etc.

(iv) Financing of the Project:

This covers the plan allocations and the sources and amount of the cost of the project.

(v) Benefits of the Project:

This includes the grouping of the project such as self-financing, productive but non-revenue earning and service sector project; the year in which normal capacity output is expected to be reached; economic life of the project;annual value of output; estimated foreign exchange earnings and other direct and indirect benefits of the project.

(vi) Manpower Requirements:

This covers total manpower requirements both for execution and operation of the project, and training programme of the project personnel.

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(vii) Schedule of Work:

This includes both physical and financial schedule of work such as procurement schedule of both local and foreign equipment and materials for the project, year-wise phasing of physical work throughout the investment period, year-wise financial schedule of work during the said period and so on.

(viii) Project Analysis:

This includes both financial and economic analyses viz., benefit cost ratio and internal rate of return of the project and annual financial rate of return in the year output would reach normal capacity.

Evaluation of a Project:

After preparing the project it is scrutinised and examined by the concerned Corporation Board and then sent to the concerned ministry for its comments, recommendation and also for approval in some cases. The concerned ministry can approve the project costing not more than Taka 50 lakh. But the project costing more than Taka 50 lakh is sent to the Planning Commission for recommendation and also for approval in some cases. The Planning Commission can approve the project costing between Taka 50 lakh and Taka 2 crore. But the project costing more than Taka 2 crore has to be sent to the Executive Committee of National Economic Council (EC of NEC) for approval.[10] The EC of NEC is the

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[10] During the pre-liberation days the erstwhile Provincial Planning Authority (PPA) and the central EC of NEC were the project approving authorities. The PPA had the right to approve the projects costing Taka 50 lakh or less, and the projects costing more than Taka 50 lakh would be approved by the EC of NEC.

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final approving authority of the project under public sector.

The approving authority approves the project after proper evaluation of the project both from the view points of technical and economic and financial analyses. Technical analysis of a project means examining whether the engineering aspects of the project are sound; and economic and financial analysis involves seeing if the project revenues return the project costs under terms and conditions authorising the project.[11] If the project is found viable from these angles, it is then approved by the authorities.

The fact that an industrial project is feasible does not mean that it is desirable; it must be evaluated in terms of pre-determined critaria based on the country's objectives.[12] As a broad concept, project evaluation includes investment opportunity search, technical and economic study, market research, financial analysis and the calculation of financial tests of investment worth.[13]

One group of criteria concerns the proportion in which factors viz., output, capital, labour, technology etc.,

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[11] United Nations, Formulation and Economic Appraisal of Development Projects (Lectures delivered at the Asian Centre on Agricultural and Allied Projects, held in Lahore,Pakistan, October-December,1950), Vol.I, 1951, p.114.

[12] Helfgott, R.B. and Schiavo-campo, Salvatore, "An Introduction to Industrial Planning", Industrialisation and Productivity, Bulletin No.16, United Nations, New York, 1970, p.27.

[13] National Association of Accountants, Financial Research to guide Capital Expenditure Decisions, Research Report 43, New York, p.92.

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will be used. The criterion of output-capital ratio is not advantageous since it implicitly assumes zero shadow prices for other factors. Again, the criterion of output-labour ratio has also shortcoming in that it can lead Government to sanction uneconomic projects. Moreover, the criterion of technological simplicity ignores large-scale manufacturing projects requiring modern technology which is practically absent in the developing countries.[14]

A different type of criterion, used by private sector industrial projects is that of commercial profitability.[15] There are different ways of expressing profitability, including the pay-back period, the rate of return on investment and the discounted cash flow methods.[16] But commercial profitability is not the best criterion of evaluating industrial projects under the public sector where there are divergences between private and national (social) opportunity cost.

In developing economies, social benefits and costs normally do not coincide with private benefits and costs. It has been advocated, therefore, that social cost benefit analysis be used in projects evaluation.[17] Social cost benefit analysis can be defined as a technique for measuring the profitability of proposed projects in terms of national economic objectives by taking account of their external effects and of the goals and the time preference of the country as a whole.[18] Its use enables a

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[14] For detailed discussion of each of the criteria, see Helfgott, R.B. and Schiavo-campo, Salvatore, op.cit., p.27.

[15] Helfgott, R.B. and Schiavo-Campo Salvatore, op.cit., p.27.

[16] These methods of expressing profitability have been discussed in Appendix III to the end of the study.

[17] Helfgott, R.B. and Schiavo-campo, Salvatore, op.cit., p.27.

[18] ibid, p.29.

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Government to assess which industrial projects deserve priority and which should be discouraged. Thus, social cost-benefit analysis is essentially a tool to formulate and evaluate projects in terms of the explicit national objectives underlying development planning for the country as a whole.[19] Social cost-benefit analysis examines the effects of the formation of a skilled labour force, development of technical know-how, creation of social and economic infrastructure and inter-industry relations (backward and forward linkages). While commercial profitability is calculated in terms of the market prices of inputs and outputs, national profitability is calculated on the basis of shadow (or accounting) prices for inputs and outputs which reflect their economic scarcity in the context of the multiple targets of the national development plan.[20] Some difficulties arise on the question of proper accounting of prices due to the problems encountered in the classification of project inputs into tradeable and non-tradeable, classification of labour inputs into skilled and unskilled etc. Such difficulties can not however, be easily surmounted. Therefore, the simplest approach to applying social cost-benefit analysis has been to use commercial profitability estimates as a base and then make adjustments to reflect social costs and benefits as determined by the national objectives.

A review of the "Cost-Benefit Analysis (Part E)" of the Planning Commission's Project Proforma in which industrial projects in the public sector had to be submitted to the approving authority indicates that social cost-benefit analysis had been

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[19] Sen, A. K., "The Role of Policy-makers in Project Formulation and Evaluation", Industrialization and Productivity, Bulletin No.13, United Nations, 1969, pp.25-36.

[20] Helfgott, R.B. and Schiavo-campo, Salvatore , "An Introduction to Industrial Planning", op. cit., p.28.

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followed while evaluating industrial projects under the public sector in Bangladesh. It is seen that every project had to include benefit-cost ratio[21] and internal rate of return[22] both from the angles of financial and economic analyses which were the criteria of project evaluation. Benefit cost ratio and internal rate of return from the angle of financial analysis are the methods of expressing commercial profitability, while benefit-cost ratio and internal rate of return from the angle of economic analysis are the methods of expressing social or national profitability. In the calculation of benefit cost ratio and internal rate of return under the financial analysis the "Project Values"[23] of project inputs and outputs are considered; while in the calculation of benefit cost ratio and internal rate of return under the economic

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[21] Benefit cost ratio is the ratio of discounted value of total benefits to discounted value of total costs of the projects. For detailed discussion see Appendix III to the end of the study.

[22] Internal rate of return may be defined as that rate of discount which will bring the streams of costs and benefits into equality. For detailed discussion see Appendix III to the end of the study.

[23] Project Values (P.V.) would refer to the market prices or values of the project inputs and outputs, cf. Planning Commission, Government of the People's Republic of Bangladesh, Project Evaluation Proforma, Dacca, June, 1973, p.19.

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analysis "Accounting Values (or Shadow Prices)"[24] of projects inputs and outputs are taken into account. If the projects are found viable from the angles of benefit-cost ratio and internal rate of return especially, under the economic analysis, these are accepted by the approving authorities. This is so because "capital expenditure by industrial firms is incurred in expectation of future cash inflows, provided that such inflows are sufficiently large in relation to the outflows and in relation to the uncertainty associated with future".[25] However, it is apparent that any project with a positive net benefit, that is,

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[24] Accounting Values (A.V.) would refer to the shadow or accounting prices of the project inputs and outputs and these would be calculated as (i) In case of direct foreign imports of tradeable inputs or if local purchase is expected to lead an increase in imports, the C.I.F. cost plus landing charges and transport cost to site would form A.V., (ii) In the case of tradeable inputs which entail diversion from exports, the F.O.B. price of export and transport cost would form A.V.; (iii) In the case of non-traded goods viz., electricity, water, power etc., Planning Commission's estimates would from A.V.; (iv) In the case of skilled labour, market values would form A.V.; (v) In the case of unskilled labour, Planning Commission's estimate would form A.V.; (vi) In the case of project outputs subject to export, C and F cost minus export duty would form A.V. and (vii) In the case of outputs subject to local sale, market value i.e., cost of production plus estimated profit minus income tax would form A.V., cf. Planning Commission, Project Evaluation Proforma, op.cit., pp.17-21.

[25] Shyam, Sunder, "Corporate Capital Investments, Accounting Methods and Earnings: A Test of Control Hypothesis", Journal of Finance, Vol.XXXV, No.2, May, 1980, p.553.

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for which the present value of benefit exceeds the present value of costs, is worth-while.[26]

Implementation of a Project:

An approved project would then be ready for execution, but its actual implementation would depend on its inclusion in the Annual Development Plan (ADP) and finally on obtaining necessary funds from the concerned authorities, such as Ministry of Finance and External Resources Division (ERD). The project sponsoring authority would constitute "Project Implementation Committee", composed of the nominees of the Sector Corporation, Ministry and Financial Institution for actual implementation of the project. At this stage, the said Committee would engage consultants for preparation and floation of tender documents for procurement of stores, equipment, machinery etc.and appoint engineers, suppliers and contractors for various activities of the project.

Problems and Deficiencies encountered in Capital Investment Decisions:

An analysis of the various aspects of capital investment decision process reveals that the following problems and deficiencies were encountered in this process:

(i) Since the process of capital expenditure would be started as a routine work at the time of finalising the national Five Year Plans, most of the projects that were to be incduded in these plans could not be formulated after detailed feasibility study due to lack of technical knowledge and personnel and lack of training project sponsoring personnel;[27]

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[26] Rahman, A.H.M. Mahfuzur, "An Outline of Evaluation of Development Projects", Souvenir on the Planning Week, op.cit., p.120.

[27] cf. Islam, Nurul, Development Planning in Bangladesh: A Study in Political Economy, op.cit., p.70.

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(ii) The designing and implementation stages of the projects had been lengthy and cumbersome leading to unusual delay in the formulation, appraisal and implementation of the projects;

(iii) There had been unconscionable delay in formulation of the projects mainly due to the complex procedure followed in preparation of the projects in the approved PP;

(iv) There had been unusual delay in the approval of the projects mainly due to complicated techniques involved in the appraisal of the projects and resultant time consuming procedural formalities;

(v) There had been unusual delay in the release of requisite funds by the concerned authorities which in turn, had led to general delays in the execution of the projects.[28] The procedures for the release of funds had also been roundabout. The physical programme of expenditure in any financial year had to be submitted by the concerned sector Corporation. This had been subjected to scrutiny by the controlling Ministry and the Division concerned in the Planning Commission whose recommendations would be sent to ERD of Planning Commission for foreign exchange release and to the Ministry of Finance for Taka release. ERD after scrutiny would send its approval to the Ministry of Finance for the release of funds. Ministry of Finance would again scrutinise the said programme before the release of funds;

(vi) In the case of the majority of the projects there had been shortage of requisite funds, particularly, foreign exchange and delays in the procurement of imported materials, machinery and equipment which had led to delays in the execution of the projects;

(vii) Phasing of both physical and financial schedule of work on the project, project analysis both financial and economic and cash flow statement seemed to be inaccurate due to nonavailability of accurate data on the project and also due to lack of general price stability both at home and abroad;

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[28] ibid;, p.155.

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(viii) There had been complex procedures for making decisions for procurement as well as for approval of contracts for consultants or for construction companies or agencies, and for the appointment of staff for the projects themselves;[29]

(ix) There had been lack of forward planning for the project inputs, caused partly by shortage of funds and partly by administrative procedures[30] and

(x) Delays in deciding how to deal with cost-over-runs resulting from inflation, which were rampant during the study period.[31]

3.2 Formulation and Execution of Long-term Financial Policies

Financial policies are guides to all action which deals with procuring, administrating and disbursing the funds of business firms.[32] These policies may be calssified into two main groups viz., long-term and short-term. The main long-term financial policies include : (i) policies governing the amount of fixed capital required for the investment in capital assets;(ii)policies guiding the determination of capital structure and (iii) policies concerning the sources of financing fixed capital expenditure. Long-term financial policies are directly concerned with the capital expenditure and its analysis, while short-term financial policies are directly concerned with the working capital management. As such, the latter policies will be discussed in the next Chapter.

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[29] ibid.

[30] ibid.

[31] ibid.

[32] Walker, Ernest W. and Baughn, William H., Financial Planning and Policy, op. cit., p.12.

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(i) Estimating Fixed Capital Requirements:

Determining the amount of funds required to start the projected enterprise is an important part of the investigation.[33] Such amount of funds representing fixed capital is required mainly for investment costs to be incurred on the establishment or expansion of a new industrial project and BMR of an old one. The fixed capital usually represents investment in fixed properties namely, land, building, plant, machinery, equipment, office furniture, fixture and fittings etc., which are not held for the purpose of resale but required for running the business.[34] In estimating fixed capital requirements proper attention needs to be given on the identification of the major components of investment costs.

An examination of the investment cost pattern of the selected public sector industrial projects, as shown in their respective PP indicates that the items of costs that would constitute the major components of investment cost in the case of both new and expanding projects and BMR Projects were: (i) Pre-construction expenditures viz., advance expenditure, land acquisition, land development etc., (ii) Construction work viz., functional and residential buildings, roads, access and drainage, and other construction works, such as garage, generator room, dormitory, gate house, boundary wall etc., (iii) Machinery and equipment both imported and local, C and F Cost/Ex-factory cost including duties, taxes, transportation costs etc. and (iv) Other costs namely, installation expenses, overhead cost of the sponsoring agency and project, interest charges during construction etc.

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[33] Gerstenberg, Charles W., Financial Organization and Management of Business. Prentice-Hall Inc., Englewood Cliffs, New Jersey, 1959, p.175.

[34] Rose, T.G., The Internal Finance of Industrial Undertakings, Sir Isaac Pitman and Sons Ltd., London, 1963, p.106.

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The financial aspects including investment in fixed assets and working capital requirements would be included in the project feasibility study. The financial structure of the project, the distribution between equity capital, long-term loans and short-term loans should be carefully formulated.[35] As a part of project feasibility study, cost estimates would be made in respect of every item of investment cost, both in terms of local and foreign currencies. The foreign as well as the local consultants while making cost estimates have to give due consideration to the market trends and developments, both at home and abroad. Moreover, actual costs of similar projects, if any, also have to be considered in this respect. In order to examine the pattern of allocations of original estimates of total investment cost into the major components in the case of the enterprises under the selected industries the following Table 3.1 has been presented. The said Table shows percentage-wise allocations of original estimates of investment costs into the major components in the case of the projects established during the period 1952-70, on the one hand, and in case of the projects set up during 1972-80 on the other.[36]

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[35] Helfgott, R.B. and Schiavo-campo, Salvatore; An Introduction to Industrial Planning, op.cit., p.25.

[36] All the sample units covering 242 enterprises under the selected industries taken for empirical analysis during the operating period 1975-76 to 1977-78 were established during the period 1952-70. Of these enterprises only 71 enterprises were set up in the public sector and the remaining 171 enterprises were set up in the private sector. Therefore, to show the allocations of total investment costs of the public sector projects, 66 projects have been selected, on one hand. On the other, to show the trend of such allocations during the selected operating period, a total number of 10 projects set up during the period 1972-80 have been taken. The remaining 5 projects of the total number of 71 projects could not be considered here for each of them would produce varied types of products thereby indicating capacities in different units.

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The allocations of the original estimates of total investment costs into the major components showed more or less the same pattern during both the preliberation and the post-liberation days. But in the case of the item 'Machinery and Equipment' the allocation was higher, to some extent, during the post-liberation days, as compared to the pre-liberation days in the case of all the selected industries. On the contrary, in the case of the item 'Other Costs' the allocation was slightly lower in the case of all these industries during the post-liberation days than the pre-liberation days.

During both the periods the item 'Machinery and Equipment' absorbed the highest allocation ranging from 45.6 percent to 55.8 percent of total costs and the item 'Pre-construction Expenditures' absorbed the lowest allocation ranging from 1.4 percent to 1.7 percent of the total costs of the selected industries.

Another common feature noticed in the case of allocative pattern during both the periods is that the item 'Machinery and Equipment' showed the higher allocation in the heavy industries viz., Steel and Allied, Chemical and Fertilizer and Paper and Paperboard than the less heavy industries viz., Jute, Cotton Textile and Sugar and Food; but on the contrary, the item 'Construction Works' absorbed the lower allocation in the heavy industries than the less heavy industries.

(ii) Determination of Capital Structure:

The term 'Capital Structure' of a firm may be defined as the sum total of its equity and preference capital and long-term debts. It refers to the total of outstanding long-term securities both equity, preference and debts. Among the classical writers, there are some confusions regarding the meaning of 'Capital Structure' and such confusions arise because some writers use the

TABLE - 3.1

Allocations of Original Estimates of Total Investment Costs into the Major Components in the case of the selected Projects under Public Sector Industries.

(In %)

Major Components of Total Investment Costs	Allocations in the case of the Projects set up during 1952-70 under the selected Industries						Allocations in the case of the Projects set up during 1972-80 under the selected Industries					
	Jute	Cotton Textile	Sugar and Food	Steel and Allied	Chemical and Fertilizer	Paper and Paperboard.	Jute	Cotton Textile	Sugar and Food	Steel and Allied	Chemical and Fertilizer	Paper and Paperboard.
Pre-construction Expenditures	1.5	1.4	1.6	1.6	1.7	1.7	1.6	1.5	1.7	1.6	1.5	-
Construction Works	39.1	38.7	36.5	31.1	29.0	30.2	38.2	37.8	35.4	30.6	31.5	-
Machinery and Equipment	45.6	46.8	47.3	52.6	50.9	50.9	46.9	47.8	48.7	55.8	55.4	-
Other Costs	13.8	13.1	14.6	14.7	18.4	17.2	13.3	12.9	14.2	12.0	11.6	-
Total:	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	-

[Notes: (i) Allocations of the original estimates of total investment costs into the major compoments have been shown, on an average, for every 1000 units capacity of the selected projects;

(ii) No project was established under Paper and Paperboard Industry during 1972-80]

[Source: Appendices IV(A) and IV(B) to the end of the study]

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The allocations of the original estimates of total investment costs into the major components showed more or less the same pattern during both the preliberation and the post-liberation days. But in the case of the item 'Machinery and Equipment' the allocation was higher, to some extent, during the post-liberation days, as compared to the pre-liberation days in the case of all the selected industries. On the contrary, in the case of the item 'Other Costs' the allocation was slightly lower in the case of all these industries during the post-liberation days than the pre-liberation days.

During both the periods the item 'Machinery and Equipment' absorbed the highest allocation ranging from 45.6 percent to 55.8 percent of total costs and the item 'Pre-construction Expenditures' absorbed the lowest allocation ranging from 1.4 percent to 1.7 percent of the total costs of the selected industries.

Another common feature noticed in the case of allocative pattern during both the periods is that the item 'Machinery and Equipment' showed the higher allocation in the heavy industries viz., Steel and Allied, Chemical and Fertilizer and Paper and Paperboard than the less heavy industries viz., Jute, Cotton Textile and Sugar and Food; but on the contrary, the item 'Construction Works' absorbed the lower allocation in the heavy industries than the less heavy industries.

(ii) Determination of Capital Structure:

The term 'Capital Structure' of a firm may be defined as the sum total of its equity and preference capital and long-term debts. It refers to the total of outstanding long-term securities both equity, preference and debts. Among the classical writers, there are some confusions regarding the meaning of 'Capital Structure' and such confusions arise because some writers use the

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term in a narrow sense while others use it in a wider sense. Bierman and Smidt[37] define capital structure as the relative proportion of the various kinds of securities a company has used. Guthman and Dougalls[38] are of the same opinion. Taylor[39] defines the term as the total of outstanding long-term securities, both equity and debt. Vanhorne[40] is also of the same opinion. Weston and Brigham[41] define the term as the permanent financing of the firm represented by long-term debt plus preferred stock and net worth. Thus, every writer while defining the term has made reference to equity and debt. Therefore, for the purpose in question, 'Capital Structure' has been taken as the total of equity and long-term debt which represent the permanent source of financing of a company. So, the task of capital structure determination includes determination of the different forms of long-term securities viz., equity capital, preference capital and long-term debts.

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[37] Bierman, Harold (Jr) and Smidt, Seymour, The Capital Budgeting Decisions, Macmillan Company, New Delhi, pp.165-166.

[38] Guthman, H.G. and Dougalls, H.E., Corporate Financial Policy, op.cit., pp.213-216.

[39] Taylor, W. Bayard, Financial Policies of Business Enterprises, 2nd ed., Appleton-Century-Crofts, New York, p.219.

[40] Vanhorne, James G., Financial Management Policy, Prentice-Hall of India Private Ltd., New Delhi, 1976, p. 144.

[41] Weston, J. Fred and Brigham, F. Eugene, Managerial Finance, op. cit., pp.253-254.

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Capital Structure Decision or
Debt-equity Ratio Policy:

The literature of finance is replete with analysis of the corporate financing decision with regard to the optimal mix of debt and equity.[42] But one of the most difficult components of financial planning is the choice between debt and equity.[43] Since both the forms of capital have certain advantages[44] to the firm, the decision is often the result of conflicting opinions and evidence. Not the choice between debt and equity but the determination of the correct proportion between them is the problem in financial management. The main five influencing factors in such decision are (i) nature and requirements of the individual enterprises; (ii) relative costs; (iii) relative risks; (iv) relative returns and (v) availability of funds.[45] So the proper proportion of debt and equity in the capital structure of an enterprise needs to be determined after taking into due consideration all these factors. In this context, one author[46] observes in a study that the firms should base their stock and bond issue decisions on the need for permanent capital and on their long-term debt capacity.

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[42] Morris, James R., "On Corporate Maturity Strategies", Journal of Finance, Vol. XXXI, No.1, March, 1976, p.29.

[43] Walker, Ernest W. and Baughn, Willium H., Financial Planning and Policy, op.cit., p.107.

[44] For the advantages of each forms of capital see for example, Walker, Ernest W. and Baughn, Willium H., Financial Planning and Policy, op. cit., pp.108-109.

[45] For detailed discussion of each of the factors, see for example, Wilson, R.M.S., Financial control: a systems approach, op. cit., p.245.

[46] Taggart (Jr), R.A., "A Model of Corporate Financing Decision", Journal of Finance, XXXII, No.5, December, 1977, p.1467.

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The question of evolving a proper ratio for debt-equity is not merely academic, as the consequences flowing from it are vital and have a direct bearing on the profitability of the undertakings and the image they project. Although it is true that dividends on equity and interests on loan both go to the Government, any wrong fixation of debt-equity ratio tends to escalate the losses or decrease the profits earned by the undertakings.[47] Therefore, some authors[48] opine that debt capacity should be based on project risk characterstics and not on an arbitrary debt-equity ratio. But in the case of the public sector industrial enterprises in both the pre-liberation and the post-liberation Bangladesh, the Controller of Capital Issues had arbitrarily prescribed 50:50 distribution between debt and equity as the capital structure. The following Table 3.2 shows the comparative capital structure patterns of a total number of 71 enterprises at their initial stage i.e., at the time of their establishment, on one hand, and of a total number of 242 enterprises during their operating period covering 1975-76 to 1977-78, on the other, under 6 selected industries.[49]

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[47] Mathur, B.P., Public Enterprises in Perspective (Aspects of Financial Administration and Control in India), Ph.D.Thesis, Orient Longman Ltd., New Delhi, 1973, p.138.

[48] Myers, S.C. and Pogue, G.A., "A Programming Approach to Corporate Financial Management", Journal of Finance, Vol.XXIX, No.2, May, 1974, p.598.

[49] The enterprises set up during 1972-80 have not been considered here since the main purpose of the said Table is to show the changes in the pattern of capital structure during the operating period as compared to the initial time. But in the case of these enterprises this was not possible for they completed a production period of less than 2 years upto the end of the selected operating period.

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TABLE - 3.2

Comparative Capital Structure Patterns of the selected Enterprises under the selected Industries.

Industries	Capital Structure Patterns of 71 Enterprises at their initial time			Capital Structure Patterns of 242 Enterprises during their operating period.		
	Debt Capital	Equity Capital	Total	Debt Capital	Equity Capital	Total
Jute	310(46)	365(54)	675(100)	2880(81)	685(19)	3565(100)
Cotton Textile	16(44)	20(56)	36(100)	296(60)	200(40)	496(100)
Sugar and Food	113(53)	100(47)	213(100)	461(65)	249(35)	710(100)
Steel Engineering & Shipbuilding	238(45)	290(55)	528(100)	864(82)	187(18)	1051(100)
Chemical and Fertilizer	448(80)	110(20)	558(100)	987(77)	294(23)	1281(100)
Paper and Paperboard	151(37)	258(63)	409(100)	1146(69)	513(31)	1659(100)
Total :	1276(53)	1143(47)	2419(100)	6634(76)	2128(24)	8762(100)

(Notes: (i) Figures in the parantheses indicate percentage-wise position;

(ii) For the period 1975-76 to 1977-78 the average position of both debt and equity is shown).

(Source:(i) For capital structure pattern of 71 enterprises, see the next Table 3.3;

(ii) For capital structure pattern of 242 enterprises, see Appendix VI(A) to the end of the study).

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The debt-equity ratios in all the industries varied from the Government prescribed ratio of 50:50 both at the time of the establishment of the enterprises and during their operating period covering 1975-76 to 1977-78. Moreover, such variation was more steep during the operating period than in the initial period. On an average, the debt-equity ratio for all the enterprises was 76:24 in the operating period, as against 53:47 in the initial time.

This ratio was the most unfavourable in Chemical and Fertilizer Industry (80:20) in the initial period and in Steel, Engineering and Shipbuilding Industry (82:18) during the operating period. On the contrary, it was, however, favourable in Paper and Paperboard Industry (37:63) and in Cotton Textile Industry (60:40) during the initial and operating periods respectively. Moreover, there appeared to be a very high rate of debt capital as compared to equity capital in all the industries excepting Cotton Textile during the operating period and also in Chemical and Fertilizer Industry at the time of the initial period.

The main reasons for such a high rate of debt capital may be attributed to arbitrary fixation of debt-equity ratio by the concerned authority without taking into proper consideration the factors that influence such decision and non-availability of equity capital in adequate quantity.

Such highly unfavourable debt-equity ratios might have imposed heavy interest obligations and consequently affected profitability of the enterprises under these industries during the operating period. The impact of such unfavourable ratios on profitability of the industries will be examined later on in Chapter-8.

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(iii) Financing Pattern of Fixed Assets

Financing Capital Expenditure during the Gestation Period:

One of the crucial choices in business financing is the relative proportion of the firm's total finance which is to be raised in the forms of debt and equity.[50] Most of the large-scale manufacturing industrial projects in Bangladesh had been of capital deepening type. So, these had to use both the local currency as well as foreign currency while financing such projects. Both the local currency and the foreign currency costs of the projects were met out of Government equity and loan and also out of the equity and loan of the financial institutions. The following Table 3.3 presents the financing pattern of the actual capital expenditure of a total number of 71 projects at the time of their initial establishment.

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[50] White, William L., "Debt Management and the Form of Business Financing", Journal of Finance. Vol.XXIX, No.2, May, 1974, p.566.

TABLE - 3.3

Financing Pattern of Actual Costs of the selected 71 Projects under 6 Industries at the time of their initial Establishment.

(In Million Taka)

Industry	Number of Projects	Total Costs of the Projects	Local Currency Costs				Foreign Currency Costs			
			Government Finance		Institutional Finance		Government Finance		Institutional Finan	
			Equity Capital	Loan Capital	Equity Capital	Loan Capital	Equity Capital	Loan Capital	Equity Capital	Loan capital
Jute	39	675	121	-	139	-	-	65	105	25
Cotton Textile	3	36	10	-	5	-	-	-	5	6
Sugar and Food	11	213	97	-	3	16	-	-	-	7
Steel, Engineering and Shipbuilding	7	528	263	-	-	-	10	-	17	8
Chemical and Fertilizer	6	558	110	-	-	150	-	-	-	298
Paper and Paperboard	5	409	203	-	-	-	55	-	-	151
Total :	71	2419	804	-	147	166	65	65	127	1045

/Note: Government Finance would include the erstwhile Corporation (i.e., P.I.D.C. or E.P.I.D.C.) Finance and erstwhile Central Government Finance).

/Sources: (i) Ministry of Economic Affairs, Government of Pakistan, Development Projects, Manager of Publications, Karachi, 1959.

(ii) East Pakistan Industrial Development Corporation, Annual Report,1969-70, Dacca, 1971.

(iii) Articles of Associations of the selected Enterprises/

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Of the total costs of all the projects worth Taka 2,419 million, Taka 1143 million was in the form of equity and the remaining Taka 1,276 million was in the form of loan. Thus, about 47 percent and 53 percent of the total cost was financed by equity and loan respectively. Such equity constituted both Government and institutional equity and such loan also constituted both Government and institutional loan.

Again, of the total costs of all projects, Taka 1,117 million was in the form of local currency and the remaining Taka 1,302 million was in the form of foreign currency. Thus, about 46 percent and 54 percent of the total costs comprised the local currency and foreign currency components respectively. This pinpoints the importance of foreign currency in the industrial development of Bangladesh. This was also true in the case of each individual industry.

Of the local currency cost of Taka 1,117 million, Government equity capital was equivalent to Taka 804 million indicating that 72 percent of the local currency cost was financed by the Government equity capital. Again, of the foreign currency cost worth Taka 1,302 million, institutional loan was equivalent to Taka 1,045 million. Thus, 80 percent of the foreign currency cost was financed by institutional loan. These serve to demonstrate the emphasis of the Government on providing equity and that of the financial institutions on providing loan to the industrial projects.

Financing Gross Fixed Assets during the Operating Period:

In order to show the changing pattern of financing gross fixed assets during the selected operating period as compared to the initial period of the enterprises, the following Table 3.4 showing the financing pattern of a total number of 242 enterprises under 6 industries for the period 1975-76 to 1977-78 has been presented.

TABLE - 3.4

Gross Fixed Assets Financing Pattern of the selected 6 Industries covering 242 Enterprises for the period 1975-76 to 1977-78.

(In Million Taka)

Industry	No. of Enterprises	At the end of 1975-76			At the end of 1976-77			At the end of 1977-78			Average Position (In %)		
		Fixed Assets Financed By:			Fixed Assets Financed By			Fixed Assets Financed By			Fixed Assets Financed By		
		Equity Capital	Loan Capital	Other Sources	Equity Capital	Loan Capital	Other Sources	Equity Capital	Loan Capital	Other Sources	Equity Capital	Loan Capital	Other Sources
Jute	74	490(17)	2365(83)	-	30(1)	2751(99)	-	-	3014(100)	-	6.0	94.0	-
Cotton Textile	59	223(28)	225(28)	356(44)	207(25)	183(22)	440(53)	169(15)	481(43)	470(42)	23.0	31.0	46.0
Sugar and Food	42	245(37)	419(63)	-	246(37)	422(63)	-	257(35)	455(61)	29(4)	36.3	62.4	1.3
Steel, Engineering and Shipbuilding	37	188(20)	776(80)	-	188(19)	790(81)	-	184(19)	812(81)	-	19.0	81.0	-
Chemical and Fertilizer	23	137(11)	1040(82)	85(7)	165(12)	1140(83)	73(5)	580(42)	810(58)	-	22.0	74.0	4.0
Paper and Paperboard	7	-	1272(100)	-	242(16)	1296(84)	-	859(52)	795(48)	-	23.0	77.0	-
Total :	242	1283(16)	6097(78)	441(6)	1078(13)	6582(80)	513(7)	2049(23)	6367(71)	499(6)	17.3	76.4	6.3

/Note: (1) Other sources include internal resources as generated by depreciation and retained earnings in the case of Sugar and Food, Cotton Textile and Chemical and Fertilizer industries, but in the case of Cotton Textile Industry during 1976-77 and 1977-78 and in the case of Chemical and Fertilizer Industry during 1975-76 other sources include short-term debts over and above internal resource.

(2) Figures in the parantheses indicate ratio of each source to total gross fixed assets, expressed in percentages/

/Source: Based on data shown in Appendix VI(A) to the end of the study/.

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The average gross fixed assets of all the enterprises taken together, for the period 1975-76 to 1977-78 were financed by equity capital, loan capital and other source to the extent of 17.3 percent, 76.4 percent and 6.3 percent respectively. In the case of Jute, Steel, Engineering and Ship-building and Paper and Paperboard industries fixed assets were financed by equity and loan capital only. Other sources comprising internal resources viz., depreciation and retained earning were not available for financing fixed assets in these industries. Loan capital had been heavily used in all the industries excepting Cotton Textile in financing fixed assets. Such loan capital varied from 624 percent to 94.0 percent in the industries. Other source occupied the leading place (46.0 percent on the average) in Cotton Textile Industry since this source also included short-term debts equivalent to 23 percent of gross fixed assets in 1976-77 and 32 percent of such assets in 1977-78.[51]

A comparison of the financing pattern during the initial and operating periods of the enterprises as reflected in Tables 3.3 and 3.4 reveals that the industries excepting Cotton Textile and Chemical and Fertilizer switched over from equity to loan as a source of finance for the gross fixed assets. On the average, loan capital financed 94 percent of gross fixed assets during the operating period as against 46 percent in the initial period in Jute Industry; in Sugar and Food Industry it financed 62.4 percent of these assets during the operating period as against 53 percent in the initial period; in Steel and Allied Industry it financed 81 percent of these assets during the operating period as against 42 percent in the initial period and in Paper and Paperboard Industry it financed 77 percent of

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[51] Vide Annual Reports of BTMC for the financial year 1976-77 and 1977-78.

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these assets during the operating period as against 37 percent in the initial period. Thus during the operating period the aforesaid industries used loan capital heavily in financing their fixed assets. Such financing pattern might have left adverse impact on the profitability, which will be examined later on in Chapter-8.

3.3 Control of Capital Expenditure

Control is an integral part of capital expenditure programme. The two ingredients of capital expenditure control are: (i) treasury control and (ii) budgetary control.

(i) Treasury control.

The treasury control is related mainly to the control of the uses of capital funds. When a proposed capital expenditure has been sanctioned, it is necessary to control the uses of funds. The uses of funds can be controlled in the following main ways[52].

a) authorisation,
b) recording of capital expenditure,
c) progress reports and
d) post audit.

a) Authorisation:

The approval of the projects by the appropriate authorities, as mentioned earlier, merely means that the funds could be committed and the projects included in the A.D.P. Because, it is seen that in some cases projects were dropped after approval[53]. The actual implementation of the projects would

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[52] Mohsin, M., Financial Planning and Control, op. cit., p.120. Also see, National Association of Accountants, Financial Analysis to guide Capital Expenditure Decisions, op. cit., pp.66-70.

[53] As for example, Nilphamari Sugar Mill was dropped in mid-1966 although it was finally approved by the EC of NEC on 2nd December, 1964, cf. East Pakistan Industrial Development Corporation, Progress Report 1968-69, op.cit., p.63.

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depend upon their inclusion in the A.D.P. and the release of funds by the concerned authorities.

(b) Recording of Capital Expenditure:

As soon as the actual work on the approved projects would begin, the question of proper recording of capital expenditure would also arise. For the purpose of the control of capital expenditure, its proper recording would be of utmost importance. In the case of the selected public sector industrial enterprises, a capital expenditure project sheet would be used for each project to enter the full details of the said project. At the end of each financial year balance sheet for each project showing the capital employed including equity capital and long-term loan, current liabilities, fixed assets and current assets would be prepared during the entire gestation period of the project.

(c) Progress Report:

For effective control of capital expenditure the report on the progress of work on any project should be submitted to the proper authority showing actual expenditure to date and technical information covering progress towards completion. The concerned Sector Corporations as the project sponsoring and the project execution authority would send progress reports of individual project annually to the concerned ministry, loan giving agency and the project sanctioning authority.

(d) Post Audit:

Development of a regular procedure for carrying out post audit of capital expenditure projects is imperative for the purpose of the control of capital expenditure. But in the case of public sector industries in Bangladesh, there had been no such provision to carry out post audit of capital expenditure projects. Instead, in these cases the project accounts were audited at the

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end of the gestation period only. Such balance sheet audit served no real purpose since it was carried only after the total expenditures were incurred on the projects.

(ii) Budgetary Control:

Control alsays begins at the planning stage. No other technique controls the firm's destiny as planning does, and the difference between effective and ineffective plan can be so great as to overshadow the effect of all other control techniques combined.[54] Budget is the main tool for planning and control operations in any enterprise. Capital expenditure should, therefore, be planned and controlled within the overall framework of budgets and forecasts to ensure the most successful operation of business and commerce under competitive conditions.[55] Thus, capital expenditure budgets, if forecast and prepared accurately, can act as the main planning and control techniques in manufacturing industries.

The estimates of investment cost as made in the form of both local and foreign currencies would be called long-term capital expenditure budgets in the case of public sector industries. The classification of expenditures in such capital budget has been broadly on the basis of objects of expenditures e.g., "Preconstruction Expenditures", "Construction Works","Machinery and Equipment", and "Other Costs".

In order to judge the effectiveness of the capital expenditure budgeting as a means of budgetary control in the case of public sector industries in Bangladesh, the following Tables 3.5(I) and 3.5(II) showing the comparison between the estimated

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[54] Shillinglow, Gordon, "Cost Accounting: Analysis and Control, D.B., Taraporevale Sons and Co., Private Ltd., Bombay,1967,p.4.

[55] Institute of Cost and Works Accountants, The Profitable Use of Capital in Industry,London, 1968, p.39.

TABLE 3.5(I)

Comparison between Estimated (both Original and Revised) Costs and the Actual Costs of the selected Projects set up during 1952-70 under the selected Industries.

(In Million Taka)

Industry	No. of projects	Original Estimated Costs			Revised Estimated Costs			Actual Costs			Increase in Actual Costs over Total Original Estimates %	Increase in Actual Costs over Total Revised Estimates %
		Local currency costs	Foreign currency costs	Total costs	Local currency costs	Foreign currency costs	Total costs	Local currency costs	Foreign currency costs	Total costs		
Jute	39	225	379	604	246	390	636	260	415	675	11.7	6.1
Cotton Textile	3	13	19	32	16	21	37	15	21	36	12.5	N.A.
Sugar and Food	11	99	84	183	113	97	210	120	97	217	18.6	3.3
Steel, Engineering and Shipbuilding	7	175	245	420	242	257	499	263	265	528	25.7	5.8
Chemical and Fertilizer	6	174	259	433	236	287	523	255	298	553	27.7	5.7
Paper and Paperboard	5	128	165	293	189	190	379	203	206	409	39.6	7.9
Total:	71	814	1151	1965	1042	1242	2284	1117	1302	2419	23.1	5.9

[Note: N.A. stands for 'Not Applicable' meaning thereby that in the case of Cotton Textile Industry actual costs did not exceed the revised estimates. Rather, the actual costs were lower than the revised estimates by 2.7 percent].

[Source: Appendix V (A) to the end of the study].

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TABLE 3.5(II)

Comparison between Estimated (both Original and Revised) Costs and Actual Costs of the selected Projects set up during 1972-80 under the selected Industries.

(In Million Taka)

Industry	No. of projects	Original Estimated Costs			Revised Estimated Costs			Actual Costs			Increase in Costs over O.E. %	Increase in Costs over R.E.%
		Local Currency Costs	Foreign Currency Cost	Total Costs	Local Currency Costs	Foreign Currency Costs	Total Costs	Local Currency Costs	Foreign Currency Costs	Total Costs		
Jute	2	102.5	181.8	284.3	115.5	184.3	299.8	120.6	184.3	304.9	7.2	1.7
Cotton Textile	4	148.6	110.1	258.7	195.2	196.2	391.4	180.8	330.2	511.0	97.5	30.6
Sugar and Food	1	18.1	7.4	25.5	28.9	26.3	55.2	29.3	26.3	55.6	118.0	0.7
Steel, Engin-sering and Shipbuilding	1	144.6	74.9	219.5	239.2	131.9	371.1	302.8	171.2	474.0	115.9	27.7
Chemical and Fertilizer	2	1421.0	1948.7	3369.7	2836.0	3424.7	6260.7	3166.2	3586.2	6752.4	100.4	7.8
Total :	10	1834.8	2322.9	4157.7	3414.8	3963.4	7378.2	3799.7	4298.2	8097.9	94.8	9.8

/Note: During the period 1972-80, no project was set up in the public sector under Paper and Paperboard Industry/.

(Source: Appendix V(B) to the end of the study).

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costs and the actual costs of the total number of 71 projects established during 1952-70, on one hand, and the total number of 10 projects established during 1972-80, on the other, have been presented.[56]

The actual costs exceeded both the original and revised estimates in the case of the projects set up during 1952-70 under all the industries except Cotton Textile and in the case of the projects set up during 1972-80 under all the industries. In the aggregate, the actual costs exceeded both the original and revised estimates by 23.1 percent and 5.9 percent respectively during the former period and by 94.8 percent and 9.8 percent respectively during the later period. Thus, the increase in actual costs over both the original and revised estimates were higher in the projects set up during 1972-80 than in the projects set up during 1952-70. This might be among other things due to less cost-conciousness of the project officials and steep inflationary trend during the latter period over the former one.

The increase in actual cost over the original estimates was the highest in Paper and Paperboard Industry (39.6 percent) during the pre-liberation period and Sugar and Food Industry (118.0 percent) during the post-liberation period. Again, the increase in actual cost over the revised estimates was the highest in Paper and Paperboard Industry (7.9 percent) and in Cotton Textile Industry (30.6 percent) during the pre-liberation period and post-liberation period respectively.

The increases in actual costs over both the original and revised estimates were comparatively higher in the projects under heavy industries requiring high and sophisticated technical knowledge and personnel and higher gestation period than the less heavy

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[56] It has already been mentioned earlier in footnote 9 that of the total 242 sample enterprises, set up during the preliberation days, only 71 were set up in the public sector. Therefore, these 71 projects have been selected to show the capital expenditure analysis, on one hand. On the otherhand, to show the trends of capital expenditure analysis during the selected operating period a total number of 10 projects set up during 1972-80 have also been taken.

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industries which would require less technical knowledge and personnel and smaller gestation period.

Moreover, the increase in actual local currency cost was higher than the increase in actual foreign currency cost in the concerned projects. In the aggregate, the actual local currency cost exceeded both the original and revised estimates by 37.2 percent and 7.2 percent respectively; whereas the actual foreign currency cost exceeded the original and revised estimates by 13.1 percent and 4.8 percent respectively in the case of projects set up during 1952-70. Likewise, in the case of the projects set up during 1972-80, the increases in actual local currency cost over the original and revised estimates were 122.8 percent and 11.1 percent respectively; whereas the increases in actual foreign currency cost over the original and revised estimates were 84.0 percent and 4.7 percent respectively. The probable reason for such a state of affairs was that the project officials were less cost-concious in the case of local currency component than in the case of foreign currency component.

The causes for the increase in actual costs over the original and revised budget estimates are many but the following are the most important and they are directly or indirectly related to capital expenditure planning and budgeting:

(i) Unusual delays in the formulation, approval and execution of the projects leading to excessive increases in the prices of raw materials, machinery and equipment, both at home and abroad; in the quantity of civil engineering works and in the cost of feasibility study; escalation in wages; and keeping excessive number of foreign experts;

(ii) Omission and non-inclusion of certain basic items e.g., consultant's fees, custom duties, and cost of training of the project personnel in the original estimates;

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(iii) Insufficient project economics caused by lack of specific cost-revenue estimates and comparisons due to non-availability of adequate data on the projects and instability in price levels, both at home and abroad;

(iv) Uneconomical investment decisions due to lack of undertaking detailed and sound project feasibility study for the shortage of technical personnel and lack of knowledge and training of project personnel;

(v) Longer gestation period producing excessive increases in the prices of raw materials, equipment etc., and in the quantity of civil engineering works, escalation in wages and keeping too many foreign experts especially in the case of the heavy industries. It is observed that the gestation period in the case of the projects under Chemical and Fertilizer, Steel and Allied, Paper and Paperboard industries would vary from 3 years to 6½ years as against the gestation period varying from 1½ to 4½ years in the projects under Jute, Cotton Textile and Sugar and Food industries;[57]

(vi) Use of defective capital planning and budgeting system in that there was a lot of externality in the capital investment planning. The financial forecasts and economic viability of the projects seemed to be inaccurate and the system of classification of expenditures in the capital budgets was broadly object-wise thereby failing to show expenditures by activities and end-results; and

(vii) Limited delegation of decision-making authority to the project/enterprise management and excessive centralised control.

All the aforesaid reasons contributing to increases in the actual costs over the original and revised estimates indicate

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[57] For gestation period of each of the selected projects See Appendixes V(A) and V(B) to the end of the study.

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lack of adequate and effective technical, economic and financial planning in the public sector industrial projects. Such inadequate and ineffective technical,economic and financial planning had resulted in the over-capitalisation of the majority of the selected projects which in turn, produced adverse impacts on the profitability of these projects.

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CHAPTER 4

WORKING CAPITAL PLANNING AND CONTROL

In the preceeding Chapter capital expenditure, its planning and control during the pre-gestation as well as the gestation periods of the selected public sector industrial enterprises have been discussed and analysed. Now, at this stage it is necessary to focus attention on the working capital planning and control during the operating period of these enterprises.

Working capital is the amount of funds which a company has to provide in its day-to-day operations. It can also be regarded as that proportion of the company's total capital which is employed in short-term operations of the company. Views differ on the concept and definition of working capital.[1] The financial concept is the gross concept and the accounting concept is the net concept. The gross working capital also known as current capital or circulating capital is represented by the sum total of all current assets of the enterprise. That is, gross working capital is the amount of funds invested in current assets that are employed in the business process. But the net working capital is the difference between current assets and current liabilities. It is also known as net current assets i.e., excess of current assets over current liabilities.

The administration i.e., planning and control of a firm's liquid resources viz., cash, marketable securities, receivables and inventories is called working capital management.[2] Therefore, working capital planning and control may be defined as the administration or management of these liquid resources of an enterprise.

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[1] Ramamoorthy, V.E., Working Capital Management. Institute for Financial Management and Research, Madras, 1978, p.6.

[2] Beranek, William, Working Capital Management, Wads-worth Publishing Company Inc., Belmont, California, 1966, p.1. Also see Walker, Ernest W. and Baughn, William H, Financial Planning and Policy, op.cit., pp.151-191.

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A firm's profitability is determined in part by the way its working capital is managed.[3] That is, when working capital varies in relation to sales without a corresponding change in production, the profit position is affected. Moreover, if the flow of funds created by the movement of working capital through the various business processes is interrupted, the turn-over of working capital is decreased, as is the rate of return on investment.[4] It is, therefore, important for the financial management of an enterprise to pay particular attention to the planning and control of working capital. This has a special relevance in the case of public sector industries in Bangladesh. Because, there have been acute problem of working capital in these industries since liberation. The nationalised industries under the various Sector Corporations have been working under the pressure of a liquidity gap of about Taka 98 crore, of which Jute Industry alone accounted for Taka 87 crore.[5] This created a peculiar financial problem arising out of the inherited capital structure in the various enterprises. This liquidity gap had to be met out of bank loans and Government subsidy. As a result, working capital fund possessed by some of the enterprises was also eaten up by large interest charged on borrowed working capital.

This Chapter deals specifically with the following aspects of working capital planning and control viz., (1) Determination of short-term financial objectives and policies, (2) Evaluation of working capital position and (3) Control of working capital.

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[3] Walker, Ernest W., Essentials of Financial Management.op.cit..p.59.

[4] ibid, p.59.

[5] This liquidity gap was recorded on 30.6.73 relating to 295 enterprises distributed as 77 jute mills, 45 textile mills, 27 engineering and shipbuilding industries, 10 paper and paperboard mills, 18 steel factories, 5 mineral, oil and gas units, 17 sugar mills, 25 food and allied units, 33 chemical industries, 24 tanneries and 14 units under Freedom Fighters Welfare Trust, cf. Nationalised Industries Division, Ministry of Industries, Government of the People's Republic of Bangladesh, Report on Liquidity Gap of Nationalised Industries, 1973.

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4.1 Determination of Short-term Financial Objectives and Policies

In a working capital decision, the firm's goals need to be specified. These might include maximising the firm's share of the market, its profits, or the market value of the firm's common stock.[6] Profitability and solvency may be the twin objectives of working capital management.[7] Among the providers of working capital are the shareholders, lenders and creditors expecting a reasonable return by way of dividend and interest respectively. As such, profitability is a pre-condition.

Lenders and creditors expect prompt settlements of their claims as and when due. This presupposes the solvency of the enterprise on a continued basis. Thus, the survival and growth of an enterprise depend on its ability to meet these two tests viz., profitability and solvency. During the operating period of an enterprise, the management task is to ensure a continuous circular flow of input-output-sales-input.[8] In the process, input operations create short-term liabilities; while the sale of output generates claims. Usually the claims do not mature prior to or at the same time when the liabilities mature. This creates problems of liquidity, on one side, and resorting to short-term funds at the minimum cost, on the other. If these problems are not handled properly, they will adversely affect the profitability of the enterprise.[9]

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[6] Baranek, William, Working Capital Management, op.cit., p.1

[7] Ramamorthy, V.E., Working Capital Management, op.cit., p.34.

[8] Sharma, B.S., Financial Planning in the Indian Public Sector: A Management Approach, Vikas Publishing House Pvt.Ltd., Delhi, 1974, p.20.

[9] ibid, p.20.

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Thus, in concrete terms the objectives of an enterprise during the operating period boil down to: (i) generating profits; (ii) maintenance of liquidity and (iii) minimising cost of short-term funds.

After determination of short-term financial objectives, the next important step in working capital planning and control is the formulation of short-term financial policies. The important short-term financial policies that are to be formulated by an enterprise are: (i) policies determining the amount of working capital required; (ii) policies determining the amount of funds to be invested in working capital i.e., policies determining the uses of working capital; (iii) policies governing the credit and collection activities and (iv) policies concerning the sources of financing working capital. The pros and cons of each of these short-term financial objectives and policies in the case of public sector industries in Bangladesh are analysed in the following section.

4.2 Evaluation of Working Capital Position

The working capital position in the concerned industries will be evaluated under these main heads viz.,(i)Components of gross working capital; (ii) Size of net working capital and (iii) Pattern of financing workingcapital.

(i) Components of Gross Working Capital
Planning Working Capital Need:

In the case of a manufacturing enterprise, working capital is required for purchasing raw materials, stores and spares; meeting operational expenses, such as wages, salaries, rent, power, fuel, interest, insurance and selling and distribution expenses; and paying out dividends, taxes and other dues. But the size of working capital should neither be excessive nor inadequate. Because, excessive working capital will lead to unremunerative use of scarce funds; while inadequate working

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capital will interrupt the smooth running of the business activity and impair profitability. Adequate working capital is the first requirement for preserving good trade and bank credits, for meeting all expenses and liabilities promptly, and for taking care of emergency and special needs; on the other hand, redundant current funds reduce the return on investment and encourage waste and manipulation.[10] A satisfactory return on capital is dependent upon both the level of profit achieved and the amount involved in fixed and working capital. It involves efficient manufacture, maintenance of adequate but not excessive stocks and work-in-progress, and as short a time cycle as possible within which current assets are converted back into cash for recirculation.[11]

Planning working capital need is the first and foremost short-term financial policy of an enterprise. A number of factors influence the amount of working capital required, as well as the proportion of funds to be invested in the various components of working capital. Significant among them are: (i) position of business cycle; (ii) nature of business; (iii) manufacturing cycle; (iv) credit terms to customers; (v) shifts in demand for products; (vi) production policies; (vii) vagaries in supply of raw materials; (viii) competitive conditions; (ix) growth and expansion programmes; (x) profit levels; (xi) taxation; (xii) dividend policy; (xiii) reserve policy; (xiv) depreciation policy; (iv) price level changes and (xvi) operating efficiency.[12]

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[10] Guthman, H.G. and Doughall, H.E., Corporate Financial Policies, op.cit., p.88.

[11] Institute of Cost and Works Accountant, The Profitable Use of Capital in Industry, op.cit., p.47.

[12] Wilson, R.M.S., Financial Control: a systems approach, op.cit., p.72 and Cohen, J.B. and Robbines, S.M., The Financial Manager: Basic Aspects of Financial Administration, op.cit., pp.296-303.

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The operational cycle of an enterprise has four distinct stages namely, raw materials and stores inventory stage, work-in-progress inventory stage, finished goods inventory stage and book debt stage.[13] Each of these stages requires a level of supporting investment. The sum total of these stage-wise investments will be the total amount of working capital required.

There are two important methods of forecasting working capital requirements. These are percent-of-sales method and correlation analysis method.[14] According to the percent-of-sales method, the relationship between sales and the individual current assets is to be found out in order to estimate working capital requirements. According to correlation analysis method, working capital requirements are estimated by setting correlation between sales and each individual current asset.

In the case of public sector industries in Bangladesh, the working capital need was estimated on the basis of capacity utilisation and the quantum of feasible production. It is observed that for local materials 3 months' stock was regarded as reasonable; but for imported materials 6 months' stock was considered necessary. For finished goods, stock varying from 15 days' production level to 1 month's production level was treated as reasonable excepting Sugar and Food Industry where, on an average, at the peak period 2½ months' production would be taken as stock. The estimated work-in-process showed a general acceptance of 15 days' to 30 days' production level. But the estimate for Steel, Engineering and Shipbuilding Industry was an average of 60 days' production level which was considerably influenced by the Shipbuilding sector. Since stores and spares are generally

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[13] Ramamoorthy, V.E., Working Capital Management, op.cit., pp.75-76.

[14] ibid, p.77.

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imported, 6 months' stock was considered necessary. Trade debts upto 1 month's stock were regarded as desirable. Advances, deposits, and pre-payments showed a considerable variation with some sectors claiming upto 6 months' for their payment period.

Distribution of Gross Working Capital into Major Components

The importance of the structural components of gross working capital has been emphasized by the classical writers[15] in-as-much as in the case of working capital management, corporate managers are assigned the task of determining the optimal composition of the portfolio of current assets, the components of gross working capital. Generally, the following current assets constitute the major components of gross working capital in the cases of the enterprises under the selected groups of industries:

(a) Inventory;
(b) Debtors, advances and loans;
(c) Cash and bank balances and
(d) Other current assets.

The following Table 4.1 shows the component-wise distribution of gross working capital in the selected industries.

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[15] For example, Yardeni, Edward E., "A Portfolio Balance Model of Corporate Working Capital", Journal of Finance, Vol.XXXIII, No.2, May, 1978, p.535.

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TABLE - 4.1

Average Component-wise Distribution of Gross Working Capital in 242 Enterprises for the period 1975-76 to 1977-78

Industry	No. of Enterprises	Inventories (In %)	Debtors, Advances and Loans (In %)	Cash and Bank Balances (In %)	Other Current Assets (In %)
Jute	74	31.9	60.6	2.4	5.1
Cotton Textile	59	31.5	52.6	5.3	10.6
Sugar and Food	42	40.0	44.2	4.1	11.7
Steel, Engineering and Shipbuilding	37	30.1	51.3	7.4	11.2
Chemical and Fertilizer	23	22.9	59.6	0.3	17.2
Paper and Paperboard	7	29.9	45.9	(0.9)	25.1
Total :	242	30.9	52.6	3.1	13.4

(Note: Other current assets represent investments and prepaid expenses).

(Source: Based on data shown in Appendix VI(A) to the end of the study).

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During 1975-76 to 1977-78 "Inventory", on an average, constituted only a small portion of the gross working capital, varying from 22.9 percent to 40.0 percent in the case of the industries concerned, the aggregate for the period being only 30.9 percent, Although the size of inventory varies in practice from industry to industry, generally it is expected to be not less than 50 percent of the gross working capital.[16] As compared to this level the size of inventory appeared to be low in each of the concerned industries. On the contrary, "debtors,advances and loans", on an average, constituted more than 50 percent of gross working capital in most of the industries, the aggregate for the period being 52.6 percent. The size of these items seemed to be excessively high in each of the industries, as compared to the optimal level of 40 percent of gross working capital.[17] "Cash and bank balance", on an average, constituted a very small portion of gross working capital ranging from negative 0.9 percent to positive 7.4 percent in the case of the industries, the aggregate for the period being only 3.1 percent. As compared to the standard

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[16] An empirical study undertaken by M. Habibullah shows that the firms with profit on owners' equity varying from roughly 8 percent to 17 percent had inventories more than 50 percent of current assets; cf. Habibullah, M. Industrial Efficiency and Profitability in Bangladesh, Bureau of Economic Research, University of Dacca, 1974, pp. 23 and 37. Hence, this 50 percent level of inventory has been considered as standard in this study.

[17] cf. Hampton, John J, Financial Decision Making Concepts; Problems and Cases, op.cit., p.154.

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level of 10 percent[18] the size of cash and bank balance appeared to be insufficient in all the industries excepting Steel, Engineering and Shipbuilding. "Other Current Assets" comprising investments and prepaid expenses, on an average, for the period 1975-76 to 1977-78 constituted 13.4 percent of gross working capital, in the aggregate. This seemed to be relatively high as compared to the position of cash and bank balance in the case of all the industries.

Inventory, Accounts Receivable and Cash Management :

In order to study the reasons responsible for unfavourable distribution of the components of gross working capital as seen above, the pros and cons of the management of inventory, accounts receivable and cash need a special consideration. The following paragraphs will be devoted to a brief discussion of the management of these current assets with special reference to the public sector industries in Bangladesh.

Inventory Management:

Financial managers are concerned with every aspect of inventory management that is controllable from the standpoint of reducing liquidity risks and increasing profits for the owners.[19] Inventories are important to the management of an enterprise primarily because of the direct impact which they have upon the firm's profits.[20] Inventories affect profits in several

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[18] cf. Ramamorthy, V.E. Working Capital Management, op.cit., p.19.

[19] Brandt, Louis K., Business Finance: A Management Approach, op. cit., p.182.

[20] Walker, Ernest W., and Boughn, William H., Financial Planning and Policy, op. cit., p.172.

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ways. Firstly, both over-investment and under-investment in inventories have harmful effects on the enterprises. Holding excessive stock immobilises capital resources. The immediate consequence of over-investment is the freezing up of funds in excessive stocks and nonavailability of these resources for meeting current obligations or pressing commitments. Moreover, too much inventory reduces the profit margin in that carrying costs viz.,costs of handling, insurance, recording and inspection and in turn costs of doing business are increased for extra load of inventories. Again, under-investment in inventory i.e., too little inventory has also some adverse affects. Under-investment creates frequent production hold-ups or delays and failures to meet delivery commitments to customers. At the same time,the delays and shutdowns boost up cost of production which in turn reduces profit margin. Secondly, the rate at which inventories move through the production and distribution processes also affects the cost of doing business.

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It is, therefore, important for financial management to determine the correct amount of working capital to invest in inventory at any one time. But the question is: what is the appropriate size of inventory? No standard set of rules can be formulated and offered as a ready solution for all enterprises and in all circumstances. The nature of the business activity, location of the sources of materials and services, as also of the sales out-lets, reliability on the sources of supply, speed and efficiency of transport and communication facilities etc. influence the inventory levels. However, the Department of Statistics and the Division of Monetary Economics of Economic Development, Government of India consider inventory in terms of 6 months value of production as standard size.[21]

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[21] Quoted in Sharma, B.S., Financial Planning in Indian Public Sector: A Management Approach, op.cit., p.114.

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In order to examine whether actual amount of inventory at the end of each of the financial years in question has been adequate or not, the following Table 4.2 showing inventory in terms of "Number of Months Value of Production" is presented.

TABLE - 4.2

Inventory in terms of "Number of Months Value of Production" in 6 Industry Groups covering 242 Enterprises, 1975-76 to 1977-78

Year	Jute Industry	Cotton Textile Industry	Sugar and Food Industry	Steel and Allied Industry	Chemical and Fertilizer Industry.	Paper and Paper-Board Industry	Total
1975-76	2.9	4.9	3.3	4.6	4.5	10.9	4.0
1976-77	3.3	3.5	4.2	3.1	3.9	7.0	3.7
1977-78	3.0	2.5	3.2	4.9	3.6	4.3	3.3
Average	3.1	3.6	3.6	4.2	3.9	6.5	3.7

(Note : (i) Total column indicates the aggregate position of all the industries;

(ii) Inventory as the "Number of Months Value of Production" has been calculated as : $\frac{\text{Inventory} \times 12}{\text{Production}}$).

(Source: Based on data presented in Appendix VI(A) to the end of the study).

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During the period 1975-76 to 1977-78, in the aggregate, inventory in terms of "Number of Months Value of Production" varied from 3.3 months to 4.0 months only, the average for the period being roughly 3.7 months. This average inventory was far below the standard norm of 6 months. The position of each of the selected industries excepting Paper and Paperboard was also far below this standard norm in so far as the average inventory in terms of "Number of Months Value of Production" varied from 3.1 months to 4.2 months in these industries. This indicates under-investment in inventories which resulted in frequent production holdups or delays and failures to meet delivery commitments to customers. Such delays and shut-downs had boosted up the cost of production and thereby affected profits adversely.

One of the major reasons for such a state of affairs was poor inventory planning and control. It is observed that none of the enterprises would follow the modern technique of inventory planning and control such as A.B.C. analysis, which demands that the various stores items should be classified on the basis of number of items held and their respective values. The enterprises would give equal importance to all the stores items irrespective of value, quantity and quality. The main reasons for non-application of A.B.C. analysis were the shortage of qualified and trained financial executives in the enterprises, absence of instructions in the Stores Control Manual and also the absence of any directives issued by the Corporations in this regard. Moreover, ascertaining various stock levels, such as "Minimum Safety Level", "Maximum Safety Level", "Danger Level" and "Reorder Point" was not accurate in most of the enterprises due to lack of proper planning in these respects.

Another major reason for that situation was poor material management. There had been lack of co-ordination between the Stores Department and Purchase Department in most of the enterprises, the result being the inaccurate forecast and assessment of the requirements of materials, stores, etc.

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Limited power of the enterprises' management regarding procurement of materials, stores and spares etc. was another important reason responsible for under-investment in inventories. It is seen that in respect of foreign procurement, control by the Corporations appeared to be total in most of the cases. Again, in respect of local procurement, the Corporations had also indirect control in the form of directives and manuals laying down the procedures.

Accounts Receivable Management:

Receivable is the current asset arising out of credit sales. Managing receivable means making decisions relating to the investment of funds in this asset as a part of the internal short-run operating process.[22] The general liquidity management goal is to use cash funds as economically as possible in expanding receivables, without impairing sales and the chance for increasing short-run profits.

Credit and collection policies significantly influence working capital requirements.[23] Soundly conceived and properly executed credit and collection policies of an enterprise tend to reduce the need for working capital for operations, boost up sales promotion, reduce the cost of doing business and maintain good customer relations. Therefore, sound and proper credit and collection policies are the prerequisites to a good Accounts Receivable Policy. Funds locked up in debtors have opportunity costs. Excessive tie-up in outstandings will amount to denial of funds

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[22] Brandt, Louis K., Business Finance: A Management Approach, op. cit., p.164.

[23] Walker, Ernest W., Essentials of Financial Management, op. cit., p.191.

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for more remunerative uses. Moreover, excessive credit for an unduly long period is an open invitation to incompetence and the consequent failure of clients. Therefore, a good Receivable Policy is said to be one which has a reasonable collection period. Some authors[24] consider a period of 20 days to 60 days as a reasonable norm for the average collection period.

In order to judge the adequacy or otherwise of actual amount of accounts receivable at the end of each of the financial years the following Table 4.3 showing the average collection period for the selected groups of industries is presented.

TABLE - 4.3

Average Collection Period[25] (In Days) for 6 Groups of Industries covering 242 Enterprises, 1975-76 to 1977-78

Year	Jute Industry	Cotton Textile Industry	Sugar and Food Industry	Steel and Allied Industry	Chemical and Fertilizer Industry	Paper and Paperboard Industry	Total
1975-76	96	61	65	76	81	171	92
1976-77	102	84	73	70	85	152	95
1977-78	89	107	52	77	92	123	90
Average	96	84	63	74	86	149	92

(Note : Total column indicates the aggregate position of all the industries).

(Source: Annual Reports of the Enterprises under BJMC, BTMC, BSFIC, BSEC, and BCIC for the financial year 1975-76, 1976-77 and 1977-78).

[24] Weston, J. Fred and Brigham, F. Eugene, Managerial Finance, op.cit., p.66; Mohsin, M., Financial Planning and Control, op. cit., p.194 and Hampton, John J., Financial Decision Making: Concepts, Problems and Cases, op.cit., p.154.

[25] Average Collection Period has been calculated as: Average Collection period = $\frac{\text{Trade Debtors}}{\text{Credit Sales}} \times 360$.

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During 1975-76 to 1977-78 in the aggregate, the average collection period was 92 days which was much higher than the standard norm of 20 days to 60 days. Moreover, the average collection period in the selected industries excepting Sugar and Food was much higher than this norm. All these indicate over-investment in receivables which resulted in higher costs of maintaining such receivables in the shape of higher financing costs, administrative expenses, collection costs and bad debt losses, which in turn caused major financial embarrasments.

The major reasons for such a state of affairs were liberal credit sales, delays or prolonged hold-ups in collections and, above all, lack of accurate planning on credit terms, credit risks, cash discounts, delinquent accounts and so on.

Cash Management:

One of the main tasks of financial management is to manage cash efficiently. Because, poor cash management can have serious consequences. It is possible for a company to go bankrupt (or to be taken over) even it is doing too well; since a rapid increase in sales will involve heavy expenditure on stocks and the extension of credit thereby depleting cash resources. Alternatively, if idle cash reserves are built up, this suggests that investment opportunities are being missed and the business may be stagnating.[26] So, finding reasonable amount of funds for operating needs is a perennial pre-occupation for the company's finance manager. Paucity of cash, even on a temporary phase, is a source of trouble to most enterprises. Nor, it is wise to have a lot of cash, which is not an earning asset. Now, the question arises as to the reasonable amount of cash to be held and maintained by an enterprise. No standard answer can be provided for

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[26] Wilson, R.M.S., Financial Control: a Systems approach, op. cit., p.73.

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this question. Past trends and attainments, industry averages and inter-firm comparison can provide some useful indications in this regard. One author[27] opines that management should project the future cash receipts and cash payments of the firm with various cash balances, subtract the payments from the receipts to determine net cash flows, and then select that cash balance (i.e. purchase that amount of liquidity) which maximizes the present value of the net cash flows.

In the case of the public sector industries cash requirements are determined through preparing a cash budget. The cash budget is a comparison of estimated cash income and cash disbursements over a period of each financial year. The main sources of cash income comprise net sales of merchandise products, interest on deposits, grant/loan from Government, recovery of loan, collection of book debts etc. On the other hand, the main heads of cash disbursement comprise payments on account of revenue expenditure viz., cost of materials and labour, factory overheads, office and administrative overheads, sales and distribution overheads; income tax; payments to outstanding creditors; share of overhead charges of the Corporations, and payments on capital account (non-development) etc. In order to judge the effectiveness of the cash budgeting in the case of the industries concerned, the following Table 4.4 showing the budgeted both original and revised and actual cash and bank balance at the end of the selected financial years has been presented.

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[27] Bodenhorn, Diran, "A Cash flow Concept of Profit", Journal of Finance, Vol.XIX, No.1, March, 1964, p.18.

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In all the industries the actual amount of cash and bank balances at the end of each of the years had been lower than both the original and revised budget estimates. The deviations between the average actual and original estimate and average actual and revised estimate for the period 1975-76 to 1977-78 were 38.2 percent and 12.8 respectively in Jute Industry; 28.6 percent and 16.4 percent respectively in Cotton Textile Industry; 28.6 percent and 19.4 percent respectively in Sugar and Food Industries; 34.4 percent and 30.6 percent respectively in Steel, Engineering and Shipbuilding Industry; 97.2 percent and 92.0 percent respectively in Chemical and Fertilizer Industry; and 135.0 percent and 115.0 percent respectively in Paper and Paperboard Industry.

The probable reasons for such a state of affairs were comparatively much lower total cash receipts than the budget estimates and/or comparatively much higher cash payments than the budget estimates, liberal credit sales policy, and poor collection policy. Thus, cash receipt and cash disbursement policies seemed to be unsound leading to unrealistic cash budgeting in the case of the industries concerned.

(ii) Size of Net Working Capital

The size of net working capital depends on the size of both the current asset and current liabilities. An adequate amount of net working capital indicates the current credit soundness of a firm. But too much net working capital indicates poor planning, since an excessive amount of the firm's funds are tied up in unproductive assets, which tends to reduce income.

The following Table 4.5 shows the actual amount of net working capital and the ratio of net working capital to net sales for the enterprises under the selected groups of industries.

TABLE - 4.5

Net Working Capital Status of 242 Enterprises under 6 selected Groups of Industries, 1975-76 to 1977-78

Year	Jute		Cotton Textile		Sugar and Food		Steel and Allied		Chemical and Fertilizer		Paper and Paperboa	
	Actual Net Working Capital	Ratio of Net Working Capital to Sales	Actual Net Working Capital	Ratio of Net Working Capital to Sales	Actual Net Working Capital	Ratio of Net Working Capital to Sales	Actual Net Working Capital	Ratio of Net Working Capital to Sales	Actual Net Working Capital	Ratio of Net Working Capital to Sales	Actual Net Working Capital	Ratio of Net Working Capital to Sales
1975-76	619	21.1	12	0.7	241	18.4	290	24.6	(77)	-	(102)	-
1976-77	(233)	-	(190)	-	286	20.0	370	23.7	185	16.3	(16)	-
1977-78	(92)	-	(364)	-	277	13.7	421	27.4	322	26.5	66	9.7
Average	98	3.0	(181)	-	268	16.9	360	25.2	143	13.7	(17)	-

(Note: (i) Figures in the parentheses indicate negative net working capital;

(ii) In case of negative net working capital the ratio of net working capital to sales is irrelevant).

(Source: Appendix VI(A) to the end of the study).

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Cotton Textile and Paper and Paperboard industries showed negative net working capital, while the remaining industries namely, Jute, Sugar and Food, Steel, Engineering and Shipbuilding and Chemical and Fertilizer showed positive net working capital, on an average, during the period 1975-76 to 1977-78. But Jute Industry showed negative net working capital during 1976-77 and 1977-78 and Chemical and Fertilizer Industry showed negative net working capital during 1975-76.

Looking at the relationship between net sales and net working capital, a rather heavy tie-up of net working capital in relation to net sales or, in otherwords, relatively less efficient and less intensive use of long-term funds and/or shareholders' funds is observed in the case of Steel, Engineering and Shipbuilding, Sugar and Food and Chemical and Fertilizer industries. While Jute and Cotton Textile industries had a low ratio of net working capital to net sales, interspersed with negative net working capital during 1976-77 and 1977-78. Paper and Paperboard Industry also had a low ratio of net working capital to net sales, interspersed with negative net working capital during 1975-76 and 1976-77. Such a low ratio was an indication of a none-too-happy liquidity position in these industries.

All these indicate that the size of net working capital was highly insufficient in the case of Cotton Textile, Paper and Paperboard and Jute industries during almost all the years under review.

The inadequacy of net working capital in the aforesaid industries can further be judged from the view points of current and quick ratios. The following Table 4.6 shows the current and quick ratios[28] for the enterprises under the selected groups of industries.

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[28] For the explanation of current and quick ratios, see Chapter 6 of the study.

TABLE - 4.6

Current Ratios and Quick Ratios of 242 Enterprises, 1975-76 to 1977-78

(In times)

Year	Jute Industry		Cotton Textile Industry		Sugar and Food		Steel, Engg. and Shipbuilding		Chemical and Fertilizer		Paper and Paperboard Ind		(For all the Industries	
	Current Ratio	Quick Ratio	Current Ratio	Quick Ratio	Current Ratio	Quick Ratio	Current Ratio	Quick Ratio	Current Ratio	Quick Ratio	Current Ratio	Quick Ratio	Current Ratio	Quick Ratio
1975-76	1.30	0.87	1.00	0.45	1.32	0.75	1.23	0.75	0.93	0.64	0.90	0.43	1.13	0.65
1976-77	0.90	0.60	0.90	0.59	1.28	0.65	1.30	0.90	1.14	0.76	1.00	0.58	1.05	0.68
1977-78	0.97	0.62	0.90	0.56	1.26	0.65	1.32	0.83	1.20	0.74	1.10	0.64	1.06	0.67
Average	1.05	0.69	0.93	0.54	1.28	0.68	1.29	0.83	1.11	0.72	1.00	0.55	1.08	0.67

(Note: Total column indicates the aggregate position of all the industries).

(Source: Appendix VII to the end of the study).

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A current ratio of 2 and a quick ratio of 1 have been considered as standard norms by some authors.[29] But the current and quick ratios in each of the industries were much lower than these standard norms. The average current ratio and quick ratio for the period 1975-76 to 1977-78 would vary from .93 to 1.29 and from .54 to .83 respectively in the selected industries. Both these ratios ranked the lowest in Cotton Textile Industry; while they ranked the highest in Steel, Engineering and Shipbuilding Industry. Again, in the aggregate, the current ratio was 1.08 while the quick ratio was .67, on an average, during the said period. The average current ratio for Jute, Cotton Textile and Paper and Paperboard industries were lower than the aggregate. And, the average quick ratios for Cotton Textile and Paper and Paperboard industries were lower than the aggregate. All these indicate that there had been insufficient net working capital leading to unsatisfactory liquidity in all the industries, especially, in Cotton Textile, Paper and Paperboard and Jute industries during the period in question. ✓

The major reason for such a state of affairs was the indifference of the concerned mill management regarding maintenance of sufficient liquidity which, in principle, is regarded as the main criterion of granting bank loans for working capital. This was so in the case of the public sector industrial enterprises due to availability of working capital from the nationalised banks which would grant bank overdraft to the enterprises

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[29] Weston, J. Fred and Brigham, F. Bugene, Managerial Finance, op.cit., p.66, Mohsin, M., Financial Planning and Control, op. cit., p.174; Kuchhal, S.C., Financial Management: An Analytical and Conceptual Approach, op.cit., p.61; Foster, Louis O., Understanding Financial Statement and Corporate Annual Reports, Chilton Book Company, Philadelphia, 1968, p.115; Helfert, Erich A., Techniques of Financial Analysis, Richard D. Irwin, Inc., Homewood, Illinois, 1967, p.59; Hampton, John J., Financial Decision Making: Concepts, Problems and Cases, op.cit., p.94 and Myer, John. N., Financial Statements Analysis, Prentice-Hall Inc., Englewood Chiffs, New Jersey, 1969, p.186.

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not on the basis of their liquidity and solvency, but on the basis of their importance as national industries.

Another important reason for such a situation was the peculiar working capital problem arising out of the inherited current liabilities of the abandoned enterprises.

Again, inaccurate estimate of working capital needs based on intuitions and hunches and, above all, on the attitude of the planners without considering the factors influencing such needs and without applying the scientific methods of forecasting working capital needs was another important cause responsible for inadequate working capital in the concerned industries.

(iii) Pattern of Financing Working Capital:

The various sources of finance for working capital in the case of public sector industries in Bangladesh can be grouped into the following four broad categories:

(i) Trade dues and other sundry creditors, including current provisions,

(ii) Non-bank short-term borrowings,

(iii) Short-term bank borrowings and

(iv) Equity and/or long-term borrowings representing net working capital.

Trade dues and other sundry creditors including current provisions and non-bank short-term borrowings together constitute the total non-bank current liabilities. The non-bank short-term borrowings represent short-term Government loans and loans from project officials i.e., Sector Corporations. Gross working capital or total current assets 'minus' total non-bank current liabilities represent the working capital gap. The working capital gap is partly met by short-term bank borrowings i.e., bank overdrafts and cash credits and the balance being supported by equity and/or

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long-term borrowings. The part that is supported by equity and/or long-term borrowings, representing total current assets minus total current liabilities is referred to as net working capital.

The following Table 4.7 presents the pattern of working capital finance in the selected industries for the period 1975-76 to 1977-78.

Looking at trade dues etc., a tendency towards an increasing dependence on this source for additional funds was noticed in Jute, Cotton Textile, Sugar and Food, Steel, Engineering and Shipbuilding and Chemical and Fertilizer industries; while this source maintained more or less the same position in Paper and Paperboard Industry over the said period. This source had grown at a rate faster than the rate of increase in sales over the said period in Jute and Cotton Textile industries. But in the remaining industries this source had grown at a rate slower than the rate of increase in sales. Thus, in the case of the former industries, dodging of bills or postponement of payments to creditors seemed in many instances to be the obvious way out of temporary financial pressures or difficulties.

A tendency towards an increasing dependence on non-bank short-term borrowings for additional funds was noticed in Cotton Textile, Chemical and Fertilizer, Steel, Engineering and Shipbuilding and Paper and Paperboard industries. But in the remaining industries a tendency towards a decreasing dependence on this source was noticed. This source grew at a slower rate than that of sales over the aforesaid period in Jute, Sugar and Food, Steel, Engineering and Shipbuilding and Paper and Paperboard industries. But in the remaining industries this source grew at a faster rate than the rate of increase in sales.

T A B L E - 4.7

Pattern of Working Capital Finance in 6 Industries covering 242 Enterprises for the period 1975-76 to 1977-78.

(In Million Taka)

Items	1975-76						1976-77						1977-78					
	Jute	Cotton Textile	Sugar and Food	Steel and Allied	Chemical and Fertilizer	Paper and Paper Board	Jute	Cotton Textile	Sugar and Food	Steel and Allied	Chemical and Fertilizer	Paper and paper board	Jute	Cotton Textile	Sugar and Food	Steel and Allied	Chemical and Fertilizer	Paper and paper board
Net Sales	2937	1820	1310	1177	783	265	2938	1813	1430	1562	1136	430	4033	2072	2025	1539	1217	709
Gross Working Capital (Total current assets)	2491	1536	1000	1544	1049	757	2568	1403	1298	1565	1486	813	3243	2233	1350	1748	1918	909
Financed by:																		
Trade dues and other sundry creditors and current provisions	869.1	997.2	391.9	830.7	708.6	349.4	1426.6	907.5	430.4	908.1	840.6	351.4	1599.1	1159.5	467.0	1019.4	919.4	348.4
Non-bank short-term borrowings	88.7	381.4	164.1	182.1	203.5	105.9	193.9	441.4	154.6	162.5	291.3	121.1	42.2	1192.8	162.2	220.7	389.3	149.0
Total non-bank current liabilities	957.8	1378.6	556.0	1012.8	912.1	455.3	1620.5	1348.9	585.0	1070.6	1131.9	472.5	1641.3	2352.3	629.2	1249.1	1308.7	497.4
Working Capital Gap (Total current assets minus total non-bank current liabilities)	1533.2	157.4	444.0	531.2	136.9	301.7	947.5	54.1	713.0	494.4	354.1	340.5	1601.7	(119.3)	720.8	507.9	609.3	411.6
Short-term bank borrowings	914.2	145.4	203.0	241.2	213.9	403.7	1180.5	244.1	427.0	124.4	169.1	356.5	1693.7	244.7	443.8	86.9	287.3	345.6
Net Working Capital from equity and/or long-term borrowings	619.0	12.0	241.0	290.0	(77.0)	(102.0)	(233.0)	(109.0)	286.0	370.0	185.0	(16.0)	(92.0)	(364.0)	277.0	421.0	322.0	66.0
	1533.2	157.4	444.0	531.2	136.9	301.7	947.5	54.1	713.0	494.4	354.1	340.5	1601.7	(119.3)	720.8	507.9	609.3	411.6

Source: Appendix VI(A) to the end of the study

Note: Figures in the parentheses indicate negative position).

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Short-term bank borrowings overtook the rate of growth in sales in Jute, Cotton Textile and Sugar and Food industries, showing a marked increase in the extent of dependence on this source. In Chemical and Fertilizer Industry although a tendency towards an increasing dependence on this source was noticed, the rate of increase in short-term bank borrowings was slower than the rate of increase in sales. But in the remaining industries, the short-term bank borrowings grew at a slower rate than the rate of growth in sales, showing a marked decrease in the extent of dependence on this source.

Net working capital was negative in Chemical and Fertilizer, and Paper and Paperboard industries during 1975-76, in Jute, Cotton Textile and Paper and Paperboard industries during 1976-77 and in Jute and Cotton Textile industries during 1977-78, indicating excess of current liabilities over current assets. The negative balances of net working capital in these industries were met by short-term bank borrowings. The positive net working capital representing residual support to working capital from equity and/or long-term borrowings, grew at a slower rate than the rate of growth in sales during the period in Sugar and Food Industry. But in Steel, Engineering and Shipbuilding, Chemical and Fertilizer and Paper and Paperboard industries, net working capital overtook the rate of growth in sales, showing a marked increase in the extent of dependence on equity and/or long-term borrowings. On the contrary, net working capital showed a marked decreasing trend in Jute and Cotton Textile industries.

To examine the proportion of working capital need that was contributed by each of the aforesaid categories of sources, the following Table 4.8 is presented.

T A B L E - 4.8

Percentage Composition of Working Capital Finance in the selected 6 Industries covering 242 Enterprises for the period 1975-76 to 1977-78.

(Figure in Percentage)

	1975-76						1976-77						1977-78					
	Jute	Cotton Textile	Sugar and Food	Steel and Allied	Chemical and Fertilizer	Paper and Paper Board	Jute	Cotton Textile	Sugar and Food	Steel and Allied	Chemical and Fertilizer	Paper and Paper Board	Jute	Cotton Textile	Sugar and Food	Steel and Allied	Chemical and Fertilizer	Paper and Paper Board
Trade dues and other sundry creditors and current provisions	35.0	64.8	39.2	53.8	67.5	46.2	55.5	64.7	33.2	58.0	56.6	43.2	49.3	51.9	34.6	58.3	48.0	38.4
Non-bank short-term borrowings	3.5	24.9	16.4	11.8	19.4	14.0	7.6	31.4	11.9	10.4	19.6	14.9	1.3	53.4	12.0	12.6	20.2	16.4
Short-term bank borrowings	36.7	9.5	20.3	15.5	20.4	53.3	46.0	17.4	32.9	7.9	11.4	43.8	52.2	10.6	32.9	5.0	15.0	38.0
Net working capital from equity and/or long-term borrowings	24.8	0.8	24.1	18.9	(7.3)	(13.5)	(9.1)	(13.5)	22.0	23.7	12.4	(1.9)	(2.8)	(15.9)	20.5	24.1	16.8	7.2
Total Current Assets or Gross Working Capital	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

(Note: Figures in the parentheses indicate negative position)

[Source: Data based on Table 4.7]

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Trade dues etc. increased in Jute and Steel, Engineering and Shipbuilding industries, while this source decreased in the remaining industries over the period 1975-76 to 1977-78. Non-bank short-term borrowing increased in Cotton Textile, Steel and Allied, Chemical and Fertilizer and Paper and Paperboard industries; but in the remaining industires this source declined over the period. Short-term bank borrowing increased in Jute, Cotton Textile and Sugar and Food industries; while it declined in the remaining industries over the period. Net working capital increased in Steel and Allied, Chemical and Fertilizer and Paper and Paperboard industires; but this source decreased in the remaining industries over the period.

Of the various sources of working capital finance, trade dues etc. ranked first in all the industries; and short-term bank borrowing ranked second in Jute, Sugar and Food and Paper and Paperboard industries, while in Cotton Textile and Chemical and Fertilizer industries non-bank short-term borrowing and in Steel and Allied industries net working capital ranked equal during the said period.

4.3 Control of Working Capital

It is true that an enterprise which properly and correctly plans its cash, inventory and receivables will have fewer problems of working capital control than one that operates with ineffective and inefficient policies in these areas. Therefore, the direct approach to working capital control is to develop a sound policy for each of the components of working capital. As seen in the previous section the accounts receivable policies i.e. credit and collection policies, inventory policy and cash policy had not been sound in most of the selected industries during the period under review. Consequently, Paper and Paperboard, Cotton Textile and Jute industries had been running with negative net working capital during the period in question. This indicates the presence of excessive current liabilities over current assets in the case of these industries. Here lies

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the importance of the control of current liabilities in the context of the control of working capital.

Of the various current liabilities, trade creditors viz., creditors for goods and expenses constituted the major portion in the case of most of the selected industries.[30] Trade creditors have relevance to the working capital needs in so far as they are created out of credit purchases and outstanding expenses, the two important areas of working capital needs. Reduction of the working capital needs, particularly, in these two areas will lead to the control of trade creditors which, in turn, will lead to the control of working capital.

Now, the question arises as to how to reduce working capital needs. Since working capital is needed for purchasing raw materials, stores and spares, meeting operational expenses, and paying out dividends, taxes and other dues, control of costs to be incurred for purchasing faw materials, stores and spares and for meeting operational expenses will be tantamount to reduction of working capital needs.

Cost Control in the Selected Industries:

Cost control is applied through the techniques of budgetary control and standard costing which will lead to improved efficiency, revealing variances from predetermined standards and thus providing useful tools for cost control.[31]

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[30] During the period 1975-76 to 1977-78, of the various current liabilities, trade creditors, on an average, constituted 42.3 percent, 27.5 percent, 26.8 percent, 18.4 percent, 45.3 percent, and 27.0 percent in the case of Jute, Cotton Textile, Sugar and Food, Steel, Engineering and Shipbuilding, Chemical and Fertilizer and Paper and Paperboard industries respectively; vide Appendix VI to the end of the study.

[31] Ahmed, Z.U., "Cost Reduction with special Reference to Jute Mills", The Business Review, Vol.IV, July-December, 1978, Faculty of Commerce, University of Dacca, Dacca, p.76.

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In budgetary control, actual costs incurred are compared with the standard costs, the variances, if any, are analysed by reasons for taking corrective actions. In order to make the costs control efficient, the following processes need to be followed:

(i) Predetermination of standard costs;

(ii) Recording of actual costs;

(iii) Comparing actual costs against standard costs;

(iv) Obtaining the cost variances and

(v) Analysing the causes for variances and reporting abnormal variances to management for corrective action[32].

In the cases of the public sector industrial enterprises budgeting technique has been followed as a means of cost control. Annual revenue budgets showing estimated income and expenditures have been prepared for each of the enterprises.

In order to judge the soundness of budgeting technique as a means of cost control in the industries, the following Table 4.9 showing comparison between budgeted and actual total costs has been presented.

The actual total costs exceeded the budget estimates in the case of all the industries during all the years under review. The highest increase is observed in the case of Jute Industry (average increase by 22.1 percent) followed by Paper and Paperboard Industry (average increase by 17.8 percent), Steel and Allied Industry (average increase by 16.7 percent), Sugar and Food Industry (average increase by 16.5 percent), Cotton Textile Industry (average increase by 16.0 percent), Chemical

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[32]Mohsin, M., Financial Planning and Control, op.cit., p.162.

TABLE 4.9

Comparison between Budgeted and Actual Total Costs in the case of the Selected 6 Industries covering 242 Enterprises, 1975-76 to 1977-78

Year	Jute			Cotton Textile			Sugar and Food			Steel and Allied			Chemical and Fertilizer.			Paper and Paperboard		
	Budgeted	Actual	Increase %	Budgeted	Actual	Increase %	Budgeted	Actual	Increase %	Budgeted	Actual	Increase %	Budgeted	Actual	Increase %	Budgeted	Actual	Increase %
1975-76	2517	3023	20.1	1471	1609	9.4	1025	1245	21.4	895	1038	16.0	628	741	18.0	343	408	18.9
1976-77	2686	3256	21.2	1572	1897	20.7	1140	1310	14.9	1208	1412	16.9	748	845	12.9	402	472	17.4
1977-78	3808	4724	24.1	1780	2092	17.5	1649	1891	14.7	1169	1370	17.2	906	1057	16.7	624	732	17.3
Average	3004	3669	22.1	1607	1865	16.0	1272	1482	16.5	1090	1273	16.7	761	881	15.8	456	537	17.8

(Source: Data based on Appendices VI(A) and VI(B) to the end of the study).

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and Fertilizer Industry (average increase by 15.8 percent).

The main reasons for such unfavourable steep deviations between the budgeted and actual total costs were the increase in the prices of raw materials, stores and spares; loss of production due to under-utilisation of capacity[33] caused by workers' absenteeism, shortage of raw materials, stores and spares, mechanical and maintenance troubles and power failures; poor material management; inaccurate planning of the working capital requirements; and unwise classification of expenditures in the revenue budgets which failed to show the distribution of costs incurred by the enterprises either by the responsibility centres or by the main components of production-mix. All these factors were controllable, but it is observed that the techniques of standard costing and variance analysis, the two vital tools of budgetary control, have not been followed in the enterprises under the selected industries. This was mainly due to the shortage of qualified and trained financial executives in the enterprises.

Thus, it can be said that the working capital planning and control in the case of the selected industries, particularly, in Jute, Cotton Textile, Chemical and Fertilizer and Paper and Paperboard industries seemed to be poor during the years under

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[33] There had been the existence of the higher degrees of underutilised capacity in the case of all the selected industries varying from 21.2 percent to 43.0 percent, on an average, during the period under review; vide Appendix-VIII to the end of the study.

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review. The major reasons responsible for such poor working capital planning and control were inaccurate planning of the sources and uses of working capital mainly based on intuitions and hunches, unsound inventory, credit and collection and cash policies, excessive reliance on the short-term bank borrowings, trade dues and sundry other liabilities including current provisions for working capital finance and inappropriate and ineffective cost control. The poor working capital planning and control might have a serious impact on the profitability of these industries.

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CHAPTER 5

PROFIT PLANNING AND CONTROL

In the preceeding two Chapters financial planning and control with regard to both fixed capital and working capital during the pre-gestation, gestation and operating periods have been discussed. But during the operating period another important aspect of financial planning and control system emerges. This is profit planning and control, that is, profit management. This Chapter shrows light on the following two aspects of profit planning and control in the selected industries:

(1) Nature and purpose of profit planning and control and

(2) Forms of profit planning and control.

5.1 Nature and Purpose of Profit Planning and Control

Profit planning and control are implicit in profit management. Profit planning and budgetary control are the central aspects of the management process and go directly to the heart of : (a) management policies; (b) organisational structure; (c) enlightened human relations; and (d) delegation of authority and responsibility.[1] Profit planning is a tool in which the required amount of profit is ascertained, or the expected level of profit is budgeted; and controlling profit is a tool in which actual level of profit is compared with budgeted profit and analysis of the factors responsible for the discrepancy between these two is made in order to undertake measures to rectify the position.[2]

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[1] Wilson, R.M.S., Financial Control: a systems approach, op., cit., p.99.

[2] Clay, M.J. and Walley, B.H., Performance and Profitability: A Manual of Productivity and Cost Reduction Techniques for Industry and Commerce, Longman Green, London, 1965, p.365.

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There are two important purposes of profit management. The first one is to project in written form a plan of operations that will maximise profits. Therefore, the short-run profit plan is the financial manager's written statement of the most efficient operations attainable within the limits of the existing capital framework.[3] Each segment of the plan should be presented to the proper operating division far in advance to give the management personnel time to meet the goals contained in the plan. Thus, the sales personnel should be given the sales plan in time to secure finished goods inventory to meet the expected sales. Production personnel should be given the sales plan and the plan for securing raw materials, goods-in-process and finished inventory stocks. This will allow them to secure labour and raw materials in advance, within the cost limits set down in the plans. The administrative personnel should be given advance notice to increase or decrease their office force and to expand or contract their personal expenditure according to the details of the plan. The financial executives should be given the realistic profit plan in time so that they can take appropriate steps to achieve the same. The second important purpose of profit management is to provide the financial management with a model of operations with which to compare the effectiveness of actual operations in the future.[4] Thus, the analysis and evaluation of actual operations can be made in the real perspective of the planned operations, past experiences and the experiences of other businesses.

In the case of the public sector industries in Bangladesh the profit planning function would be carried out

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[3] Brandt, Louis K., Business Finance: A Management Approach, op. cit., p.98.

[4] ibid, p.99.

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at a high level in the Corporations' financial organisation. The individual Corporation's topmost management in its meeting would decide the profit target, sales target and production target for each of the enterprises under its management. These targets would be communicated for their achievement to the financial line organisation of the Corporation and to the enterprise personnel. But in this regard two limitations were observed in the case of the industries.

Firstly, these targets appeared to be unrealistic in most of the cases. The probable reason for such a state of affairs was that the Corporations' topmost executives viz., Production Director, Commercial or Marketing Director, Finance Director and others who would prepare the targets might have no specific knowledge and experience about the peculiarities of the individual enterprises. As for example, while fixing the production target of the enterprises under a Corporation the authorities would consider the installed capacities of the individual mill and from such installed capacities would be deducted idle capacities for all the mills and thus arrive at the operable capacities of the individual mills. But the authorities would not consider the merits and/or demerits of each individual mill viz., condition of the machines, labour situation etc., for which the idle capacity and hence the operable capacity might have varied from mill to mill in the case of the same Corporation. As a result, the production target as fixed by the Corporation executives would not reflect the real operable capacity of the individual mill.

Secondly, fixing the targets and communicating these to the enterprises would not be done in time in most of the cases due to the lengthy procedure involved in the preparation of the concerned budgets. For example, as regards the finalisation of

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revenue budget of the enterprises, the Corporation was to give notifications and directions to the individual enterprises to prepare these budgets and submit the same in the prescribed form within April-May in each financial year. The enterprises usually would take some time to prepare the budgets and the detailed schedules to be attached to the budgets. Hence, the enterprises would send such budgets to the Corporation usually in May-June. On receipt of these budgets, the Cost and Budget Division of the Corporation would scrutinise the budgets and submit the same, through the Finance Director, to the Corporation Board and then to the concerned ministry for approval. Such procedures would take enough time to finalise the budgets and communicate these approved budgets to the enterprises for execution.

5.2 Forms of Profit Planning and Control

Three forms of profit planning and control are worth mentioning namely, break-even chart and point, proforma operating statement and operating budget.[5] Each of these forms is discussed below with special reference to the public sector industries in Bangladesh.

Break-even Chart and Point:

Break-even analysis, shown in the forms of break-even chart and break-even point, is a formal profit planning and control approach based on established relationship between costs and revenues.[6] It is the study of profitability and the

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[5] ibid, pp.99 and 106.

[6] Wing, A. George, A Financial Handbook for Pakistani Executives, Institute of Business Administration, Dacca University, Dacca, 1970, pp. 95-96.

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interactions of fixed costs, selling prices and sales revenue changes on the overall profit.[7] A break-even point is a point at which a firm neither makes a profit nor incurs any loss; thus, it is a no-profit-no-loss point. A break-even chart is a graphical representation of fixed costs, variable costs, total revenues, total sales, break-even point and expected profits.

The break-even point and chart guide the financial management of a firm in deciding the levels of sales that will cover costs and expenses and will leave a certain level of profit. Thus, a break-even analysis which is usually graphically presented in the form of a profit graph or a break-even chart, furnishes a complete picture of the profit structure which enables management to distinguish between the effect of sales volume fluctuations and the results of price or cost changes upon profits.[8]

The profit graph or break-even chart is usually drawn with the help of budgetary information on sales, output, costs and expenses and profits. But some authors[9] also used in the break-even chart actual information on sales, output, costs and

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[7] Clay, M.J. and Walley, B.H., Performance and Profitability: A Manual of Productivity and Cost Reduction Techniques for Industry and Commerce, op.cit., p.365.

[8] Doefe, Henry C., "The Profit Path as Seen Through the Budgetary Control Programme", NAA Bulletin, November, 1959, p.52.

[9] For example, Manes, Rene, "A New Dimension to Break-even Analysis", Journal of Accounting Research, Spring, 1966, pp. 87-100; and Solomons, David, "Break-even Analysis under Absorption Costing", Accounting Review, July, 1968, pp. 447-452.

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expenses and profits along with the budgetary information on such items in order to have a comparative analysis of the profit structure. It is seen that in the case of public sector industrial enterprises, the technique of break-even analysis has not been used in profit planning and control functions[10]. This is mainly due to the indifference of the enterprises' financial executives, absence of any directives from the Corporations and also the absence of any provision in the 'Accounts Manuals' in this regard. However, the average budgeted and actual revenues, output, costs and expenses and profits of the selected industries have been shown graphically in the following Figure 1 with a view to examining the effectiveness of profit planning and control in these industries.

The graphical representation in Figure 1 brings out the relationships between budgeted and actual fixed and variable costs, total revenues, break-even points and profits, thereby indicating a composite picture of the profit structure of the enterprises. In the said Figure, ORa represents actual revenue line whereas ORb represents budgeted revenue line; FCa and F_1Cb represent actual and budgeted fixed cost lines respectively; FTa and F_1Tb represent actual and budgeted total cost-lines respectively; and points Ba and Bb represent actual and budgeted break-even points respectively. Therefore, the angles Ra Ba Ta and Rb Bb Tb represent actual and budgeted profit areas respectively. Thus, the actual break-even point appeared to be a very high one, almost nearer to the actual revenue. Such a higher break-even point has led to very negligible profit equal to the area covered by the angle Ra Ba Ta in the above Figure. On the contrary, the budgeted break-even point does not appear to be too high, therefore, the budgeted profit covered by the angle Rb Bb Tb seems to be adequate. Thus,any sales or revenues below

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[10] Vide the Annual Reports of the Selected Corporations, viz., BJMC, BTMC, BSFIC, BSEC and BCIC for the years 1975-76, 1976-77 and 1977-78.

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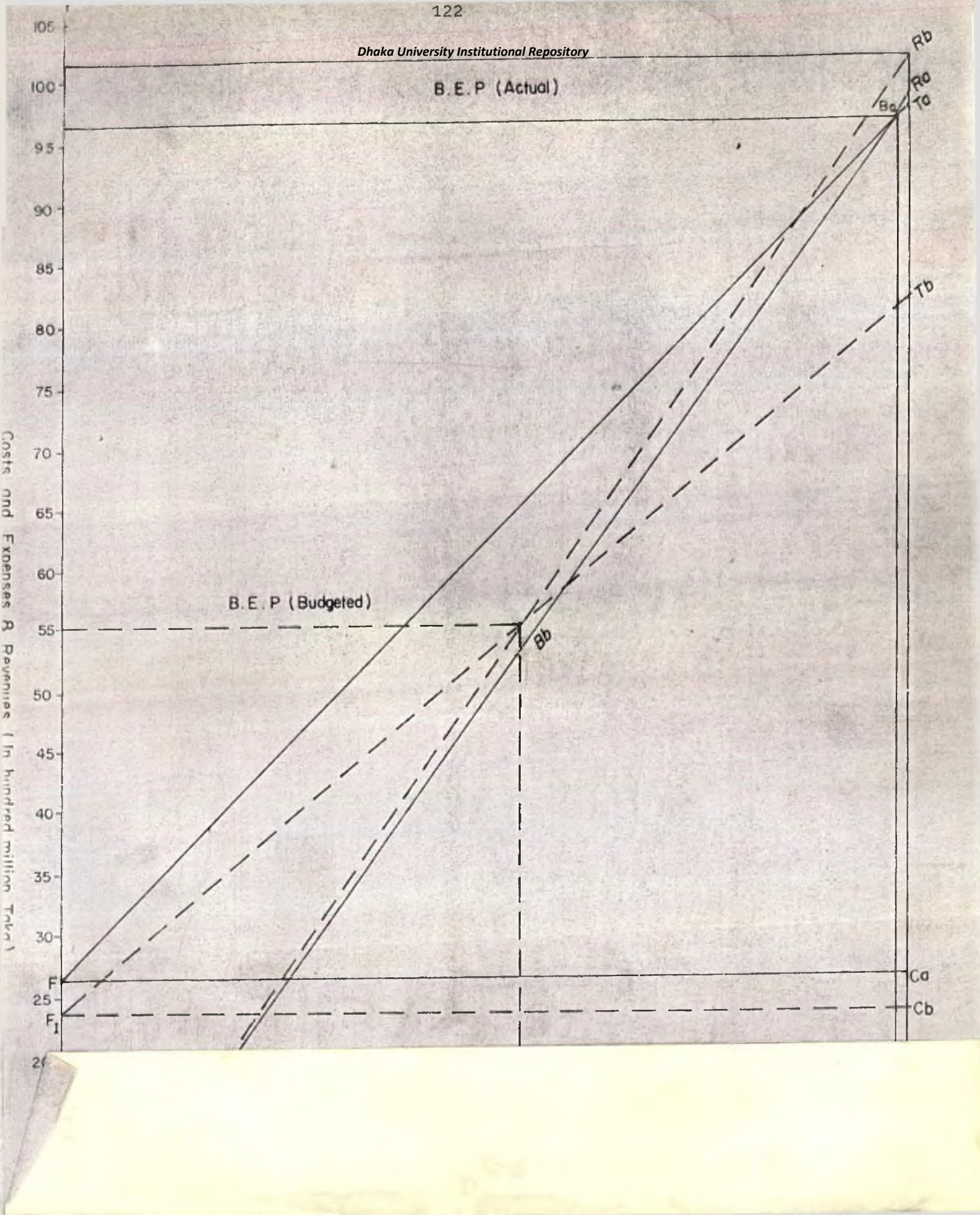

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the break-even points Ba and Bb would lead to loss in the case of actual and budgeted operations respectively. Thus, the profit planning and control seemed to be poor in the case of the enterprises.

Proforma Operating Statement:

The proforma operating statement, proforma profit and loss account, or proforma income statement can be advantageously used by an enterprise in its profit planning and control. The proforma operating statement reveals the management's planning regarding sales, expenses and profit[11]. It is a profit planning statement in that it shows the amount of future profits to be achieved; and it is a profit control statement in that it tends to compare actual profits with the estimated profits and to find out the deviation between these two, indicating the main reasons for such deviation with a view to enabling the financial managers to take corrective measures in this respect. For purpose of clarity and understanding, the proforma statement should show the transition from the actual operating conditions in the last operating periods to estimated operations of the future. Besides past experiences, however, financial manager should also consider, particularly, significant marketing factors and any other conditions that are likely to affect future sales, costs and expenses.

The proforma operating statement may be prepared for a given financial trading or manufacturing period generally for a year or half-year classified into monthly time periods. The relevant data for this statement may be collected from the Divisional Heads by the Finance Managers. For preparing such a

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[11] Mohsin, M., Financial Planning and Control, op. cit., p.149.

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statement the Finance Managers may take the co-operation of production and marketing departments. But it is observed that in most of the public sector industrial enterprises the proforma operating statement had not been effectively followed in its profit planning and control functions. This is because of the fact that in these cases the said statement would be prepared in order to serve the purpose of accounting only.

Operating Budget:

The term 'operating budget' here means a master profit plan that is expected to motivate the management organisation at all levels of sales, production and general administration[12]. Therefore, operating budget includes budgets and schedules in the areas of sales, production and general administration. It has already been mentioned in the previous Chapter that in the case of the public sector industries in Bangladesh budgeting technique has been used as a means of profit planning and control. In these cases, "Annual Revenue Budget" has been followed for the purpose of profit planning and control. The revenue budget has been a master profit plan which would include a number of schedules in the areas of sales, production and general administration. A brief description of each of the main operating schedules is given below:

(i) Sales Schedule:

The sales schedule is an estimate of income expected from the sale proceeds of the products. The sales estimate is limited by a combination of two factors viz., ability to produce and ability to sell; but given certain limits to production, the

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[12] Brandt, Louis K., Business Finance: A Management Approach, op. cit., p.108.

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volume of sales is a function of ability to sell, Ability to sell is affected by conditions in the market; for example, demand and purchasing power of the products in the market. Sales schedule is the foundation for periodic planning because practically all other planning is based largely on it.[13]

In the case of the public sector industrial enterprises sales schedules were prepared and sent to the Corporations monthly. In the sales schedules sales volume, both in quantity and amount, were estimated. These estimates were usually made for a full year and then divided on a monthly basis. In making such estimates, past sales experiences as well as the market trends, both present and future, were considered. In order to judge the effectiveness or otherwise of the sales schedules, the following Table 5.1 showing both the budgeted sales and actual sales has been presented.

The actual as well as budgeted, both original and revised, sales showed no regular pattern in the case of the industries over the period 1975-76 to 1977-78. In the case of some industries the actual sales had been higher than the budgeted estimates while in the case of other industries the actual sales had been lower than the budgeted estimates.

During the said period, the actual sales, on the average, were higher than the original and revised estimates by 6.2 percent and 0.3 percent respectively in Jute Industry and by 8.8 perfent and 8.5 percent respectively in Sugar and Food Industry; while such sales were lower than the original

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[13] Welsch, G.A., Budgeting Profit Planning and Control, Modern Asia Edition, Prentice-Hall Inc., Englewood Cliffs, New Jersey, p. 81.

TABLE - 5.1

Budgeted (Original and Revised) and Actual Sales in the Selected Industries for the financial years 1975-76, 1976-77 and 1977-78

(In Million Taka)

Year	Jute			Cotton Textile			Sugar and Food			Steel and Other			Chemical and Fertilizer			Paper and Paperboard		
	Original	Revised	Actual	Original	Revised	Actual	Original	Revised	Actual	Original	Revised	Actual	Original	Revised	Actual	Original	Revised	Actual
1975-76	3059	2857	2937	2361	1834	1820	1082	1190	1310	1235	1161	1177	749	793	783	301	272	265
1976-77	3054	3053	2938	2430	1791	1813	1390	1460	1430	1696	1696	1562	1103	1200	1136	610	501	430
1977-78	3215	3997	4033	2402	2754	2072	1904	1739	2025	1709	1815	1539	1300	1420	1217	800	711	680
Average	3109	3302	3303	2398	2126	1902	1459	1463	1588	1547	1577	1426	1067	1131	1045	570	495	458

(Source: Data based on Appendices VI(A) and VI(B) to the end of the study).

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and revised estimates by 20.7 percent and 10.5 percent respectively in Cotton Textile Industry; by 7.8 percent and 8.4 percent respectively in Steel, Engineering and Shipbuilding Industry; by 2.1 percent and 7.6 percent respectively in Chemical and Fertilizer Industry and by 19.6 percent and 7.5 percent respectively in Paper and Paperboard Industry. Thus, the sales schedules proved inappropriate in most of the industries. The major reasons for such a state of affairs were inaccurate sales forecast and low productions as compared to targets.

(ii) Production and Cost of Production Schedule:

The production schedule is an estimate of the quantity of goods that would be manufactured during the budgeted period. It is the initial step in budgeting manufacturing operation[14]. The production schedule is based on two key factors namely, estimated sales and estimated investment in raw materials, goods-in-process and finished inventories for the budgeted period. The cost of production schedule is an estimate of the cost of production of the estimated quantity of goods to be manufactured for the budgeted period. The cost of production is actually a summary of the direct materials, direct labour, direct expenses and factory overhead costs to be incurred.

The combination of the production and cost of production schedules may be known as production budget. The production budget serves as an important tool of planning, coordination and control[15]. As a tool of planning in expressing the volume of

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[14] Welsch, G.A., Budgeting: Profit Planning and Control, op.cit., p.110.

[15] Moore, Franklin and Jabluski, Ronald, Production Control, Mc Grew-Hill Book Co. Inc., New York, 1969, p.180.

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manufacturing effort it establishes the foundation for planning and aspects of factory operations viz., raw material, factory labour and factory overhead requirements, plant capacity, factory services activities etc. Thus, the production budget establishes the basis for contract of production, inventories, production costs and manpower in the factory.[16]

In the case of the public sector industrial enterprises both the production and cost of production schedules were prepared and sent to the Corporations monthly. The estimates of the quantity of goods to be manufactured and the costs of producing these goods were usually made for a full financial year and then divided on a monthly basis. In making the estimates for costs of production, past experiences and the present and future market trends of the components of costs of production were taken into consideration. The following Table 5.2 showing the budgeted and actual cost of production has been presented in orderto judge the effectiveness or otherwise of the production and cost of production schedules. It is evident that the actual cost of production had been higher than both the original and revised budget estimates in the case of all the concerned industries during the period 1975-76 to 1977-78. During the said period, the actual cost of production, on an average, than original and revised estimates was higher by 24.7 percent and 8.6 percent respectively in Jute Industry, by 17.7 percent and 6.9 percent respectively in Cotton Textile Industry; by 19.1 percent and 7.7 percent respectively in Sugar and Food Industry; by 18.9 percent and 2.6 percent respectively in Steel, Engineering and Shipbuilding Industry, by 16.6 percent and 3.5 percent respectively in Chemical and Fertilizer Industry and by 19.0 percent and 4.7 percent respectively in Paper and Paperboard Industry. All these indicate that the production and cost of production schedules were not sound in the case of the industries.

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[16] Baffa, E.S., Production Inventory System: Planning and Control, Richard D. Inwin Inc., Homewood, Illinois, 1968, p.63.

TABLE - 5.2

Budgeted (Original and Revised) and Actual Cost of Production in the Selected Industries for the financial years 1975-76, 1976-77 and 1977-78

Year	Jute			Cotton Textile			Sugar and Food			Steel and Other			Chemical and Fertiliser.			Paper and Paperboard.		
	Original	Revised	Actual	Original	Revised	Actual	Original	Revised	Actual	Original	Revised	Actual	Original	Revised	Actual	Original	Revised	Actual
1975-76	2187	2419	2662	1204	1297	1332	778	901	978	726	820	855	529	603	632	274	306	329
1976-77	2316	2629	2858	1268	1402	1543	883	943	1033	1011	1199	1204	646	699	731	323	371	384
1977-78	3411	3992	4297	1439	1609	1729	1371	1509	1602	953	1101	1142	782	901	918	525	598	623
Average	2638	3013	3272	1304	1436	1535	1011	1118	1204	897	1040	1067	652	734	760	374	425	445

(Source: Data based on Appendices VI(A) and VI(B) to the end of the study).

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The main reasons for such a state of affirs were low production as compared to targets mainly due to shortage of spare parts etc., increase in the prices of raw materials, spare parts etc., escalation in wages, repairs and maintenance and depreciation, increase in the rate of industrial power and so on.

(iii) Operating Expenses Schedules:

Managerial decisions must be forward looking, therefore, estimates of future costs and expenses are especially significant for managerial planning and control.[17] The operating expenses schedules are the means to estimate future expenses. These schedules include office and administration expenses schedule and selling and distribution expenses schedule. Office and administration expenses include expenses other than manufacturing and sales and distribution, which are incurred in the operation of a business. But selling and distribution expenses include all expenses related to sales, distribution and delivery of the products to the customers.

In the case of public sector industrial enterprises, office and administration expenses and selling and distribution expenses schedules were prepared and sent to the Corporations monthly. The estimates of these operating expenses had been done annualy and then divided on a monthly basis. In making such estimates past experiences as well as the present and future trends were considered. The following Table 5.3 showing the budgeted and actual operating expenses has been presented in order to judge the effectiveness or otherwise of the office and administration expenses and selling and distribution expenses schedules.

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[17] Welsch, G.A., Budgeting: Profit Planning and Control, op.cit., p.162.

TABLE - 5.3

Budgeted (Original and Revised) and Actual Operating Expenses in the Selected Industries for the financial years 1975-76, 1976-77 and 1977-78

(In Million Taka)

Year	Jute			Cotton Textile			Sugar and Food			Steel and Allied			Chemical and Fertilizer.			Paper and Paperboard.		
	Original	Revised	Actual	Original	Revised	Actual	Original	Revised	Actual	Original	Revised	Actual	Original	Revised	Actual	Original	Revised	Actual
1975-76	350	368	361	270	276	277	251	260	267	171	179	183	100	107	109	71	76	79
1976-77	380	393	398	303	349	354	261	271	277	199	203	208	101	111	114	80	85	88
1977-78	409	425	429	341	359	363	280	285	289	219	227	228	125	133	139	92	108	109
Average	380	392	396	305	328	331	264	272	278	196	203	206	109	117	121	81	90	92

(Source: Budget Statements and Annual Reports for the financial years 1975-76, 1976-77 and 1977-78 of the Enterprises under BJMC, BTMC, BSFIC, BSEC and BCIC).

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The actual operating expenses exceeded both the original and revised budget estimates in all the industries in all the years under review. During the period 1975-76 to 1977-78, the actual operating expenses, on an average, exceeded the original and revised budget estimates by 4.2 percent and 1.0 percent respectively in Jute Industry, by 8.5 percent and 1.0 percent respectively in Cotton Textile Industry, by 5.3 percent and 2.2 percent respectively in Sugar and Food Industry, by 5.1 percent and 1.5 percent respectively in Steel, Engineering and Shipbuilding Industry; by 11.0 percent and 3.4 percent respectively in Chemical and Fertilizer Industry and by 13.6 percent and 2.8 percent respectively in Paper and Paperboard Industry. All these variances indicate that office and administration expenses as well as selling and distribution expenses schedules had not been much effective in the case of the industries. This was mainly due to increase in pay scales of the employees, interest rates of bank loans and overdrafts, various tax rates etc.

Revenue Budget (Summary Budget):

After the examination of the various operating schedules attached to the revenue budget, it is necessary to focus attention on the revenue budget itself in order to plan for operating profit during the budgeted period. The revenue budget is a forecast of expected income, costs, expenses and net profits and the apportionment of such profits into workers' provident fund, income tax, contribution to government exchequer etc.

Like the various operating schedules the revenue budget had also been prepared and sent monthly to the Corporations by the public sector industrial enterprises. Such budget would be prepared at first on a yearly basis and then divided on a monthly basis. Usually, the revenue budget including the various operating schedules would be revised after 6 months of the financial

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year on the basis of the last 6 months' operations. In order to examine the effectiveness or otherwise of profit planning and control, the following Table 5.4 showing the budgeted and actual amount of net profits and also the minimum required amount of net profits[18] has been presented.

The Table reveals that the actual amount of net profits had been lower than the original budget estimates. During the said period, the average actual net profits had been lower than the average original budget estimates by 110.8 percent in Jute Industry, by 92.4 percent in Cotton Textile Industry, by 22.0 percent in Sugar and Food Industry, by 60.8 percent in Steel, Engineering and Shipbuilding Industry, by 32.2 percent in Chemical and Fertilizer Industry and by 185.0 percent in Paper and Paperboard Industry.

Moreover, as compared to the minimum required amount of net profits, the position of actual amount of net profits had also been lower in the case of some industries. The average actual amount of net profits had been lower than the average required amount of net profits by 262.3 percent in Jute Industry, by 47.8 percent in Cotton Textile Industry, and by 170.5 percent in Paper and Paperboard Industry during the period 1975-76 to 1977-78.

All such variances reveal that the revenue budget and in turn the profit planning and control had not been sound and efficient in the case of most of the industries.

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[18] The Planning Commission has made a provision for all the existing public sector industrial projects to earn a fixed return of 7.5 percent of the original investment, irrespective of book value, cf. Planning Commission, The First Five Year Plan, 1973-78, op. cit., p.259. The minimum required amount of net profits in the case of the selected industries has been calculated for each of the years on this basis of 7.5 percent return on the original investment.

TABLE - 5.4

Budgeted (Original), Actual and Required Amount of Net Profits in the Selected Industries, 1975-76 to 1977-78

Year	Jute			Cotton Textile			Sugar and Food			Steel and Allied			Chemical and Fertilizer			Paper and Paperboard		
	Budgeted	Actual	Required	Budgeted	Actual	Required	Budgeted	Actual	Required	Budgeted	Actual	Required	Budgeted	Actual	Required	Budgeted	Actual	Required
1975-76	321	(78)	214	49	211	60	13	65	50	284	139	72	44	42	95	(72)	(143)	95
1976-77	40	(302)	208	808	(84)	62	196	120	50	426	150	73	301	291	103	202	(42)	116
1977-78	(862)	(675)	226	565	(20)	84	198	134	56	464	169	74	332	120	104	149	(52)	128
Average	(167)	(352)	216	474	36	69	136	106	52	391	153	73	226	151	101	93	(79)	113

(Note: (i) Figures in the parenthesis signify losses;

(ii) Net profit as used here indicates net profit before interest and taxes).

(Source: Budget Statements and Annual Reports for the years 1975-76, 1976-77 and 1977-78 of the Enterprises under BJMC, BTMC, BSFIC, BSEC, and BCIC).

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The reasons for the deviation between the actual and budgeted total costs, as discussed in the earlier Chapter were also responsible for the unsound profit planning and control. Moreover, the poor budgeting practice was also another important factor for such a state of affairs. So far, it has been observed that the sales, production and cost of production and operating expenses schedules and the overall revenue budget were not appropriate and thus ineffective in most of the selected enterprises. Much of the enterprise budgets were not properly drawn up; as a result, these would appear as a mere adaptation of the previous year's balance sheet, profit and loss statement or budget. The Corporations have not tried to use the budget in a meaningful way. The annual budgets of the enterprises have rarely been reviewed for variation; little attampt has been made to formulate responsibility budgeting, to separate controllable and uncontrollable factors at different levels of manggement, and no examination has been done to see to what extent the sales schedules, production and cost of production schedules, office and administration expenses schedule, selling and distribution expenses schedule etc. were integrated. Thus, the revenue budget failed to represent a performance budget and this shows the absence of enterprise level effective profit planning and control.

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CHAPTER 6

FINANCIAL ANALYSIS OF INDUSTRIAL ENTERPRISES

In the preceding Chapters financial planning and control with regard to fixed capital, working capital and profit have been discussed. In order to measure the efficiency or otherwise of the financial policies and decisions of the selected industries, as discussed in the preceeding Chapters, knowledge about the financial position of these industries is imperative. The following Table 6.1 summarizes in absolute figures the financial position of the industries for the period under review.

As depicted in the Table total investments of the businesses are divided into fixed capital represented by fixed assets and circulating capital represented by current assets. Thus, the sum total of fixed capital and circulating capital represents the total investments. The fixed capital is the core of the business, the main axis round which the circulating capital revolves.[1] In the case of the industries excepting Paper and Paperboard circulating capital was much higher than the fixed capital during the period 1975-76 to 1977-78. Total money invested in business came from long-term loan, current liabilities and net worth (owned capital). But net worth was negative in the case of Jute and Paper and Paperbaard industries due to heavy accumulation of losses. Long-term loan occupied the dominant place as a contributor of total investment, followed by current liabilities. But in the case of the remaining industries viz., Cotton Textile, Sugar and Food, Steel and Allied and Chemical and Fertilizer current liabilities occupied the dominant place as a contributor of total investment, followed by long-term loan and net worth.

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[1] Rose, T.G., The Internal Finance of Industrial Undertakings, op.cit., p.33.

TABLE 6.1

Average Financial Position of the selected Industries for the period 1975-76 to 1977-78 (In Million Taka)

TOTAL INVESTMENTS													
Net worth and Liabilities (Where the money comes from)	INDUSTRIES						Property and Assets (Where the money is now)	INDUSTRIES					
	Jute	Cotton Textile	Sugar and Food	Steel and Allied	Chemical and Fertilizer	Paper & Paperboard		Jute	Cotton Textile	Sugar and Food	Steel and Allied	Chemical and Fertilizer	Paper and Paperboard
Net Worth: Equity Capital	685.0	200.0	250.0	187.0	294.0	513.0	Gross Fixed Assets	2883.0	918.0	691.0	979.0	1343.0	1488.0
Retained Earnings	(1673.0)	(98.0)	(21.0)	(18.0)	(47.0)	(588.0)	Deduct: Depreciation	1089.0	339.0	270.0	306.0	547.0	399.0
Long-term Loan (Fixed Liabilities)	2880.0	296.0	461.0	864.0	986.0	1146.0	Net Fixed Assets-(Fixed Capital)	1794.0	579.0	421.0	673.0	796.0	1089.0
Current Liabilities: Creditors for Goods	426.0	298.0	135.0	143.0	359.0	140.0	Current Assets: (Gross Working Capital)						
Creditors for Expenses	704.3	216.7	119.0	90.0	248.0	87.0	Debtors, Advances and Loans	1677.0	906.0	538.0	831.0	885.0	379.0
Cash credits and Bank O/D	1262.8	211.4	357.9	150.8	223.4	368.6	Inventory	882.0	543.0	487.0	487.0	340.0	247.0
Government Loan	39.2	78.4	20.9	86.6	58.6	51.6	Cash and Bank	68.0	92.0	51.0	120.0	3.0	(7.0)
Project Official Loan	69.1	593.5	139.4	101.8	236.1	73.7	Others (Investment & prepaid expenses)	140.0	183.0	141.0	181.0	256.0	207.0
Other Liabilities	167.6	507.0	175.8	686.8	215.5	123.1							
Total Investment (Sources)	4561.0	2303.0	1638.0	2292.0	2280.0	1915.0	Total Investments	4561.0	2303.0	1638.0	2292.0	2280.0	1915.0

(Note : Figures in the parentheses indicate negative position).
(Source: Appendix VI to the end of the study).

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Financial analysis offers a system of appraisal and evaluation of a firm's performance.[2] So, in order to evaluate the financial position of the selected industries, the technique of financial analysis has been applied. Financial analysis is the analysis of financial statements of an enterprise. Financial statements include mainly balance sheet, profit and loss account, and sources and application of funds statement. A proper analysis of these statements provides valuable insight into the financial condition and operation of an enterprise. Thus, the financial analysis helps management of the enterprises in measuring the efficiency or otherwise of their policies and decisions.

Amongst the various tools of financial analysis the most important are ratio analysis, fund flow analysis and break-even analysis. In this Chapter, an attempt has been made to assess the financial position of public sector industries in Bangladesh by using these tools.

6.1 Financial Appraisal of the selected Industries by the Ratio Analysis

The analysis of financial statements can be best done when accounting figures are expressed as ratios or percentages. Ratio analysis is certainly a very admirable device because it is simple and it has predictive value.[3] Moreover,

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[2] Weston, J.F. and Woods, D.H., Basic Financial Management: selected readings, Wadsworth Publishing Company, Inc., Belmont, California, p.37.

[3] Horrigan, J.O., "A Short History of Financial Ratio Analysis", Accounting Review, April, 1968, p.294.

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it may be used to keep close control over a product or process as well as for broader planning purposes.[4] Therefore, while describing the significance of ratio analysis some authors[5] considered financial ratios both as yardsticks for comparative assessment and as indicators of success for the firms.

The main criterion for evaluating the financial position is to measure the profitability, liquidity, activity and solvency of an enterprise. The profitability can be measured by the use of profitability ratios such as, profit margin, return on net worth, return on total investments, both original and current, and return on capital employed. The liquidity can be measured by the use of liquidity ratios viz., working capital to total assets ratio, current ratio and quick ratio. The activity can be measured by the use of activity ratios namely, inventory turnover, average collection period, fixed assets turnover, and total assets turnover. The solvency can be measured by the use of solvency ratios such as, total debts to total assets ratio and the time interest earned. In addition, there are some other important ratios namely, retained earnings to total debts ratio and market value of equity to total debts ratio to be used to test the financial soundness of an enterprise.[6]

The following Table 6.2 depicts some significant average ratios for the period 1975-76 to 1977-78 for the selected industry groups covering a total number of 242 enterprises.

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[4] Cohen, J.B., and Robbins, S.M., The Financial Manager: Basic Aspects of Financial Administration, op.cit., p.192.

[5] Shashna, L. and Goldschmidt. Y., "An Index for Evaluating Financial Performance", Journal of Finance, Vol.XXIX, No.3, June, 1974, p.805.

[6] Professor Altman, among other ratios, used these two ratios for bankruptcy predictions of a total number of 33 firms in the United States which had filed bankruptcy petitions, cf. Altman, Edward I, "Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy", Journal of Finance, Vol.XXIII, No.4, September, 1968, pp.589-609.

TABLE - 6.2

Some significant average Ratios for the selected 6 Groups of Industries covering 242 Enterprises, 1975-76 to 1977-78

Types of Ratios	Average Ratios for the period 1975-76 to 1977-78						
	Jute	Cotton Textile	Sugar and Food	Steel and Allied	Chemical and Fertilizer	Paper and Paperboard	Total
PROFITABILITY RATIOS:							
1. Profit Margin (In %)	(10.6)	1.9	6.6	10.7	14.4	(11.6)	0.2
2. Return on Net Worth (In %)	N.C.	(60.0)	9.0	16.1	N.C.	N.C.	N.C.
3. Return on Total Original Investment (In %)	(12.2)	3.9	15.3	15.6	11.2	(5.3)	0.2
4. Return on Total Present Investment (In %)	(7.7)	1.6	6.5	6.7	6.6	(4.1)	0.1
5. Return on Capital Employed (In %)	(36.4)	(15.3)	2.9	2.6	3.4	(10.5)	(13.0)
LIQUIDITY RATIOS:							
6. Net Working Capital to Total Assets (In %)	2.1	(7.8)	16.4	15.7	6.3	(0.9)	4.1
7. Current Ratio (In Times)	1.1	0.9	1.3	1.3	1.1	1.0	1.1
8. Quick Ratio (In Times)	0.7	0.5	0.7	0.8	0.7	0.6	0.7
ACTIVITY RATIOS:							
9. Inventory Turnover (In Times)	3.7	3.8	3.3	3.0	3.1	1.9	3.0
10. Average Collection Period (In Days)	96	84	63	74	86	149	90
11. Net Fixed Assets Turnover (In Times)	1.8	3.3	3.8	2.1	1.3	0.4	1.8
12. Total Assets Turnover (In %)	72.4	82.6	97.0	62.2	45.8	23.9	64.9
SOLVENCY RATIOS:							
13. Debts to Total Assets (In %)	121.6	95.6	86.0	93.0	102.0	104.0	104.1
14. Time Interest Earned (In Times)	(1.4)	0.7	2.0	2.2	2.3	(2.5)	0.03
MISCELLANEOUS RATIOS:							
15. Retained Earnings to Total Assets (In %)	(36.7)	(4.3)	(1.3)	(0.8)	(5.2)	(30.6)	(16.8)
16. M.V. of Equity to B.V. of Total Debts (In %)	46.9	57.3	75.9	71.4	66.3	105.7	64.7

(Note: (i) N.C. Signified no consistency, (ii) Figures in the parentheses indicate negative position and (iii) Total column indicates the aggregate position of all the industries).

(Source: Appendix VII to the end of the study).

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In the following paragraphs, a brief analysis of the above Table has been made in order to show the implications of each of the ratios in the case of the industries concerned.

PROFITABILITY RATIOS:

1. Profit Margin:

The profit margin ratio has been computed by dividing earnings before interest and taxes by sales and the quotient has been expressed in percentage. A profit margin ratio ranging from 4 percent to 6 percent has been considered as a reasonable norm by some authors[7] for the purpose of comparison and control. This may also be considered to be the reasonable norm for the selected industries.

As indicated in the Table some of the industries earned a profit margin higher than this standard norm. For example, Sugar and Food, Steel and Allied, and Chemical and Fertilizer industries showed profit margin equal to 6.6 percent, 10.7 percent and 14.4 percent respectively, on an average, during the period 1975-76 to 1977-78. On the contrary, during the same period, on an average, Jute and Paper and Paperboard industries showed negative net profit margin equal to 10.6 percent and 11.6 percent respectively, thereby, indicating losses. But Cotton Textile Industry showed poor profit margin equal to 1.9 percent only.

In the aggregate, the average profit margin for the period was only 0.2 percent. The profit margin ratio for Steel, and Allied, Sugar and Food, Chemical and Fertilizer and Cotton Textile industries was higher than this aggregate ratio, while this ratio for Paper and Paperboard and Jute industries was the lowest, as compared to the aggregate.

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[7] Mohsin, M., Financial Planning and Control, op.cit., p.174, and Weston, J. Fred and Brigham, F. Eugene, Managerial Finance, op.cit., p.66.

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2. Return on Net Worth:

This ratio has been computed by dividing net profit minus interest and taxes by net worth and the quotient has been expressed in percentage. Some authors[8] consider 13 percent to 15 percent rate of return on net worth as the reasonable norm for the profitable firms and this may also be considered to be a reasonable norm for the industries in question.

As compared to this standard norm, the return on net worth for Steel, Engineering and Shipbuilding Industry only seemed to be better since it had shown return on net worth above this norm, This return for Sugar and Food Industry had been much below the norm, thereby, indicating low return to equity share capital. But this return for Cotton Textile Industry had been negative equivalent to 60 percent, for the industry sustained heavy losses. This return for the remaining three industries separately and also for all the industries, taken together, was inconsistent due to negative net worth and negative/positive net profits.

3. Return on Total Original Investment:

This ratio has been calculated by dividing earnings before interest and taxes by the original fixed investment and the quotient has been expressed in percentage. The Planning Commission, Government of Bangladesh has declared that all the existing projects in the public sector would have to guarantee a fixed return of 7.5 percent of the original investment[9]. This may be considered a reasonable norm for the selected industries.

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[8] ibid.

[9] Planning Commission, The First Five Year Plan 1973-78, op.cit., p. 259.

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The average return on original investment for the period under review in the case of Sugar and Food, Steel and Allied and Chemical and Fertilizer industries was above this norm. But in the case of Cotton Textile Industry it was below this norm. On the contrary, this return, as shown by Jute and Paper and Paperboard industries was negative, thereby, indicating operating losses.

In the aggregate, the average return on original investment for the period was as meagre as 0.2 percent. The return as shown by Sugar and Food, Steel and Allied, Chemical and Fertilizer and Cotton Textile industries was much higher than this aggregate level; but the return as shown by Jute and Paper and Paperboard industries was far below this aggregate level.

4. Return on Total Present Investment:

This ratio has been calculated by dividing earnings before interest and taxes by the book value of total tangible assets and the quotient has been expressed in percentage. Some authors[10] consider 10 percent to 12 percent rate of return on total tangible assets as a reasonable norm for the profitable firms and this may also be considered the reasonable norm for the selected industries.

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[10] Mohsin M, "Financial Planning and Control", op. cit., p.174 and Weston J. Fred and Brigham, F.Eugene, Managerial Finance, op. cit., p.66.

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The average for this return was nearer to this reasonable norm in the case of Sugar and Food, Steel and Allied and Chemical and Fertilizer industries, but this return was much below this norm in the case of the remaining industries. During the period, on an average, the return on total investment for all the enterprises taken together, was only 0.1 percent. In Sugar and Food, Steel and Allied, Chemical and Fertilizer and Cotton Textile industries this return was much higher than this aggregate ratio. On the contrary, the remaining industries viz., Jute and Paper and Paperboard showed negative return on total investments thereby indicating a return far below the aggregate level.

5. Return on Capital Employed:

This ratio has been computed by dividing net profit after interest and taxes by capital employed[11] and the quotient has been expressed in percentage. The Fourth Five Year Plan of India[12] had envisaged a rate of return ranging from 11.0 percent to 12 percent on capital employed for the Indian public sector industrial enterprises. Such rate of return on capital employed may be considered reasonable for the selected industries.

The average return on capital employed for the period was far below this standard norm in the case of all the industries. In the case of Sugar and Food, Steel and Allied and Chemical and Fertilizer industries this return would vary from only 2.6 percent to 3.4 percent. On the contrary, in the case of the remaining

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[11] Capital employed as used here means the sum of net tangible fixed assets and net current assets.

[12] Planning Commission, Government of India, "Fourth Five Year Plan - A Draft Outline", Delhi, India.

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industries viz., Jute,Cotton Textile and Paper and Paperboard, this return was highly negative ranging from 10.5 percent to 36.4 percent.

In the aggregate, the average return on capital employed for the period was also negative equivalent to 13 percent. This return for Jute and Cotton Textile industries was still worse than this aggregate return; but the same for the remaining industries viz., Sugar and Food, Steel and Allied, Chemical and Fertilizer and Paper and Paperboard was, however, better than this aggregate level.

LIQUIDITY RATIOS:

6. Net Working Capital to Total Assets:

This ratio has been computed by dividing net working capital by total tangible assets and the quotient has been expressed in percentage.

In the aggregate, net working capital to total assets for all the enterprises was only 4.2 percent, on an average, for the period under review. Sugar and Food, Steel and Allied and Chemical and Fertilizer industries had this ratio much higher than the aggregate level. On the contrary, Jute Industry had the ratio equal to 50 percent to this aggregate level, while Cotton Textile and Paper and Paperboard industries had negative ratios. All these indicate the inadequacy of net working capital in the case of Jute, Cotton Textile and Paper and Paperboard industries during the period under review.

7. Current Ratio:

This has been computed by dividing current liabilities into current assets. This gives one some idea about the ability of a firm to meet its current debts.

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It has already been indicated in the previous Chapter 4 that the average current ratio in each of the industries was below the standard norm of 2; while the aggregate current ratio for all the industries was only 1.1 during the period 1975-76 to 1977-78.

8. Quick or Acid Test Ratio:

This ratio has been computed by dividing current liabilities into quick assets i.e. current assets minus inventory and prepaid expenses. This is a more severe test of the liquidity since it concentrates strictly on the liquid assets whose value is fairly certain.

It has already been mentioned in the previous Chapter 4 that the average quick ratio in each of the industries was lower than the standard norm of 1; while in the aggregate, this ratio was only 0.7 for the period under review.

ACTIVITY RATIOS:

9. Inventory Turn-over:

Inventory turnover has been calculated by dividing sales by closing inventory. This measures the extent of generating Takas of sales per Taka of inventory. Some authors[13] consider 8 times to 9 times inventory turnover as the reasonable norm for the profitable industries and this may also be considered so for the selected industries.

During the period, on an average, the inventory turnover in each of the industries was far below this standard norm varying from 1.9 times to 3.8 times only.

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[13] Mohsin, M. Financial Planning and Control, op.cit., p.174 and Weston, J.Fred and Brigham, F. Eugene, Managerial Finance, op. cit., p.66.

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In the aggregate, the inventory turnover, on an average, for the period was as meagre as 3.3 times. This turnover in some industries viz., Jute and Cotton Textile was above this aggregate level; the said turnover for Sugar and Food Industry was equal to this level, while in the case of the remaining industries it was below this aggregate level. Thus, it is seen that all the industries generated less Takas of sales per Taka of inventory.

10. Average Collection Period:

The average collection period has been computed by dividing trade debtors by sales and then multiplying the quotient by 360. This is a good supplementary test of the validity of the current and quick ratios.

It has already been mentioned in Chapter 4 that the average collection period for each of the industries was much higher than the reasonable norm varying from 63 days to 149 days. Moreover, in the aggregate, the average collection period for the period in question was as higher as 92 days.

11. Net Fixed-Assets Turnover:

This turnover has been calculated by dividing net fixed assets into sales. This is a measure of indicating the extent of generating sales volume in terms of net fixed assets. One author[14] considers 5.0 times fixed assets turnover as the reasonable norm for the profitable firms for judging the efficiency of capital assets; and this may also be considered so for the selected industries.

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[14]Mohsin, M., Financial Planning and Control, op.cit., p.174.

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During the period in each of the industries the fixed assets turnover, on an average, was below this reasonable norm varying from 0.4 times to 3.8 times only. In the aggregate, this turnover, on an average, for the period was as meagre as 1.8 times. In the case of Cotton Textile, Sugar and Food and Steel and Allied industries this turnover was higher than this aggregate level, while in the case of Jute Industry it was equal to this level. In the cases of Chemical and Fertilizer and Paper and Paperboard industries the turnover was lower than the aggregate level.

Such a low level of ratio indicates poor sales volume in terms of capital assets leading to inefficient use of fixed capital.

12. Total Assets Turnover:

This has been computed by dividing total tangible assets into sales and the quotient has been expressed in percentage. This is a measure of the extent of generating sales in terms of the total assets. Some authors[15] consider 2.0 times (i.e. 200 percent) total assets turnover as the reasonable norm for the profitable firms for judging the efficiency of total assets both fixed and current; and this may also be considered so for the selected industries.

Total assets turnover, on an average, in each of the industries was far below this reasonable norm and this turnover would vary from 23.9 percent to 97.0 percent only.

In the aggregate, this turnover, on an average, for the period under review was as meagre as 64.9 percent. This

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[15] Mohsin, M., "Financial Planning and Control", op.cit. p.174 and Weston, J. Fred and Brigham, F. Eugene, "Managerial Finance," op.cit., p.66.

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turnover for Jute, Cotton Textile and Sugar and Food industries was higher than this aggregate level; but for Steel and Allied, Chemical and Fertilizer and Paper and Paperboard industries the said turnover was lower than the aggregate level.

Such a low level of total assets turnover indicates that the industries generated lower Taka [illegible] of sales per Taka of tangible assets leading to inefficient use of total capital.

SOLVENCY RATIOS:

13. Debts to Total Assets:

This ratio has been calculated by dividing total debts (both long-term and short-term) by total tangible assets and the quotient has been expressed in percentage. This ratio measures the extent of total funds that are contributed by the total creditors. Some authors[16] consider debts to total assets ratio of 33 percent as the reasonable norm for the profitable firms and this may also be considered as such for the selected industries.

Debts to total assets ratio, on an average, in each of the industries was much higher than the reasonable norm and this ratio would vary from 86.0 percent to 121.6 percent.

In the aggregate, debts to total assets ratio, on an average, for the study period was as high as 104.1 percent. This ratio in Jute Industry was higher than this aggregate level, while in the case of Cotton Textile, Sugar and Food, Steel and Allied, Chemical and Fertilizer and Paper and Paperboard industries it was lower than this aggregate level.

Such higher ratio of debts to total assets indicates the excessive contribution of total debts to total funds, signifying lower contribution of owners to total funds.

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[16] ibid.

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14. Time Interest Earned:

The time interest earned ratio has been determined by dividing earnings before interest and taxes by interest charges. This is a direct measure of a firm's ability to pay interest charges on its total outstanding debts. Some authors[17] consider 8.0 times interest earned as the reasonable norm for the profitable firms and this may also be considered so for the selected industries.

Time interest earned ratio, on an average, in each of the industries was far below this reasonable norm and this ratio would vary from negative 2.5 times to positive 2.3 times only.

In the aggregate, time interest earned, on an average, for the period under review was as meagre as 0.03 times. This ratio for Cotton Textile, Sugar and Food, Steel and Allied and Chemical and Fertilizer industries was above this aggregate level, while in the case of Jute and Paper and Paperboard industries it was far below this aggregate level, indicating negative ratios.

From the creditors point of view, coverage was very much low in the case of the former industries and in the case of the latter the coverage was the worst leading to negative position. Thus, the industries were not able to service their debt charges because of their excessive long-term debts.

MISCELLANEOUS RATIOS:

15. Retained Earnings to Total Assets:

This ratio has been determined by dividing total tangible assets into retained earnings and the quotient has been expressed in percentage. This ratio measures the extent of retained earnings in terms of total assets.

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[17] ibid.

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In the aggregate, retained earnings to total assets ratio, on an average, during the period under review for all the industries was negative equivalent to 16.8 percent. This ratio for Jute and Paper and Paperboard industries was still worse. In the case of Cotton Textile, Sugar and Food, Steel and Allied and Chemical and Fertilizer industries this ratio was, however, better than the aggregate level. Such negative ratios indicate the negative position of retained earnings viz., accumulated losses.

16. Market Value of Equity to Book Value of Total Debts:

This ratio has been determined by dividing market value of equity[18] by book value of total debts and the quotient has been expressed in percentage. This ratio measures the extent of market value of equity in terms of book value of total debts.

In the aggregate, market value of equity to total debts ratio, on an average, during the period under review, for all the selected industries, was 64.7 percent. This ratio for Sugar and Food, Steel and Allied, Chemical and Fertilizer and Paper and Paperboard industries was above this aggregate level, while in the case of Jute and Cotton Textile industries it was below this aggregate level.

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[18] Market value of equity generally refers to the capitalised value of equity shares at relevant average stock market prices. But the equity shares of the selected public sector enterprises in Bangladesh are not subject to stock market prices since these enterprises are not the members of the stock exchange. Therefore, for the purpose of the study, the market value of equity has been determined on the basis of intrinsic value of shares. While determining intrinsic value of shares, the market value of net fixed assets of the selected enterprises has been considered three times higher than their book values, according to the opinions of some production managers/engineers of some of the enterprises.

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After considering all the groups of ratios viz., profitability ratios, liquidity ratios, activity ratios, solvency ratios and miscellaneous ratios together, it can be said that the financial position of all the enterprises, taken together, seemed to be not satisfactory over the study period. However, the financial position of Steel, Engineering and Shipbuilding, Sugar and Food and Chemical and Fertilizer industries seemed to be relatively better, while that of the remaining industries viz., Jute, Paper and Paperboard and Cotton Textile appeared to be relatively worse during the said period.

6.2 Appraisal of Fund Allocation Policy of the Selected Industries through Fund Flow Analysis.

Fund flow analysis refers to the analysis of the movements of funds through funds statement i.e. sources and application of funds statement during two successive periods. Sources of funds are indicated by decreases in assets and increases in liabilities or in the shareholders' equity; while applications of funds are indicated by increases in assets and decreases in liabilities or in the shareholders' equity[19]. The funds statement indicates, in very broad terms, the net flow of funds into the business and their utilisation, for the concerned period.

The fund flow analysis is one of the important techniques of financial analysis. It helps appraising the fund allocation policy of an enterprise. Funds statement , the technique of fund flow analysis is one of the triad of statements, along with the balance sheet and profit and loss account, that

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[19] Lerner, Eugene M. and Carleton, Willard T., A Theory of Financial Analysis, Harcourt, Brace Inc., New York, 1966, p.23.

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is indispensable to obtaining a full record of a company's financial condition.[20] Reflecting the importance attached to the fund flow analysis one author[21] recommends that "the inclusion of a well designed comparative funds statement in the annual report should become a generally accepted practice".

The funds in-flows and out-flows can be classified into long-term and short-term categories. Table 6.3 given in the next page offers a classified presentation of funds movements, facilitating a clear understanding of their relationship on the time scale.

During the intervening period 1975-76 to 1977-78, Jute and Cotton Textile industries showed negative balance of reserves and surplus thereby, indicating accumulation of losses to the extent of Taka 1085 million and Taka 296 million respectively. Therefore, their investments in additional fixed assets outstripped substantially their long-term sources. The total long-term uses were of the order of Taka 160 million in Jute Industry and Taka 370 million in Cotton Textile Industry. Whereas the net balance of long-term sources and internal generation stood at negative figures amounting to Taka 551 million in Jute Industry and Taka 6 million in Cotton Textile Industry. As a result, the deficits in long-term resources to the extent of Taka 711 million in Jute and Taka 376 million in Cotton Textile industries were made good from short-term sources.

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[20] Horngren, Charles T. "The Funds Statement and Its Use by Analysts", Journal of Accountancy, January, 1956, p.59.

[21] Mason, Perry, "Cash Flow Analysis of the Funds Statements", Accounting Research Study, No.2, AICPA, New York, 1961, p.43.

TABLE - 6.3

Funds Sources and Uses Pattern of the Selected Industries, 1975-78

(In Million Taka)

Items	Jute		Cotton Textile		Sugar and Food		Steel and Allied		Chemical and Fertilizer		Paper and Paperboard	
	Sources	Uses	Sources	Uses	Sources	Uses	Sources	Uses	Sources	Uses	Sources	Uses
A. INTERNAL GENERATION:												
Additions to(Substractions from) Reserves and Surplus	(1085)	-	(296)	-	65	-	42	-	45	-	202	-
Depreciation	381	-	34	-	30	-	117	-	263	-	136	-
	(704)	-	(262)	-	95	-	159	-	308	-	338	-
B. LONG-TERM SOURCES: AND USES												
Long-term Debts	153	-	256	-	6	-	8	-	-	224	-	421
Share Capital	-	1	-	54	12	-	-	4	443	-	633	-
Additions to Gross Fixed Assets	-	159	-	316	-	77	-	32	-	128	-	382
	153	160	256	370	18	77	8	36	443	352	633	803
C. SHORT-TERM SOURCES AND USES												
Sundry Creditors and Trade Dues	339	-	691	-	31	-	-	26	249	-	-	10
Cash Credits and O.D.	780	-	99	-	241	-	-	154	73	-	-	58
Short-term Non-bank Borrowings	-	47	812	-	-	2	38	-	186	-	43	-
Other Current liabilities and provisions	391	-	-	529	44	-	215	-	-	38	9	-
Investments	29	-	-	17	-	13	20	-	31	-	23	-
Inventories	-	364	325	-	-	187	-	151	-	80	12	-
Sundry Debtors, Loans and Advances	-	448	-	748	-	107	-	119	-	587	-	218
Cash and Bank	-	29	-	17	-	5	-	61	72	-	28	-
Other current assets	60	-	-	240	-	38	107	-	-	305	3	-
	1599	888	1927	1551	316	352	380	511	611	1010	118	286
D. SUMMARY												
Internal Generation	(704)	-	(262)	-	95	-	159	-	308	-	338	-
Long-term sources & uses	153	160	256	370	18	77	8	36	443	352	633	803
Short-term " " "	1599	888	1927	1551	316	352	380	511	611	1010	118	286
	1048	1048	1921	1921	429	429	547	547	1362	1362	1089	1089

(N.B. Figures in the paranthesis indicate negative position).
(Sources: Based on data shown in Appendix VI(A) to the end of the study).

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Inventory increase to the extent of Taka 364 million and increase in sundry debtors, loans and advances amounting to Taka 448 million were the major demands on short-term resources in the case of Jute Industry. But in the case of Cotton Textile Industry, increase in sundry debtors, loans and advances to the tune of Taka 748 million, increase in other assets to the extent of Taka 240 million and retirement of other current liabilities and provisions amounting to Taka 529 million were the major demands on short-term resources.

Total short-term uses amounted to Taka 888 million in Jute Industry and Taka 1551 million in Cotton Textile Industry. In Jute Industry, the short-term resources came mainly from additional bank borrowings. But in Cotton Textile Industry, the short-term resources came mainly from short-term non-bank sources comprising government and project official loans. In short, in the case of both these industries, the period under consideration witnessed all-round increases in external short-term liabilities. The aggregate of short-term resources thus availed amounted to Taka 1599 million in Jute Industry and Taka 1927 million in Cotton Textile Industry, thereby, leaving surpluses of Taka 711 million in the former and Taka 376 million in the latter over the short-term applications, for deployment to long-term applications and meeting deficit balances of internal generation.

The highlights of the funds shifts in 1975-78 in the case of Sugar and Food, Steel and Allied, Chemical and Fertilizer and Paper and Paperboard industries as reflected in the aforesaid Table, narrate different story. Internal generation of funds exceeded long-term uses in the case of all these industries excepting Paper and Paperboard. In the case of Paper and Paperboard Industry internal generation of funds and long-term sources together exceeded long-term uses. Long-term resources amounted to Taka 113 million in Sugar and Food Industry,

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Taka 167 million in Steel and Allied Industry, Taka 751 million in Chemical and Fertilizer Industry and Taka 971 million in Paper and Paperboard Industry. But the long-term uses amounted to Taka 77 million in Sugar and Food Industry, Taka 36 million in Steel and Allied Industry, Taka 352 million in Chemical and Fertilizer Industry and Taka 803 million in Paper and Paperboard Industry. Thus, for short-term uses, there appeared net surpluses equivalent to Taka 36 million in the case of Sugar and Food Industry, Taka 131 million in the case of Steel and Allied Industry, Taka 399 million in the case of Chemical and Fertiliser Industry and Taka 168 million in the case of Paper and Paperboard Industry.

Increases in sundry debtors, loans and advances and inventories were the major demands on short-term resources in Sugar and Food, Steel and Allied and Chemical and Fertilizer industries. Moreover, retirement of bank loans in Steel and Allied industry and increase in other sundry assets in Chemical and Fertilizer Industry were also the important demands on short-term resources. But in Paper and Paperboard Industry increase in sundry debtors, loan and advances and retirement of bank loans were the major demands on short-term resources.

Additional bank borrowings and increase in sundry creditors and trade dues were the major sources of short-term resources in Sugar and Food and Chemical and Fertilizer industries. In Chemical and Fertilizer Industry additional non-bank borrowing was also another important source. In Steel and Allied Industry increase in other current liabilities including provisions and sale of other current assets were the major sources of short-term resources. In Paper and Paperboard Industry additional non-bank borrowing, increase in other current liabilities and decrease in the value of investments, inventories and cash and bank were the main sources of short-term funds.

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In short, in the case of Sugar and Food, Chemical and Fertilizer and Paper and Paperboard industries, the period under review also witnessed considerable increases in external short-term liabilities.

Against the total short-term funds demands equivalent to Taka 352 million in Sugar and Food Industry, Taka 511 million in Steel and Allied Industry, Taka 1010 million in Chemical and Fertilizer Industry and Taka 286 million in Paper and Paperboard Industry; the short-term resources were of the order of Taka 316 million in Sugar and Food Industry, Taka 380 million in Steel, Engineering and Shipbuilding Industry, Taka 611 million in Chemical and Fertilizer Industry and Taka 118 million in Paper and Paperboard Industry. Thus, there appeared shortfalls in the short-term funds equivalent to Taka 36 million in Sugar and Food Industry, Taka 131 million in Steel and Allied Industries, Taka 399 million in Chemical and Fertilizer Industry and Taka 168 million in Paper and Paperboard Industry. These short-falls were covered up by the deployment of long-term resources.

Deployment of short-term funds for long-term uses such as acquisition of fixed assets, reduction of share capital and also for meeting deficit balance of internal generation is regarded, in principle, an unsound practice for the obvious reason that it will give rise to liquidity problems.[22] Jute and Cotton Textile industries had to resort to such diversion during the period 1975-78.

In general, increases in sundry debtors, loans and advances and in inventories tend to be reflected in balancing changes in cash credit and overdraft and in short-term non-bank loan facilities. These seemed to have happened in the case of Jute, Cotton Textile, Sugar and Food, Chemical and Fertilizer and Paper and Paperboard Industries. Times were, where the bankers, governments and project officials (Sector Corporations)

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[22] Ramamoorthy, V.E., Working Capital Management, op.cit.,p.169.

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proclaimed themselves to be and were literally taken for very prompt and obliging financiers, providing instant 'cash on tap'. In this process, the bankers, government and the project officials had unwittingly sheltered laxity in funds planning. With the advent of era of constraints on bank and other credits for industrial sector, the bankers, government and the project officials can no longer be taken for granted. Therefore, there is an inescapable need for careful and effective planning and husbanding of resources by the aforesaid industries.

6.3 Appraisal of the Financial Position of the Selected Industries through Break-even Analysis

The principles and mechanism of break-even analysis have already been discussed in the preceeding Chapter while discussing the forms of profit planning and control. Break-even analysis not only acts as a tool of profit planning and control, it can also be used as a tool of financial analysis.[23] As a tool of financial analysis the determination of break-even point is of paramount importance.

The financial position of the concerned industries for the period under review can be judged through the comparison of break-even points with actual profits/losses. With this

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[23] Kuchhal, S.C., Financial Management: An Analytical and Conceptual Approach, op. cit., p.85.

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objective, the following Table 6.4 providing break-even points[24], actual revenues and the ratio of break-even points to actual revenues has been presented.

It is evident from the Table that in the case of Jute and Paper and Paperboard industries the break-even points were higher than the actual revenues; but in the case of Cotton Textile, Sugar and Food, Steel and Allied, Chemical and Fertilizer industries, the break-even points were lower than the actual revenues. During the period 1975-76 to 1977-78, the ratio of break-even points to actual revenues, on the average, was 157 percent in Jute Industry, 93 percent in Cotton Textile Industry, 79 percent in Sugar and Food Industry, 67 percent in Steel and Allied Industry, 59 percent in Chemical and Fertilizer Industry and 172 percent in Paper and Paperboard Industry.

The ratio of break-even points to actual revenues and the level of profits are inversely related. The following Table 6.5 shows such relationship[25].

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[24] Break-even point has been determined by using the following formula:

$$X = \frac{F}{C/S}$$

where, X = Break-even point in Taka
F = Total Fixed Costs at the present level of total revenues
C/S = Percentage of contribution to total revenues
Contribution = Total Revenues minus Variable Costs.

[25] The relationship between the average ratio of break-even points to actual revenues and the average profit margin during the period under review is shown in the said Table.

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nts

(In Million Taka)

Year	Jut		Chemical and Fertilizer			Paper and Paper Board		
	Break-even points	Actual Revenues	Break-even points	Actual Revenues	Ratio of Break-even points to Actual Revenues (In %)	Break-even points	Actual Revenues	Ratio of Break-even points to Actual Revenues (In %)
1975-76	3299	293	650	783	83	866	265	327
1976-77	4583	293	528	1136	46	702	430	163
1977-78	8180	403	754	1217	62	925	680	136
Average:	5177	330	621	1045	59	790	458	172

N.B. ge fixed costs and

Source:

T A B L E - 6.4

Break-even Points, Actual Revenues and the Ratio of Break-even Points to Actual Revenues for the Selected Industries, 1975-76 to 1977-78.

(In Million Taka)

Year	Jute			Cotton Textile			Sugar and Food			Steel and Allied			Chemical and Fertilizer			Paper and Paper Board		
	Break-even points	Actual Revenue	Ratio of Break-even points to Actual Revenues (In %)	Break-even points	Actual Revenue	Ratio of Break-even points to Actual Revenues (In %)	Break-even points	Actual Revenue	Ratio of Break-even points to Actual Revenues (In %)	Break-even points	Actual Revenue	Ratio of Break-even points to Actual Revenues (In %)	Break-even points	Actual Revenue	Ratio of Break-even points to Actual Revenues (In %)	Break-even points	Actual Revenues	Ratio of Break-even points to Actual Revenues (In %)
1975-76	3299	2937	1127	1249	1820	69	1107	1310	84	788	1177	67	650	783	83	866	265	327
1976-77	4583	2938	156	2148	1813	118	1074	1430	75	1026	1562	66	528	1136	46	702	430	163
1977-78	8180	4033	207	2146	2072	103	1560	2025	77	1055	1539	68	754	1217	62	925	680	136
Average:	5177	3303	157	1777	1902	93	1250	1588	79	957	1426	67	621	1045	59	790	458	172

N.B. The average break-even point in each case has been determined on the basis of average revenues, average fixed costs and average variable costs for the period under review.

Source: Based on data shown in Appendix VI(A) to the end of the study.

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TABLE - 6.5

Relationship between Average Ratio of Break-even Points to Actual Revenues and Average Profit Margin in the case of the selected Industries, 1975-76 to 1977-78

Industry	Average Ratio of Break-even points to Actual Revenues (In %)	Average Profit Margin (In %)
Jute	157	(10.6)
Cotton Textile	93	1.9
Sugar and Food	79	6.6
Steel, Engineering and Shipbuilding	67	10.7
Chemical and Fertilizer	59	14.4
Paper and Paperboard	172	(11.6)

The industries having break-even points higher than their actual revenues i.e., the industries whose ratio of break-even points to actual revenues had exceeded 100 percent sustained losses; while the industries having break-even points lower than their actual revenues i.e., the industries whose ratio of break-even points to actual revenues was lower than 100 percent, earned profits. Moreover, it is noted that the higher the ratio of break-even points to actual revenues, the lower was the profit margin and, on the contrary, the lower the ratio of break-even points to actual revenues, the higher was the profit margin.

Therefore, significantly lower break-even points than actual revenues as seen in the case of Sugar and Food, Chemical and Fertilizer and Steel and Allied industries indicate that the financial position of these industries, as judged from the view point of profit margin, was relatively better. On the contrary, significantly higher break-even points than actual revenues as

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observed in the case of Paper and Paperboard, Jute and Cotton Textile industries, as judged from the view point of profit margin, was relatively worse leading to negative profit margin in the former two industries.

Test of Financial Soundness of the selected Industries

As reflected in the ratio, fund flow, and break-even analyses discussed so far, the financial position of Sugar and Food, Steel, Engineering and Shipbuilding and Chemical and Fertilizer industries appeared to be relatively better; while the financial position of Jute, Cotton Textile and Paper and Paperboard industries seemed to be relatively worse during the study period. Now, it is necessary to examine whether the financial position of these industries had been sound or not during the said period.

The financial soundness of the industries is judged in the following paragraph on the basis of Altman's Multi-variate Discriminant Analytical Model[26].

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[26] Professor Edward I. Altman on the basis of Multi-Variate Discriminant Analysis (MDA) found out and also used the following equation for bankruptcy prediction of 33 firms in the United States:

$$Z = 0.012X_1 + 0.014X_2 + 0.033X_3 + 0.006X_4 + 0.010X_5$$

Where, X_1 represents Net Working Capital/Total Assets
X_2 represents Retained Earnings/Total Assets
X_3 represents Earnings before Interest and Taxes/Total Assets
X_4 represents Market Value of Equity/Book Value of Total Debts
X_5 represents Sales/Total Assets
Z is the single composite indicator, signalling propensity to fail or otherwise.

According to Altman, if the value of Z is 2.675 or more in the case of a company, it is said to be financially sound and if the value of Z is less than 2.675, the company is said to be financially unsound. If the value of Z is less than 1.80 its failure is round the corner, cf. Altman, Edward I., op. cit., pp.589-609.

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While conceding that Altman's model pertaining to coporate activity in the United States cannot be regarded as the best classification model for the public sector industries in Bangladesh, it should be admitted that the said model can give some rough idea about the financial soundness of the selected industries.

The following Table 6.6 provides the requisite data on the basis of Altman's Equation for the purpose of "soundness" test of the selected public sector industries during 1975-76 to 1977-78.

It is observed that Altman's equation comes out with the verdict "Unsound" in all the selected industries for all the years under review, since in all the instances the value of Z is less than 2.675. Thus, failure had been round the corner in the case of all the industries in all the years under review, excepting Sugar and Food Industry for the year 1977-78, since the value of Z falls below 1.80 in these instances. In 1977-78, the value of the Z exceeds 1.80 in the case of Sugar and Food Industry only. Thus, the financial position of all the industries excepting Sugar and Food not only appeared to be unsound for all the years under consideration but they were apparently on the verge of failure during the period.

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TABLE - 6.6

Professor Altman's Equation applied to the Selected Industries, 1975-76 to 1977-78.

Industry and Year	'Z' score for the Selected Industries					
	$0.012X_1$	+ $0.014X_2$	+ $0.033X_3$	+ $0.006X_4$	+ $0.010X_5$	= Z
Jute						
1975-76	0.17	+ (0.35)	+ (0.06)	+ 0.43	+ 0.66	= 0.85
1976-77	(0.07)	+ (0.57)	+ (0.23)	+ 0.27	+ 0.69	= 0.09
1977-78	(0.02)	+ (0.61)	+ (0.45)	+ 0.18	+ 0.81	=(0.09)
Cotton Textile						
1975-76	0.01	+ 0.04	+ 0.34	+ 0.43	+ 0.90	= 1.72
1976-77	(0.12)	+ (0.08)	+ (0.15)	+ 0.36	+ 0.96	= 0.97
1977-78	(0.14)	+ (0.11)	+ (0.02)	+ 0.29	+ 0.69	= 0.71
Sugar & Food						
1975-76	0.21	+ (0.05)	+ 0.15	+ 0.50	+ 0.93	= 1.74
1976-77	0.20	+ (0.02)	+ 0.23	+ 0.41	+ 0.84	= 1.66
1977-78	0.19	+ 0.01	+ 0.24	+ 0.46	+ 1.12	= 2.02
Steel & Allied						
1975-76	0.15	+ (0.03)	+ 0.21	+ 0.45	+ 0.52	= 1.30
1976-77	0.20	+ (0.01)	+ 0.22	+ 0.44	+ 0.70	= 1.55
1977-78	0.21	+ -	+ 0.23	+ 0.40	+ 0.65	= 1.49
Chemical and Fertilizer						
1975-76	(0.05)	+ (0.28)	+ 0.07	+ 0.42	+ 0.41	= 0.57
1976-77	0.10	+ (0.19)	+ 0.43	+ 0.35	+ 0.50	= 1.19
1977-78	0.15	+ 0.18	+ 0.15	+ 0.43	+ 0.46	= 1.37
Paper and Paperboard						
1975-76	(0.07)	+ (0.58)	+ (0.28)	+ 0.41	+ 0.16	=(0.36)
1976-77	(0.01)	+ (0.40)	+ (0.07)	+ 0.62	+ 0.22	= 0.36
1977-78	0.04	+ (0.33)	+ (0.08)	+ 0.98	+ 0.32	= 0.93

(Notes: (i) Figures in the parantheses indicate negative values; and
(ii) Cut-off-point in 'Z' score is 2.675).

(Source: The values of the key ratios viz., X_1, X_2, X_3, X_4, and X_5 for the selected industries for the years under review have been taken from Appendix VII).

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CHAPTER 7

COMMUNICATION AND FINANCIAL REPORTING

The main purpose of control is to maintain the highest level of efficiency in production, selling, administration and finance functions. With this end in view plans are made and all segments of the business are coordinated[1]. Communication and financial reporting are the media of such coordination. Communication is a two way traffic. Basically communication means to inform management of the activities of the business; it also means to inform the employees of the intentions of management; and again it serves as a feedback to management regarding the result of their decisions[2]. Financial reporting acts as one of the important means of communication. The purpose of financial information (including accounting information), concerning the outcomes of business enterprises, is to facilitate the decision process utilized by rational investors in determining their consumption-investment plans[3].

Moreover, financial data, information and their proper reporting act as the most important tool for preparing financial plans and effecting control in the case of the enterprises. Financial data and information may be effectively used for two main purposes namely, (i) preparing financial plans, both long-term and short-term and (ii) controlling expenditures,

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[1] Welsch, G.A., Budgeting:Profit Planning and Control, op.cit., p.496.

[2] Mohsin, M., Financial Planning and Control, op.cit., p.186.

[3] Ohlson, J.A. and Buckman, A.G., "Toward a Theory of Financial Accounting", Journal of Finance, Vol.XXXV,No.2,May,1980,p.537.

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both capital and revenue. In order to make the use of financial data and information in these two important areas of financial management effective, proper financial reports and statements should be prepared and communicated amongst the interest groups, both internal and external.

This Chapter deals with the following aspects of communication and financial reporting as practised in the case of the public sector industries in Bangladesh: (i) management information system and its organisation; (ii) types of financial reports and the interest groups served; and (iii) evaluation of the communication and financial reporting system.

7.1 Management Information System and its Organisation

Meaning and Anatomy of Management Information System:

A Management Information System (MIS) is a collection of methods, disciplines and principles whereby facts and information are collected, analysed and disseminated in a form which enables the company objectives to be achieved[4]. Thus, a MIS is a system that aids management in making, carrying out, and controlling decisions[5]. From these definitions, a MIS can be simply described as a system that aids management in performing its job.

Management information system should supply the basic information that managers need in order to make decisions[6].

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[4]Batty, J., Corporate Planning and Budgetary Control, op.cit., p.21.

[5]Kanter, Jerome, Management-Oriented Management Information System, Prentice-Hall of India Private Limited, New Delhi, 1978, p.1.

[6]Mason, Richard O., "Basic Concepts for Designing Management Information Systems", AIS Research Report, No.8, October, 1969, p.12.

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Therefore, the main distinguishing feature of a MIS should be that it explicitly provides information for management decision making. Hence, the management information system should be organised to provide the necessary intelligence on a timely basis to help management plan, execute and control[7]. It has been emphasised that the management needs information to assist it in decision making, to indicate performance,and to help it making plans and setting standards. In this light, the key to developing a dynamic and usable management information system is to concieve of information as it relates to the two vital elements of the management process namely, planning and control[8].

Effective business organisation requires three types of information namely, environmental, competitive and operating. Information is the medium of control; but the flows required for control are not necessarily the same as those for planning. The following Figure 1 presents the anatomy of management information clearly showing the general nature of information flows for planning and control. Their uses in control revolve round communication, motivation and performance measurement; whereas forecasting, establishing objectives and deciding among alternative are more important in planning. But here attention is given only to the financial information since the study is about financial planning and control.

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[7]Dean, Joel, Capital Budgeting, op. cit., p. 202.

[8]Wilson, R. M. S., Financial Control: a system approach, op. cit., p.31.

MANAGEMENT FUNCTIONS

Information	Planning	Execution	Control	Information
A. Environmental Data: 1. Social 2. Economic 3. Political B. Competitive Data: 1. Past performance 2. Present performance 3. Future plans C. Internal Operating Data: 1. Quantitative Financial 2. Quantitative Physical 3. Non-quantitative	1. Set objectives 2. Formulate Strategy 3. Decide amongst alternatives		1. Measure performance 2. Isolate variances 3. Aid in replanning	A. Non-financial: 1. Market research 2. Environmental research 3. Internal operating B. Financial: 1. Marketing and Distribution 2. Manufacturing 3. Office and Aministration 4. Research and Development

Feedback

Figure 1 : Anatomy of Management Information

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Organisation of MIS in the Public Sector Industries:

In the case of the public sector industries financial reports and statements have been prepared after collecting, analysing, processing and tabulating financial data and information. The system that would be involved in the various stages of communication and financial reporting such as collecting and recording data and information. analysing, processing and tabulating such data and information; preparing proper reports, statements and returns and lastly, disseminating these reports etc. to the concerned interest groups would be known as management information system in public sector industries in Bangladesh.

There had been one separate Department and three Sections at the Corporation level for the Management Information System (MIS). The MIS Department was ultimately under the control and supervision of the Finance Director and the head of the MIS Department was designated as Manager-MIS. The head of the MIS had to directly report to the head of the Accounts Division who, in turn, would report to the Finance Director, the top-most financial executive in the Corporation. There had been three common Sections in each MIS Department in the case of each of the Corporations and these were known as "Collection and Recording of Management Data and Information", "Analysing and Processing of Data and Information" and "Preparation, Publication and Circulation of Reports etc".

At the enterprise level, the Sub-section named "Annual Reports and Financial Statements" under "General Accounts"Section would perform the functions relating to the MIS. This Sub-section had been under the ultimate control and supervision of the Chief or Deputy Chief Accountant, the head of the Accounts Department.

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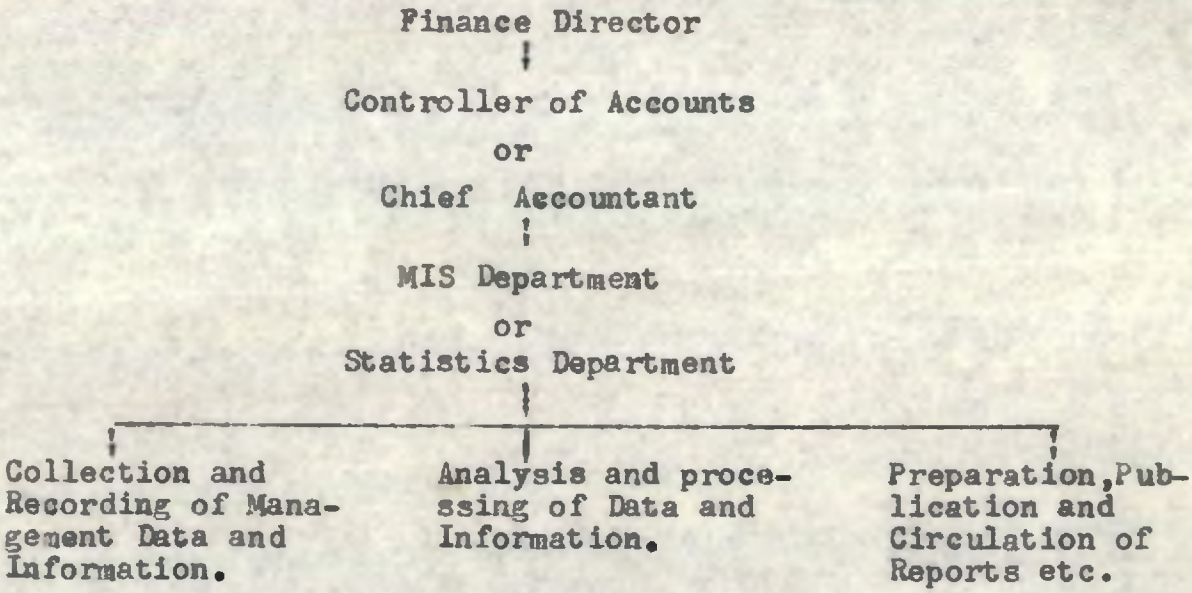
The head of this Sub-section had to report directly to the Accountant, the head of the Section, "General Accounts". The head of this Sub-section would be known as Assistant Accountant. There had been two units in this Sub-section in the case of each of the enterprises and these would be known as "Collection, Recording, Analysing and Processing of Data and Information" and "Preparation, Compilation and Circulation of Financial Reports, Statements etc."

Thus, in the case of both the Corporations and the enterprises the method used to organise the duties of the heads of the MIS Department and Section was function-oriented. The following diagrams 1 and 2 show the organisation of Management Information System both at the Corporation level and the enterprise level respectively.

DIAGRAM 1

Organisation of Management Information System at the selected Corporation level



(Source: Organisation Manuals of the BJMC, BTMC, BSFIC, BSEC and BCIC).

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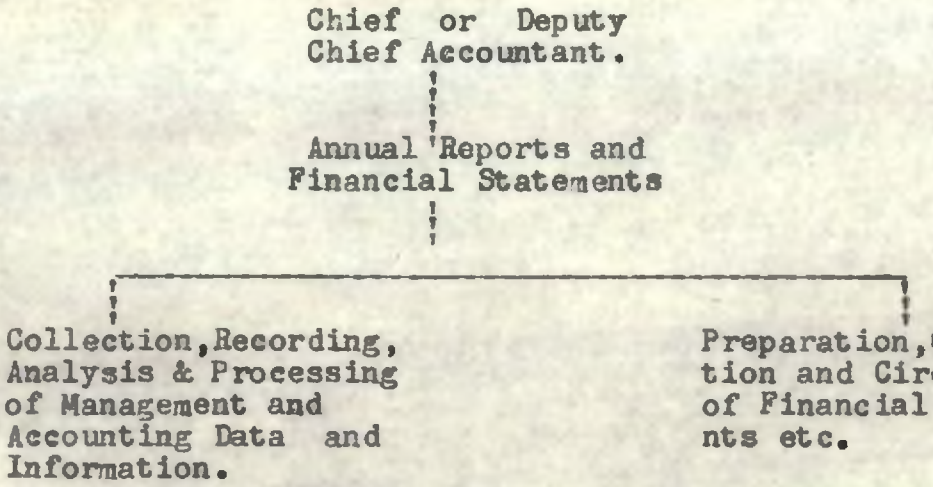
DIAGRAM 2

Organisation of Management Information System at the Selected Enterprises level.



(Source: Office Memoranda of some of the selected Enterprises under all the selected Industries).

7.2 Types of Financial Reports and the Interest Groups Served

Nature and Types of Financial Reports:

One of the basic requisites for effective financial planning and control is a good financial reporting system. Reports for management control can be compared to the circulating system of the human body. The flow from the furthest point to the heart must be full, complete and compatible with the entire blood system that finally reaches the central source[9]. Therefore, effective financial reporting is a must for effective financial

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[9] Rickey, Kenneth R., "Reports Which Management Can Use for Control", NAA Bulletin, Vol.41, September, 1959, p.49.

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planning and control. Reports concerning the financial situation are essential to most, if not all, managerial policy decisions.[10]

Since the reports are of paramount importance for the management control, these should be served in time to the various decision-making groups and other interests to play their role in taking decisions and exercising control. A large number of reports are required for this purpose. These can be broadly classified as routine and special reports. Routine reports have fixed periodicity such as daily, weekly, monthly, quarterly, half yearly, annual or other suitable duration. Special reports have no such fixed periodicity; these may be required for certain special purposes.

The public sector industrial enterprises had to prepare and disseminate financial and other operating reports, statements and returns in compliance with the legal requirements, and also the requirements of their head offices (viz., Sector Corporations) and financial institutions. Moreover, the respective Sector Corporation had to prepare and disseminate consolidated financial and other operating reports, statements etc. of the running enterprises under its management and control in compliance with the legal requirements and the requirements of the controlling ministries and the financial institutions. The Companies Act, 1913 (VII of 1913)[11], as adopted in Bangladesh, makes it compulsory for all the enterprises formed as the public

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[10] Batty, J., Standard Costing, Macdonald and Evans Ltd., London, 1970, p.145.

[11] Ministry of Law and Parliamentary Affairs (Law Division), Government of the People's Republic of Bangladesh, "The Companies Act, 1913 (VII of 1913)", Reprint 1976, Sections 130, 131 and 131A.

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limited company to prepare the following financial statements:

(i) A Profit and loss Account together with an appropriation account;

(ii) A Balance Sheet together with a schedule of fixed capital expenditures;

(iii) A Report by the qualified auditors on the above financial statements; and

(iv) A Report by the directors on the affairs of the enterprises.

The Nationalisation Order 1972[12] provides that the preparation and also publication in the official gazette of the annual reports of the Corporations is a statutory obligation. Moreover, the Guidelines of the Relationship between Government, Autonomous Body and Corporation[13] provides that the Corporations are to submit to the Government the annual performance reports, annual accounts including balance sheets and annual revenue, cash and capital budget estatements of the enterprises under their management. Thus, in compliance with the requirements of these various bodies a number of reports, statements, returns etc.would be prepared and circulated amongst the interest groups by the individual enterprises. Of these reports, statements and returns the following were noteworthy:

(i) Statement of raw materials purchased and imported;
(ii) Statement of raw materials consumed or utilised;
(iii) Production report;
(iv) Sales report;
(v) Return on export performances;
(vi) Profit and less statement with an appropriation statement;
(vii) Statement of employee strength;

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[12] President of Bangladesh, Bangladesh Industrial Enterprises (Nationalisation) Order 1972, op.cit.,

[13] Cabinet Secretariate, Government of the People's Republic of Bangladesh, Guidelines of the Relationship between Government, Autonomous Body and Corporations, Dacca, May 15, 1976.

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(viii) Schedule of sales, non-operating income and recoveries;

(ix) Schedules of factory expenses, administration expenses, sales and distribution expenses and financial charges;

(x) Cost of sales statement;

(xi) Balance sheet and statement of fund movement together with schedules of fixed assets and fund statement;

(xii) Auditors' report;

(xiii) Directors' report;

(xiv) Statement of ADP allocation and utilisation;

(xv) Statement of foreign exchange allocations and utilisation;

(xvi) Capital expenditure progress report;

(xvii) Statement of opening and closing inventory of raw materials, work-in-progress, stores and spares and finished goods;

(xviii) Sales tax, income tax and super tax returns;

(xix) Revenue budget including production, sales, inventory and accounts receivables estimates;

(xx) Cash budget;

(xxi) Capital expenditure budget;

(xxii) Bank reconciliation statement and

(xxiii) Head office current account statement.

Interest Groups: Internal and External:

The reports, statements and returns as mentioned above, were to be communicated to the concerned interest groups both internal and external. In internal groups would beincluded interest groups within the enterprise and its head office;while the external group would include interest groups outside the enterprise and its head office. However, the following authorities would comprise the main internal interest groups[14].

[14]Vide Organisation Manuals of BJMC, BTMC, BSFIC, BSEC and BCIC and the office Memoranda of some of the selected enterprises.

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(i) Government as the shareholders of public sector industrial enterprises;

(ii) Board of Directors both at the Corporation and the individual enterprise levels;

(iii) Division Heads and Departmental Heads of the Corporations and their Zonal Offices, if any;

(iv) Zonal General Managers of the Corporations' Zonal Offices;

(v) General Manager/Deputy General Managers/Managers and Departmental heads of the enterprises;

(vi) Departmental Officers and the Supervisors of the enterprises and

(vii) Non-managerial staff and employees both at the enterprise and the Corporation levels.

On the other hand, the following parties would comprise the main external interest groups[15]:

(i) General public;

(ii) Controlling Ministries viz., Ministry of Industry, Ministry of Jute and Ministry of Textile etc.

(iii) Other concerned Ministries, such as Ministry of Planning and Ministry of Finance;

(iv) Planning Commission;

(v) Other concerned Government Department;

(vi) Trade Creditors for goods supplied and

(vii) Trade Associations and other specialist organisations;

Utility of Financial Reports to Interest Groups:

The internal and the external information groups require information for different purposes. The internal information group requires financial reports, statements etc. for the following main purposes:

(a) Forecasting and planning various important activities of the enterprises;

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[15] ibid.

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(b) Taking important operating and strategic decisions of the enterprises;

(c) Effecting financial control i.e. control of capital and revenue expenditures in the enterprises;

(d) Effecting enterprise tax planning; and

(e) For some miscellaneous purposes viz., formulating make or buy policy, project bidding policy and wage negotiation policy of the enterprises.

On the other hand, the external information group requires financial reports, statements etc. for the following main purposes:

(a) National planning viz., Five Year Plans and Annual Development Plans of the country;

(b) National accounting and reporting;

(c) Government tax planning, and

(d) Lending decisions of the creditors and lenders.

Since the internal and the external information groups require information for different purposes, the types of reports, statements and returns to be furnished to these groups should also be different. As for example, the top-management of an enterprise viz., the Board of Directors requires such concise information as are necessary for the formulation of corporate objectives, plans and policies as well as the performance reports depicting the progress of the enterprise affairs. On the other hand, the managers whose duties were largely co-ordinative and executive require detailed information regarding the actual operational performances including the financial position of the enterprises with their estimated targets, the deviations between the budgeted and the actual performances and the reasons for such deviations. Again, the lower level management and other staff and employees require such information which would likely affect their respective duties. Moreover, the Government as the shareholders require annual accounts and annual reports of the enterprises.

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As opposed to the requirements of the above discussed internal information group, the different external group also requires different types of information. For example, the creditors and lenders require detailed information about the liquiduty, cash flow, debt-equity ratio, compliance matters and disaster insurances of the enterprises to which they have supplied loans. Again, the general public require such information as will enable them to get the real picture about the public sector industries.

7.3 Evaluation of Communication and Financial Reporting System

An Analysis of the contents of the important financial reports, statements and returns and the overall communication and reporting system in the selected public sector industrial undertaking reveals that a number of problems and deficiencies were encountered in the various aspects of the communication and financial reporting system. The main problems and deficiencies are discussed under the following heads:

(1) Objectivity:

The present day thinking on the financial reporting objective puts more emphasis on the output of useful information than on the accounting process. The Study Group on the objective of financial statement stresses that "the basic objective of financial statement is to provide information useful for making economic decisions".[16]

But in Bangladesh, this basic objective would not be reflected in the reporting system as practised by the public sector industrial enterprises. Here, financial reporting practice has been largely regulated by legal or governmental regulations.

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[16] AICPA, Study Group on the Objective of Financial Statements, New York, 1973.

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The emphasis has been much more on producing annual financial reports of past profitability and the financial position statements would be presented on an extremely conservative basis.

(2) Relevance:

Relevance is the characterstic which embodies the fundamental notion that corporate reports should seek to satisfy, as far as possible, user's information needs[17]. Being overriden by an imposed legal framework and concentrating on a narrow user group financial reporting in public sector industries could be considered insufficient to serve the needs of all user groups.

The same set of reports, statements and returns would be furnished to all the different layers of information groups both internal and external. The fact that the different layers of information groups require different sets of information for different purposes would not be considered in the case of the enterprises. Consequently, such reporting would serve no real purpose to the various information groups. Moreover, repetition of the same set of information in different forms of reports, statements and returns would cause wastage of time, effort and money of the enterprises and the Corporations.

(3) Understandability:

The essential function of accounting is to provide understandable financial information about complex business activities to a variety of users[18]. Understandability does not

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[17] ASSC, The Corporate Report, ICAEW, London, 1975, pp.28-29.

[18] Anderson, Arthur and Co., Objectives of Financial Statements for Business Enterprises, London, 1972, p.10.

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necessarily mean simplicity, or that information should be presented in elementary terms. It does mean that judgment needs to be applied in holding the balance between the need to ensure that all factual matters are disclosed and the need to avoid confusing users by the provision of too much detail.[19]

In the case of the selected public sector industries where sophistication in accounting practice seemed to be too low and the availability of advisory service of financial analysis and management consultants had been very limited, the understandability requirement would not be fully realised by the management and the accounting. To make understandable the technical expressions and complicated transactions, the financial statements had not been adequately supplemented by other kinds of explanations. Moreover, the use of pictures, diagrams, charts etc.which could make the reports easily understandable would be seldom seen in industrial enterprises.

(4) Reliability:

The information presented should be reliable in that users should be able to assess the degree of confidence that may be reposed on it[20]. It is alleged that accounts are sometimes "cooked up" and "window dressed" to make results more impressive by unscrupulous management in developing countries.[21]

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[19] ASSC, The Corporate Report, op. cit., pp.28-29.

[20] Enrico, Vigans., "Information for Properties and Others", National Papers International Congress of Accountants(10th), 1972, Sydney, Australia, p.322.

[21] ASSC, The Corporate Report, op.cit., p.29.

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In Bangladesh, accounts have also been "cooked up" and "window dressed" in business firms in many instances. It is alleged that cooking up of accounts is the usual practice of accountants in the non-corporate sector[22]. The same allegation is also true in the case of some of the selected public sector industrial enterprises. It is alleged that in one of the big enterprises under the biggest Sector Corporation accounting was victimised in that the accountants of the said enterprise treated some of the revenue expenses as the capital expenditure absorbing less cost in production in order to show profits as per the Corporation's directives[23].

Thus, the legal provisions relating to the preparation of final accounts viz., profit and loss accounts and balance sheets and the modern accounting and costing systems have been the wishes expressed and wishes fulfilled in the case of the public sector industrial enterprises. As such the reliability of financial statements would remain far beyond the reach of these formal and bureaucratic documents.

(5) Completeness:

The information presented should be complete in that it provides users, as far as possible, with a rounded

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[22] Habibullah, M. "Human Aspects of Accounting", The Dacca University Studies, Vol.XXII-Part A, June,1964, p.19.

[23] Rahman, Mawdudur, "A Note on Controls and Accounting in Nationalised Corporations in Bangladesh", The Journal of Management, Business and Economics, Vol.4, No.1,January, 1978, Institute of Business Administration, Dacca University, Dacca, pp.80-81.

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picture of the economic activities of the reporting entity.[24] But in public sector industries, the balance sheets and the profit and loss accounts have reported only the aggregative activity of the overall economic activities of the enterprises. Break-downs or subsidiary statements have been typically provided only for legal components, as distinguished from economic sub-entities. The result of such reporting practice has been that for an investor having interest in a large far-flung corporate information legal entity reporting has been presumptively inadequate.

The incompleteness of the reporting system would also be seen from the improper arrangements of the items in profit and loss accounts and balance sheets. Firstly, the gross revenues have not been shown with a break-up of product line and major business activities etc. in the profit and loss account. Secondly, the valuation of the closing inventory has been described in the balance sheet as cost or market price whichever is the lower, but the method applied for relating the different costs of goods acquired to periodic revenues has not been disclosed. Thirdly, only the amount of depreciation has been shown in the balance sheet, but not the method of providing for depreciation. Fourthly, the presentation of the item "reserve" in the balance sheet without accomplishing explanation regarding various components of reserve and making distinction between appropriation of profit for specific purposes and provisions for liabilities has been more confusing than revealing. Fifthly, the intangible assets like goodwill, trade marks, patents etc. have been shown in the balance sheet as fixed assets, and the preliminary expenses and underwriters' commission have also been shown as fixed assets, but all such presentations are not fair in the strict sense.

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[24] ASSC, The Corporate Report, op. cit., p.29.

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(6) Timeliness:

There is an inverse relationship between the usefulness of financial statements and the time taken to prepare and circulate them to the interest groups. The greater the time lag between the financial period and the presentation of annual reports to the information groups of a company, the less valuable is the information transmitted.

Timely publication of financial statements is not a common practice in developing countries[25]. In the cases of the selected enterprises it is observed that accountants would not take cognizance of the value of prompt reporting. The average time lag between the closing of the financial year and the presentation of financial reports to information groups has been about six months. While the inordinate reporting delay has imposed serious limitations on the relevance of financial reports, the situation has further been aggravated because of non-issue or non-publication of preliminary statements or interim financial statments by the selected sector corporations for the enterprises under their management. Thus, the operating results of the previous year would not be made public until six months of the following year have elapsed.

(7) Consistency:

It is desirable that, as far as possible, accounting practices should be applied consistently over-time. The main reason for this is to facilitate comparison of accounting statements relating to different periods, either of different companies or within a single company[26].

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[25] Talukdar, M.Y., An Approach to Inflation Accounting in the context of Developing Economies, Unpublished Ph.D.Thesis, Business School, The City University, London, 1978, p.56.

[26] Sandilands Committee, Report of the Inflation Accounting Committee, London, 1975, Para, 243.

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In the case of the concerned enterprises, there was no way of knowing from the records, documents and statements whether consistency in accounting had been given due consideration. The Companies Act, 1913 is silent on this matter. Again, the audit reports whether internal or external, would not also contain any implied or expressed reference as to consistency. Moreover, the financial reports would not disclose the accounting methods used in arriving at net profit and also showing the overall financial position of an enterprise. Thus, one may doubt if the accountants of the selected enterprises had been aware of this concept of consistency.

(8) Cost and Responsibility Centres:

The Manuals of the Integrated Accounting System of the Sector Corporations emphasize the use of integrated accounting system[27] in the enterprises under these Corporations. These enterprises used to maintain books of accounts, prepare the various financial reports and circulate these reports as per the provisions of the integrated accounting system. Moreover, as per the provision of the system every enterprise would divide its factory into some sections and each section would be known as a cost centre.

Generally there have been 13 sections, but every factory might not have all of them. All the sections would be grouped into two broad categories. In the first category, costs

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[27] Integrated Accounting System (IAS) is a system of recording both financial and costing transactions in one integrated set of books. Thus, it is a centralization of financial accounting and cost accounting functions, vide Manuals of the Integrated Accounting System of all the selected Sector Corporations. Also see Brown, J. Lewis and Howard, R. Leslie, Principles of Management Accountancy, Macdonald and Evans Ltd., London, 1963, p.73.

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like raw materials, power and fuel, salary and wages, insurance, depreciation etc. would be accumulated in the cost centres 01 to 10 excepting inventory adjustment, which would be made to cost centres 04, 06 and 07. In the second category other costs relating to factory general expenses, administrative expenses and selling and distribution expenses would be accumulated in cost centres 11 to 13.

The determination of cost centres in each enterprise in the ways mentioned above would facilitate the allocation of various costs to related cost centres which, in turn, would help determination of cost of production both unitwise and cost centre or processwise. Above all, determination of cost centres would help identification of cost centres where excessive costs had been incurred and this would facilitate taking proper cost control measures. But, in order to effect the cost control measures, along with cost centres, the responsibility centres should also be determined.

Neither the Manuals of Integrated Accounting System provides for fixing responsibility centres, nor does the enterprise management, in practice, determine the responsibility centres. As a result, cost centres would help determination of cost of production only, but fail to effect cost control measures in the absence of fixing responsibility centres.

(9) Variance Analysis:

For the purpose of cost control, the Manuals of the IAS advocate for the introduction of budgeting in the enterprises. In compliance with this requirement, every enterprise has to prepare three types of budgets, namely; revenue budget, cash budget and capital budget. Further, in compliance with the provision of the IAS every enterprise has to compute the deviations

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between the actual costs and the budgeted costs, known as variances, at every three to six months' interval. Later on, favourable variances or unfavourable variances would be added to or deducted from, as the case might be. But, the IAS does not provide for further analysis of the variances known as variance analysis and thereby fails to find out the causes of variances pinpointing controllable and uncontrollable factors.

As such, no report on variance analysis showing budget estimates, actuals, variances-favourable or unfavourable and analysis of such variances indicating the causes-controllable and uncontrollable of these variances and proper measures for taking corrective actions would be prepared and furnished to the concerned authorities. All these indicate that there was no effective use of cost control measures in the case of the enterprises.

(10) Feed-back of Information:

In its accounting context, the term "feed-back" refers to information about performances furnished to the persons responsible for that performance.[28] Hence, feedback is the flow of information that permits actual performances to be controlled in relation to predetermined standards.

The feedback system seemed to be inefficient in the case of all the selected enterprises due to various reasons. Firstly, it has already been mentioned earlier that the same set of reports, statements and returns would be sent to all the different levels of management of an enterprise. As a result,

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[28] Caplan, Edwin H., Management and Behavioral Science, Addison Wesley Publishing Company, 1971, p.88.

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such reporting failed to spotlight the specific level of management to make necessary corrections and adjustments in the performances. Secondly, due to the absence of variance analysis in the enterprises, the reasons for the variations between actuals and the budget estimates could not be identified for pinpointing them as controllable or uncontrollable factors. As such, it could not be possible to undertake any corrective measures to prevent occurrence of unfavourable variances between actuals and the budget estimates. Lastly, due to absence of specific lines of responsibility in a particular enterprise, the reporting system itself failed to specify the responsibility for taking appropriate corrective actions in the case of unfavourable variances between actuals and the budget estimates.

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CHAPTER 8

IMPACT OF FINANCIAL PLANNING AND CONTROL ON PERFORMANCE OF THE INDUSTRIES

It has been observed in Chapters 2 - 5 and 7 that most of the enterprises under the selected industries suffered from some problems and deficiencies with regard to various aspects of financial planning and control during the financial years 1975-76 to 1977-78. Such problems and deficiencies might have affected adversely the performance of the enterprises. This Chapter is devoted to the examination of the impact of financial planning and control on the performances of the public sector industries during the period under review under the following two main points:

1. Profitability as the criterion of performance measurement and
2. Factors affecting the profitability.

8.1 Profitability as the Criterion of Performance Measurement

Performance measurement of the nationalised enterprises has been a problem engaging the attention of the policy formulators, administrators and the researchers alike in the recent years[1]. Unlike private enterprises where the volume of profits earned is generally considered a reliable test of efficiency, the performance evaluation in public enterprises is relatively a much more difficult proposition. True, most public enterprises are broadly expected to operate as commercial ventures and to earn a return on their investment. But,this has

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[1] Rahim, A.M.A., "Better Management of Nationalised Industries: Search for Performance Measurement", op. cit., p.262.

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to be consistent with their social obligations, which might work at cross-purposes with the objective of an adequate return on the investment[2].

Commercial accounting practice has been geared to the performance results assessed in terms of the net disposable profit after taking into account taxes and all costs including provision for depreciation[3]. The accounting system of public enterprises generally is in consonance with the performance measurement based on profit maximisation. Most thinking about performance measurement has been in terms of commercial profitability adjusted to more or less defined public obligations.

The Planning Commission[4] has emphasised that the public sector industrial enterprises are to run on commercial principles. The Government has further emphasised the profitability criterion as the performance measurement in the public sector industrial enterprises. Since the public sector industrial enterprises have been set up as commercial ventures and are required to earn a good return on government investments, profitability should, therefore, serve as a good criterion for performance measurement of public enterprises. One author[5] has explicitly advocated profitability as a good criterion for efficiency evaluation of public enterprises in Pakistan.

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[2]Marain, Laxmi, Efficiency Audit of Public Enterprises in India, Orient Longman Ltd., New Delhi, 1972, p.334.

[3]Rahim, A.M.A.,"Better Management of Nationalised Industries: Search for Performance Measurement", op.cit., p.262.

[4]Planning Commission, Government of the People's Republic of Bangladesh, The First Five Year Plan. 1973-78,op.cit.,p.259.

[5]Syed, Reza H., ed., Role and Performance of Public Enterprises in the Economic Growth of Pakistan, op.cit., pp.137-138.

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Commercial profitability will best serve the purpose of performance measurement in the public sector enterprises in Bangladesh. Hence, it has been taken as the criterion of performance measurement of the enterprises. Now, it is essential to know the meaning of 'profitability' and the various measures of it. When profit is expressed in terms of sales, capital employed, total investment, net worth etc., this is known as profitability. Thus, return on sales, return on investment (ROI) and return on equity are the main measures of profitability[6]. The return on investment has been considered as the best measure of profitability by the classical writers[7]. In their views, this return can be measured mainly in two ways; firstly, by dividing net profits after interest and taxes by the capital employed and then multiplying the quotient by hundred to express the return in percentage; and secondly, by dividing earnings before interest and taxes by the total investment (present) and then multiplying the quotient by hundred to express the return in percentage. Therefore, return on capital employed and return on total investment have been taken as the measures of profitability in this study.

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[6] Walstedt, Bertil, State Manufacturing Enterprises in a Mixed Economy: Turkish case, The Johns Hopkins University Press, USA, 1980, p.108.

[7] Keshava, G.P., Readings in the Operational Problems of Public Enterprises, Vol.I, S.Chand and Co., Delhi, 1970, p.14; Kuchhal, S.C., Financial Management: An Analytical and Conceptual Approach, op.cit., p.62; Sharma, B.S., Financial Planning in Indian Public Sector: A Management Approach, op.cit., p.141; Mohsin M., Financial Planning and Control, op.cit., p.169; Walker, Ernest W., Essentials of Financial Management, op.cit., p.30 and Taylor, A.H. and Palmer, R.E., Financial Planning and Control, op. cit., p.165.

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8.2 Factors affecting Profitability

The profitability and also stability of an enterprise depend on the manner its finance functions, especially, planning and control functions are performed. Profitability is the result of the means and methods employed in planning and controlling various functions of business[8]. The adequate and effective means and methods would lead to better profitability and in turn sound stability while, on the contrary, inadequate and ineffective means and methods would lead to poor profitability and in turn unsound stability.

The evaluation of the performance of a system involves the determination of a simple measure which incorporates the various factors or goals affecting the behaviour of the system[9]. The profitability and in turn financial stability of an enterprise are influenced by a number of factors. One author[10] has mentioned seven categories into which nearly all possible actions to earn profits can be divided namely, investing capital, overcoming obstacles, exploiting opportunities, use of strengths, overcoming weaknesses, profit improvement plans and the use of management techniques. But here discussion is confined to only those factors which are either directly or at least indirectly

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[8] Mohsin, M., Financial Planning and Control, op. cit., p.1.

[9] Shashna[illegible], L. and Golds-Chmidt, Y., "An Index for Evaluating Financial Performances", Journal of Finance, Vol. XXIX, No.3, June, 1974, p.797.

[10] Argenti, J., Corporate Planning: A Practical Guide, George Allen and Unwin Ltd., London, 1969, p.165.

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connected with financial planning and control. The following are the main factors, directly or indirectly, related to financial planning and control affecting the profitability:

(i) Project planning and execution;

(ii) Capital structure decision;

(iii) Financial Organization and administration;

(iv) Working capital decisions including its financing;

(v) Pricing policy of the products;

(vi) Cost efficiency;

(vii) Profit planning and control;

(viii) Regulation of inventories and accounts receivable and

(ix) Imbalanced factor composition.

Project Planning and Execution:

Project planning and project execution have a direct relation to the cost of the project and ultimately to the cost of production and consequently to the profitability of that project. The deficiencies and problems, if encountered in any project planning and its execution, would add to the cost of that project and ultimately the cost of production resulting in lower profitability.

As stated earlier in Chapter 3, there were a number of shortcomings encountered in the project planning and project execution in most of the projects under the public sector industries. These were: unusual delay in the formulation of projects due to undertaking detailed feasibility study including technical specification on the projects and lengthy procedure involved in the preparation of the projects; unusual delay in the approval

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of the projects due to complicated technique involved in the appraisal of the projects and lengthy procedure involved in approving the projects; unusual delay in the execution of the projects due to shortage of fund, especially foreign exchange, excessive delays in obtaining funds due to lengthy and cumbersome procedures involved in the release of funds and prolonged delays in the procurement of basic needs such as imported raw materials and spare parts, machinery and equipment etc., in deciding the pattern of production and also in subsequent changes in the scope of projects during the stage of project execution; insufficient project economics caused by lack of specific cost revenue estimates and comparisons due to non-availability of adequate data on the projects and instability in prices; and uneconomical investment decisions due to lack of undertaking exhaustive and sound project feasibility study for want of technical knowledge, personnel and training project sponsoring personnel.

All the unusual delays involved in the formulation, approval and execution of the projects had caused excessive increases in the prices of raw materials and spare parts, machinery and equipment; in the quantity of civil engineering works and in the cost of feasibility study. Such excessive increases had contributed to the cost over-runs of the projects. Thus, cost over-runs of the projects, insufficient project economics and uneconomical investment decisions had resulted in over-capitalisation of the projects under public sector industries and thereby had been a permanent drag on the profitability of these projects.

The correlation co-efficient between net fixed investment and profitability will indicate the nature of impact of over-capitalisation on profitability of the industries. Keeping this in view, correlation co-efficients between net fixed investment

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and return on investment and between net fixed investment and return on capital employed have been worked out.[11] It appears that both these co-efficients were significantly inverse, indicating that net fixed investment had adverse impact on both the return on investment and return on capital employed. Therefore, it can be said that there had been over-capitalisation in most of the industries concerned during the study period which adversely affected profitability of these industries.

Capital Structure Decision:

The proper capital structure decision has a favourable impact on the profitability. But, this decision appeared to be faulty in the case of most of the public sector enterprises in Bangladesh. There was adhocism in the capital structure decision in that the Government while taking such decision of a particular project would neither consider the nature and requirements of that project, nor would follow any appropriate principle which could be followed by the individual enterprises. The Government had arbitrarily prescribed 50:50 distribution between debt and equity as the capital structure to be followed by the enterprises. But cost of capital, risks and returns, availability of funds and nature and requirements of a particular project would not be considered while determining such capital structure decision.

All these irregularities were reflected in the capital structures of the selected enterprises. In the capital structure of the enterprises under Chemical and Fertilizer Industry, loan capital was excessively high (about 80 percent) at the initial period e.g., at the time of establishment of these enterprises. During the operating period of the enterprises covering 1975-76 to 1977-78, in the capital structures of the enterprises under

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[11] Vide Appendices IX(A) and IX(B) to the end of the study.

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all the industries loan capital, on an average was excessively high equal to 81 percent in Jute, 60 percent in Cotton Textile, 65 percent in Sugar and Food, 82 percent in Steel and Allied, 77 percent in Chemical and Fertilizer and 69 percent in Paper and Paperboard industries.

Such higher loan capital adversely affected the profitability of the enterprises in that larger amount of interest on loan capital had been debited to profit and loss account as a charge against profits. For example, Jute, Cotton Textile and Paper and Paperboard industries had the debt-equity ratios of 81:19 (Debt of Taka 2880 million and Equity of Taka 685 million) 60:40 (Debt of Taka 296 million and Equity of Taka 200 million) and 69:31 (Debt of Tk. 1146 million and Equity of Taka 513 million) respectively, on the average, during the period 1975-76 to 1977-78. These industries incurred losses of Taka 689 million, 61 million and 113 million respectively; whereas they paid interests of Tk. 169 million, 30 million and 21 million respectively, on an average, during the said period. If their respective debt-equity ratio would have been 0.50:1 as in the case of Indian private sector industries[12], their losses would have been cut down to a great extent. Again, Sugar and Food, Steel and Allied and Chemical and Fertilizer industries had the debt-equity ratios of 65:35 (Debt of Taka 461 million and Equity of Taka 249 million), 82:18 (Debt of Taka 864 million and Equity of Taka 189 million) and 77:23 (Debt of Taka 987 million and Equity of Taka 294 million). These industries earned profits of Taka 20 million, 27 million and 32 million respectively, but they paid

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[12] In the case of Indian private sector industries say, Tata Iron and Steels debt-equity ratio has been 0.50:1 which seems to be appropriate in Indian context, cf. Mathur, B.P., Public Enterprises in perspective (Aspects of Financial Administration and Control), op. cit., p.138.

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interests of Taka 32 million, 59 million and 54 million respectively. If their respective debt-equity ratio would have been 0.50:1, their profits would have been substantially increased.

The correlation coefficient between long-term loan and profitability will show the nature of impact of loan capital on the profitability of the industries. To show such impact the correlation coefficients between long-term loan and return on investment and between long-term loan and return on capital employed have been worked out[13]. It appears that both these co-efficients were significantly inverse pointing to the fact that loan capital had an adverse impact on both the return on investment and return on capital employed. Therefore, it can be said that there had been excessive long-term loans in the capital structures of the most of the selected industries which adversely affected the profitability of such industries.

Financial Organisation and Administration:

The financial organisation and the various aspects of financial administration of an enterprise, have a direct role to play in the financial planning and control which, in turn, have an influence on the profitability of that enterprise. Therefore, the defects and problems, if any, in the financial organisation and administration of an enterprise will lead to inappropriate and insufficient financial planning and control which, in turn, adversely affect the profitability of that enterprise.

As seen in Chapter 2, there were many defects and problems in the financial organisation and administration in

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[13]Vide Appendices IX(A) and IX(B) to the end of the study.

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the case of most of the enterprises under the concerned industries. Firstly, some of the important financial planning and control functions namely, determination of short-term financial objectives, introduction of budgetary control and its main ingredient standard costing, and analysis and interpretation of financial statements through ratio analysis, fund flow analysis and break-even analysis had not been performed efficiently in the enterprises. This was mainly due to the shortage of qualified and trained financial executives. Secondly, most of the decision-making finance functions of the enterprises such as capital investment decision function, capital structure decision function and financing decision function; fixation of long-term financial objectives, formulation of financial policies etc. had been performed by the Government concerned authorities and the Sector Corporations and not by the concerned enterprises. Thirdly, the enterprise management had to function under the strict departmental control in that it had to submit regularly its performance reports, annual accounts and budget estimates to the Corporations and the controlling ministries, and its accounts and affairs were subjected to three types of audits each year. Fourthly, there had been frequent changes in the top management of the enterprises which would tell upon the effective direction, supervision and execution by such management. Fifthly, absence of clearly defined as well as realistic objectives, targets, efficiency levels, cash surplus generations etc., in the cases of the enterprises and absence of any clearcut line of demarcation of responsibility between the controlling ministries, Sector Corporations and the enterprises would pave the way to concealing the inefficiency of the enterprise management.

All the aforesaid defects and problems in the financial organisation and administration had led to unsound and ineffective financial planning and control which in turn adversely affected the profitability of the selected enterprises.

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Working Capital Decisions including its Financing:

A firm's profitability is determined in part by the way its working capital is managed. That is, proper planning and control of working capital have a direct role to play on the profitability of an enterprise. This is so because maintenance of adequate amount of working capital is imperative in order to maintain the solvency of a business and to continue its productive operations. Hence, the problem and deficiencies, if any, in the working capital decisions including its financing in any enterprise will adversely affect the profitability of that enterprise.

As stated earlier in Chapter 4, there were many deficiencies and problems in the working capital decisions including the financing of working capital in the case of most of the selected enterprises under Jute, Cotton Textile, Chemical and Fertilizer and Paper and Paperboard industries. There had been acute shortage of net working capital in the case of the enterprises under Jute, Cotton Textile and Paper and Paperboard industries during the period under review mainly due to inaccurate planning of the source and uses of working capital and inefficient and inappropriate cost control. Moreover, there had been working capital financing problem in the case of the enterprises under Jute, Cotton Textile, Chemical and Fertilizer and Paper and Paperboard industries in that they had to depend heavily on external finance, mainly on cash credits and bank overdrafts for financing their working capital requirements.

The shortage of working capital in the aforesaid enterprises adversely affected their productivity and in turn their profitability. Further, extensive use of cash credits and bank overdrafts in financing working capital had imposed further

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additional burden on the profitability of these enterprises in that heavy interest on such loans had been charged against profits. For example Jute, Cotton Textile, Sugar and Food, Steel and Allied, Chemical and Fertilizer and Paper and Paperboard industries had cash credits and bank overdrafts of Taka 1263 million, 211 million, 358 million, 151 million, 223 million and 369 million respectively, on an average, during 1975-76 to 1977-78. Jute, Cotton Textile and Paper and Paperboard industries sustained losses of Taka 689 million, 61 million and 113 million respectively, but they paid interests of Taka 76 million, 23 million and 10 million respectively. Had there been no cash credit and bank overdraft, these industries could have reduced their losses to the extent of interests. On the contrary, Sugar and Food, Steel and Allied and Chemical and Fertilizer industries earned profits of Taka 20 million, 27 million and 32 million respectively; but they paid interests of Taka 21 million, 11 million and 13 million respectively. Had there been no cash credit and bank overdraft, these industries could have increased their profits to the extent of interests.

The correlation co-efficients between net working capital and profitability and between short-term bank loan, as a financier of working capital and profitability will indicate the nature of impact of working capital shortage on the profitability of the industries. To show such impact correlation co-efficients between net working capital and return on investment and between net working capital and return on capital employed, on one hand, and correlation co-efficients between short-term bank loan and return on investment and between short-term bank loan and return on capital employed, on the other, have been worked out[14].

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[14]Vide Appendices IX(A) and IX(B) to the end of the study.

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The correlation co-efficients between net working capital and return on investment and between net working capital and return on capital employed were significantly positive indicating that both these returns were directly related to the net working capital. This signifies that net working capitalhad favourable impact on the profitability of the industries. On the other hand, the correlation coefficients between short-term bank loan and return on investment and between short-term bank loan and return on capital employed were significantly inverse indicating that short-term bank loans had adverse impact on both these returns. Therefore, it can be said that there had been excessive short-term bank loans in most of the industries which adversely affected the profitability.

Pricing policy of the Products:

The product pricing policy of an enterprise has a direct bearing on the sales revenue and in turn on the profitability of that enterprise. This is so, because the earning power of an enterprise is conditioned by the factors affecting the system of pricing of the products. Therefore, a defective pricing policy will greatly hamper the profitability of an enterprise.

In the case of the products of public sector enterprises prices would be fixed at the different levels such as, Corporation, Ministry and the Cabinet. BJMC would negotiate the prices of jute goods on specific contracts with local agents, overseas buyers as well as private and institutional buyers from abroad. The Ministry of Commerce used to fix the prices of cotton textiles in consultation with the BTMC. The prices of sugar and sugarcane would be determined by the Cabinet. Fertilizer prices would also be fixed by the Cabinet. Likewise, the prices of paper and newsprint would also be determined by the Cabinet.

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The prices of the products so fixed appeared to have no close relation with the cost of production and, therefore, might not have resulted in profits for the enterprises. In some cases, the prices would appear to be uneconomical for the enterprises either because of genuinely high cost of production or because of inefficient performance of the enterprises. In others, the prices so fixed would appear to just enable the enterprises to break-even. In some other cases, the prices would appear to enable the enterprises to have a surplus. The main reason for such a state of affairs was that the pricing methods and procedures as followed by the concerned authorities had been arbitrary giving little consideration to the relevant costs of production and performance criteria set for the enterprises. Therefore, the pricing policy of the products of most of the public sector enterprises appeared to have been unrepresentative producing adverse impact on the profitability of these enterprises.

Cost Efficiency:

Cost efficiency directly influences the profitability of an enterprise. Higher cost of production adversely affects the earning power and hence results in low profitability.

A general feeling prevails that the cost of production in the public sector industries in India is on the high side[15]. In order to examine how far this feeling has been applicable in the case of the selected enterprises during the period under review the trend of cost of production would be analysed here. The enterprises under the concerned sectors of industries would produce varied types of products whose unit cost of production had been complex to calculate. Due to this ground, instead of

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[15] Sharma, B.S., Financial Planning in the Indian Public Sector: A Management Approach, op.cit., p.155.

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unit cost of production, the cost of production per Taka of market value of production is shown in the following Table 8.1 for the industries during the period 1975-76 to 1977-78.

TABLE - 8.1

Cost of production per Taka of Market Value of Output in the selected Industries, 1975-76 to 1977-78

Year	Jute	Cotton Textile	Sugar and Food	Steel and Allied	Chemical and Fertilizer	Paper and Paperboard
1975-76	.89	.72	.77	.71	.82	1.20
1976-77	.93	1.03	.63	.81	.65	.87
1977-78	1.01	.84	.80	.76	.75	.95
Average	.95	.85	.74	.76	.73	.97

/Source: Based on data shown in Appendix VI(A) to the end of the study/.

During 1975-76 to 1977-78, on an average, the cost of production per Taka of market value of output was excessively higher in Jute, Cotton Textile and Paper and Paperboard industries in that it was almost closer to market value of output. Moreover, the actual cost of production exceeded the market value of output in Cotton Textile Industry during 1976-77, in Jute Industry during 1977-78 and in Paper and Paperboard Industry during 1975-76. Therefore, actual cost of production appeared to be very much higher in these industries. In the case of the remaining industries, actual cost of production had been lower than the market value of output in so far as cost of production per Taka of market value of output was comparatively lower ranging from .73 to .76, on an average, during the said period.

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As shown in Chapter 5, the actual cost of production exceeded the budget estimates in all the industries in all the years under review. The increase in actual costs over the budget estimates would vary from 21.7 percent to 26.0 percent in Jute Industry, from 10.6 percent to 21.7 percent in Cotton Textile Industry; from 16.8 percent to 25.7 percent in Sugar and Food Industry; from 17.8 percent to 19.8 percent in Steel and Allied Industry; from 13.2 percent to 19.5 percent in Chemical and Fertilizer Industry and from 18.7 percent to 20.0 percent in Paper and Paperboard Industry during the period 1975-76 to 1977-78. Thus, cost efficiency was the main thing that most of the industries would lack during the period under review. The higher cost of production would adversely affect the earning power of these industries and thereby lower down their profitability.

The correlation co-efficient between cost of production per Taka of market value of output and profitability will show the nature of impact of high cost of production on profitability of the industries. To this end, correlation co-efficient between return on investment and cost of production per Taka of market value of output and between return on capital employed and the said cost of production have been worked out[16]. Both these co-efficients were significantly inverse indicating that cost of production had an adverse impact on both the return on investment and return on capital employed. Thus, it can be said that there had been high cost of production in most of the industries which adversely affected their profitability.

Profit Planning and Control:

A vital part of planning and control net-work in the enterprises of any size is provided by the system of profit

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[16] Vide Appendices IX(A) and IX(B) to the end of the study.

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planning and control consisting of performance budgeting, performance reporting and variance analysis. Profit planning and control is one of the most important aids to management, both for formulating policies and for keeping checks on their execution. A defective profit planning and control will affect adversely the profitability of an enterprise.

The budgeting both capital and revenue that would be followed in the selected enterprises would lack the requirements of performance budgeting. The budgetary forms and procedures adopted would follow the traditional pattern. The system of classification of expenditures adopted in the budgets, both capital and revenue, would fail to link expenditures to activities and end results, although this is an essential requirement for performance budgeting. Moreover, the budgeting practice would fail to conform to the requirements of budgetary control in that the vital elements of budgetary control namely, standard costing and variance analysis, had not been followed in these enterprises. Furthermore, the various types of budgets would fail to fix up the responsibility centres, the vital aspect of profit planning and control.

Due to the defects involved in the budgeting practice there occurred wide unfavourable variances between the budget estimates and the actual performances in many instances[17]. All

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[17] As for example, the shortfall in production (unfavourable variance between budgeted and actual production) varied from 5.2 percent to 19.8 percent; the unfavourable variance between budgeted and actual total operating costs varied from 9.1 percent to 24.1 percent; the unfavourable variance between budgeted and actual cost of production varied from 13.2 percent to 26.0 percent and the unfavourable variance between budgeted and actual sales varied from 6.2 percent to 20.9 percent in the case of the selected industries during the period 1975-76 to 1977-78; Vide Annual Budgets of the Enterprises under the selected Corporations viz., BJMC, BTMC, BSFIC, BSEC and BCIC for the years 1975-76, 1976-77, 1977-78 and 1978-79.

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such variances had adversely affected the profitability of the industries by increasing their total operating costs. In order to examine the increasing trend of the total operating costs in the selected industries over the period under review, the following Table 8.2 showing the total operating cost per Taka of market value of output is given.

TABLE - 8.2

Total Operating Cost per Taka of Market Value of Output in the selected Industries, 1975-76 to 1977-78

Year	Jute	Cotton Textile	Sugar and Feed	Steel and Allied	Chemical and Fertilizer	Paper and Paperboard
1975-76	1.01	.86	.98	.86	.96	1.09
1976-77	1.05	1.27	.79	.94	.75	1.07
1977-78	1.11	1.01	.95	.91	.87	1.12
Average	1.07	1.03	.90	.91	0.85	1.17

/Source: Based on data shown in Apprndix VI(A) to the end of the study/.

The total operating cost, on an average, during 1975-76 to 1977-78 was excessively higher in Jute, Cotton Textile and Paper and Paperboard industries in that it exceeded the market value of output in these cases. In the case of the remaining industries, such cost had been lower than the market value of output in that total operating cost per Taka of market value of output was comparatively lower ranging from .85 to .91, on an average, during the said period.

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Furthermore, the Table 4.8 given in Chapter 4, indicates that the actual total operating costs exceeded the budget estimates in all the industries concerned during the study period. Such increase varied from 20.1 percent to 24.1 percent in Jute Industry; from 9.4 percent to 20.7 percent in Cotton Textile Industry; from 14.7 percent to 21.4 percent in Sugar and Food Industry, from 16.0 percent to 17.2 percent in Steel and Allied Industry; from 12.9 percent to 18.0 percent in Chemical and Fertilizer Industry and from 17.3 percent to 18.9 percent in Paper and Paperboard Industry during the said period. Thus, there had been excessive higher total operating costs in the industries, particularly, in Jute, Cotton Textile and Paper and Paperboard industries over the period under review affecting adversely their profitability.

The correlation co-efficient between total operating cost per Taka of market value of output and profitability will show the nature of impact of higher operating costs on the profitability of the industries. For this purpose, correlation co-efficients between return on investment and total operating cost per Taka of market value of output and between return on capital employed and the said operating cost have been worked out[18]. It appears that both these co-efficients were significantly inverse pointing to the fact that total operating costs had adverse impact on both the return on investment and return on capital employed. Hence, it can be said that there had been higher total operating costs which adversely affected the profitability of the industries.

Regulation of Inventory and Accounts Receivable:

Inventory and Accounts Receivable are the two vital components of working capital which influence the size of working

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[18]Vide Appendices IX(A) and IX(B) to the end of the study.

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capital to a great extent. Therefore, effective regulation of these current assets is imperative from the view point of efficient maintenance of liquidity of an enterprise.

As seen earlier in Chapter 4, the regulation of Inventory was weak in the case of all the selected industries excepting Paper and Paperboard in that there had been under-investment in Inventory in these industries leading to frequent production hold-ups or delays and failures to meet delivery commitments to customers. At the same time such delays and shutdowns had boosted up the cost of production and thereby affected profitability adversely. Again, as stated in the said Chapter 4, the regulation of Accounts Receivable was very poor in the case of the industries in that there had been over-investment in Accounts Revaivable in these industries leading to financial embarrassments. All these weaknesses in the regulation of the vital component of working capital had a tendency to raise the operating costs and thereby lower down the profitability of the enterprises.

The correlation co-efficients between Inventory and profitability and between Accounts Receivable and profitability will show the nature of impact of the regulation of these assets on the profitability. As such, correlation co-efficients between return on investment and Inventory as a percentage of gross working capital; between return on capital employed and such Inventory, between return on investment and Accounts Receivable as a percentage of gross working capital and between return on capital employed and such receivable have been worked out[17].

The correlation co-efficients between return on capital employed and Inventory was significantly positive indicating that Inventory had favourable influence on the profitability. The correlation co-efficient between return on investment

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[17]vide Appendices IX(A) and IX(B) to the end of the study.

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and Inventory, though not significant, reflected a positive position. On the otherhand, correlation co-efficient between return on capital employed and Accounts Receivable was significantly inverse pointing to the fact that Accounts Receivable had an adverse impact on the profitability. The correlation co-efficient between return on investment and Accounts Receivable, though not significant, showed a negative position. This signifies that there had been overinvestment in Accounts Receivable in most of the industries with an adverse effect on their profitability.

Imbalanced Factor Composition:

Excessive acquisition of land, surplus manpower, high administrative expenditure, overstaffing etc. are examples of imbalanced factor composition[20]. Each of these exercises pressure on total cost and ultimately results in low profitability in an enterprise.

In the case of the majority of selected enterprises, there appeared to be high administrative expenditures and overstaffing during the period 1975-76 to 1977-78[21]. These had a tendency to increase the operating costs and ultimately lower down the profitability of such enterprises.

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[20] Sharma, B.S., Financial Planning in Indian Public Sector: A Management Approach, op.cit., p.157.

[21] The administrative expenditure showing the increasing trends in these years varied from 15.5 percent to 16.7 percent in Jute Industry; from 17.2 percent to 17.9 percent in Cotton Textile Industry; from 13.6 percent to 14.1 percent in Sugar and Food Industry; from 12.8 percent to 14.1 percent in Steel and Allied Industry; from 11.3 percent to 12.0 percent in Chemical and Fertilizer Industry and from 17.2 percent to 23.7 percent in Paper and Paperboard Industry. Again, there had been surplus officers and staff in the case of each of the selected industries during the said period, cf. Annual Reports of BJMC, BTMC, BSFIC, BSEC and BCIC for the years 1975-76 to 1977-78.

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CHAPTER 9

SUMMARY AND CONCLUSIONS

Public sector industries in Bangladesh occupy a dominant place in the overall industry sector. Such industrial public sector accounts for roughly 80 percent to 85 percent of the total industrial assets of the country. But the performance of public sector industries, mainly in terms of producing goods and services, contribution to GDP, value added in manufacturing, generating surplus and investment per employee has not been satisfactory since liberation of the country, especially, over the period 1972-73 to 1977-78. Of the many factors contributing to poor performance of public sector industries, management inefficiency,especially, financial management indiscipline appears to be the major one. Since financial planning and control form the core of financial management, the study of the various aspects of financial planning and control as practised in the public sector industries in Bangladesh has become imperative. So, the main purpose of the study was to make a critical assessment of the existing practice of financial planning and control in the selected public sector industries viz., Jute, Cotton Textile, Sugar and Food, Steel, Engineering and Shipbuilding, Chemical and Fertilizer and Paper and Paperboard.

The study reveals that a number of problems, deficiencies and shortcomings have been encountered in the various aspects of financial planning and control namely, organisation of finance functions including financial administration,capital expenditure planning and control, working capital planning and control, profit planning and control and communication and financial reporting.

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9.1 An analysis of the finance functions as practised in the public sector industries indicates that the finance functions were not sufficient in these cases. It has already been discussed in Chapter 2 that some of the important finance functions such as determination of short-term financial objectives, introduction of standard costing, variance analysis etc. have not been chartered in the Organization Manuals and/or Financial Codes/Rules of the Corporations although these are duly recognised by the classical writers of financial management. Again, some other major finance functions viz., introduction of break-even and fund flow analyses, preparation and circulation of consolidated financial statements of the enterprises in time etc. have not been performed properly inspite of the proper emphasis put on them by Manuals and Codes/Rules. Moreover, the important objectives, policies and targets have been formulated by the Corporation level executives having no detailed knowledge and experience about the peculiarities and other conditions of the respective enterprises. Consequently, the objectives etc. have failed to receive the utmost care and attention of the enterprise level executives, the ultimate authorities for executing such objectives, policies and targets. Lastly, the individual enterprise chief executive has limited powers in respect of certain specific financial matters, and again, in respect of certain other important financial matters, such executive has no financial powers at all.[1]

9.2 Since a manufacturing enterprise has to undergo three different periods viz., pre-gestation, gestation and operating periods, financial planning and control also relate to these periods. Capital expenditure planning and control relate to the pre-gestation and gestation periods, whereas working capital planning and control as well as profit planning and control are related to the operating period.

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[1]For detailed financial powers of the executive, see Financial Codes/Rules of the respective Sector Corporations.

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Capital expenditure planning and control include mainly the following aspects viz., taking of capital investment decision, formulation and execution of long-term financial policies, and control of capital expenditure. In the case of public sector industries the procedure of capital investment decision undergoes three important stages, such as formulation, evaluation and implementation. As revealed in Chapter 3, the capital investment decision was insufficient in the case of the selected public sector industries due to some hurdles encountered in this field. These were: (1) Lack of detailed feasibility study due to want of technical knowledge and personnel and training project sponsoring personnel; (2) Unusual delays in the formulation, approval and execution of the projects due to a number of reasons already mentioned in Chapter 3.1; (3) Inaccuracy in the phasing of both physical and financial schedules of work on the projects, in the project analyses, both financial and economic and in the cash flow statement mainly due to non-availability of accurate data on the projects and (4) Lack of general price stability, both at home and abroad.

As seen in Chapter 3.2, the formulation of the various long-term financial policies was not accurate and proper, and consequently, the execution of such policies was also not effective in the case of the concerned industries due to the following main grounds: (1) Inaccurate estimate of fixed capital requirements due to poor feasibility study and general price inflation, both at home and abroad; (2) Inaccurate determination of the capital structures of the enterprises mainly based on arbitrary decision of the Controller of Capital Issues without giving due consideration to the factors influencing debt-equity ratio policy of the enterprises, such as nature and requirements of the individual enterprise, relative risks, costs and returns of the enterprise and availability of funds. Consequently, there appears to have a very high rate of debt capital as compared to

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equity capital in all the industries during the operating period and in Chemical and Fertilizer Industry at the initial period[2] and (3) Defective system of financing capital expenditure in that most of the selected enterprises had to use excessive long-term loan while financing capital expenditure.[3] This was mainly due to sustaining continued losses by majority of the enterprises[4].

As observed in Chapter 3.3, the capital expenditure control was not also effective in the case of the concerned industries due to some major reasons. One, treasury control was not sufficient in that there was no provision for carrying out post audit of capital expenditure and the progress report on capital expenditure lacked the analysis of the elements of actual costs. Two, budgetary control was not sufficient in that the capital budgeting as followed in these cases lacked the characterstics of performance budgeting.

Due to defective capital expenditure planning and control as discussed so far and also due to some other reasons as mentioned in Chapter 3.3 the actual costs of almost all the selected projects exceeded both the original and revised budget estimates at the very high rates varying from 1 percent to 118 percent.[5]

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[2] vide Table 3.2, Chapter 3.

[3] vide Tables 3.3 and 3.4, Chapter 3.

[4] vide Appendix VI(A) to the end of the study.

[5] vide Tables 3.5(I) and 3.5(II), Chapter 3.

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9.3 During the operating period of an enterprise the various aspects of working capital planning and control namely, determination of short-term financial objectives; formulation and execution of short-term financial policies and control of working capital are undertaken.

The study reveals that working capital planning was insufficient in the case of the concerned industries due to a number of reasons. One, the estimate of working capital requirements mainly based on intuitions and hunches of the planners was inaccurate in most of the cases. Two, inventory policy appears to be poor in most of the enterprises in that the amount of closing inventories as held by the undertakings was inadequate both in absolute figures and in terms of "Number of Months value of Production"[6]. This was mainly responsible for non-application of A.B.C. analysis in the classification of stores items, inaccurate ascertaining of the various stock levels and so on. Three, accounts receivable policy appears to be unsound in most of the enterprises in that the amount of closing accounts receivables as held by them was highly excessive both in terms of absolute figures and "Average Collection Period"[7]. This was mainly due to liberal credit sales, poor collection policy, and lack of accurate planning on credit terms, credit risks, cash discount etc. Four, cash policy seems to be poor in most of the enterprises in that closing cash and bank balances as held by these enterprises were inadequate and the actual cash and bank balances had been much lower than the budget estimates in all the industries[8]. The main causes responsible for such a situation were inaccurate cash forecasting, poor cash receipt and cash disbursement policies, poor credit collection policy and so on. Five, defective system

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[6]vide Tables 4.1 and 4.2, Chapter 4.

[7]vide Tables 4.1 and 4.3, Chapter 4.

[8]vide Tables 4.1 and 4.4, Chapter 4.

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of financing working capital requirements was noticed in most of the enterprises in that they had to depend heavily on the external source of finance, especially, cash credits and bank overdrafts for gross working capital[9]. This was mainly because of non-availability of internal sources viz., retained earnings and accumulated depreciation on account of heavy losses incurred by these enterprises[10].

Due to insufficient working capital planning there occurred working capital shortages in the selected industries. It is seen that the size of net working capital was highly insufficient in the case of most of the enterprises under Jute, Paper and Paperboard and Cotton Textile industries, both in terms of absolute figures and in terms of current and quick ratios[11]. Consequently, there arose liquidity problem in all these enterprises which had created difficulties for them to meet their short-term obligations in time.

Working capital control was insuffieient in the selected industries in that cost control, the vital issue of working capital control had not been proper and sound for some reasons. Firstly, the poor working capital planning was mainly responsible for such a state of affairs. Secondly, the annual revenue budgets were prepared mostly on traditional lines,where the magnitudes of projections or estimates had been more or less confined to expenditures and receipts in financial terms. Thirdly, the system of classification of expenditures adopted in the budget was broadly based on objects of expenditures thereby failing to show expenditures by activities and final results. Fourthly, the techniques of standard costing and variance

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[9] vide Tables 4.7 and 4.8, Chapter 4.

[10] vide Appendix VI(A) to the end of the study.

[11] vide Tables 4.5. and 4.6, Chapter 4.

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analysis, the two vital elements of budgetary control had not been followed in the enterprises under the selected industries.

As a result of poor cost control through budgeting practice, sharp unfavourable variances between the budgeted and actual total costs have been observed in these enterprises. During the study period the unfavourable deviations between the budgeted and actual total costs varied from 14.5 percent to 19.9 percent in the case of the industries concerned[12].

9.4 Profit planning and control are the vital aspects of financial planning and control to be dealt with during the operating period of an enterprise. In the public sector industrial undertakings profit-planning and control appear to have been ineffective due to some deficiencies encountered therein. One, the profit planning functions were done at the high level in the Corporations' financial organisation without consulting the enterprise financial executives, the key personnel to execute such functions. The Corporation level executives were not fully aware of the peculiarities and other conditions of each and every enterprise. Consequently, the profit plans formulated appear to have been unrealistic in most of the cases. Two, communication of profit plans to the enterprise financial executives was unduly delayed due to lengthy procedures involved in the preparation and approval of these plans. Three, break-even analysis and proforma operating statement analysis, the two vital forms of profit planning and control were not followed in public sector enterprises. Four, operating budgetary techniques as used in the enterprises in profit planning and control have not been appropriate due to the reasons already mentioned while discussing working capital control.

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[12] vide Table 4.9, Chapter 4.

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All the aforesaid deficiencies caused the sharp unfavourable variances between budgeted and actual cost of production, operating expenses and net profits. An analysis of the Tables 5.2, 5.3 and 5.4 as given in Chapter 5, reveals that the deviations between budgeted and actual cost of production, operating expenses and net profits varied from 16.6 percent to 24.0 percent; 5.1 percent to 13.6 percent; and 20 percent to 185 percent respectively over the period 1975-76 to 1977-78.

9.5 Communication of financial data and information through various reports, statements, returns etc. acts as the most important step of financial control. An examination of the existing Management Information System (MIS) and the overall financial reporting system in the selected industrial enterprises indicates that the communication and financial reporting system has been associated with some problems and deficiencies.

It is observed that at each enterprise level the sub-section "Annual Reports and Financial Statements", the executing body of the functions regarding MIS would collect and circulate such information in such forms as were required by the head offices i.e. Sector Corporations of the respective enterprises. Each individual enterprise's own requirements and well-being were thereby ignored. Again, the same set of financial reports, statements, return etc. would be sent to all the different levels of management of an enterprise and to other different information groups. The specific requirements of each level of management and each information group were thereby neglected. There was no specific lines of responsibility in the particular enterprise; consequently, the reporting system itself failed to specify the responsibility for taking appropriate corrective actions as and when necessary. Furthermore, the

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financial reporting system followed in the selected enterprises had been faced with a number of problems and short-comings viz., lack of objectivity relating to decision making, relevance, understandability, reliability, completeness, timelines, consistency, variance analysis and effective feed-back of financial information.

9.6 The deficiencies, problems and short-comings encountered in the various aspects of financial planning and control viz., organisation of finance functions; capital expenditure planning and control; working capital planning and control; profit planning and control; and communication and financial reporting in the selected public sector industrial undertakings as discussed so far had an adverse impact on the performance of these undertakings during the study period. To be more precise, insufficient and ineffective financial planning and control had an unfavourable impact on the performance of the enterprises.

As seen in Chapter 6, the financial position of Sugar and Food, Steel, Engineering and Shipbuilding, and Chemical and Fertilizer industries appears to be relatively better during the period under review. On the contrary, the financial position of Jute, Cotton Textile and Paper and Paperboard industries seems to be relatively worse during the said period[13]. Such inference about the financial position of the industries has been made on the basis of ratio analysis, fund flow analysis and break-even analysis. Moreover, after testing the financial soundness of the selected industries on the basis of Altman's Multivariate Discriminant Analytical model, it can be inferred that

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[13] vide Tables 6.1, 6.2, 6.3 and 6.4, Chapter 6.

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the financial position of all the industries excepting Sugar and Food not only appeared to be unsatisfactory for all the years under review, but was on the verge of failure during this period[14].

The adverse impact of the inappropriate and unsound financial planning and control on the performance of the industries has been examined in Chapter 8 of the study. The profitability in terms of return on capital employed and return on total investment as the best criteria of performance measurement was affected by the following factors, which were directly or indirectly related to financial planning and control functions of the enterprises : (i) project planning and execution,(ii) capital structure decision, (iii) financial organisation and administration, (iv) working capital decision including its financing, (v) pricing policy of the products, (vi)cost efficiency, (vii) profit planning and control, (viii) regulation of accounts receivables and inventories and (ix) imbalanced factor composition.

With a view to examining the impact of unsound financial planning and control on the profitability of the selected industries, the correlation coefficients between each of the aforesaid factors[15] (herein called independent variables) and the return on investment on one hand, and return on capital employed on the other, (herein called dependent variables) have been worked out[16].

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[14] vide Table 6.6, Chapter 6.

[15] The three factors viz., financial organisation and administration, pricing policy and imbalanced factor composition could not be considered here because of the complexities involved in quantifying them.

[16] See AppendicesIX(A) andIX(B) to the end of the study.

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It appears that the correlation coefficient between net fixed investment and return on investment, net fixed investment and return on capital employed, long-term loan and return on investment, such loan and return on capital employed, short-term bank loan as a financier of gross working capital and return on investment, such bank loan and return on capital employed, cost of production per Taka of market value of output and return on investment, such cost of production and return on capital employed, total operating cost per Taka of market value of output and return on investment, such operating cost and return on capital employed, and accounts receivable as a pertentage of gross working capital and return on capital employed were significantly inverse indicating that these independent variables had adverse impacts on the dependent variable, return on investment and return on capital employed. These signify that there were over-capitalisation, excessive long-term and short-term bank loans, high cost of production and total operating cost, and over-investment in accounts receivables in most of the enterprises under the concerned industries during the period under review which had an adverse impact on the profitability of these enterprises.

On the other hand, the correlation co-efficients between net working capital and return on investment, net working capital and return on capital employed and inventory as a percentage of gross working capital and return on capital employed were significantly positive pointing out that these independent variables had a favourable effect on the dependent variables. These suggest that the position of net working capital and inventory needs to be improved in the enterprises where the deficits had existed in order to improve their profitability.

All the aforesaid facts indicate that poor financial planning and control produced adverse impacts on the profitability of most of the enterprises.

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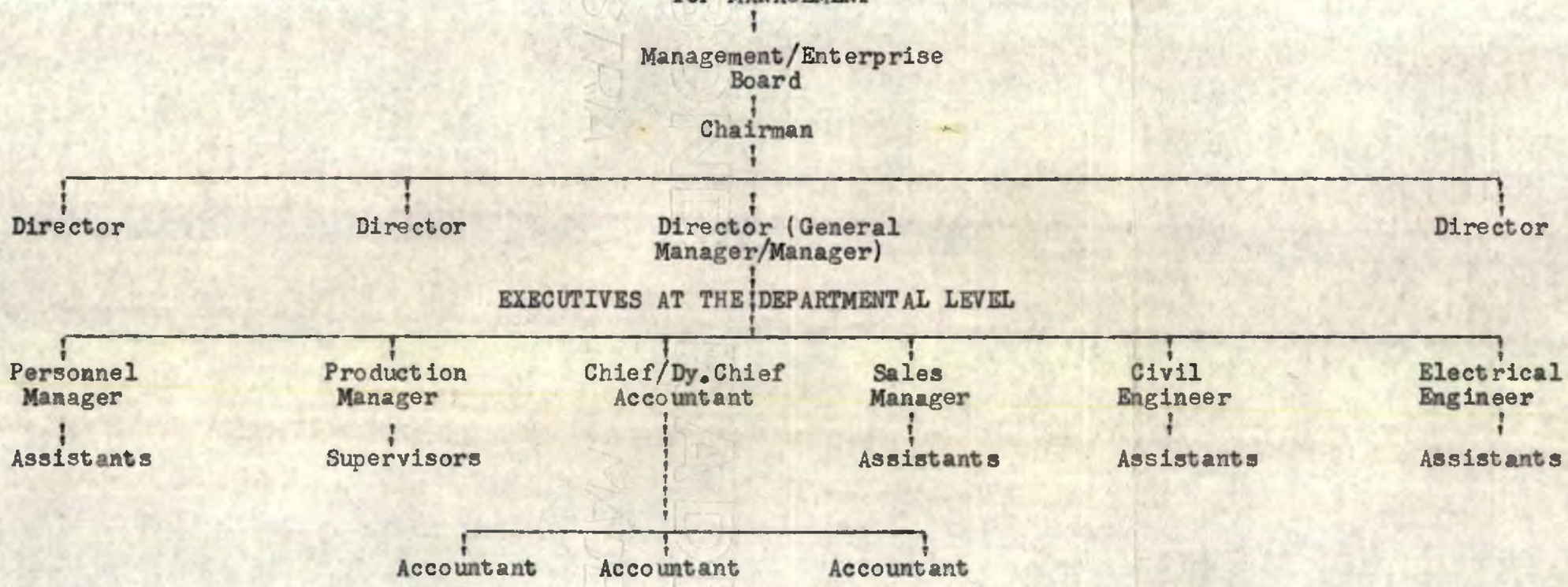
Therefore, it can be said that the improvement in the financial planning and control in the case of the selected public sector industrial enterprises will lead to higher profitability and in turn to better performance of these enterprises. Hence, if the problems, deficiencies and shortcomings encountered in the various aspects of financial planning and control as discussed in the preceeding paragraphs can be removed, this will stimulate financial planning and control in the concerned enterprises. Appropriate measures may be taken in this direction. But, before adopting any measures, the strength of the financial executives in each of the enterprises, their ability and expertise and, above all, the existing conditions of the individual enterprises need to be reviewed carefully. A number of measures needed to be adopted in order to improve the financial planning and control in the public sector enterprises, may be suggested if proper research is done in this direction. So, in order to suggest the appropriate measures to stimulate the financial planning and control in the selected enterprises, a detailed study may be made in future.

Finally, it can be said that the financial planning and control in most of the public sector large-scale manufacturing industrial enterprises in Bangladesh had been poor, particularly, since liberation of the country in that a number of problems, deficiencies and shortcomings were encountered in the various aspects of financial planning and control i.e. organisation of finance functions including financial administration, capital expenditure planning and control, working capital planning and control, profit planning and control and communication and financial reporting. These problems, deficiencies etc. have produced adverse impacts on the performance of these enterprises thereby indicating poor profitability in these cases.

APPENDIX I(A)

Organisation Structure At the Enterprises Level



(Note : In the above Organisation Structure only the common Directors at the top management level and the common Executives at the departmental level are shown).

(Source:Office Memoranda of some of the selected Enterprises under each of the selected Corporations viz., BJMC, BTMC, BSFIC, BSEC, and BCIC).

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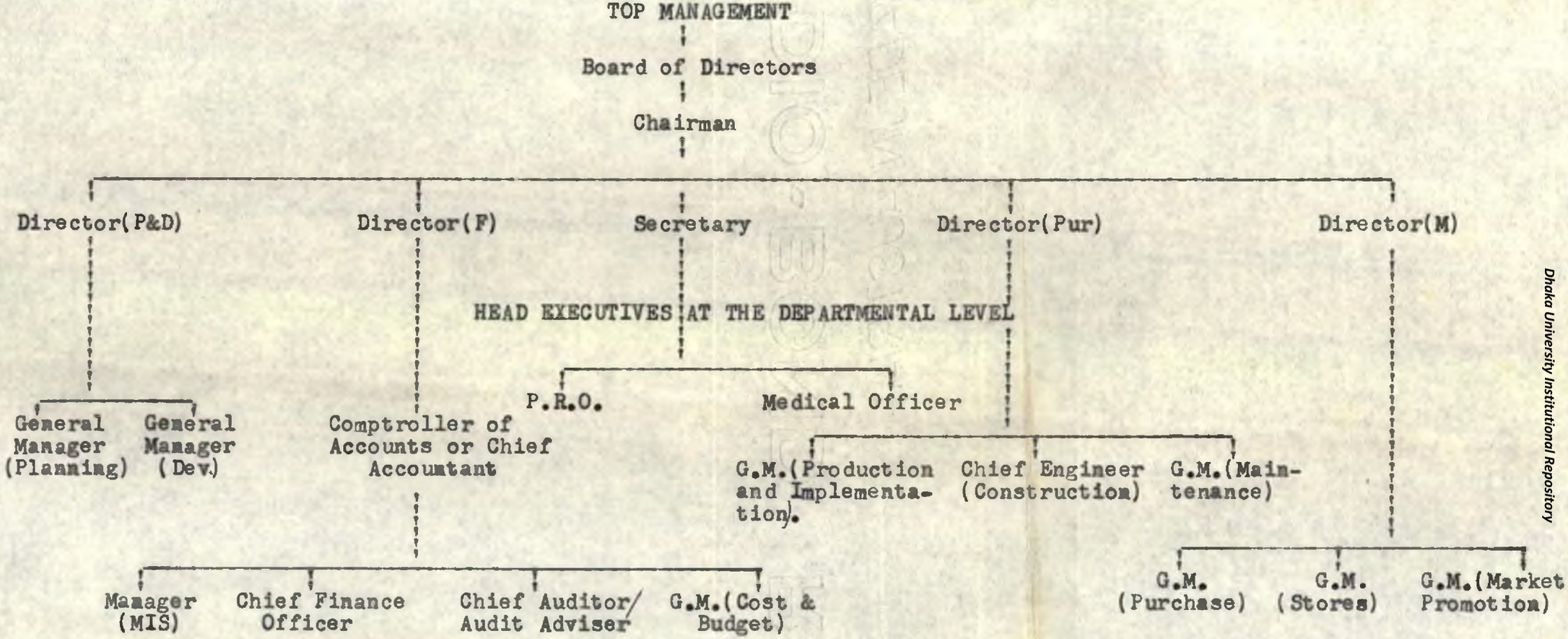
APPENDIX I(B)

Organisation Structure At the Corporations Level



(Note: In the above Organisation Structure only the common Directors at the top management level and the common Head Executives at the departmental level are shown).

(Source: Organisation Manuals of the selected Sector Corporations).

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APPENDIX II

Table I showing some of the Financial Powers of the Executives both at the Sector Corporations and the Enterprises levels

A. Financial Powers to accord Administrative Approval regarding Original Works and Repairs:

Authority	Extent of Power	Remarks, if any
1. Corporation Board of Directors	Full Power	-
2. Chairman of the Board of Directors in consultation with Finance Director	Works costing upto Taka 10 lakhs but in excess of Taka 2 lakhs	If provisions are made in the approved budgets.
3. Director-in-charge in consultation with Finance Director	Works costing upto Taka 2 lakhs but in excess of Taka 25 thousands	-do-
4. Head of the Enterprises with the approval of the respective Divisional Head	Capital works and special works upto Taka 25 thousands	-do-
5. Head of the Enterprises	Full power as regards annual repairs and maintenance works	-do-

(1) The Table has been prepared on the basis of provisions of the Financial Codes/Rules (Part I, II & III) of the respective Sector Corporations namely, BJMC, BTMC, BSFIC, BSEC & BCIC.

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B. Power to accept Tender for Works:

	Authority	Extent of Power	Remarks, if any
1.	Board of Directors	Full Power	-
2.	Chairman of the Board of Directors in consultation with Finance Director	Works estimated cost of Taka 10 lakhs and above	If processed through a Tender Committee
3.	Director-in-charge in consultation with Finance Director	Works estimated cost exceeding Taka 2 lakhs	-do-
4.	Director-in-Charge	Works estimated cost upto Taka 1 lakh	-do-
5.	General Manager as the Enterprise Head	Works estimated cost upto Taka 1 lakh	-do-
6.	Manager as the Enterprise Head	Works estimated cost upto Taka 50 thousands	-do-

C. Power to accept Excess over Original Works:

	Authority	Extent of Power	Remarks, if any
1.	Board of Directors	Full Power	-
2.	Chairman	Excess upto 50 percent of original work	With the concurrence of the Finance Director
3.	Director-in-charge	Excess upto 20 percent of original work	-do-
4.	Divisional Head	Excess upto 10 percent of original work	With the approval of the concerned Director

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D. Power to accord Approval to Purchases:

	Authority	Extent of Power	Remarks, if any
1.	Board of Directors	Full Power	-
2.	Chairman with the concurrence of Finance Director	Purchases costing Taka 25 lakhs and above	If processed through a Tender Committee
3.	Director-in-charge with the concurrence of Finance Director	Purchases costing Taka 10 lakhs and above but below Taka 25 lakhs	-do-
4.	Director-in-charge	Purchases costing Taka 5 lakhs & above but below Taka 10 lakhs	-do-
5.	Chief Purchase Officer (C.P.O.)	Purchases costing Taka 1 lakh and above but below Tk.5 lakhs	-do-
6.	Dy.Chief Purchase Officer(D.C.P.O.)	Purchase costing Taka 25,000 and above but below Taka 1 lakh	-do-
7.	Purchase Officer (P.O.)	Purchases costing upto Taka 25,000	Purchases below Taka 10,000 should not be processed through the above Tender Committee.

E. Power of the Heads of Enterprises to make Purchases:

	Items	Authority and Extent of Power			Remarks, if any
1.	Plant and Machinery: (For replacement)	General Manager	Manager	Project-in-charge	
(i)	Locally available	Purchases upto Taka 25,000 per item	Purchases upto Taka 25,000 per item	Nil	-

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(ii)	Other items without involving foreign exchange	Purchases upto Taka 25,000 per item	Purchases upto Taka 25,000 per item	Nil	-
(iii)	Items involving foreign exchange	Nil	Nil	Nil	Such purchases are made by the C.P.O.

/Note: Purchases have been processed through a Tender Committee consisting of Head of the Enterprise, Head of Accounts, Head of the Purchase and Head of the Indenting Departments of the Enterprises/.

2. Machine Tools:

(i)	Locally available	Purchases upto Taka 15,000 per item	Purchases upto Taka 10,000 per item	Nil	Beyond the limit purchases are made by the C.P.O.
(ii)	Other items without involving foreign exchange	-do-	-do-	-do-	-do-
(iii)	Items involving foreign exchange	Purchases upto Taka 5,000 each item	Purchases upto Taka 2,000 each item	-do-	Such purchases are made by the C.P.O.

3. Spare Parts:

(i)	Locally available	Full Power	Full power	Purchases upto Taka 2,000 in a year	-
(ii)	Other items without involving foreign exchange	Full power	Full power	-do-	-
(iii)	Items involving foreign exchange	Full power	Full power	Nil	Such purchases are made by the C.P.O.

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4. Primary and Consumable Raw Materials:				
(i) Locally available	Full power	Full power	Nil	Such purchases are made by the C.P.O.
(ii) Other items without involving foreign exchange	-do-	-do-	Nil	-do-
(iii) Items involving foreign exchange	-do-	-do-	Nil	-do-
5. Furniture and Fixture:				
(i) Locally available	-do-	-do-	Purchase upto Taka 10,000 in a year	-
(ii) Other items without involving foreign exchange	-do-	-do-	Nil	Such purchases are made by the C.P.O.
(iii) Items involving foreign exchange	Nil-	Nil	Nil	Such purchases are made by the Division concerned
6. Stationery:				
(i) Locally available	Full power	Full power	Purchase upto Taka 5,000 in a year	-
(ii) Other items without involving foreign exchange	-do-	-do-	Nil	Such purchases are made by the Divn. concerned
(iii) Items involving foreign exchange	Nil	Nil	Nil	-do-
7. Maintenance Materials, Seeds & Seedlings etc.				
(i) Locally available	Full power	Full power	Nil	-do-

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(ii) Other items without involving foreign exchange	Full power	Full power	Nil	Such purchases are made by the Divn. concerned
(iii) Items involving foreign exchange	-do-	-do-	Nil	Such purchases are made by the C.P.O. if budget exists
8. Packing Materials:				
(i) Locally available	Full power	Full power	Nil	-do-
(ii) Other items without involving foreign exchange	-do-	-do-	Nil	-do-
(iii) Items involving foreign exchange	-do-	-do-	Nil	-do-
9. Office Equipment etc:				
(i) Locally available	Purchases upto Taka 15,000 per item	Purchases upto Taka 10,000 per item	Purchases upto Taka 3,000 per item	Above the limit approval of Division concerned is necessary.
(ii) Other items without involving foreign exchange	-do-	-do-	-do-	-do-
(iii) Items involving foreign exchange	Nil	Nil	Nil	Such purchases are made by the C.P.O.
10. Sanitary Materials:				
(i) Locally available	Purchases upto Tk.5000	Purchases upto Taka 3,000	Nil	Subject to budget provision
(ii) Other items without involding foreign exchange	-do-	-do-	Nil	-do-
(iii) Items involving foreign exchange	Nil	Nil	Nil	Such purchases are made by the C.P.O.

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11. Construction Materials:

(i) Timber, Bricks, sand, lime, glass, electric fittings (locally available)	Purchases upto Taka 50,000 per item	Purchases upto Taka 25,000 per item	Nil	Subject to budget provision
(ii) Miscellaneous stores for constructions	Purchases upto Taka 10,000 in a year	Purchases upto Taka 5,000 in a year	Purchases upto Tk.5000 in a year	-do-

F. Power for the Purchases of Existing Buildings:

Authority	Extent of Power	Remarks, if any
1. Board of Directors	Full power when the value of the building exceeds Tk.5 lakhs	Valuation should be done by the C.P.O.
2. Director-in-charge in consultation with Finance Director	Full power when the value of the building does not exceed Taka 5 lakhs	-do-

G. Power for the Sale of Goods:

Item	Authority	Extent of Power	Remarks.if any
1. Sale of Sugar and Molasses of sugar mills.	(i) BSFIC Sales Organisation	Full power	-
	(ii) Mill Manager	To dispose of Sugar upto 500 mds.in a year	At prices approved by the Mill Sales Committee comprising Manager, Accountant and one officer selected by the Manager
	(iii) Mill Manager	To dispose of 75% of total Molasses produced.	-
	(iv) Mill Sales Committee	To dispose of 25% of total Molasses	-

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2. Sale of Yarn and Cloth of cotton mills	Mill Manager	Full power	Subject to fixation of price and appointment of dealers by the Divisional concerned
3. Sale of News-print	-do-	-do-	-do-
4. Sale of Jute Products	Sales Manager	-do-	In coordination with the managers of the mills
5. Sale of any Building of the Enterprises	Board of Directors	-do-	Provided valuation is done by the Chief Engineer

H. Power to sanction Refund of:

(i) Earnest Money	Corporation Secretary	Full power	For enterprises only
(ii) Security Deposits	Project Head	-do-	-do-

I. Power to grant Advances:

Items	Authority	Extent of Power	Remarks, if any
1. Granting of T.A. Advances	(i) Director	Full power	In respect of Heads and Division under his charge
	(ii) Secretary	-do-	In respect of the officers and staff of the Secretariate
	(iii) Head of Division/Deptt	-do-	In respect of the officers and staff of his Division/ Department
	(iv) Head of Enterprise	-do-	In respect of enterprises' officers and staff

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J. Power to write off Losses: (Loss of irrecoverable value of Stores or of Money due to fraud etc., loss of irrecoverable Advances and Depreciation in the value of Stores)

Authority	Extent of Power
1. Finance Director	Losses upto Taka 5,000 in each case
2. Head of Division/ Department	Losses upto Taka 200 in each case
3. Head of the Enterprises:	
(i) General Manager	Losses upto Taka 100 in each case
(ii) Manager	Losses upto Taka 50 in each case

K. Power to declare Construction Materials unserviceable or surplus or otherwise written off:

Items	Authority	Extent of Power
1. Issue of order declaring construction materials unserviceable or surplus	Board of Director	Full power
	Director-in-charge	Upto Tk.10,000
	Division Head	Upto Tk. 1,000
	Enterprise Head	
	General Manager	Upto Tk. 500
	Manager	Upto Tk. 250
2. Write off losses due to deterioriation of construction materials and write off tools, plants etc.	Board of Director	Full power
	Director-in-charge	Upto Tk.5,000
	Division Head	Upto Tk.1,000
	Enterprise Head	
	General Manager	Upto Tk. 500
	Manager	Upto Tk. 250
3. Adjustment of losses on manufacturing account of construction materials	Board of Director	Full power
	Director-in-Charge	Upto Tk.10,000
	Division Head	Upto Tk. 5,000
	Enterprise Head	
	General Manager	Upto Tk. 500
	Manager	Upto Tk. 250

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APPENDIX III

A Note on the Methods of Determining Profitability of an Industrial Project

There are a number of methods, of varying complexity, for determining profitability of an industrial project. These methods are not mutually exclusive and are often used jointly to determine the best investment. The most important of such methods are discussed below briefly:

(i) Discounted Cash Flow Method (DCF Method):

The DCF method takes into account the timing of cash proceeds and outlays over the entire life of the investment. It is true that a Taka in the hand today is worth more than a Taka to be received (or spent) five years from today, because the use of money has a cost (interest), just as the use of a building may have a cost (rent). The DCF method explicitly and systematically weighs this time value of money. For this reason, this method may be advantageously used for long-range capital investment decisions.

There are two main variations of DCF method, viz., net present value and internal rate of return. Both the net present value and internal rate of return take into account the concept of present value of a sum to be invested in capital investment.

Net Present Value Method:

The present value of a sum to be received at some future time is such an amount as will, with the compound interest at a predetermind rate, equal the sum to be received in the future.[1]

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[1] The Profitable use of Capital in Industry, op.cit., p.30.

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The net present value is the difference between the present value of cash proceeds and cash outlays of an investment.[2]

In the net present value method, the present values of both the cash proceeds and cash outlays are found out using the appropriate rate of interest. The original cost or present value of the investment (present value of cash outlays) is subtracted from the present value of cash proceeds and the resulting surplus or deficit is the net present value of the investment. If the result is positive (surplus) being greater than or equal to zero; the project is desirable. On the contrary, if the result is negative (deficit), being less than zero; the project is not desirable.

Now, the question arises what rate of interest should be the appropriate one for the said purpose. It is argued that a popular rate is that at which the concern can borrow money (in whatever form) since any surplus over the present value would represent a real addition to the profits of the undertaking. It may reasonably be argued, however, that a business must do better than this - it ought at least to seek to achieve its current rate of return on capital employed.

Internal Rate of Return Method:

The internal rate of return has been defined as the maximum rate of interest that could be paid for the capital employed over the life of an investment without loss on the project[3]. Alternatively, the internal rate of return can be

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[2] Bierman (Jr), Harold and Smidt, Seymour, The Capital Budgeting Decision, op.cit., p.29.

[3] National Association of Accountants, Return on Capital as a Guide to Managerial Decisions, Research Report, No.35, New York, p.57

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defined as the interest or discount rate that makes the present value of the anticipated cash flows from a project equal to the cost of the project[4]. Therefore, when the discount or interest rate equates the present value of the expected future receipts to the cost of the project; the discount or interest rate is called the internal rate of return. This means that the internal rate of return is the discount or interest rate that equates the present value of the cash outflows with the present value of the anticipated cash inflows.

Now, the question is how to determine the discount or interest rate which can make the present value of the cash outflows equal to the present value of the cash inflows. It is argued that such a rate of discount or interest can be found out by trial and error. For example, if the cash proceeds expected and cash outlays required by an investment in each future year are known, one can start with any rate of discount or interest and find for that rate the present values of the cash proceeds and cash outlays respectively. If the present value of the cash proceeds exceeds the present value of the cash outlays, then ordinarily some higher rate would make them equal. By a process of trial and error, the approximate correct rate of discount or interest can be determined. This rate of interest or discount is referred to as the yield of the investment. Due to this reason, this method can also be called "yield of an investment method".

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[4]Horngren, C.T., Introduction to Management Accounting, 4th ed., Prentice Hall Inc., Englewood Cliffs, New Jersey, pp. 354-355.

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(2) Pay-back Method:

The pay-back method is one of the simplest methods of measuring the economic value of an investment. Payback, or payout, or pay off, is the measure of the time it will take to recoup, in the form of cash inflow from operations, the initial cash outlays made in a project[5]. Therefore, the payback period is defined as the length of time required for the stream of cash proceeds produced by an investment to equal the original cash outlay required by the investment[6]. If an investment is expected to produce a stream of cash proceeds that is constant from year to year, then the payback period can be determined by dividing the total original cash outlay by the amount of the annual cash proceeds expected. But, if the stream of expected proceeds is not constant from year to year, then the payback period must be determined by adding up the proceeds expected in successive years until the total is equal to the original outlay.

Ordinarily a standard pay back period is set for a project by the administrators which generally varies from 2 to 5 years[7]. If the payback period either equals or exceeds the standard in the case of a project, in question, then only the project is accepted, otherwise the project is rejected.

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[5]Horngren, C.T., Introduction to Management Accounting, op. cit., p.368.

[6]Bierman and Smidt, The Capital Budgeting Decision, op. cit., p.21.

[7]ibid, p.23.

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The major advantage of this method is that it entails easy and simple calculation. But, its greatest disadvantage is that it does not measure profitability; it merely measures how quickly investment outlays may be recouped.

(3) Accounting Rate of Return or Average Return on Investment Method:

The average return on investment is defined as the ratio of the net average annual income from the project to the initial investment[8]. The net income is the difference between the net cash inflow generated by the project and the cash outflows resulting from the initial investment. The net average annual income is defined as the income divided by the life of the project measured in years[9]. In computing the average return on investment, the initial investment is deducted from the gross total income over the life of the project. This net income is then divided by the number of years of the life of the project, to obtain the average income per year. The average annual income divided by the initial investment gives the return.

Ease of calculations and explanations is the major advantage of this method. But, the main disadvantage of this method is that it does not distinguish between cash inflows received at different points of time. As a result, it also does not discriminate between projects that have the same net average income but which differ in the timings of cash inflows.

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[8] Paul, V.L.M. Samuel and Gupta, G.S., Managerial Economics: Concepts and Cases, Tata Mc Grow Hill Publishing Company Ltd., New Delhi, 1977, p.122.

[9] ibid, p.22.

APPENDIX IV(A)

Allocations of Original Estimates of Total Investment Costs into the Major Components of a total number of 66 Projects under the Selected Industries established during 1952-70

(In Million Taka)

Major Components of Investment Costs	Projects-Jute Industry		Projects - Cotton Textile Industry		Projects-Sugar & Food Industry		Projects-Steel and Allied		Projects-Chemical and Fertilizer		Projects-Paper and Paperboard.	
	16434 Looms	1000 Units Capacity	48500 Spindles	1000 Units Capacity	104650 Tons	1000 Units Capacity	236000 Tons	1000 Units Capacity	491340 Tons	1000 Units Capacity	105000 tons	1000 Units Capacity
Pre-construction Expenditures	9.06	.55	.45	.01	2.93	.03	6.00	.03	7.36	.015	4.98	.05
Construction Works	236.16	14.37	12.38	.25	66.79	.64	116.63	.49	125.57	.255	88.49	.84
Machinery & Equipment	275.42	16.75	14.98	.31	86.56	.83	197.27	.84	220.40	.448	149.14	1.42
Other Costs	83.36	5.07	4.19	.09	26.72	.25	55.13	.23	79.67	.162	50.39	.48
Total	604.00	36.74	32.00	.66	183.00	1.75	375.03	1.59	433.00	.88	293.00	2.79

/Note : The remaining 5 projects set up during 1952-70 could not be considered here for varied types of units of capacity under the same industry or industries/.

/Source: BIDC in Figures/.

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APPENDIX IV(B)

Allocations of Original Estimates of Total Investment Costs into the major Components of a total number of 10 Projects under the selected Industries established during 1972-80

Major Components of Investment Costs	Projects - Jute Industry		Projects - Cotton Textile Industry		Projects - Sugar & Food Industry		Projects - Steel & Allied Industry		Projects - Chemical and Fertilizer Industry	
	12 lakh square yards	1000 Units Capacity	100 thousands Spindles	1000 Units Capacity	6550 Tons	1000 Units Capacity	10000 Tons	1000 Units Capacity	534400 Metric Tons	1000 Units Capacity
Pre-construction Expenditures	4.55	.004	3.88	.04	.43	.07	3.51	.35	50.54	.09
Construction Works	108.59	.092	97.79	.98	9.01	1.38	67.18	6.72	1061.46	1.99
Machinery & Equipment	133.32	.112	123.66	1.24	12.40	1.89	122.50	12.25	1866.81	3.50
Other Costs	37.80	.032	33.37	.33	3.62	.55	26.35	2.63	390.89	.73
Total	284.26	.240	258.70	2.59	25.46	3.89	219.54	21.95	3369.70	6.31

/Note : No project was established under Paper and Paperboard Industry during the period 1972-80/.

/Source: Project Proforma of the respective projects/.

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APPENDIX - V (A)

Data on the selected Industrial Projects established during 1952 to 1970.

(Cost in Million Taka)

Sl. No.	Name of the Projects (Industry Sector-wise)	Date of starting construction of the Project	Date of commencing commercial production	Gestation period in years	Original Estimated Cost			Revised Estimated Cost			Actual Cost			Total Capacity
					Local Currency Cost	Foreign Currency Cost	Total Cost	Local Currency Cost	Foreign Currency Cost	Total Cost	Local Currency Cost	Foreign Currency Cost	Total Cost	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	JUTE SECTOR													
1.	Adamjee Jute Mills Ltd.	1.7.1950	June, 1952	2	26.00	40.00	66.00	27.00	45.00	72.00	30.00	45.00	75.00	3,049 looms
2.	Crescent " " "	1.3.1952	June, 1954	2¼	6.50	10.00	16.50	6.50	10.00	16.50	8.00	12.00	20.00	782 "
3.	Amin " " "	1.7.1951	July, 1954	3	6.50	10.00	16.50	6.00	10.50	16.50	8.00	12.00	20.00	735 "
4.	Peoples " " "	1.7.1951	Dec., 1955	4½	6.50	10.00	16.50	9.89	12.00	21.89	8.00	12.00	20.00	930 "
5.	Ctg. Jute Manufacturing Co. Ltd.	Dec., 1952	Aug. 1954	1¾	4.00	6.00	10.00	4.00	6.00	10.00	5.00	7.50	12.50	790 "
6.	Latif Bawany Jute Mills Ltd.	Dec., 1953	March, 1956	2¼	2.40	3.60	6.00	2.40	3.60	6.00	3.00	4.50	7.50	663 "
7.	Karim " " "	Dec., 1954	March, 1957	2¼	3.00	4.50	7.50	3.00	4.50	7.50	3.60	5.40	9.00	350 "
8.	Dacca " " "	Dec., 1954	Dec., 1956	2	3.00	4.50	7.50	3.00	4.50	7.50	4.18	5.40	9.58	400 "
9.	Nishat " " "	Dec., 1954	Dec., 1957	3	1.60	2.40	4.00	1.60	2.40	4.00	1.68	2.40	4.08	320 "
10.	Platinum " " "	Dec., 1954	Dec., 1958	4	10.00	15.00	25.00	10.00	18.00	28.00	12.00	18.00	30.00	850 "
11.	Star " " "	March, 1955	Dec., 1958	3¾	4.00	6.00	10.00	4.00	6.00	10.00	5.00	6.50	11.50	570 "
12.	Daulatpur " " "	Dec., 1952	Oct., 1955	3	3.00	4.50	7.50	3.00	4.50	7.50	4.00	6.00	10.00	250 "
13.	Quami " " "	12.11.1960	Aug., 1962	2	6.00	9.00	15.00	6.00	9.00	15.00	5.00	11.50	16.50	250 "
14.	Pak " " "	12.12.1960	Sept. 1962	1¾	6.00	9.00	15.00	6.00	9.00	15.00	5.00	11.50	16.50	250 "
15.	United " " "	18.1.1961	Jan., 1963	2	6.00	9.00	15.00	6.00	9.00	15.00	5.00	11.50	16.50	250 "
16.	W. Rahman " " "	16.12.1960	April 1964	3½	6.00	9.00	15.00	6.00	9.00	15.00	5.00	11.50	16.50	250 "
17.	Delta " " "	1.11.1961	Aug., 1964	2¾	6.00	9.00	15.00	6.00	9.00	15.00	5.00	11.50	16.50	250 "
18.	Ajax " " "	1.11.1961	Dec., 1964	3	6.00	9.00	15.00	6.00	9.00	15.00	5.00	11.50	16.50	250 "
19.	Alijan " " "	1.11.1961	April 1965	3½	6.00	9.00	15.00	6.00	10.00	16.00	5.00	11.50	16.50	250 "
20.	Co-operative " " "	1.11.1961	May, 1965	3½	6.00	9.00	15.00	6.00	10.00	16.00	5.00	11.50	16.50	250 "
21.	United " " " (Expansion)	30.6.1962	May, 1965	3	5.00	10.00	15.00	5.00	10.00	15.00	5.00	10.00	15.00	250 "
22.	W. Rahman " " " (Expansion)	30.6.1962	June 1965	3	5.00	10.00	15.00	5.00	10.00	15.00	5.00	10.00	15.00	250 "
23.	Pak Jute Mills Ltd. (Expansion)	30.6.1962	June, 1965	3	5.00	10.00	15.00	5.00	10.00	15.00	5.00	10.00	15.00	250 "

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
24.	Star Alkid Jute Mills Ltd.	19.9.1962	July, 1965	2¾	5.00	10.00	15.00	6.00	10.00	16.00	6.50	10.00	16.50	250 looms
25.	Afil " " "	19.9.1962	May, 1966	3¾	5.00	10.00	15.00	6.00	10.00	16.00	6.50	10.00	16.50	250 "
26.	A.K. Khan " " "	19.9.1962	May, 1966	3¾	5.00	10.00	15.00	6.00	10.00	16.00	6.50	10.00	16.50	250 "
27.	Kohinoor " " "	19.9.1962	June, 1966	3¾	5.00	10.00	15.00	6.00	10.00	16.00	6.50	10.00	16.50	250 "
28.	Jabbar " " "	4.10.1963	Nov., 1967	4	5.00	10.00	15.00	6.00	10.00	16.00	6.50	10.00	16.50	250 "
29.	Maqbulur Rahman J" "	15.10.1963	July, 1966	3¾	5.00	10.00	15.00	6.00	10.00	16.00	6.50	10.00	16.50	250 "
30.	Sattar " " "	15.10.1963	April, 1967	3½	5.00	10.00	15.00	6.00	10.00	16.00	6.50	10.00	16.50	250 "
31.	National " " "	31.10.1963	Oct., 1967	4	5.00	10.00	15.00	6.00	10.00	16.00	6.50	10.00	16.50	250 "
32.	Eastern " " "	31.10.1963	Oct., 1967	4	5.00	10.00	15.00	6.00	10.00	16.00	6.50	10.00	16.50	250 "
33.	Alšem " " "	31.10.1963	April, 1968	4½	5.00	10.00	15.00	6.00	10.00	16.00	6.50	10.00	16.50	250 "
34.	Sonali " " "	31.10.1963	Jan., 1968	4¼	5.00	10.00	15.00	6.00	10.00	16.00	6.50	10.00	16.50	250 "
35.	Quami Jute Mills (Expansion)	30.6.1963	May, 1967	3¾	5.00	10.00	15.00	5.00	10.00	15.00	5.00	10.00	15.00	250 "
36.	Nawab Askari Jute Mills Ltd.	28.10.1965	May, 1969	3½	6.50	10.00	16.50	8.10	10.00	18.00	8.91	9.09	18.00	250 "
37.	Pubali " " "	28.10.1965	Jan., 1969	3¼	6.50	10.00	16.50	8.00	10.00	18.00	8.91	9.09	18.00	250 "
38.	Alhaj " " "	28.10.1965	Aug., 1969	4	6.50	10.00	16.50	8.00	10.00	18.00	8.91	9.09	18.00	250 "
39.	Nabarun " " "	28.10.1965	July, 1969	3¾	6.50	10.00	16.50	8.00	10.00	18.00	8.91	9.09	18.00	250 "
	Sub-Total :				225.50	378.50	604.00	245.90	390.50	636.40	259.60	415.06	674.66	16,439 "
	COTTON TEXTILE SECTOR													
1.	Muslin Cotton Mills	20.12.1951	June, 1954	2½	6.00	12.00	18.00	8.00	12.00	20.00	8.00	12.00	20.00	44,000 Spindles
2.	Muslin Cotton Mills (BMR)	28.12.1960	Dec., 1964	4	1.00	1.50	2.50	1.00	2.00	3.00	1.00	1.92	2.92	4,000 "
3.	Muslin Cotton Mills (Expansion)	30.12.1961	June, 1966	4½	5.50	6.00	11.50	7.03	7.00	14.03	6.10	6.57	12.67	500 "
	Sub-Total :				12.50	19.50	32.00	16.03	21.00	37.03	15.10	20.49	35.59	48,500 "

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	SUGAR AND FOOD SECTOR													
1.	Thakurgaon Sugar Mills Ltd.	Oct., 1955	Dec., 1958	3¼	10.00	8.00	18.00	11.00	9.00	20.00	12.00	8.89	20.89	10,000 Tons
2.	Bangla " " "	Nov., 1955	Dec., 1958	3	9.00	7.00	16.00	10.00	8.00	18.00	10.00	8.57	18.57	10,000 "
3.	Rangpur " " "	Oct., 1954	Dec., 1957	3¼	11.34	10.00	21.34	14.00	11.00	25.00	14.44	12.50	26.96	15,000 "
4.	Jaipurhat " " "	2.12.1958	Feb., 1963	4	11.00	9.00	20.00	13.00	10.00	23.00	13.55	10.00	23.55	10,000 "
5.	Rajshahi " " "	5.3.1962	Dec., 1964	1¾	10.00	9.00	19.00	10.00	10.00	20.00	12.00	10.00	22.00	10,000 "
6.	Kushtia " " "	5.12.1960	June, 1965	4½	10.00	9.00	19.00	10.00	10.00	20.00	11.00	10.00	21.00	10,000 "
7.	Thakurgaon " " " (Expansion)	10.9.1962	June, 1965	2¾	2.00	2.00	4.00	2.00	2.00	4.00	3.00	2.00	5.00	5,000 "
8.	Shyampur " " "	24.12.1963	Jan., 1968	5	11.00	9.00	20.00	13.00	12.00	25.00	13.32	11.57	24.89	10,000 "
9.	Mobarakganj " " "	1.5.1964	Jan., 1969	4½	11.00	10.00	21.00	13.00	12.00	25.00	13.32	11.57	24.89	10,000 "
10.	Panchgarh " " "	1.5.1964	Nov., 1968	4½	11.00	10.00	21.00	13.00	12.00	25.00	13.32	11.57	24.89	10,000 "
11.	Ground Nut Oil Mills	1.12.1964	July, 1967	2½	3.75	0.73	4.48	3.75	0.73	4.48	3.97	0.89	4.86	4,650 "
	Sub-Total :				99.09	83.73	182.82	112.75	96.73	209.48	119.92	97.56	217.48	104,650 "
	SHIPBUILDING, STEEL AND ENGINEERING SECTOR													
1.	Narayanganj Dockyard and Engineering Works Ltd.	1950	1954	4	8.00	4.00	12.00	10.00	5.00	15.00	10.90	5.00	15.90	Tk.80 lacs value of repairs and construction.
2.	Khulna Shipyard Ltd.	Oct., 1953	Nov., 1957	4	8.49	4.50	12.99	13.42	8.00	21.42	15.30	8.00	23.30	Tk.132.3 lacs value of repairs and construction.
3.	Dry Dock, Narayanganj	8.4.1965	June, 1970	5¼	3.71	0.26	3.97	8.00	2.00	10.00	10.21	2.99	13.20	Tk.26.5 lacs value of repairs and construction.
4.	Chittagong Steel Mills	17.10.1962	Jan., 1967	5¼	99.66	171.11	270.77	150.00	170.00	320.00	164.63	171.11	335.74	1.50 lac tons.
5.	" " " (Expansion)	23.12.1965	June, 1970	4½	32.98	46.28	79.26	33.00	50.00	83.00	33.66	55.59	89.25	80 thousand tons
6.	Bangladesh Diesel Plant	2.12.1966	Dec., 1969	3	7.00	8.50	15.50	9.00	9.00	18.00	9.74	9.88	19.62	3 thousand engines
7.	Eastern Cables	15.12.1966	June, 1970	3½	15.00	10.10	25.00	18.20	12.59	30.79	18.20	12.59	30.79	6,000 tons
	Sub-Total :				174.84	244.65	419.49	241.62	256.59	498.21	262.64	265.16	527.80	

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	CHEMICAL AND FERTILIZER SECTOR													
1.	D.D.T. Factory	5.9.1962	June, 1966	3¾	5.50	4.17	9.67	7.00	5.00	12.00	9.35	6.56	15.91	3,000 Tons.
2.	Natural Gas Fertilizer Factory	Aug. 1957	July, 1961	4	53.70	105.70	159.40	109.20	115.40	224.60	123.35	120.60	243.95	106,000 Metric Tons or 104,340 Tons.
3.	Triple Superphosphate Plant	25.3.1964	Sept.,1969	5½	9.00	7.50	16.50	10.06	8.74	18.80	12.16	8.74	20.90	32,000 Tons.
4.	Ammonium Sulphate Plant	31.5.66	Sept. 1969	3 1/3	1.00	2.50	3.50	1.00	2.50	3.50	1.63	3.35	4.98	12,000 "
5.	Polythene Bag Manufacturing Plant	23.7.1962	May, 1966	4	0.15	0.20	0.35	0.15	0.20	0.35	0.17	0.24	0.41	50 lac bags
6.	Urea Fertilizer Factory	24.1.1964	June, 1970	6½	105.00	139.00	244.00	108.96	154.40	263.36	108.91	158.06	266.97	340,000 Tons
	Sub-Total :				174.35	259.07	433.42	236.37	286.24	522.61	255.57	297.55	553.12	
	PAPER AND PAPER BOARD SECTOR													
1.	Karnaphuli Paper Mills Ltd.	Sept. 1950	Sept. 1954	4	35.00	15.00	50.00	35.00	16.20	51.20	47.34	20.16	67.50	30,000 Tons.
2.	Khulna Newsprint Mills Ltd.	1.10.1956	1959	3	33.30	81.70	115.00	43.30	91.70	135.00	49.75	100.25	150.00	35,000 "
3.	Khulna " " " (Expansion)	27.2.1961	April,1965	4	27.00	13.00	40.00	27.00	13.00	40.00	29.50	15.50	45.00	15,000 "
4.	Khulna Hardboard Mills Ltd.	30.7.1964	May, 1967	3	3.10	6.90	10.00	6.04	10.08	16.12	6.04	10.08	16.12	10,000 "
5.	North Bengal Paper Mills	8.10.1963	June, 1970	6¼	29.84	48.17	78.01	77.31	59.59	136.90	70.40	59.59	129.99	15,000 "
	Sub-Total :				128.24	164.77	293.01	188.65	190.57	379.22	203.03	205.58	408.61	105,000 "

Sources: (1) Ministry of Economic Affairs, Government of Pakistan, Development Projects, Manager of Publications, Karachi, 1959.
(2) East Pakistan Industrial Development Corporation, Progress Reports, 1964-65, 1965-66, 1966-67, 1967-68 and 1968-69.
(3) East Pakistan Industrial Development Corporation, EPIDC At Work, 1952 - 1970.

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A P P E N D I X - VI(B)

Data on the selected Industrial Projects established during 1972 - 1980.

(Cost in Million Taka)

Sl. No.	Name of the Project (Industry Sector-wise)	Date of starting construction of the project	Date of commencing commercial production	Gestation period in years	Original Estimated Cost			Revised Estimated Cost			Actual Cost			Total Capacity
					Local currency cost	Foreign currency cost	Total cost	Local currency cost	Foreign currency cost	Total cost	Local currency cost	Foreign currency cost	Total cost	
	JUTE SECTOR													
1.	Furat-Karnaphuli Carpet Mills Ltd.	Jan. 1978	June, 1980	2½	51.25	90.88	142.13	57.78	92.14	149.92	60.61	92.14	152.75	6 lac square yard
2.	Bagdad-Dacca Carpet Mills Ltd.	Jan. 1978	June, 1980	2½	51.25	90.88	142.13	57.78	92.14	149.92	60.02	92.14	152.16	6 " " "
	Sub-Total:				102.50	181.76	284.26	115.56	184.28	299.84	120.63	184.28	304.91	12 " " "
	COTTON TEXTILE SECTOR													
3.	Kishoreganj Textile Mills Ltd.	July, 1974	April, 1978	3 5/6	30.00	25.30	55.30	44.41	45.59	90.00	46.05	75.75	121.80	25,000 Spindles
4.	Barisal " " "	July, 1974	Sept., 1978	4⅓	49.80	25.00	74.80	57.60	49.61	107.21	38.64	91.81	130.45	25,000 "
5.	Dinajpur " " "	July, 1974	May, 1978	3 11/12	29.57	25.30	54.87	40.84	51.06	91.90	46.35	77.34	123.69	25,000 "
6.	Rajshahi " " "	July, 1974	Dec.,1978	4⅙	39.23	34.50	73.73	52.39	49.90	102.29	49.70	85.33	135.03	25,000 "
	Sub-Total :				148.60	110.10	258.70	195.24	196.16	391.40	180.74	330.23	511.00	100,000 "

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	SUGAR AND FOOD SECTOR													
7.	Modern Bakery	Jan, 1975	Sept., 1978	3¾	18.13	7.33	25.46	28.88	26.28	55.16	29.29	26.35	55.64	6,550 Tons
	STEEL, ENGINEERING AND SHIPBUILDING SECTOR													
8.	General Electric Manufacturing Plant.	Jan, 1972	July, 1977	5½	144.63	74.91	219.54	239.22	131.87	371.09	302.81	171.21	474.02	10,000 Tons
	CHEMICAL AND FERTILIZER SECTOR													
9.	Ashuganj Fertilizer and Chemical Company Ltd.	Sept. 1975	Sept. 1980	5	1287.5	1874.1	3161.6	2645.4	3345.8	5991.2	2975.3	3507.3	6482.6	528,000 Metric Tons.
10.	Bangladesh Insulator Sanitary Ware and Tiles Factory (without Tiles)	July, 1975	Sept. 1980	5¼	133.5	74.6	208.1	190.6	78.9	269.5	190.9	78.9	269.8	6,400 "
	Sub-Total :				1421.0	1948.7	3369.7	2836.0	3424.7	6260.7	3166.2	3586.2	6752.4	534,400 "

[Source: (i) Project Proforma of the respective projects;
(ii) Official Records of the Planning Departments under BJMC, BTMC, BSFIC, BSEC and BCIC.]

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	SUGAR AND FOOD SECTOR													
7.	Modern Bakery	Jan, 1975	Sept., 1978	3%	18.13	7.33	25.46	28.88	26.28	55.16	29.29	26.35	55.64	6,550 Tons
	STEEL, ENGINEERING AND SHIPBUILDING SECTOR													
8.	General Electric Manufacturing Plant.	Jan, 1972	July, 1977	5½	144.63	74.91	219.54	239.22	131.87	371.09	302.81	171.21	474.02	10,000 Tons
	CHEMICAL AND FERTILIZER SECTOR													
9.	Ashuganj Fertilizer and Chemical Company Ltd.	Sept. 1975	Sept. 1980	5	1287.5	1874.1	3161.6	2645.4	3345.8	5991.2	2975.3	3507.3	6482.6	528,000 Metric Tons.
10.	Bangladesh Insulator Sanitary Ware and Tiles Factory (without Tiles)	July, 1975	Sept. 1980	5%	133.5	74.6	208.1	190.6	78.9	269.5	190.9	78.9	269.8	6,400 "
	Sub-Total :				1421.0	1948.7	3369.7	2836.0	3424.7	6260.7	3166.2	3586.2	6752.4	534,400 "

Source: (i) Project Proforma of the respective projects;
(ii) Official Records of the Planning Departments under BJMC, BTMC, BSFIC, BSEC and BCIC.

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APPENDIX VI(A)

Balance Sheet and Profit & Loss Account items of the selected Enterprises under the selected Industries

Data on 74 Enterprises under Jute Industry

(In Million Taka)

Items: Year	Gross Fixed Assets	Net Fixed Assets	Cash and Bank	Debtors, Advances & Loans	Inventory	Other Current Assets	Total Current Assets	Total Tangible Assets	Trade Dues etc.	Other Loans	Cash Credits and Bank O.D.	Total Current Liabilities	Working Capital	Capital Employed
1975-76	2855	1952	56	1487	711	237	2491	4443	869.1	88.7	914.2	1872	619	2571
1976-77	2781	1700	63	1608	860	37	2568	4268	1426.6	193.9	1180.5	2801	(233)	1467
1977-78	3014	1730	85	1935	1075	148	3243	4973	1599.1	42.2	1693.7	3335	(92)	1638
Average	2883	1704	68	1677	882	140	2767	4561	1298.4	108.3	1262.8	2669	98	1892

Long Term Loan	Total Debts	Equity Capital	Retained Earnings	Net Worth	Output (Market Value)	Sales (Net)	Cost of production	Total Cost	EBIT	Interest Charges	Net Profit	Market Value of Equity	Variable Cost	Fixed Cost
2985	4857	684	(1097)	(413)	2990	2937	2662	3023	(78)	228	(396)	3490	2240	783
2518	5319	688	(1739)	(1051)	3087	2938	2858	3256	(302)	230	(621)	2349	2370	886
3138	6473	683	(2183)	(1500)	4248	4033	4297	4724	(675)	278	(1051)	1960	3361	1363
2880	5549	685	(1673)	(988)	3442	3303	3272	3669	(352)	245	(689)	2600	2658	1011

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Data on 59 Enterprises under Cotton Textile Industry

Items: Year	Gross Fixed Assets	Net Fixed Assets	Cash and Bank	Debtors, Advances & Loans	Inventory	Other Current Assets	Total Current Assets	Total Tangible Assets	Trade Dues etc.	Other Loans	Cash Credits and Bank O.D.	Total Current Liabilities	Working Capital	Capital Employed
1975-76	804	489	84	565	756	131	1536	2025	997.2	381.4	145.4	1524	12	501
1976-77	830	478	90	839	441	33	1403	1881	907.5	441.4	244.1	1593	(190)	288
1977-78	1120	771	101	1313	431	388	2233	3004	1159.5	1192.8	244.7	2597	(364)	407
Average	918	579	92	906	542	184	1724	2303	1021.4	671.9	211.4	1905	(181)	399

	Long Term Loan	Total Debts	Equity Capital	Retained Earnings	Net Worth	Output (Market Value)	Sales (Net)	Cost of Production	Total Cost	EBIT	Interest Charges	Net Profit	Market Value of Equity	Variable Cost	Fixed Cost
	225	1749	223	53	276	1862	1820	1332	1609	211	44	82	1254	1147	462
	183	1776	207	(102)	105	1498	1813	1543	1897	(84)	54	(166)	1061	1359	538
	481	3078	169	(243)	(74)	2062	2072	1729	2092	(20)	60	(98)	1468	1515	577
	296	2201	200	(98)	102	1807	1902	1535	1865	36	53	(61)	1261	1340	525

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Data on 42 Enterprises under Sugar and Food Industry

Items: Year	Gross Fixed Assets	Net Fixed Assets	Cash and Bank	Debtors, Advances & Loans	Inventory	Other Current Assets	Total Current Assets	Total Tangible Assets	Trade Dues etc.	Other Loans	Cash Credits & Bank O.D.	Total Current Liabilities	Working Capital	Capital Employed
1975-76	664	404	48	472	352	128	1000	1404	391.9	164.1	2030	759	241	645
1976-77	668	407	50	563	571	114	1298	1705	430.4	154.6	4270	1012	286	693
1977-78	741	451	53	579	539	179	1350	1801	467.0	162.2	4438	1073	277	728
Average	691	421	51	538	487	141	1217	1638	429.8	160.3	357.9	948	268	689

	Long Term Loan	Total Debts	Equity Capital	Retained Earnings	Net Worth	Output (Market Value)	Sales (Net)	Cost of Production	Total Cost	EBIT	Interest Charges	Net Profit	Market Value of Equity	Variable Cost	Fixed Cost
	449	1208	245	(49)	196	1273	1310	978	1245	65	45	(18)	1004	890	355
	478	1490	246	(31)	215	1649	1430	1033	1310	120	56	29	1029	948	362
	455	1528	257	16	273	1993	2025	1602	1891	134	59	48	1175	1433	458
	461	1409	250	(21)	229	1638	1588	1204	1482	106	53	20	1070	1090	392

Dhaka University Institutional Repository

Data on 37 Enterprises under Steel, Engineering and Shipbuilding Industry

Items: Year	Gross Fixed Assets	Net Fixed Assets	Cash and Bank	Debtors, Advances & Loans	Inventory	Other Current Assets	Total Current Assets	Total Tangible Assets	Trade Dues etc.	Other Loans	Cash Credits & Bank O.D.	Total Current Liabilities	Working Capital	Capital Employed
1975-76	964	716	63	784	459	238	1544	2260	830.7	182.1	241.2	1254	290	1006
1976-77	978	671	174	807	392	192	1565	2236	908.1	162.5	124.4	1195	370	1041
1977-78	996	631	124	903	610	111	1748	2379	1019.4	220.7	86.9	1327	421	1052
Average	979	673	120	831	487	181	1619	2292	919.4	188.4	150.8	1259	360	1033

	Long Term Loan	Total Debts	Equity Capital	Retained Earnings	Net Worth	Output (Market Value)	Sales (Net)	Cost of Production	Total Cost	EBIT	Interest Charges	Net Profit	Market Value of Equity	Variable Cost	Fixed Cost
	861	2115	188	(43)	145	1201	1177	855	1038	139	61	40	1577	756	282
	863	2058	188	(10)	178	1495	1562	1204	1412	150	67	20	1520	1125	287
	869	2196	184	(1)	183	1504	1539	1142	1370	169	81	21	1445	1001	369
	864	2123	187	(18)	169	1400	1426	1067	1273	153	70	27	1515	961	312

Dhaka University Institutional Repository

Data on 23 Enterprises under Chemical and Fertilizer Industry

Items: Year	Gross Fixed Assets	Net Fixed Assets	Cash and Bank	Debtors, Advances & Loans	Inventory	Other Current Assets	Total Current Assets	Total Tangible Assets	Trade Dues etc.	Other Loans	Cash Credits & Bank O.D.	Total Current Liabilities	Working Capital	Capital Employed
1975-76	1262	874	25	591	287	146	1049	1923	708.6	203.5	213.9	1126	(77)	797
1976-77	1378	775	30	885	367	204	1486	2261	840.6	291.3	169.1	1301	185	960
1977-78	1390	739	(47)	1178	367	420	1918	2657	919.4	389.3	287.3	1596	322	1061
Average	1343	796	3	885	340	256	1484	2280	822.9	294.7	223.4	1341	143	939

	Long Term Loan	Total Debts	Equity Capital	Retained Earnings	Net Worth	Output (Market Value)	Sales (Net)	Cost of Production	Total Cost	EBIT	Interest Charges	Net Profit	Market Value of Equity	Variable Cost	Fixed Cost
	1040	2166	137	(380)	(243)	770	783	632	741	42	79	(55)	1505	536	205
	1104	2405	165	(309)	(144)	1126	1136	731	845	291	56	127	1406	592	253
	816	2412	580	(335)	245	1217	1217	918	1057	120	66	24	1723	796	261
	986	2328	294	(341)	(47)	1038	1045	760	881	151	67	32	1544	641	240

Dhaka University Institutional Repository

Data on 7 Enterprises under Paper and Paperboard Industry

Items: Year	Gross Fixed Assets	Net Fixed Assets	Cash and Bank	Debtors, Advances & Loans	Inventory	Other Current Assets	Total Current Assets	Total Tangible Assets	Trade Dues etc.	Other Loans	Cash Credits & Bank O.D.	Total Current Liabilities	Working Capital	Capital Employed
1975-76	1272	946	(1)	270	247	241	757	1703	349.4	105.9	403.7	859	(102)	844
1976-77	1538	1130	8	379	259	167	813	1943	351.4	121.1	356.5	829	(16)	1114
1977-78	1654	1192	(29)	488	235	215	909	2101	248.4	149.0	345.6	843	66	1258
Average	1488	1089	(7)	379	247	207	826	1915	349.7	125.3	368.6	844	(17)	1072

	Long Term Loan	Total Debts	Equity Capital	Retained Earnings	Net Worth	Output (Market Value)	Sales (Net)	Cost of Production	Total Cost	EBIT	Interest Charges	Net Profit	Market Value of Equity	Variable Cost	Fixed Cost
	1282	2141	263	(701)	(438)	273	265	329	408	(143)	35	(178)	1454	202	206
	1296	2125	380	(562)	(182)	442	430	384	472	(42)	27	(69)	2178	310	162
	861	1704	896	(499)	397	656	680	623	732	(52)	31	(93)	2781	536	196
	1146	1990	513	(587)	(75)	457	458	445	537	(79)	31	(113)	2103	350	188

/Notes : (1) Trade Dues etc. include Creditors for goods and expenses and other Sundry Creditors and provisions;
(2) Other Loans signify Non-bank short-term loan;
(3) EBIT signifies Earnings before Interest and Taxes;
(4) Net Profit signifies Profits after Interest and Taxes/.

/Source: Annual Reports and Performance Report of BJMC, BTMC, BSEC, & BCIC for the financial years, 1975-76, 1976-77 and 1977-78; and Financial Statistics of the Enterprises under BSFIC from 1972-73 to 1977-78/.

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APPENDIX VI(B)

Budget Estimates of the requisite items of the selected Enterprises under the Selected Industries

Data on 74 Enterprises under Jute Industry

(In Million Taka)

Items: Year	Cash & Bank (Original Estimates)	Cash & Bank (Revised Estimates)	Sales (Original Estimates)	Sales (Revised Estimates)	Total Cost (Original Estimates)	Cost of Production (Original Estimates)	Cost of Production (Revised Estimates)	Fixed Cost (Original)	Variable Cost (Original)
1975-76	89	61	3059	2857	2517	2187	2419	721	1796
1976-77	93	71	3054	3053	2686	2316	2629	799	1887
1977-78	147	101	3215	3997	3808	3411	3992	1276	2532
Average:	110	78	3109	3302	3004	2638	3013	932	2072

Data on 59 Enterprises under Cotton Textile Industry

Items: Year	Cash & Bank (Original)	Cash & Bank (Revised)	Sales (Original)	Sales (Revised)	Total Cost (Original)	Cost of Production (Original)	Cost of Production (Revised)	Fixed Cost (Original)	Variable Cost (Original)
1975-76	121	100	2369	1834	1471	1204	1297	401	1070
1976-77	114	100	2430	1791	1572	1268	1402	427	1145
1977-78	141	130	2402	2754	1780	1439	1609	576	1204
Average	125	110	2398	2126	1607	1304	1436	468	1139

Data on 42 Enterprises under Sugar and Food Industry

Items: Year	Cash & Bank (Original)	Cash & Bank (Revised)	Sales (Original)	Sales (Revised)	Total Cost (Original)	Cost of Production(Ori)	Cost of Production(Rev)	Fixed Cost(Ori)	Variable Cost (Rev)
1975-76	51	56	1082	1190	1025	778	901	308	717
1976-77	77	61	1390	1460	1140	883	943	341	799
1977-78	81	68	1904	1739	1649	1371	1509	428	1221
Average	70	62	1459	1463	1272	1011	1118	359	913

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Data on 37 Enterprises under Steel, Engineering and Shipbuilding Industry

Items: Year	Cash & Bank (Original)	Cash & Bank (Revised)	Sales (Original)	Sales (Revised)	Total Cost (Original)	Cost of Production (Original)	Cost of Production (Revised)	Fixed Cost (Original)	Variable Cost (Original)
1975-76	140	140	1235	1161	895	726	820	198	697
1976-77	202	202	1696	1696	1208	1011	1199	271	937
1977-78	208	176	1709	1815	1169	953	1101	308	861
Average	183	173	1547	1577	1090	897	1040	259	831

Data on 23 Enterprises under Chemical and Fertilizer Industry

Items: Year	Cash & Bank (Original)	Cash & Bank (Revised)	Sales (Original)	Sales (Revised)	Total Cost (Original)	Cost of Production (Original)	Cost of Production (Revised)	Fixed Cost (Original)	Variable Cost (Original)
1975-76	136	31	749	793	628	529	603	139	489
1976-77	149	108	1103	1200	748	646	699	198	550
1977-78	34	(24)	1300	1420	906	782	901	275	631
Average	106	38	1067	1131	761	652	734	204	557

Data on 7 Enterprises under Paper and Paperboard Industry

Items: Year	Cash & Bank (Original)	Cash & Bank (Revised)	Sales (Original)	Sales (Revised)	Total Cost (Original)	Cost of Production (Original)	Cost of Production (Revised)	Fixed Cost (Original)	Variable Cost (Original)
1975-76	6	5	301	272	343	274	306	139	204
1976-77	18	16	610	501	402	323	371	152	250
1977-78	35	28	800	711	624	525	598	213	411
Average	20	16	570	495	456	374	425	168	288

/= Source: Budget Statements of the Enterprises under BJMC, BTMC, BSFIC, BSEC & BCIC for the financial years 1975-76, 1976-77 and 1977-78).

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Sugar and Food Industry

Ratios: Year	Profit Margin (In %)	Return on Net Worth (In %)	Return on Total Original Investment (In %)	Return on Total Present Investment (In %)	Net Working Capital to Total Assets (In %)	Current Ratio (In Times)	Quick Ratio (In Times)	Inventory Turnover (In Times)
1975-76	5.0	(9.1)	9.8	4.6	17.2	1.32	.75	3.7
1976-77	8.4	13.5	18.2	7.0	16.8	1.28	.65	2.5
1977-78	6.6	17.5	18.1	7.4	15.4	1.26	.65	3.7
Average	6.6	9.0	15.3	6.5	16.4	1.28	.68	3.3

	Average Collection Period (In Days)	Net Fixed Assets Turnover (In Times)	Total Assets Turnover (In %)	Debts to Total Assets(In %)	Return on Capital Employed(In %)	Time Interest Earned (In Times)	Retained Earnings to Total Assets (In %)	M.V.of Equity to B.V. of Total Debt (In %)
	65	3.2	93.3	86.0	(2.8)	1.4	(3.5)	83.1
	73	3.5	83.9	87.0	4.2	2.1	(1.8)	69.1
	52	4.5	112.4	85.0	6.6	2.3	.9	76.9
	63	3.8	97.0	86.0	2.9	2.0	(1.3)	75.9

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Cotton Textile Industry

Ratios: Year	Profit Margin (In %)	Return on Net Worth (In %)	Return on Total Original Investment (In %)	Return on Total Present Investment (In %)	Net Working Capital to Total Assets (In %)	Current Ratio(In Times)	Quick Ratio(In Times)	Inventory Turnover (In Times)
1975-76	11.6	20.7	26.2	10.4	0.6	1.00	.45	2.4
1976-77	(4.6)	(158.1)	(10.1)	(4.5)	(10.1)	.90	.59	4.1
1977-78	(.9)	N.C.	(1.8)	(.7)	(12.1)	.90	.56	5.0
Average	1.9	(60.0)	3.9	1.6	(7.8)	.93	.54	3.8

	Average Collection Period (In Days)	Net Fixed Assets Turnover (In Times)	Total Assets Turnover (In %)	Debts to Total Assets (In %)	Return on Capital Employed(In %)	Times Interest Earned (In Times)	Retained Earnings to Total Assets (In %)	M.V.of Equity to B.V. of Total Debts (In %)
	61	3.7	89.9	86.4	16.4	4.8	2.6	71.7
	84	3.8	96.4	94.4	(57.6)	(1.6)	(5.4)	59.7
	107	2.7	69.0	102.0	(24.1)	(.3)	(8.1)	47.7
	84	3.3	82.6	95.6	(15.3)	.7	(4.3)	57.3

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APPENDIX VII

Some significant Ratios for the selected 6 Industry Groups covering 242 Enterprises, 1975-76 to 1977-78

Jute Industry

Ratios: Year	Profit Margin (In %)	Return on Net Worth (In %)	Return on Total Original Investment (In %)	Return on Total Present Investment (In %)	Net Working Capital to Total Assets (In %)	Current Ratio (In Times)	Quick Ratio (In Times)	Inventory Turnover (In Times)
1975-76	(2.6)	N.C.	(2.7)	(1.8)	13.9	1.30	.87	4.1
1976-77	(10.3)	N.C.	(10.8)	(7.1)	(5.5)	.90	.60	3.4
1977-78	(16.7)	N.C.	(22.4)	(13.6)	(1.8)	.97	.62	3.7
Average	(10.6)	N.C.	(12.2)	(7.7)	2.1	1.05	.69	3.7

	Average Collection Period (In Days)	Net Fixed Assets Turn-Over (In Times)	Total Assets Turnover (In %)	Debts to Total Assets (In %)	Return on Capital Employed (In %)	Times Interest Earned (In Times)	Retained Earnings to Total Assets (In %)	M.V. of Equity to B.V. of Total Debts (In %)
	96	1.5	66.1	109.3	(15.4)	(.3)	(24.7)	71.9
	102	1.7	68.8	125.0	(42.3)	(1.3)	(40.7)	44.2
	89	2.3	81.1	130.0	(64.2)	(2.4)	(43.9)	30.3
	96	1.8	72.4	121.6	(36.4)	(1.4)	(36.7)	46.9

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APPENDIX VIII

Capacity Utilisations in the Selected Industries, 1975-76 to 1977-78

In Jute Industry

(For all the products taken together)

Year	Actual Production in Tons (A)	Total No. of Looms actually Operated (l_1)	Average No. of Hours actually worked per Loom (t_1)	Feasible Maximum Hourly average Output per Loom in £ (a.xk)	Capacity Utilisation in percentage
1975-76	477921	19839	5164	16.09	64.9
1976-77	490057	20190	5018	16.09	67.7
1977-78	546333	21506	5358	16.09	69.2
Average	504770	20511	5180	16.09	66.6

(Note : Capacity utilization has been calculated on the basis of the following formula :

$Cu = \frac{A}{l_1 (\text{or } s_1).t_1.a.xk}$ where, A = Actual Production; l_1 or s_1 = No. of looms or spindles actually operated; t_1 = Average No. of Hours actually worked per loom or spindle; and a.xk = Hourly output at 75 percent efficiency norm (feasible maximum hourly average output per loom); cf. Afroz, Gul and Roy, Dilip Kanti,"Capacity Utilization in the Selected Manufacturing Industries of Bangladesh", Bangladesh Development Studies, Vol.IV, April, 1976, No.2, BIDS, Dacca, p.276).

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Paper and Paperboard Industry

Ratios: Year	Profit Margin (In %)	Return on Net Worth (In %)	Return on Total Original Investment (In %)	Return on Total Present Investment (In %)	Net Working Capital to Total Assets (In %)	Current Ratio (In Times)	Quick Ratio (In Times)	Inventory Turnover (In Times)
1975-76	(53.9)	N.C.	(11.2)	(8.4)	(6.0)	.90	.43	1.1
1976-77	(9.8)	N.C.	(2.7)	(2.2)	(.8)	1.00	.58	1.7
1977-78	(7.6)	23.4	(3.1)	(2.5)	3.1	1.10	.64	2.9
Average	(11.6)	N.C.	(5.3)	(4.1)	.9	1.00	.55	1.9

	Average Collection Period (In Days)	Next Fixed Assets Turnover (In Times)	Total Assets Turnover (In %)	Debts to Total Assets (In %)	Return on Capital Employed (In %)	Times Interest Earned (In Times)	Retained Earnings to Total Assets (In %)	M.V. of Equity to B.V. of Total Debts (In %)
	171	.3	15.6	125.7	(21.1)	(4.1)	(41.2)	67.9
	152	.4	22.1	109.3	(6.2)	(1.6)	(28.9)	102.5
	123	.6	32.4	81.0	(7.4)	(1.7)	(23.8)	163.2
	149	.4	23.9	104.0	(10.5)	(2.5)	(30.6)	105.7

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Chemical and Fertilizer Industry

Ratios: Year	Profit Margin (In %)	Return on Net Worth (In %)	Return on Total Original Investment (In %)	Return on Total Present Investment (In %)	Net Working Capital to Total Assets (In %)	Current Ratio (In Times)	Quick Ratio (In Times)	Inventory Turnover (In Times)
1975-76	5.4	N.C.	3.3	2.2	(4.0)	.93	.64	2.7
1976-77	25.6	N.C.	21.1	12.9	8.2	1.14	.76	3.1
1977-78	9.8	9.8	8.6	4.5	12.1	1.21	.74	3.3
Average	14.4	N.C.	11.2	6.6	6.3	1.11	.72	3.1

	Average Collection Period (In Days)	Net Fixed Assets Turnover (In Times)	Total Assets Turnover (In %)	Debts to Total Assets (In %)	Return on Capital Employed (In %)	Times Interest Earned (In Times)	Retained Earnings to Total Assets (In %)	M.V. of Equity to B.V. of Total Debts (In %)
	81	.9	40.7	113.0	(6.9)	.5	(19.8)	69.5
	85	1.5	50.2	106.5	13.2	5.2	(13.7)	58.5
	92	1.6	45.8	90.8	2.3	1.8	12.6	71.4
	86	1.3	45.8	102.0	3.4	2.3	(5.2)	66.3

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Steel, Engineering and Shipbuilding Industry

Ratios: Year	Profit Margin (In %)	Return on Net Worth (In %)	Return on Total Original Investment (In %)	Return on Total Present Investment (In %)	Net Working Capital to Total Assets (In %)	Current Ratio (In Times)	Quick Ratio (In Times)	Inventory Turnover (In Times)
1975-76	11.8	27.6	14.4	6.2	12.8	1.23	.75	2.5
1976-77	9.6	11.2	15.3	6.7	16.5	1.30	.90	4.0
1977-78	11.1	11.5	17.0	7.1	17.7	1.32	.83	2.5
Average	10.7	16.1	15.6	6.7	15.7	1.29	.83	3.0

	Average Collection Period (In days)	Net Fixed Assets Turnover (In Times)	Total Assets Turnover (In %)	Debts to Total Assets(In %)	Return on Capital Employed(In %)	Times Interest Earned (In times)	Retained Earnings to Total Assets (In %)	M.V.of Equity to B.V. of Total Debt (In %)
	76	1.6	52.1	94.0	4.0	2.3	(1.9)	74.6
	70	2.3	70.0	92.0	1.9	2.2	(.4)	73.9
	77	2.4	64.7	92.0	2.0	2.1	(.04)	65.8
	74	2.1	62.2	93.0	2.6	2.2	(.8)	7.4

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In Cotton Textile Industry

Year	Weaving Sector					Spinning Sector					Average Capacity Utilization (In %)
	Actual Production in Lac Yds (A)	No.of Looms Actually Operated (l_1)	No.of Hrs Actually Worked (t_1)	Feasible Maximum Hourly Output (a.xk)	Capacity Utilization (In %)	Actual Production in Lac lbs (A)	No.of Spindles Actually Worked (s_1)	No.of Hrs Actually Worked (t_1)	Feasible Maximum Hourly Output (a.xk)	Capacity Utilization (In %)	
1975-76	744.11	4847	6580	3.70	63.1	880.31	659842	7560	.35	80.6	71.8
1976-77	681.16	4531	6600	3.70	61.6	824.22	685233	7584	.35	72.5	67.0
1977-78	825.52	5379	6440	3.70	63.6	897.66	798716	7464	.35	69.7	66.6
Average	750.26	4586	6540	3.70	62.8	867.39	714597	7536	.35	74.3	68.5

(Note: Capacity utilisation has been calculated on the basis of the same formula as mentioned in the case of Jute Industry).

In Sugar and Food Industry

(For all the products taken together)

Year	Attainable capacity in Lac Tons	Actual Production in Lac Tons	Capacity Utilization (In %)
1975-76	2.965	1.501	50.6
1976-77	2.965	2.129	71.8
1977-78	2.965	2.446	82.5
Average	2.965	2.028	68.3

(Note : Capacity utilization has been calculated on the basis of actual production in terms of attainable capacity i.e. 75% of installed capacity).

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In the remaining Industries

Name of the Industry	Capacities in the selected Years			
	1975-76	1976-77	1977-78	Average
Steel, Engineering and Shipbuilding	64.3	73.1	76.0	71.1
Chemical and Fertilizer	73.5	78.8	84.2	78.8
Paper and Paperboard	47.1	56.1	68.0	57.1

(Note : Capacity utilisation in each of the industries has been calculated on the basis of average actual production in terms of attainable capacity for the selected enterprises under each of the industries).

(Source: Annual Reports and Budget Statements of the selected Corporations viz., BJMC, BTMC, BSFIC, BSEC & BCIC for the financial years 1975-76, 1976-77 and 1977-78).

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APPENDIX IX(A)

Correlation between Return on Investment and other Variables for all the selected Industries together

	Variables	Co-efficient of Correlation (r)	Observed t for r
1.	Net Fixed Investment	- .67	3.62
2.	Loan Capital (Long-term Loan)	- .61	3.09
3.	Net Working Capital	.53	2.49
4.	Short-term Loan as a financier of Working Capital	- .76	4.68
5.	Cost of Production per Taka of Market Value of Output	- .85	6.40
6.	Total Cost per Taka of Market Value of Output	- .73	4.26
7.	Inventory (closing) as a percentage of Gross Working Capital	.16	.65
8.	Accounts Receivable as a percentage of Gross Working Capital	- .25	1.03

Theoretical t at 5% level of significance = 1.746

(Note : While calculating the value of r, selected industry-wise corss-section data for the financial years 1975-76, 1976-77, and 1977-78 have been considered).

(Source: Data based on Appendix VI(A).

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APPENDIX IX(B)

Correlation between Return on Capital Employed and other Variables for all the selected Industries together

	Variables	Co-efficient of Correlation (r)	Observed t for r
1.	Net Fixed Investment	- .52	2.43
2.	Loan Capital (Long-term Loan)	- .51	2.35
3.	Net Working Capital	.58	2.86
4.	Short-term Loan as a financier of Working Capital	- .49	2.25
5.	Cost of Production per Taka of Market Value of Output	- .71	4.06
6.	Total Cost per Taka of Market Value of Output	- .58	2.86
7.	Inventory(closing) as a percentage of Gross Working Capital	.48	2.18
8.	Accounts Receivable as a percentage of Gross Working Capital	- .46	2.07

Theoretical t at 5% level of significance = 1.746

(Note: While calculating the value of r, selected industry-wise corss-section data for the financial years 1975-76,1976-77 and 1977-78 have been considered).

(Source: Data based on Appendix VI(A).

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