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Promoting employment-intensive growth in Bangladesh: Policy analysis of the manufacturing and service sectors

Nazneen Ahmed
Mohammad Yunus
Harunur Rashid Bhuyan

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Preface

The primary goal of the ILO is to contribute, with member States, to achieve full and productive employment and decent work for all, including women and young people, a goal embedded in the ILO Declaration 2008 on *Social Justice for a Fair Globalization,*[1] and which has now been widely adopted by the international community.

In order to support member States and the social partners to reach the goal, the ILO pursues a Decent Work Agenda which comprises four interrelated areas: Respect for fundamental worker's rights and international labour standards, employment promotion, social protection and social dialogue. Explanations of this integrated approach and related challenges are contained in a number of key documents: in those explaining and elaborating the concept of decent work[2], in the Employment Policy Convention, 1964 (No. 122), and in the Global Employment Agenda.

The Global Employment Agenda was developed by the ILO through tripartite consensus of its Governing Body's Employment and Social Policy Committee. Since its adoption in 2003 it has been further articulated and made more operational and today it constitutes the basic framework through which the ILO pursues the objective of placing employment at the centre of economic and social policies.[3]

The Employment Sector is fully engaged in the implementation of the Global Employment Agenda, and is doing so through a large range of technical support and capacity building activities, advisory services and policy research. As part of its research and publications programme, the Employment Sector promotes knowledge-generation around key policy issues and topics conforming to the core elements of the Global Employment Agenda and the Decent Work Agenda. The Sector's publications consist of books, monographs, working papers, employment reports and policy briefs.[4]

The *Employment Working Papers* series is designed to disseminate the main findings of research initiatives undertaken by the various departments and programmes of the Sector. The working papers are intended to encourage exchange of ideas and to stimulate debate. The views expressed are the responsibility of the author(s) and do not necessarily represent those of the ILO.

José Manuel Salazar-Xirinachs
Executive Director
Employment Sector

[1] See http://www.ilo.org/public/english/bureau/dgo/download/dg_announce_en.pdf.

[2] See the successive Reports of the Director-General to the International Labour Conference: *Decent work* (1999); *Reducing the decent work deficit: A global challenge* (2001); *Working out of poverty* (2003).

[3] See http://www.ilo.org/gea. And in particular: *Implementing the Global Employment Agenda: Employment strategies in support of decent work, "Vision" document*, ILO, 2006.

[4] See http://www.ilo.org/employment.

Foreword

High and sustained rate of economic growth is critical for poverty reduction; but that is not sufficient. The pattern and sources of growth and the manner in which its benefits are distributed are also important from the point of view of reducing poverty rapidly. And in that context, the role of productive employment is widely acknowledged. The question then is: how could a more employment-intensive economic growth be achieved? The present paper addresses this question in the context of Bangladesh.

During the 1990s and the first half of the 2000s, the economy of Bangladesh attained moderately high rate of growth. The country has also been able to achieve significant reduction in poverty. And yet, poverty is found to persist at a high level, and the degree of income inequality has also been increasing in recent years. Earlier studies found that the employment intensity of economic growth, especially in the manufacturing sector, has been declining. It is against this background that the present study explores the possibility of a more employment-intensive growth in Bangladesh, especially through the growth of labour-intensive manufacturing and service sectors.

The study looks at the performance of the manufacturing sector of Bangladesh in terms of employment generation since the early 1990s. In particular, it examines whether there has been any structural shift in the manufacturing sector in terms of factor intensity. The study also examines the performance of the service sector in terms of employment generation. In order to provide a backdrop for necessary changes in policy, the study reviews various policies which have influenced the performance of manufacturing and service sectors. In that context, in addition to an empirical analysis of the manufacturing industries as a whole, it focuses on selected employment intensive manufacturing (viz., food, leather and leather products, and furniture) and service sectors (viz., information and communication technology sector, and telecommunication), examines the opportunities and constraints faced by them, and identifies policy changes needed to encourage the growth of those sectors.

The present study has been done by a team of researchers from the Bangladesh Institute of Development Studies (BIDS) in Dhaka, Bangladesh. It thus marks the continuation of fruitful collaboration between the Institute and the ILO.

Rizwanul Islam
Special Adviser on Growth,
Employment and Poverty Reduction
Employment Sector

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Acronyms

ADB	Asian Development Bank
BAPA	Bangladesh Agro-Processors' Association
BASIC	Bangladesh Small Industries and Commerce Bank Limited
BBA	Bachelor of Business Administration
BBS	Bangladesh Bureau of Statistics
BCC	Bangladesh Computer Council
BCIC	Bangladesh Chemical Industries Corporation
BMRE	Balancing Modernisation Rehabilitation and Expansion
BOI	Board of Investment
BRTA	Bangladesh Road Transport Association
BSIC	Base Station Identity Code
BSTI	Bangladesh Standards and Testing Institution
BTL	Bangladesh Telecom Limited
BTRC	Bangladesh Telecommunications Regulatory Commission
BTTB	Bangladesh Telephone and Telegraph Board
CAC	Codex Alimentarius Commission
CMI	Census of Manufacturing Industries
DCI	Direct Calorie Intake
DFI	Development Finance Institutions
EGBMP	Enterprises, Growth and Bank Modernization Program
EPZ	Export Processing Zones
EU	European Union
FCB	Foreign Commercial Bank
FDI	Foreign Direct Investment
FY	Fiscal Year
GB	Grameen Bank
GDP	Gross Domestic Product
GNI	Gross National Income
GOB	Government of Bangladesh
GP	Grameen Phone
GSM	Global System for Mobile Communications
GSP	Generalized System of Preference
GTZ	German Technical Co-operation
HRD	Human Resource Development
ICB	Investment Corporation of Bangladesh
ICT	Information and Communication Technology
IMF	International Monetary Fund
IPO	Import Policy Orders
ISP	Internet Service Providers
IT	Information Technology
ITES	Information Technology Enabled Services
L/C	Letters of Credit
LFS	Labour Force Survey
MBA	Masters of Business Administration
MOPT	Ministry of Posts and Telecommunications
MW	Micro Wave
NCB	Nationalised Commercial Banks
NIP	New Industrial Policy
PCB	Private Commercial Bank
PRSP	Poverty Reduction Strategy Paper
PSTN	Public Switched Telephone Network

R&D	Research and Development
RIP	Revised Industrial Policy
RMG	Ready-made Garments
SAF	Structural Adjustment Facility
SEC	Securities and Exchange Commission
SEDF	South Asia Enterprise Development Facility
SEF	Small Enterprise Fund
SIM	Subscriber Identity Module
SME	Small and Medium Scale Industry
SMESDP	Small and Medium Enterprise Sector Development Project
SOE	State Owned Enterprises
SPS	Sanitary and Phytosanitary
TBT	Technical Barriers to Trade
UCEP	Under Privileged Children Education Programme
UHF	Ultra High Frequency
UNCTAD	United Nations Conference on Trade and Development
VAT	Value Added Tax
VOIP	Voice over Internet Protocol
VSAT	Very Small Aperture Terminal
XPB	Export Performance Benefit

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1. Introduction

1.1 Background

Productive employment is the main conduit through which economic growth impacts upon poverty. Conventional wisdom would suggest that growth creates employment opportunity and thus reduces unemployment. However, there is no automatic link between the two. The employment outcome of economic growth would depend on the pattern of growth which, in turn, would depend on a variety of factors and can be influenced by public policy.

Productive employment enhances income-earning capabilities of people, which ultimately leads to a reduction in poverty. The impact is greater when employment is of higher quality and real wages are higher. Studies on cross country experiences underscore the importance of both quantity and quality of employment in maximizing the poverty impact of growth (Islam, 2006). Bangladesh, a labour surplus economy, having a population of over 140 million and a population density of 953/square km (in 2007)[5] has been experiencing steady economic growth since the early 1990s (with some small waves). It is very important to examine how employment-friendly or employment-intensive this growth has been.

The case for employment-intensive growth for accelerated poverty reduction in Bangladesh can hardly be overemphasized. In terms of growth performance, Bangladesh has done reasonably well in recent years. GDP grew at an annual average rate of 5.4 per cent and per capita GDP by 3.9 per cent during 2001-2005. In addition to the higher growth of overall GDP, the rise in per capita GDP has been facilitated by a fall in the rate of growth of population which declined from a trend rate of 1.7 per cent during the 1990s to 1.3 per cent during 2000-05. However, in terms of the absolute level of per capita income, Bangladesh continues to remain at the lower end of the income scale. Per capita income (GNI) of $440 in 2004 compared unfavourably against the South Asian average of $590 and low-income country average of $510 for the same year.[6] Bangladesh's performance with respect to poverty reduction has been modest though the rate is still high. The incidence of poverty by headcount indicator declined from 46.2 per cent to 40 per cent according to the Direct Calorie Intake (DCI) method during 1999-2005. The flip side of the story, however, is that income distribution worsened significantly since early 1990s. Though the share of the poorest 5 per cent in aggregate consumption increased marginally from 8.8 per cent to 9 per cent during 1995-2000, it has declined during 2000–2005 (from 9 per cent to 8 per cent). Moreover, decline in rural poverty was much slower than urban poverty. Different estimates of Gini ratios based on household survey data of Bangladesh Bureau of Statistics are presented in table 1.1(a), which reveal that income inequality has risen substantially during 1991-2005 (Khan, 2007). Going beyond the overall Gini coefficients, Islam (2007) has noted that during 1991/92 to 2005, the income share of only top 10 per cent of the households increased (table 1.1b). The share

[5] Bangladesh Economic Review, 2007.

[6] World Development Report, 2006.

of the ninth deciles did not rise while the share of bottom 40 per cent of the households declined considerably.

The figures mentioned above suggest that economic growth in Bangladesh has not been sufficiently pro-poor, and the low employment content of the growth achieved seems to be a reason behind this outcome (Islam, 2006). Growth experiences of many East Asian countries suggest that during the early years of development, those countries followed labour intensive development initiatives. This is indicated by high output elasticity of employment in manufacturing in 1970s in Korea, Taiwan, Hong Kong and Singapore – four pioneers of East Asian success (Khan, 2006). This growth path was later followed by Malaysia, Indonesia and Thailand. In Bangladesh output elasticity of manufacturing employment was 0.64 during 1980s compared to 0.69 for Korea in 1970s, though Bangladesh was more labour abundant at that time than Korea was in 1970s. While the output elasticity of employment continued to remain high in Korea during the following decade, the elasticity drastically came down to 0.39 in Bangladesh during 1990s (Khan, 2006).[7]

Data from Labour Force Surveys (LFS), 2002-2003 and 2005-06 show that employment grew at an average annual rate of only 3.14 per cent between 1995/96 and 2005/06 in Bangladesh. In contrast, the economically active population or labour force grew at an annual average rate of 3.21 per cent during 1995/96 to 2005/06. Though these numbers reveal that growth rate of employment was close to that of labour force, underemployment rate is found to be high (17 to 38 per cent in various years). The constraints that seem to be holding back the realization of employment potentials of various sectors can be broadly categorized under three heads: (i) structural constraints, (ii) policy induced constraints (flaws in industrial or trade policy), and (ii) constraints relating to support services and governance.

In the context of the growth-employment-poverty nexus, it is necessary to adopt a disaggregated approach to investigate output and employment performances of different sectors in the economy under various policy regimes especially since the trade liberalization episodes of the early 1990s. Such an investigation should focus on those sectors and sub-sectors that are *a priori* known for their employment generating potentials. Employment generation both in the manufacturing and the service sectors should receive attention, because one notable feature of the post-liberalisation period is the rapid expansion and diversification of the service sector, especially service trade. In 2005/06, service sector contributed 49.22 per cent of GDP. The sector is attracting sizeable foreign direct investment (FDI) and its share in employment generation is continuously rising. New sectors like telecommunication and information technology—mainly exports and imports of software and web based services—are generating new employment opportunities. These sectors also offer better wages compared to the traditional service sectors. As a result, these sectors are creating opportunities for more rewarding jobs. The changing realities in various service sub-sectors make it imperative

[7] At a later part of this study output elasticity of employment measured by Rahman and Islam (2006) has been presented where elasticity estimates are much higher for Bangladesh compared to the respective estimates of Khan (2006). This is because Rahman and Islam (2006) has provided the estimates by taking into account three and four digit levels of manufacturing commodities. As Rahman and Islam (2006) has not provided similar elasticity estimates for disaggregate manufacturing commodities of Korea, comparison between the two countries is not possible at a disaggregated level.

to look into the employment scenario in the service sector as a whole with special focus on some of its sub-sectors.

The basic purpose of the present study is to explore the possibility of a more employment-intensive growth in Bangladesh, especially through the growth of labour-intensive manufacturing and service sectors. In doing so, the study looks at the performance of the manufacturing sector of Bangladesh in terms of employment generation since early 1990s. In particular, the study examines whether there has been any structural shift in the sector in terms of factor intensity. The study also examines the performance of the service sector in terms of employment generation. In order to provide a backdrop for necessary changes in policy, the study reviews various policies which have influenced the performance of manufacturing and service sectors. In that context, it focuses on selected employment intensive manufacturing and service sectors, examines the opportunities and constraints faced by them, and identifies policy changes needed to encourage growth of those sectors.

1.2 Methodology and data

This study is mainly based on data collected from various secondary sources supplemented with primary information for the sub-sector studies and overall employment situation. Primary information is collected from different stakeholders through unstructured interviews. Views of the employer and labour representatives were taken on the overall employment situation of Bangladesh. The review of the policy framework related to manufacturing and service sectors is based on published policies of the government. In order to analyse various affects of regulatory changes on employment opportunities, the present study attempts to analyse the recent performance (in terms of their value addition, employment generation and capital formation) of manufacturing and service sectors as a whole and performance of several manufacturing sectors with different employment elasticity. Then it provides deeper analysis of some selected manufacturing and service sectors. The analysis is based on information from published official sources. The selection of the manufacturing sub-sectors has been mainly based on Rahman and Islam (2003, 2006), which reports employment elasticity of these sub-sectors (table 1.2). Moreover the performance of top-10 industries (according to the latest CMI data, data of 2001/02) has been studied. Though informal sector is an important source of employment in Bangladesh, employment structure of this sector remains outside the domain of this study[8], which mainly focuses on formal employment.

Based on data from the Census of Manufacturing Industries (CMI), Rahman and Islam (2003, 2006) estimated employment elasticity of several manufacturing sub-sectors and changes therein for two sub periods, 1980-89 and 1990-98. The analysis was carried out for 23 sub-sectors (including two varieties of food manufacturing) at the three-digit level out of 49 three–digit level activities covered in CMI (till 1999/00).[9]

[8] This is mainly because time series data on informal sector employment is scarce and primary data collection was outside the domain of this study; future studies may shed light on informal sector employment scenario on the basis is of primary data.

[9] The authors also conducted their analysis at four-digit level of BSIC codes. The present study, however, focuses on the analysis conducted at the three-digit level.

According to Rahman and Islam (2003, 2006), higher employment elasticity in a sector implies that growth in that sector will generate higher employment compared to the sectors with lower elasticity estimates. However, an elasticity of larger than unity does not necessarily mean a better situation as it implies employment expansion without improvements in labour productivity. Considering the experiences of countries such as South Korea (during 1960s and 1970s) and Indonesia (during 1970s and 1980s), Rahman and Islam (2003, 2006) have concluded that an employment elasticity of around 0.7 will generate reasonable employment growth and labour productivity. Specifically, employment elasticity close to one would be desirable for poorer countries as they do not lead to rapid expansion of low productivity jobs (as is in case of too high elasticity) or too little employment in case of very low employment elasticity.

Rahman and Islam (2003, 2006) reported a robust positive relationship between employment and output (value added) growth for the selected sectors as a whole supporting the hypothesis that output growth in the manufacturing sub-sectors generates additional employment opportunities. Viewed from the perspectives of employment elasticity, returns to scale, and wage growth, the manufacturing sub-sectors that seem to have high potential to generate greater employment opportunities in Bangladesh are food manufacturing, leather and leather products, furniture and fixtures, printing and publishing, electrical machinery, drugs and pharmaceuticals, and fabricated metals. Of these, the present study has selected three manufacturing sub sectors viz., food manufacturing, leather and leather products, and furniture and fixtures for a closer look into their performance.[10] These three sectors together accounted for 8 per cent of manufacturing employment and 16 per cent of manufacturing gross value added in 2001/02.[11] Among these three sectors one variety of food manufacturing (code 311 in BSIC 1986[12]) and leather and leather products have elasticity greater than unity. These sectors are thus labour intensive albeit with low productivity of labour. The other variety of food manufacturing (code 312) and furniture and fixtures sub-sectors have elasticity close to unity implying high labour intensity and moderate labour productivity (implying further scope to increase productivity). Returns to scale are greater than unity for the other variety of food manufacturing and furniture and fixtures sub-sectors. It may be noted that industries with higher employment growth generally experience faster rise in wages (Rahman and Islam, 2003, 2006). This is true for sectors such as leather and leather products and food manufacturing.

One of the reasons for choosing food processing and furniture sectors for further analysis is their higher employment elasticity. Another reason is the apparent dominance of small (and/or micro) enterprises in these sectors. One may, however, observe a substantial difference in employment levels recorded in the CMI and the LFS. While the

[10] This study does not consider textiles and RMG sectors though these sectors are highly employment elastic and have high sectoral growth potential. The reason is that these sectors are intensively covered by many other studies such as Ahmed (2006), Mlachila and Yang (2004), Kabeer and Mahmud (2004), Lips et al. (2003), etc.

[11] Calculated from CMI 2001/02.

[12] Bangladesh Standard Industrial Classification (BSIC) of All Economic Activities–1986, Bangladesh Bureau of Statistics.

former shows low employment the latter shows substantially higher employment in this sector. According to the LFS of 2003, the furniture and fixture sector employs more than three hundred thousand persons while CMI records employment of only 26 thousand persons in 1999/00. The apparent reason behind the mismatch may be attributed to differential coverage of enterprises under the CMI and the LFS. While the CMI covers industries employing more than 10 persons the LFS records industries for any number of employees. This implies that most firms under the furniture and fixture sector belong to the small and cottage industry group. Further, food manufacturing industries fall either in small and cottage industry group or in small and medium scale industry (SME) group. Both of these groups of industries are known to be labour intensive by nature. It may be noted that both food manufacturing and furniture and fixtures establishments have flourished outside the big cities of Dhaka, Chittagong, Rajshahi, and Khulna. This aspect is rare for other employment intensive industries.

Albeit with serious data limitation on service sub-sectors, it is observed that retail trade, construction, transport and communication are the important service sectors in terms of GDP share, growth and employment generation. Two service sectors are selected for case studies in this research, which hitherto lack any rigorous scrutiny but registered high growth rate and also have high growth potential in future. These two sectors are telecommunication and information and communication technology (ICT) with important implications for employment generation of highly skilled and semi-skilled workforce of Bangladesh. In addition, growth of these two sectors has implications in terms of widespread technology diffusion, reduced cost of doing business and high quality education and health services. Recent data reveal that telecom sector is one of the largest foreign investment-receiving sectors in the economy while ICT is going to be a key sector of Bangladesh for export of services in the coming days.

1.3 Outline of the report

After this introduction, Chapter 2 of the study presents a summary of evolution of the regulatory framework related to manufacturing and service sectors since the independence of Bangladesh. An overview of manufacturing and service sectors of Bangladesh is presented in Chapter 3, while Chapter 4 elaborates on the evolution of employment structure in several manufacturing industries. Chapter 5 concentrates on the performance of selected manufacturing and service sub-sectors. Finally, Chapter 6 provides conclusions and recommendations.

2. Evolution of the policy framework: Implications for the manufacturing and service sectors

The pattern of industrial development largely depends on the policy and regulatory framework within which industries operate. This framework encompasses a number of policies, such as, industrial policy; trade policy including export, import and exchange rate policies; fiscal and monetary measures that influence ownership pattern, investment decision and trade decision of various industries. Operations in the service sector can also be influenced by the policy and regulatory regimes because investment and trade in services are governed by various general and sector specific regulations.

Bangladesh went through massive structural adjustment and liberalization during the second half of 1980s and early 1990s. These changes altered the import substituting industrialisation strategy of 1970s to export–led industrialisation strategy in the 1980s and 1990s. Liberalisation of Bangladesh economy along with reforms in the financial sector has brought about a number of changes in the economy including privatization of several state owned enterprises (SOEs), rise in the trade volume including imports of industrial raw materials and machinery, closure of some industries and the expansion of others. Such changes naturally have important employment implications. This section briefly discusses important policy changes since independence and their impact on the manufacturing and the service sectors with special focus on the ones introduced in the early 1990s.

2.1 Changes in ownership: Development of the private sector

Immediately after the independence of the country, policies were focused on public sector development with nationalization of industries as well as banking, insurance, and export trade. As a result, 10 public sector corporations emerged controlling 92% of the fixed assets of the manufacturing sector (Rahman, 1994). The ceiling on private sector investment was increased from Tk 2.5 million to Tk 3.5 million in 1973 and again to Tk 30 million in 1974. After the political changes of 1975, the strategy of private sector led industrialization overtook the public sector led industrialization. Even though the process was initially slow, accelerated privatization process was observed since the initiation of the New Industrial Policy (NIP) of 1982. The Revised Industrial Policy (RIP) of 1986 devised in consort with the structural adjustment facility (SAF) of the World Bank and the International Monetary Fund (IMF), further strengthened the privatization measures. Besides privatizing the SOEs, similar trends were observed in different service sectors such as, power and gas, mineral resources, transportation and communication, education and health services. Private sector participation was allowed in service sectors, such as banking and insurance, since first half of 1980s. By the end of 1980s, it was extended to the telecommunication sector.

The industrial policies of 1990s (introduced in 1991 and 1999) were by and large extension and refinement of the policies proclaimed in the 1980s. To remove discordance among various public agencies with regard to privatisation a 'Privatisation Commission' was established in 1993. It is empowered to perform all necessary formalities regarding privatisation. In addition, the 'Privatisation Law 2000' was promulgated to facilitate implementation of the privatisation programme within the legal framework. Commensurate with the provisions of this law, a detailed policy, dubbed as "Privatization Policy 2001', was also formulated. Subsequently, that policy was revised to make it

more consistent with the widespread economic reform programmes and socio-economic development imperatives of the government.

The current industrial policy (Industrial Policy, 2005) also encourages a private sector led economic development while upholding the government's role as a facilitator to create a favourable investment climate. Thus, successive governments gradually changed their stance from the role of a regulator to that of a facilitator and partner.

2.2 Investment and industrial financing

The public sector led industrialization policy considered opportunity cost of public resources to be high and therefore, the policy objective was not to channel public resources to promote private enterprises. Rather the public resources were targeted to be used in the production of public goods, in projects for low income people and in small and cottage industries. After the political changes of 1975, public resources were gradually made available towards private sector development. The conduits for channelling public resources to private sector were the development finance institutions (DFIs). The restrictions on foreign direct investment (FDI) and ceiling on private investment were relaxed. In late 1980s, sanctioning requirements for investments financed through credit from private financial institutions were removed. The board of investment (BOI), created in 1990, aimed at taking various measures to attract industrial investment including FDI. As part of the SAP, massive financial sector reforms were undertaken in 1989; the major reforms include replacements of fixed exchange rate policy by flexible exchange rate policy, subsidized refinancing facility by a more general rediscount facility and instituting financial court designed to improve debt recovery (Bakht and Bhattacharya, 1994). The Industrial Policy, 1991 further encouraged private investment and FDI for industrial development. This policy also increased the investment sanctioning limits of the DFIs and Nationalised Commercial Banks (NCBs). Instead of 51 per cent share previously allowed, 100 per cent FDI as well as joint ventures were allowed with the exception of few reserved sectors mainly related to national security (such as defence, atomic power production, money printing, purchasing weapons). The industrial policy of 1991 also allowed special credit facilities for the small and cottage industry sector, later termed as small and medium enterprises (SMEs).

The industrial policies of 1999 and 2005 have encouraged both domestic and foreign investments and largely eliminated discrimination between foreign and domestic private investors. Incentives currently offered to foreign investors in Bangladesh include full ownership in most sectors, lower import duties on capital machinery and spare parts, tax holidays, duty free imports of raw materials for 100 per cent export oriented industries, tax exemptions on foreign loans and on capital gains for portfolio investors and free repatriation of profits. Moreover, Taka has been made fully convertible in the current account since 1994.

Various policy initiatives have also been undertaken to develop the capital market that serves as an important source of industrial financing. To that end, the Securities and Exchange Commission (SEC) was established in 1993. Other initiatives to improve the capital market include: structural development, modernisation of the programmes related to capital market and adoption and use of international standards and procedures. Further, 'Securities and Exchange Commission (Mutual Fund) Regulations, 1997' was adopted to make capital market more efficient and transparent. In addition, the Investment Corporation of Bangladesh (ICB) has been thoroughly reorganized and registered as three subsidiary companies for simplifying institutional investments in order to facilitate asset management, merchant banking and securities broking.

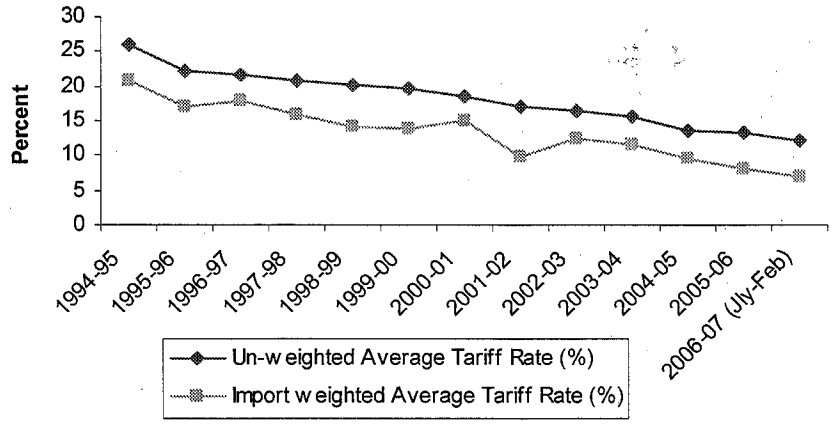
2.3 Trade liberalisation

Successive governments pursued gradual and sometimes abrupt trade liberalisation policies using import policies, export policies and exchange rate policies. Throughout the 1970s, pursuance of import substituting industrialisation strategy called for extensive use of quantitative restrictions on imports complemented with high tariff and non-tariff barriers. This strategy was further propelled by fixed exchange rate policy. Since early 1980s export oriented industrialisation became the motto of industrialisation, though import liberalisation may be considered moderate throughout the 1980s. A major change during that period was the replacement of import licensing system by import against letters of credit (L/C) introduced in 1984. Import Policy Orders (IPOs) before 1986 contained a positive list (list of importable items). Since 1986, the system introduced a negative list and a restricted list for numerous commodities; commodities not on either of these lists could be imported without any official authorisation. Over time the number of commodities in the negative and restricted list has been reduced. Since 1990, the negative and restricted lists were unified into a 'consolidated' list (Ahmed, 2001). The export promotion measures initiated in the late 1970s were fortified throughout the 1980s. Such export promotion measures included special credit facilities towards export industries, provision of working capital loan, export credit guarantee scheme, back to back L/C facilities, reduction of import duty on imported raw materials and machinery, provision of bonded warehouse, duty drawback, etc. Moreover, an Export Performance Benefit (XPB) scheme was introduced. This scheme allowed an enterprise to use its foreign exchange earnings from export to import inputs or to sell foreign exchange in the free foreign exchange market.[13] The domestic currency was devalued to a large extent in 1985/86 prior to the initiation of three-year SAF in 1986 (Bakht and Bhattacharya, 1994).

The main objectives of the export and import policies during 1990s were to ease import and expand export for rapid private sector led industrialisation. The import and export policies since then have emphasized on removing tariffs and quota on imports and, creating incentives for export oriented industries. The number of products under import restriction or ban has gradually dropped from 550 in 1986/87 to 63 in 2003/06 (table 2.2). The 2006-09 import policy order has declared import control on 25 products only. During this period the tariff structure of the economy has gone through massive liberalisation and rationalisation. Between 1991/92 and 2006/07, un-weighted average tariff rate declined from high at 70 per cent to low at 12.5 per cent (Figure 2.1 and table 2.1). Import weighted tariff rates also fell drastically from 24 per cent to 7 per cent during the respective periods. However, average import weighted tariff rate for intermediate goods was found to be higher than that of final consumer goods in some years; this might have created some anti-industrialisation bias (table 2.3). By and large primary, intermediate and capital goods have lower tariff rates than that of final consumer goods.

[13] With the unification of exchange rate system in 1992, XPB scheme was abolished.

Figure 2.1 Trend in average tariff rate



Source: BEI (2005) and Bangladesh Economic Review (2007).

Complementary to the reduction of tariffs on imported raw materials during 1990s, the export oriented industrialisation strategy has been rationalised by continuing with and in some cases by further deepening of various other incentives and supports for export promotion such as subsidised interest rate on bank loan, cash subsidy, exemption from value added and excise taxes, bonded warehouse facility, duty free import of machineries and inputs, export credit guarantee scheme, income tax rebates for exporters, etc. According to the policy of subsidised interest rate for export, exporters are allowed to borrow from banks at lower bands of interest rates compared to the regular rates for the industry sector in general. It may be noted that lending rates for export in almost all years between 1986–2007 have been lower than those for the industry sector as a whole (table 2.4). In 2007 the lending rate for export stands at 7 per cent (irrespective of sectors) compared to 11 to 15.5 per cent in the industry sector in general.

Special facilities are also given to industries in export processing zones (EPZs). The EPZ entrepreneurs can import raw materials, supplies and capital goods free of duty, retain foreign exchange earnings, operate in a working environment where labour unions are allowed in a limited scale and exempt from paying income tax for ten years after setting up of the enterprise (Bakht, 2001). The export policy for 2006-09 has given particular attention to export diversification and market development. Various donor–funded projects and programmes are being implemented to provide special business development incentives to prevailing and prospective export sectors.

As a part of her trade liberalisation attempts, Bangladesh implemented various reforms in its exchange rate policy. During the import substitution phase of industrialization Bangladesh maintained overvalued and fixed exchange rate system to maintain equilibrium in balance of payments till 1980. This system was replaced by a 'managed floating' system in 1980. Taka was pegged to a basket of currencies of the major trading partners of the country. A comprehensive liberalization of the foreign exchange control regime was initiated with convertibility of Taka in current account in 1994. This was an important step towards integrating the Bangladesh economy with international financial markets for increasing international trade. Commercial banks were allowed to buy and sell foreign currencies without prior approval of the Bangladesh Bank, exporters were permitted to retain a part of their export earnings in foreign currency and dealers' control was established over fixing selling and buying rates. This

was previously fixed by the Bangladesh Bank. Since 1980 regular devaluation of the nominal exchange rate has been undertaken to give indirect incentives to the exporters. Finally, free floating exchange rate system was introduced in 2003.

2.4 Fiscal policy and industrialisation

Fiscal measures are often used as a tool to encourage (sometimes to discourage certain sectors) industrial development. Different industrial policies offered tax holiday to newly established industries for 5 to 7 years depending on the geographic location. As an alternative to tax holiday, industrial enterprises are allowed to receive depreciation at the rate of 100 per cent in the first year[14] Apart from this, industrial enterprises receiving tax holiday are entitled to 80 per cent depreciation in the second year and 20 per cent depreciation in the third year for their extended unit plants and machinery. Industries which do not qualify for receiving tax holiday may receive benefit in terms of lower rate of corporate tax. Industries registered with the Board of Investment (BOI) are exempted from paying any transfer fee or gain tax while transferring land for establishing new industries. Fiscal incentives in terms of lower tariff on imported raw materials and intermediate goods and higher tariff on finished goods are provided to encourage the growth of infant industries and expansion of grown industries. Special fiscal incentives such as tax holiday for a longer period are given for thrust sectors identified in different industrial policies. Industries established in Export Processing Zones (EPZs) areas receive income tax relief for 10 years from the date of commercial production.

In so far as corporate taxes are 65 per cent of total income tax and as the revenue income is heavily dependent on tariffs on imports, liberalisation of the tariffs exerted a negative impact on the revenue earning. However, improvement of the tax/tariff collection system is expected to exert positive impact on revenue generation.

2.5 Development of small, medium and cottage industry

As a source of decentralized employment and industrialisation in the economy, small, medium and cottage industries have received special attention in recent policy reforms. It may be noted that small and cottage industry was never declared as a priority sector before 1986 and there was no comprehensive policy for the overall development of this segment. The RIP of 1986 was the first policy to declare small and cottage industry as a priority sector and set forth various measures for its development. Considering problems faced by small and cottage industries in accessing formal finance, this policy suggested measures to ensure easy access to formal credit for this sector. In this connection financial institutions and banks were required to keep a certain percentage (5 per cent) of their funds for this group of industries. The Industrial Policy of 1991, however, eliminated the concessionary interest rate and special credit facilities for them in an effort to comply with the financial sector measures which entailed flexible interest rates and various credit reforms. Recent industrial policies have put forward some special measures for the SMEs. One of the prime objectives of the Industrial Policy of 2005 is to expedite the growth of industrial sector through the growth of SMEs and cottage

[14] See Industrial Policy 2005. However, similar incentives were also given in the earlier industrial policies.

industries. It is expected that growth of SMEs would help generate employment for a large number of poor people.

For the development of SMEs, an entrepreneurs' equity fund was established in 2000. It provides equity to SMEs in agro-based industry and ICT sector through commercial banks. Bangladesh Small Industries and Commerce (BASIC) Bank Limited, a specialized public commercial bank, was established in 1988 with the aim of financing small and cottage enterprises and mandated in its Memorandum of Articles that at least 50 per cent of its loanable fund should be invested in small scale industries. The bank also offers lower lending rates to the SMEs compared to those of most other Private Commercial Banks (PCBs) and Foreign Commercial Banks (FCBs). For example, the lending rate of BASIC Bank on term loan to small industry is 11.50 to 12.50, while most of the PCBs offer such loan at 12.5 to 15 per cent even as high as 22.5 per cent interest rates (Economic Trends, September, 2007). Different donor funded projects such as Enterprises, Growth and Bank Modernization Program (EGBMP), Small and Medium Enterprise Sector Development Project (SMESDP) are being implemented for the development of the SME sector.

To provide financial support to the SMEs, specially to remove the inertia of commercial banks and other financial institutions (FIs) in providing *risky* loans to the SMEs, the government has created a Small Enterprise Fund (SEF) and a Tk 1 billion refinancing scheme under the Bangladesh Bank in 2003-04. In addition to the government of Bangladesh, the World Bank and the Asian Development Bank (ADB) have also contributed to this fund. All the scheduled banks and FIs can avail this fund at bank rate (5 per cent) against their financing of SMEs. The lending institutions then decide on the lending rate towards the SMEs. This scheme allows participating institutions to disburse loans to SMEs without real estate based collateral as their risks are covered through refinancing facility and they can accommodate any additional cost of loan administration through an appropriate spread between the borrowing and the lending rates. Though it is expected that SMEs will get loans at a lower or privileged interest rate under this scheme, reality does not meet that expectation. The scheme has only improved the accessibility to loans by SMEs, but not necessarily at a lower rate. For example, the BRAC bank, the leading financial intermediary disbursing loans to SMEs under this scheme (23.3 per cent of the total loan disbursed up to October 2006), is charging an interest rate of 22.5 per cent on the term loan to small industry (Bangladesh Bank, 2006 and Economic Trends, September, 2007).

2.6 Sector-specific special incentives

Policies often offer special incentives to specific sectors. These sectors are thrust sectors or priority sectors in that their growth is considered crucial for development of the economy and employment generation. Recent policies have identified several thrust sectors for industrial development and export promotion. As the policy focus has shifted to private sector led growth, special sector-specific incentives are given to induce the private sector to invest more in the thrust sectors. Apart from the thrust sectors, export policies have also identified several special development sectors. The Industrial Policy of 2005 has identified 33 thrust sectors in contrast to 5 thrust sectors and 9 special development sectors identified in the export policy of 2006-09.

In addition to sector specific incentives, the policies have also given special incentives to several zones or regions where a number of export oriented industries are located. Another corollary of private sector based industrial development in Bangladesh is these EPZs. Initially only foreign investors were allowed to invest in EPZs. Currently it is open for all investors. According to the statistics of February 2007, there are 8 EPZs

(Dhaka, Chittagong, Mongla, Comilla, Ishwardi, Uttara, Adamjee and Karnafuli) in operation in Bangladesh with a total of 252 active enterprises.[15] About 30 per cent of these enterprises are textile and ready-made garment factories. EPZ enterprises have created employment for around 195,108 workers and have attracted $1083.43 million investment. They play an important role in generating formal employment at the local level. In addition, EPZs are contributing to exports, foreign investment and backward linkage of industries.

[15] Bangladesh Economic Review, 2007.

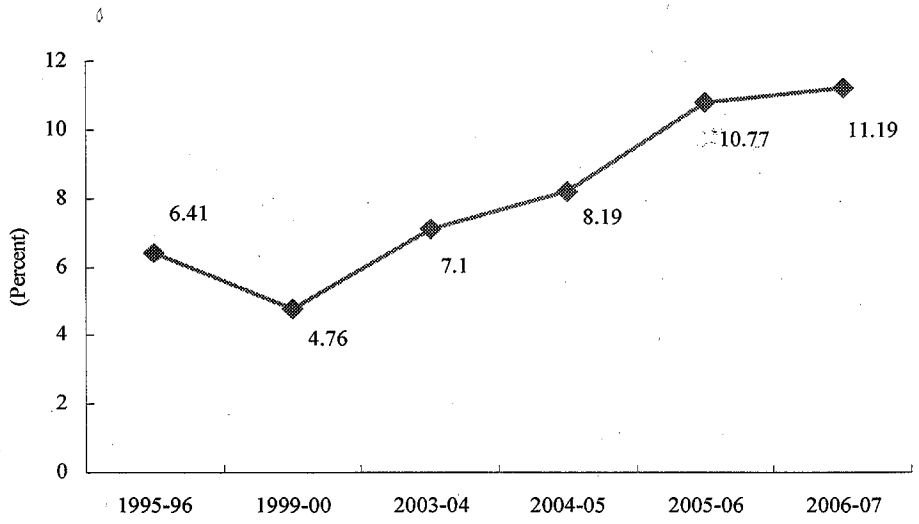
3. An overview of manufacturing and service sectors of Bangladesh

3.1 Overall growth performance and sectoral shares in GDP

Manufacturing and service sectors are two major contributors in the GDP of Bangladesh. In contrast to the annual compound growth rate of 3.9 per cent during 1980s, GDP grew at a rate of 4.9 per cent during 1990s and 5.8 per cent during 2001-2006 (table 3.1). Growth of per capita GDP also increased from 3.1 per cent during 1990s to 3.9 per cent during the first half of the current decade. During the 1980s, agriculture, industry (including manufacturing) and service sectors grew at annual average rates of 1.8, 3.5 and 5.4 per cent respectively vis-à-vis their respective growth rates of 3, 7.4 and 4.7 per cent during 1990s. During the first half of the current decade the average annual growth rate of agriculture remained stagnant, while that of industry and service sectors increased to 7.8 and 5.8 per cents respectively.

Against the backdrop of steady growth in GDP, the overall structure of Bangladesh economy has gone through some transformation compared to the situation before 1990s (table 3.2). The share of agriculture (including fishery) in GDP has steadily declined and that of the overall industry sector has risen gradually. The share of agriculture has declined from 29.23 per cent in 1990/91 to 21.7 per cent in 2006/07. According to the Bangladesh Bureau of Statistics (BBS), the industry sector includes four sub-sectors: (1) mining and quarrying, (2) manufacturing, (3) electricity, gas and water, and (4) construction. Share of industry in GDP has increased from 21.04 per cent in 1990/91 to 29.01 per cent in 2005/06. Manufacturing sub-sector alone contributed 17.08 per cent of GDP in 2005/06. Service sector has been constantly contributing around 49 per cent of GDP since early 1980s. The sub-sectors under the service sector include (1) wholesale and retail trade, (2) hotel and restaurant, (3) transport, storage and communication, (4) financial intermediations, (5) real estate, renting and business, (6) public administration and defence, (7) education, (8) health and social services, (9) community, social and personal services. It may be noted that in 2005/06, manufacturing sector appeared as the largest contributing sector (17.08 per cent) in GDP for the first time; agriculture contributed 16.91 per cent of GDP in that year. The contribution of manufacturing sector in GDP mainly comes from large and medium scale enterprises (12.14 per cent). The contribution of small scale enterprises was only 4.94 per cent. Among the service sub-sectors, wholesale and retail trade has the highest share in GDP (14.2 per cent in 2005/06) with a rising trend. The second largest contributing sector is the transport, storage and communication under which the share of post and telecommunication sector is rapidly rising (from 0.68 per cent in 1995/96 to 2.1 per cent in 2005/06).

Figure 3.1 Output growth in manufacturing sector



Source: Based on data from Economic Review, 2007

Against 6.6 per cent growth rate of GDP in 2005/06, the overall industry sector grew at an annual rate of 9.5 per cent, while the manufacturing sector achieved a double-digit growth rate of 10.7 per cent (table 3.3 and figure 3.1). The average growth rate of the overall service sector in 2005/06 was 6.5 per cent. The post and telecommunication is not only the fastest growing service sub-sector, but also the fastest growing sub-sector of the economy as a whole. This sub-sector grew at a rate of 26.7 per cent in 2005/06 and contributed 2.1 per cent of the GDP. Part of this spectacular growth performance may be attributed to the narrow initial base of the sub-sector.

3.2 The employment situation

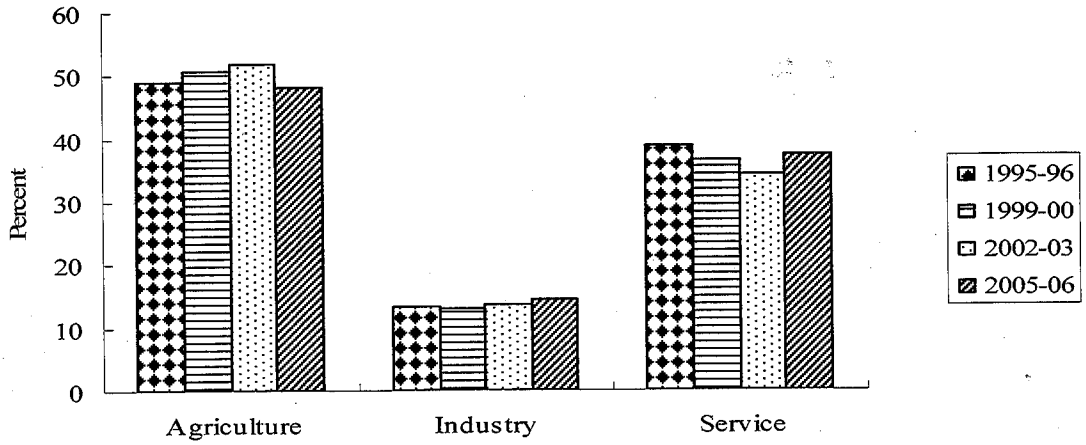
According to the LFS data, overall labour force participation rate has increased from 52 per cent in 1995/96 to 54.9 per cent in 1999/00 and to 58.5 per cent in 2005/06 (table 3.4).[16] There is, thus, a 6.5 percentage point rise in labour force participation rate during these years. Total employment has increased from 34.8 million 1995/96 to 47.4 million in 2005/06. During the same period employment grew at an annual average rate of 3.14 per cent. Annual average growth rate of employment was 2.9 per cent during 1995/96-1999/00, increased to 4.3 per cent during 1999/00–2002/03 and then again declined to 2.3 per cent between 2002/03–2005/06.

[16] Though this study gives emphasis of the situation since 1990/91, the LFS data of 1990/91 has not been considered for most of the analysis as there has been a definitional change of labour force (10 years and older vis-à-vis 15 years and older) and corresponding data for 15 year and older labour force for the year 1990/91 were not available. In some cases 1990/91 data (with old definition) are reported from Rahman and Islam (2006).

Although a detailed analysis of gender dimension of employment is out of the scope of this study, it may be useful to look briefly at the gender aspect of employment. It is observed that women largely remain outside the participation in the labour force of Bangladesh, though women's participation in direct economic activities has gradually increased during the last decade. The size of female labour force has more than doubled during 1995-96 to 2005-06 from 5.4 million to 12.1 million respectively (table 3.4). In spite of the increase in the labour force participation rate of women over the last ten years (from 15.8 per cent in 1995-96 to 29.2 per cent in 2005-06) it remains quite low compared to that of males. Only about 29 per cent of women participate in the labour force compared to about 87 per cent men. Unemployment rate among women is much higher than that of men; 7 per cent compared to 3.4 per cent. Moreover underemployment rate is extremely high among women. About 68 per cent women are underemployed compared to about 10 per cent of men. Among 10.3 million unpaid family workers 6.8 million are women. It is also evident from the LFS data that in 2005-06 only 0.2 per cent (22 thousand) of total employed women were engaged in the administrative or managerial positions compared to 0.6 per cent (201 thousands) of employed male. However the share of manufacturing sector in total female employment (11.5 per cent) is higher than this sector's share in total male employment (10.9 per cent). Thus according to the statistics of the LFS of various years, women's participation in labour force is still very limited compared to their male counterpart and they are mostly involved in unpaid household activities.

While the share of agriculture in GDP is gradually decreasing, the sector is still the major employer in the economy accounting for 48.1 per cent of employment in 2005/06. Rahman and Islam (2006) reported a decline in the share of agricultural employment during 1996–2000. In contrast, this study finds a rise in the share during the same period. Even the magnitude of share is different between these two studies mainly due to different definitions used. The observation of Rahman and Islam (2006) is based on employment data according to old (10 years and older) and extended (including unpaid household work) definition of labour force, while data presented in the present study is based on the new (15 years and older) and regular definition (excluding unpaid household activities). According to this study, the share of agriculture in employment increased from 48.9 per cent in 1995/96 to 50.8 per cent in 1999/00 and further to 51.7 per cent in 2002/03 (table 3.5). But, the share declined to 48.1 per cent in 2005/06. Between 2002/03 to 2005/06, the agricultural employment has experienced negative annual growth rate (-0.1 per cent).

Figure 3.2 Sectoral share of employed labour force (15 years and above)



Note: Industry includes mining and quarrying, manufacturing, electricity, gas and water, and construction

Source: Based on the data of the LFS (various Issues)

Employment in industry (including manufacturing, mining, construction and others) grew at an annual average rate of 2.6 per cent during the later half of 1990s (table 3.6). This growth rate was 5.5 per cent and 4.7 per cent between 1999/00–2002/03 and 2002/03–2005/06 respectively. As a result of such growth in industrial employment, its share in total employment declined between 1995/96–1999/00 (from 13.22 per cent to 13.08 per cent) and then it has gradually increased to 13.56 per cent in 2002/03 and to 14.6 per cent in 2005/06. Manufacturing sector is the largest contributor in overall industrial employment generation. Employment in manufacturing sector alone has grown at an annual average rate of 1.4 per cent during the second half of 1990s. The manufacturing sector growth rates were 5.1 per cent and 6.5 per cent between 1999/00-2002/03 and 2002/03-2004/05 respectively. The share of manufacturing in total employment followed a cyclical pattern during the second half of 1990s until the first half of the present decade. It decreased from 10.06 per cent in 1995/96 to 9.5 per cent in 1999/00 and then increased to 9.7 per cent in 2002/03 and further to 11 per cent 2005/06.

The annual average growth rate of service sector was 1.1 per cent during 1995/96-1999/00. Between 1999/00-2002/03, service sector employment grew at an annual rate of 2.5 per cent to become 5.2 per cent during 2002/03–2005/06. Share of service sector in total employment declined from 37.9 per cent in 1995/96 to 36.2 per cent in 1999/2000. The share further declined to 34.8 per cent in 2002/03 and then rose to 37.3 per cent in 2005/06. Among the service sub-sectors trade, hotel and restaurant had the largest share in employment (16.5 per cent) in 2005/06 followed by transport, storage and communication sector (8.1 per cent).

Though small and medium enterprises (SMEs) play a major role in generating employment, they are not separately covered in this study. Box 3.1 presents a brief on employment scenario in the SMEs.

Box 3.1 Employment in small and medium enterprises (SMEs)

According to SEDF (2003, noted in Bangladesh Bank, 2006) SMEs constitute the dominant source of industrial employment in Bangladesh (80 per cent). However, differences in the definitions of SMEs in various sources of statistics make it difficult to present the real picture of employment in these enterprises. The criteria used to define different sizes of industries in the Industrial Policies of Bangladesh are different from those used by the Bangladesh Bureau of Statistics (BBS). In the Industrial Policies, industries are divided into various groups according to their fixed capital and number of workers. However, BBS divides industries in different sizes according to the number of employees. Even different census reports of BBS use different definitions. The annual Census of Manufacturing Industries (CMI) conducted by the BBS defines enterprises having 10-49 workers as "Medium" industries while those having 50 or more workers are identified as "Large" industries. For industrial GDP data of BBS, medium and large industries are summed together under "Large" category, while the rest of the industrial enterprises including cottage industries are defined as "Small" category. Again the National Report on the Census of Non-farm Economic Activities by BBS in 2005, enterprises with less than 10 workers are referred to as "Micro" enterprises while "Small" and "Medium" enterprises are defined to have 10–49 workers and 50–99 workers respectively. The enterprises with 100 or more workers have been defined as "Large" enterprises.

Any rigorous analysis of employment performance of SMEs under different definitions is beyond the scope of this study. To get an idea about the importance of SMEs in employment generation one may look into the latest information given in the Census of Non-farm Economic Activities of 2005. According to this census, there are around 3.6 million establishments engaging nearly 12 million people in non-farm economic activities in Bangladesh. Around 98 per cent of all establishments are micro enterprises (having fewer than 10 workers) while their employment share is about 68 per cent. There are 80 thousand enterprises under the small and medium (SME) categories (having 10–99 workers) with an employment share of 14 per cent. Around 38 per cent of this employment in SMEs is generated by manufacturing enterprises under these categories.

It is revealed from the discussion above that the share of agriculture in employment increased between 1995/96-2002/03 although its performance in terms GDP share declined (from 20.3 per cent to 17.97 per cent) during this period. For the same period employment performance of service sector improved, while its performance in terms of GDP share remained somewhat stagnated. Thus the trends in these two sectors do not follow the conventional notion about growth and employment performances (move positively together). However, evidential findings suggest for declining share of agriculture in total employment along with its diminishing performance in the economy during 1995/96-2002/03 (World Bank, 2007). In fact employment statistics of 2005/06 justifies this conventional intuition regarding the employment performance of agriculture - the share of agriculture in employment fell from the 2002/03 level along with declining share of the sector in GDP. The conventional wisdom is also justified for service sector for the period 2002/03–2005/06 as its share in employment has increased during this period along with its increasing or constant share in GDP. It is also interesting to note that fall in shares of agricultural employment by 3 percentage point between 2002/03-2005/06 coincides with rise in the share of service sector employment by almost same percentage points during this period.

It may be noted that there were fluctuating performances in agricultural, industrial and service employment during 1995/96-2005/06. Manufacturing sector alone also revealed fluctuating trend. This implies that there has not been any significant change in employment structure during the 1995/96-2005/06 period. Even at the sub-sector level structural change is not evident in the economy as a whole. Thus manufacturing and service sectors have been found to be somewhat unsuccessful in generating additional

employment for excess labour from agricultural sector, which is usually expected with development.

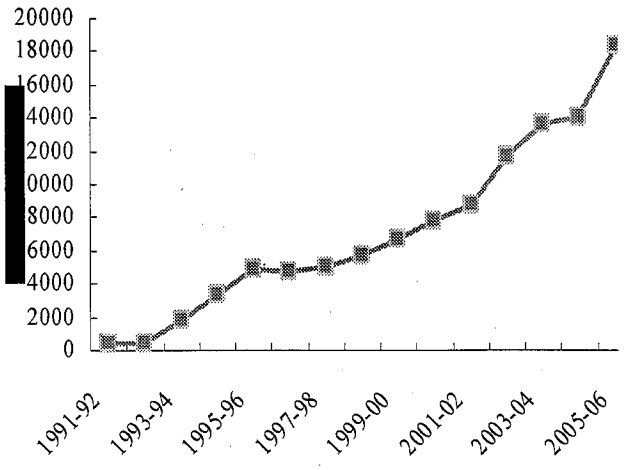
3.3 Investment

With the rise of private sector led industrialisation strategy, investment as percentage of GDP has increased from 16.9 in 1991 to 24.3 per cent in 2006/07 (table 3.7). The share of the private sector in total investment was about 61 per cent and that of the public sector was 39 per cent in 1991. As a result of various policy incentives towards private investment since late 1980s, the share of private investment in total investment has increased to 77 per cent of total investment in 2006/07.

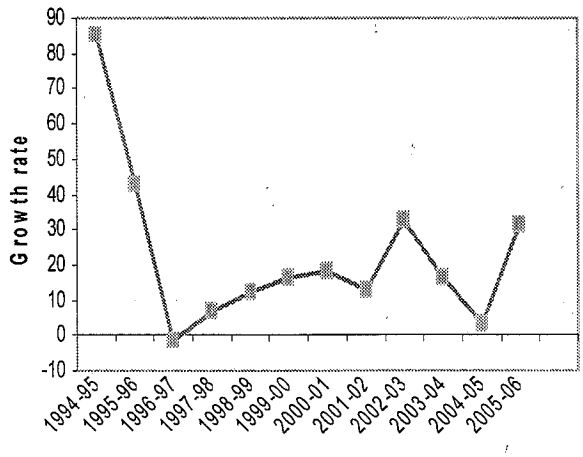
One of the sources of movement of the private (local) investment is the projects registered with the BOI, Bangladesh. Private investment through projects registered with BOI has followed a rising trend since 1993/94 though the growth rate was different in different years. There was a surge in investment in 1993-94, immediately after the introduction of massive liberalisation measures in favour of private sector and creation of the Board of Investment to attract private investment (figure 3.3a and 3.3 b). After that surge, private local investment gradually increased with some fluctuations in the growth rate. In 2005/06 private investment in manufacturing and service sectors was Tk183.7 billion. The highest investment was attracted in textile sector (48.6 per cent) followed by chemical (19.5 per cent), engineering (11.8 per cent) and services (9.6 per cent) (Economic Review, 2006). Though total local investment has increased to a large extent since 1993/94, it is concentrated in few sectors dominated by textile. As a result, there has not been much diversification in the manufacturing sector of Bangladesh.

Figure 3.3 Local investment

3.3a Flow of local investment (Crore Taka)



3.3b Rates of growth in local investment

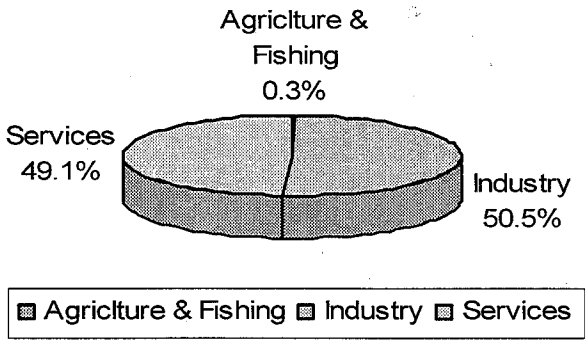


Source: Based on the data reported in Economic Review, 2007.

Foreign direct investment (FDI), an important source of industrial finance, has registered marked growth in the last decade; FDI registered with the BOI was $845.3 million in 2005, which was only $92.3 million in 1995. Even though the flow of FDI has shown a rising trend both in industry (including manufacturing; electricity, gas, construction and others) and service sectors, the relative importance reversed during the current decade.

The industry sector has attracted the highest share of FDI in all years since 1995; during 1999 to 2001, this share was higher than 80 per cent and rose to 91.6 per cent in 2001. Since then the share of industry in the attracting FDI appear to be falling (table 3.8). In contrast, the share of the service sector in FDI is rising; share of service sector in FDI was 47 per cent in 1995, only 8 per cent in 2001 and rapidly increased to 49.1 per cent in 2005. In 2005 manufacturing sector alone received 26 per cent of FDI, 91 per cent of which was ensconced in the textile, fertilizer and cement sub-sectors. Of all the sub-sectors, telecommunication was the largest recipient of FDI (33 per cent) in 2005 (table 3.9).

Figure 3.4 Sectoral share in FDI inflow, 2005



Source: Based on the data of Statistics Department, Bangladesh Bank & BBS.

Statistical evidence suggests that policies to encourage growth of private sector were successful in increasing local private sector investment and foreign direct investment. However, such investment is highly concentrated in a limited number of sectors.

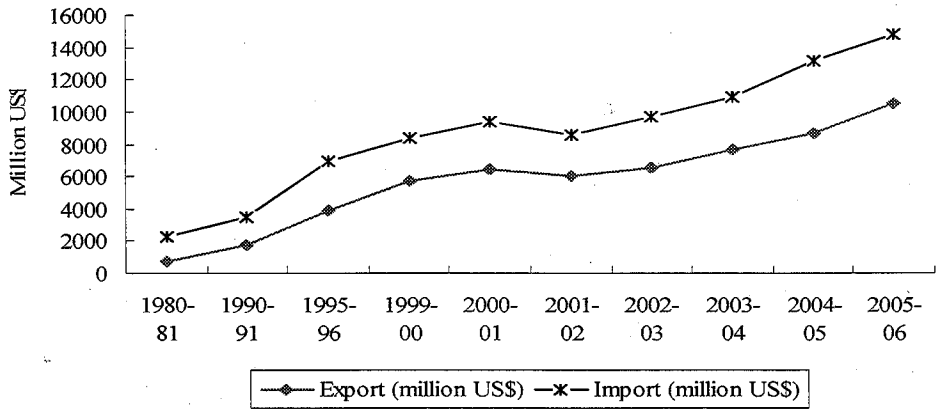
3.4 Trade in manufacturing and services

Growth of an industry in the current liberalised world is not constrained by the size of its domestic market; rather an increasing volume of goods and services is being traded internationally as a result of removal of trade barriers. Being a small trading country, Bangladesh can, at least theoretically, buy and sell any amount of commodities in the international market at the prevailing international prices. International trade has also enabled the industries of Bangladesh to access cheaper raw materials and industrial machinery.

Various liberalisation initiatives undertaken by Bangladesh (along with initiatives by other countries) have led to a rapid rise of her merchandise exports and imports during

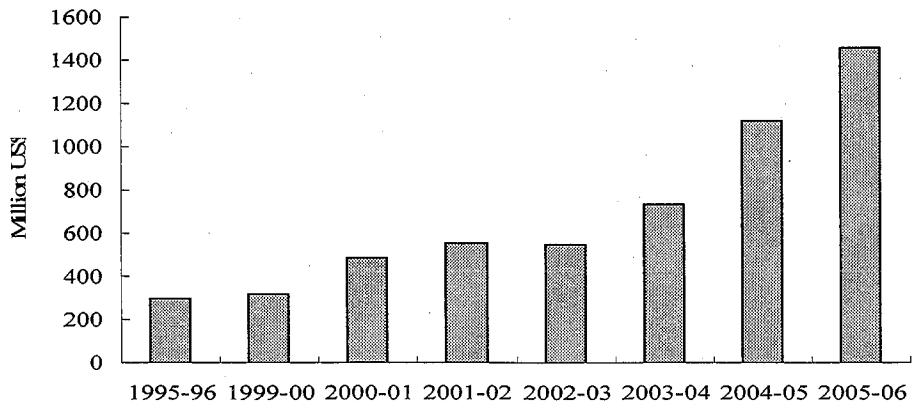
1990s. Specifically, the export-led industrialisation strategy since early 1980s has gradually increased the export of manufacturing goods and import of industrial raw materials including capital machineries. While merchandise export of Bangladesh is heavily dominated by manufacturing goods, import is a mixture of both primary and manufacturing goods (tables 3.10 and 3.11). Moreover, Bangladesh's export has gone through major structural changes during 1980s; the jute-dominant (both raw and processed jute) export bundle of the early 1980s has shifted to an apparel-dominant export bundle by early 1990s. The dominance of ready-made garments (RMG) in export earning has gradually increased during 1990s. Since mid 1990s woven and knitwear, the two main varieties of RMG, have constituted 75 per cent of Bangladesh's export earnings. Though export earning from leather has increased in absolute value, its share in total export has declined from 8 per cent in 1991 to 2.4 per cent in 2005/06.

Figure 3.5 Export and import of goods



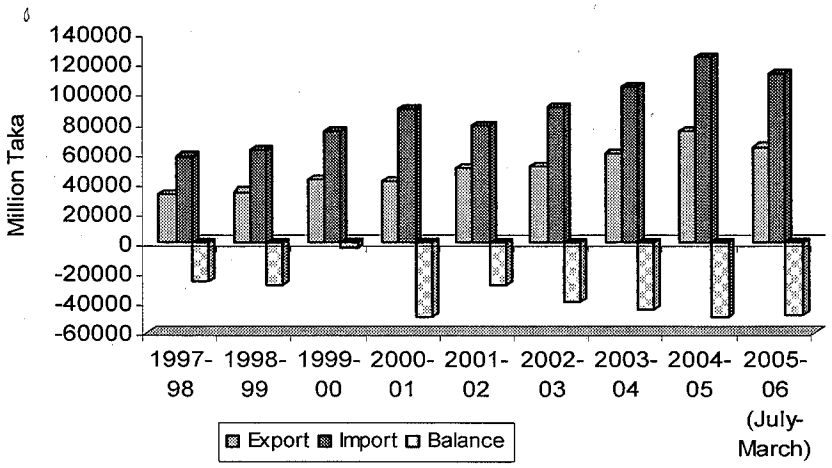
Source: Based on the data provided in Economic Review (Different Issues)

Figure 3.6 Capital machinery import



Source: Based on the data provided in Economic Review, 2007

Figure 3.7 Trade in services (export, import and trade balance)



Source: Based on the data provided in Bangladesh Bank Bulletin (April – June 2006)

Though import liberalisation gained momentum since the early 1990s, the share of intermediate goods in total import declined during 1990s, and then showed an upturn since 2001. One notable feature of import composition is the rise in the import of capital machinery since the late 1990s. While import of capital machinery constituted 3.75 per cent of total import value in 1999/2000, its share rose to 10 per cent of import value in 2005/06. The rapid rise in the import of capital machinery is indicative of the growth of the manufacturing sector and/or structural change in the sector in terms of factor intensity.

Like many other countries of the world, Bangladesh is also engaged in trade in services. Transport, travel, financial, communication and business services dominate her trade in services. It may be noted that Bangladesh imports most of these services, which results in negative balance in service trade (table 3.12). However a positive trade balance is observed for trade in communication services. During July-March of 2005/06, Bangladesh's net earning from trade in communication services was Tk1074 million, arising mainly out of sales of telecommunication services.

4. Evolution of the employment structure in the manufacturing sub-sectors

4.1 Performance of the manufacturing sector as witnessed in the CMI17

The Census of Manufacturing Industries (CMI), published by the Bangladesh Bureau of Statistics, reports disaggregated data on various aspects of manufacturing industries, such as value added, employment, fixed assets, capital formation, factor cost, etc. This census is an important data source for analysing the structure and trends in various indicators of disaggregated manufacturing sub-sectors.[18]

It is observed that the manufacturing sector is dominated by the private sector in terms of employment, gross value added and number of establishments (table 4.1); ownership of 99 per cent of the establishments is private. The share of private sector in manufacturing employment and value added has increased rapidly since late 1980s. It has generated 94.4 per cent of manufacturing sector employment and 93.1 per cent of gross value added in 2001/02. Of this, around 88 per cent employment was generated by large establishments (with handloom), 12 per cent by medium establishments (with handloom). Handloom (both large and medium) contributed around 4 per cent (table 4.2) in employment generation. In terms of the number of establishments, the dominance of the private sector was observed even in 1985/86 while sizes of those establishments were smaller than public enterprises. In 1985/86, public enterprises were generating 47 per cent of manufacturing employment and 46 per cent of value added while their share in the number of establishments was only 4 per cent. Over time the size of public enterprises has increased.

Gross value added by the manufacturing sector (at 1990/91 prices) in 2001/02 was Tk.206 billion, experiencing a growth of 7.6 per cent over the previous fiscal year. During this period value added at factor cost has grown at 9.3 per cent from Tk118 billion in 1999/00 to Tk141 billion in 2001-02. From the employment perspective, it may be noted that the manufacturing sector was employing 2.5 million persons in 2001/02, and about 85 per cent (2.1 million) was operative employees (table 4.3). Even though manufacturing employment has increased gradually since the early 1990s, its growth was not positive in all years. The growth rate was negative in 1992/93 and in 1993/94. As a result, the average annual growth rate of manufacturing employment during the first half of 1990s was 2.6 per cent only. Similar growth pattern was observed during the second half of the 1990s.[19] Growth was 19.4 per cent in 1995/96 and decreased to 3.63 per cent

[17] All the value terms are expressed in terms of the 1990-91 prices (deflated by GDP deflator).

[18] The employment data reported in CMI are not comparable to those reported by the LFS, mainly due to difference in definitions and methodology.

[19] These findings are in consort with the LFS data.

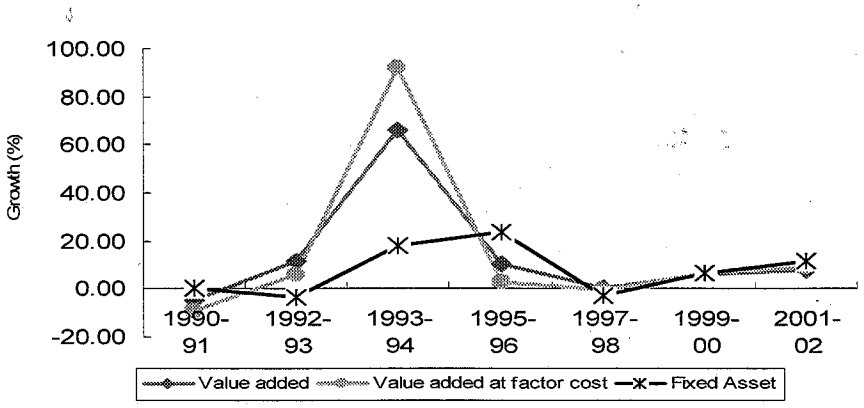
in 1999/00, and again increased to 4.45 per cent between 1999/00–2001/02. During the entire period of 1990/91 – 2001/02, manufacturing employment grew at an annual rate of 7.53 per cent which is associated with an annual average growth rate of value added by 10.87 per cent.

Change in capital-labour ratio can be considered as an indicator of whether manufacturing sector is becoming more labour-intensive or capital deepening is taking place in the sector. In order to observe the magnitude of capital-labour ratio in manufacturing sector, this study has used the ratio of fixed assets (net of building costs) to labour as an indicator.[20] There are other ways to estimate capital, in which "real value" of capital is estimated by correcting for under-estimation of capital value in terms of increase in its price over time and rates of depreciation. However in this study, the book values are translated into constant 1990-91 price and building costs are deducted from the total fixed assets.

The capital-labour ratio in manufacturing as a whole registered high annual growth during the first half of the1990s. However, growth rate fell to a large extent during the second half of the 1990s (table 4.5). On an average, fixed asset grew at a rate of 9.6 per cent during 1990/91 – 2001/02. The capital-labour ratio declined between 1990/91 to 1991/92, increased till 1995/96, then decreased till 1997/98 and increased after that. In 2001/02, the capital-labour ratio increased to Tk. 0.09 million from low at Tk. 0.06 million in 1990/91 (tables 4.3; 4.4, and figure 4.2). The trend in the capital-labour ratio indicates that overall manufacturing sector has become more capital-intensive during 1990/91 – 2001/02. Figure 4.1 indicates that the annual average growth rates of value added, value added at factor cost and fixed asset moved in similar directions in different years between 1990/91 – 2001/02. This indicates a positive correlation between value added and fixed asset as expected.

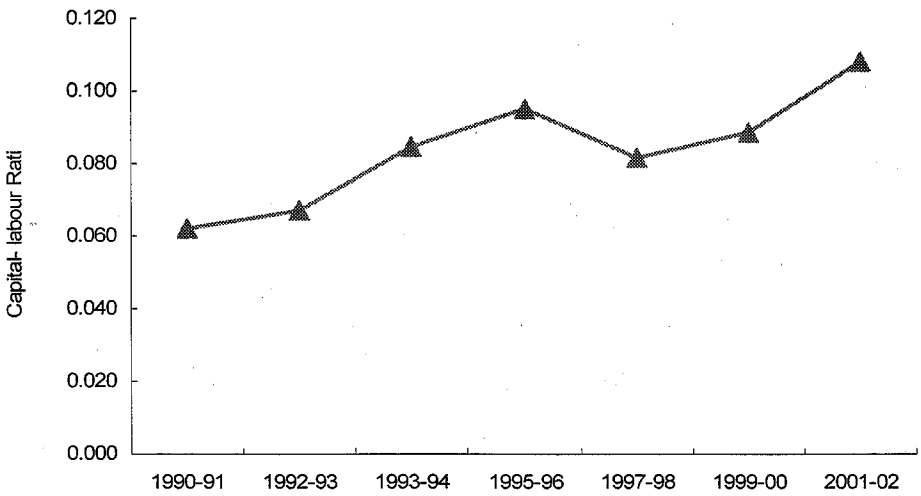
[20] Fixed asset data in CMI include aggregate book values of land, buildings, machinery, tools, transport, and office equipment, etc. net of depreciation allowances, and "balancing, modernization, rehabilitation, and expansion" (BMRE) expenditure figures. As fixed assets in CMI refer to the book value of assets and the depreciation rate of such book value is usually higher than normal depreciation, there is a possibility of underestimation of capital formation in terms of fixed asset. Moreover a substantial amount of fixed asset is made for buildings. Therefore, the current study has taken fixed asset net of costs for buildings.

Figure 4.1: Annual average growth rates of value added, value added at factor cost and fixed assets in manufacturing sector



Source: Based on the data of CMI (various issues) at constant 1990-91 prices

Figure 4.2: Capital - labour ratio (fixed asset /employment) (in million Taka)



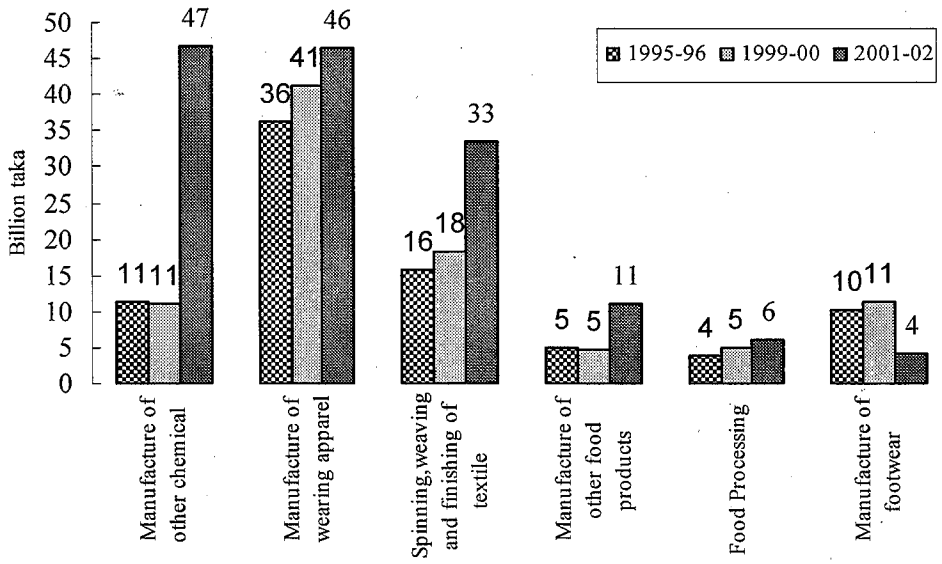
Source: Based on the data of CMI (various issues) at constant 1990-91 prices

In general, looking at the changes in the value of fixed asset and employment, we cannot really reach a conclusion regarding the structural changes in the manufacturing sector in terms of factor intensity though capital-labour ratio has increased to some extent. This would need further investigation into sub-sector level to understand whether there has been any structural change in the factor intensity of manufacturing sub-sectors or change in the composition of sectors (higher growth of capital intensive sectors than that in labour intensive sectors or vice versa).

4.2 Performance of top-10 manufacturing sectors in 2001/02

The data of CMI 2001-02 reveal that at the 3–digit level of BSIC–2001 code,[21] top-10 industries constitute 85 per cent of the gross value added (tables 4.5). The sub-sector "other chemicals", which includes pharmaceuticals, tops the list in terms of gross value added (22.7 per cent) with the ready-made garment (RMG) sub-sector a close second (22.4 per cent). In terms of employment, RMG has the highest share (54.9 per cent) followed by textile manufacturing (18.8 per cent). In terms of fixed asset (net of building costs), the textile manufacturing sub-sector has the highest share (37.02 per cent) among the top-10 industries followed by RMG (11.64 per cent) and basic chemical (10.92 per cent). Though "other chemical" sub-sector has the highest share in terms of value added, it consists of 8.3 per cent share in fixed asset. It may be noted that the 'other chemical sector' has been experiencing fast growth in terms of employment, gross value added, and fixed asset since 1999/00, though its growth was somewhat low during 1995/96–1999/00 in terms of employment and value of fixed asset and even negative for gross value added. In 2001/02, the highest capital-labour ratio in terms of fixed assets is observed in manufacturing of basic chemicals (Tk2.1 million).

Figure 4.3: Value added of selected industries in Bangladesh in 1995/96, 1990/00 and 2001/02



Note: These industries are among the top- 10 industries of 2001/02
Source: Based on CMI Data (different years)

[21] Bangladesh Standard Industrial Classification (BSIC) of All Economic Activities–2001, Bangladesh Bureau of Statistics.

Of these top-10 industries, 5 experienced negative growth in employment during 1999/00–2001/02 (table 4.6). These sub-sectors include textile, tobacco, non-metallic mineral, footwear, and basic chemicals. In terms of gross value added, 4 sub-sectors experienced negative growth; these are tobacco, footwear, publishing and basic chemicals. 5 sub-sectors including tobacco manufacturing, food processing, footwear, printing and publishing and basic chemicals sectors experienced decline in terms of fixed asset. Between 1999/00 and 2001/02, capital–labour ratio rose in sub-sectors such as "other chemicals", RMG, textile, "other food products" and non-metallic mineral products. In other sectors it is either falling or remains almost stagnant. To find out correlation between growth of value added (at the three-digit level) and the degree of labour intensity in the top-10 industries of 2001-02, simple correlation between growth of value added and capital –labour ratio was calculated separately for 1999/00, and 2001/02. No significant correlation was observed between the two in any of these two years. Correlation was not significant even between sectoral shares in value added and in fixed assets for those two years. Thus the performance of top-10 industries of 2001-02 does not lead to a clear conclusion regarding increased capitalization in these sectors with their growth, though some sectors did experienced capital deepening.

Comparing tables 4.5 and 4.8, we observe that in terms of performance the composition and ranking of top-10 industries in the economy (at three digit level) has declined. According to the 3-digit level information of 1999/00, the wearing apparel sub-sector had the highest share in value added (24.21 per cent) followed by the tobacco manufacturing (12.47 per cent). The largest sector in terms of persons engaged in manufacturing was the wearing apparel sub-sector (39.23 per cent) followed by the textile sub-sector (23.85 per cent).

4.3 Performance of manufacturing sub-sectors with different employment elasticity

Rahman and Islam (2006) argue that high elasticity of employment (to output or value added) implies an employment-intensive growth with the caveat that that an elasticity of higher than unity may refer to employment expansion with non-improvement or decline in labour productivity. They observed that value added elasticity of employment in the 23 sub-sectors (as covered in their study) as a whole was reasonable though it declined from 0.7463 (in 1980/89) to 0.6859 (in 1990/98).[22] This section reviews the performance of 21 of these sub-sectors on different indicators between 1990/91 – 2001/02 (tables 1.1 and 4.9 to 4.14).[23] The sub-sectors are divided in three groups according to their value added elasticity reported by Rahman and Islam (2006): sectors having low or moderate employment elasticity ($e<0.50$), sectors having high employment elasticity ($0.50<e<0.75$) and sectors having very high elasticity ($e>0.75$). Of the 21 sub-sectors covered in the current study, 7 have moderate or low elasticity, 8 have high elasticity and the rest 6 have very high elasticity (indicating lower labour productivity with growth).

[22] Sectors are considered at 3-digit level of CMI data.

[23] Two sectors, food processing sector (covered under BSIC-1986 code 311) and fabricated metal products (covered in BSIC-1986 code 381) are skipped because of data problem for these sub-sectors in the new codes of BSIC 2001-02.

In terms of gross value added at 1990-91 prices, 16 out of 21 sub-sectors experienced positive growth during the first half of 1990s. During the second half of 1990s, 13 sub-sectors experienced positive growth and during 1999/00–2001/02, 12 sub-sectors experienced positive growth. It is noted that sub-sectors were having fluctuations in their growth performance. Only 4 sub-sectors experienced positive growth and one sub-sector experienced negative growth in all the three sub-periods. The sub-sectors which experienced positive value added growth in all three sub-periods (separately) include textile manufacturing (moderate elasticity); furniture and fixture, food manufacturing (high elasticity) and non-metallic mineral products (very high elasticity). The only sector that experienced negative growth in all three sub-periods is the industrial chemical sub-sector. During the entire period of 1990/91–2001/02 average annual growth rate was negative for 5 sub-sectors. Those are paper and paper products; industrial chemicals, fabricated metal products; other textiles manufacturing and wood and cork products. None of the highly employment elastic sub-sectors experienced negative annual average growth in value added during this entire period.

It is expected that value added growth in highly employment elastic (0.50 <e>0.75) sub-sectors will be associated with growth in employment in these sectors. Though all the highly elastic sectors experienced positive annual average growth in value added for the entire period of 1990/91 – 2001/02, 3 of them experienced negative employment growth. These include rubber products, electrical machinery and transport equipment sub-sectors. Similar situation is also observed for 2 sectors with moderate elasticity and 1 with very high elasticity. These are textile manufacturing, iron and still and tobacco manufacturing. Opposite situation is also observed for some sub-sectors. For example, fabricated metal products and 'other textile' sub-sectors experienced positive annual average employment growth during 1990/91 – 2001/02 even though their value added growth was negative. Such performances of sub-sectors indicate possible changes in factor intensity in them along with growth. Negative employment growth along with positive value added growth in some sub-sectors indicate that those sub-sectors are becoming more capital intensive or more productive, while positive employment growth along with negative value added growth in some other sub-sectors indicate that they are becoming more labour intensive or less productive.[24]

Only 6 sub-sectors experienced positive employment growth in all three sub-periods. These are other chemical products (moderate elasticity); furniture and fixture, printing and publishing, pharmaceuticals (high elasticity), pottery and food manufacturing (high elasticity). However, operative employment growth was not positive for all these sectors during the period mentioned above. In terms of the growth of operative employment, 6 sub-sectors experienced positive growth in all three sub-periods. These include non-electrical machinery (moderate employment elasticity and negative growth for overall employment); furniture and fixture, printing and publishing, pharmaceuticals and rubber products (high elasticity) and non-metallic minerals (very high elasticity).

In general it is observed that immediately after the implementation of the liberalisation policy in early 1990s, the employment grew in most of the high and very highly employment elastic manufacturing sub-sectors, while the situation deteriorated (in

[24] The sectors with negative value added growth but positive employment growth indicate that they have potentials to play important role in overall growth by generating more employment. Therefore future studies may look critically into the constraints hindering the value added growth of these sectors.

terms of employment) during the second half of 1990s. However, these sectors have started to catch up with employment growth during the current decade.

As has been mentioned above ratio of fixed asset to employment can be considered as an indicator of factor intensity in a sector. It is observed that capital labour-ratio has increased in 12 the sub-sectors between 1990/91–2001/02 period and declined in rest of the sectors. Out of the above mentioned 6 sub-sectors, which experienced negative employment growth with positive value added growth, 4 experienced positive growth in capital-labour ratio during 1990/91–2001/02.This observation coincides with the anticipation of capital deepening in these sub-sectors - rubber products, electrical machinery, textile manufacturing and tobacco manufacturing. The other two sub-sectors, iron and steel and transport equipment, experienced decline in capital-labour ratio. The experiences of these two sectors indicate increase in their productivity. Without further study of these sub-sectors, no certain conclusion can be drawn regarding the structural changes in them.

In order to assess whether the growth of value added at the three-digit level has any correlation with the degree of labour intensity, simple correlation between the growth of value-added and capital deepening was calculated separately for each of the three years 1995/96, 1999/00, and 2001/02. The estimated correlation coefficients are -0.026, -0.136, -0.053 respectively. Apparently there is a negative (positive) relationship between growth of value-added and capital deepening (labour-intensity). However, none of the estimated correlation coefficients are statistically significant.

The CMI data indicates that privatisation and liberalisation policies of 1980s and mainly 1990s resulted in overall positive growth in manufacturing value added and employment. However, the sector specific experience was not straight forward. The sub-sectors which have grown at a higher rate, say at an annual average rate of more than 20 per cent, during 1990/91- 2001/02 include furniture and fixture, printing and publishing, pharmaceuticals, pottery and non-metallic minerals. All these have high or very high employment elasticity. In terms of employment generation this is a positive sign. However slow or even negative growth rates of other sectors and fluctuations in growth of different sub-sectors at different sub-periods limits our conclusions regarding stability of sub-sectoral performance in manufacturing. Moreover no significant change in factor intensity is observed in various sub-sectors.

The following conclusions can be drawn from this chapter.

- Around 95 per cent of manufacturing sector employment and 93 per cent of gross value added in manufacturing is generated by the private sector. Moreover top-10 industries constitute 85 per cent of the gross value added.
- Manufacturing employment is mainly (around 88 per cent) generated in large establishments. RMG has the highest share in manufacturing employment (54.9 per cent in 2001-02) followed by textile manufacturing (18.8 per cent).
- During the entire period of 1990/91 – 2001/02, manufacturing employment grew at an annual rate of 7.53 per cent which is associated with an annual average value added growth of 10.87 per cent.
- Manufacturing sector as a whole has slightly become more capital intensive during 1990/91 – 2001/02. However, the performance of top-10 industries of 2001-02 does not lead to a clear conclusion regarding increased capitalization in these sectors with their growth, though some sectors did experience capital deepening.
- During all the three sub-periods considered (i.e. 1990/91-1995/96, 1995/96-1999/00 and 1999/00-2001/02), only four sectors have registered positive value added growth at the price of 1990/91. These are textile, furniture and fixtures, food manufacturing and non-metallic mineral products.

- For the entire period of 1990/91 to 2001/02, five sectors experienced negative value added growth, such as paper and paper products, industrial chemicals, fabricated metal products, other textiles, wood and cork products.
- During the period mentioned above, a number of industries experienced negative employment growth, although value added growth was positive; they are: rubber products, electrical machinery, iron and steel products, transport equipments, tobacco manufacturing, and textile manufacturing. Capital deepening appears to have occurred in all of them except iron and still and transport equipments. .
- No systematic relationship has been found between the growth of various industries and their labour-intensity, which implies that labour-intensive sectors are not necessarily growing faster than others.

Though this chapter provides an analysis on employment situation from various dimensions, it did not look into multiplier effects of formal employment. Rahman and Islam (2006) also provided the measure of direct employment elasticity (did not consider indirect employment). However, inclusion of backward and forward linkages of direct (formal) employment would give a better picture of actual employment scenario. This is an area, which requires further research. Moreover, use of factors in a market economy is governed by relative prices of respective factors. Therefore, the reason for capital deepening may be because of rising cost of labour or it may be because of availability of credit, which encourages machinery import. Therefore, it will be useful if future research also looks into the nature of movements in the price of capital relative to price of labour.

5. Experiences with selected manufacturing and service sub-sectors: policy changes and implications

This chapter explores the performance of three manufacturing and two service sub-sectors. The three manufacturing sub-sectors are (i) food manufacturing, (ii) leather and leather products, and (iii) furniture and fixtures, while the two service sub-sectors are (iv) telecommunications, and (v) information technology. It focuses on analysis of specific policies (if any) regarding these sub-sectors and how the structure of employment changed in response to these policy changes.

5.1 Food manufacturing

5.1.1 Introduction

This section focuses on food manufacturing sub-sectors that include agro- processing (processing of meat, fish, fruit, vegetables, oils and fats), dairy products, grain mill products (rice and other grain mill products, starch products and starches) and bakery products (including sugar, tea and coffee processing, edible salt refining)[25]. In terms of domestic value added, employment generation and export earning food manufacturing sector play an important role in the economy.

5.1.2 Production, employment and export

The CMI (2001/02) reported 5737 food manufacturing establishments which together constitute 10 per cent of gross manufacturing value added, 8.4 per cent of value added at factor cost and 6 per cent of manufacturing employment (table 5.1). This sector employs 150,586 persons of which 76 per cent were operative employees. However, the LFS 2002/03 reported that more than four hundred thousand persons were employed in food manufacturing sector. As small enterprises (employing less than 10 employee) are not covered in the CMI, this substantial difference in employment data (though for different years, but very close to each other) indicates that a large number of food manufacturing enterprises are in fact SMEs. Even the CMI data show that 89 per cent of the food manufacturing establishments belong to medium enterprise category (consist of 10 to 49 employees) and the rest to large enterprise category (49 and above employment). The gross value added generated by the food processing sector originated mainly in bakery products (54 per cent) followed by agro-processing (30 per cent), grain milling products (12.7 per cent) and dairy product (3 per cent). In terms of value added share, the same distributional ranking roughly followed by different food manufacturing sub-sectors (except 1999/00) during 1990/91–2001/02 (table5.2).

Employment in food manufacturing mostly takes place in the bakery products sub-sector (56 per cent). Though value added share of grain milling was less than that of agro-processing sub-sector, its share (29 per cent) in total food manufacturing

[25] Food manufacturing refers to manufactured food products for both human being and animals. This study considers manufactured food products for human being only.

employment was higher than that of agro-processing (13 per cent). This indicates higher labour intensity in grain milling. Dairy products sub-sector generates only 1 per cent of food manufacturing employment. Structure of contribution of different sub-sectors in food manufacturing employment remained same during 1990/91–2001/02.

Capital–labour ratio (in terms of fixed assets net of building costs) in food manufacturing was Tk102.41 thousand in 2001/02 (table 5.3). This ratio was higher than that of the overall manufacturing sector (Tk90 thousand). Dairy product sub-sector had the highest capital-labour ratio (Tk321.90 thousand). Compared to the situation in 1990/91, the ratio rose in all the sub-sectors of food manufacturing in 2001/02. UNCTAD (2007) has reported that 80 per cent of the total production of the domestic agro-processing sector was being carried out in small scale and home based units in 2001. BAPA[26] (2007, cited in UNCTAD, 2007) estimates that around 50 per cent of the total agro-processing is currently being carried out by small-scale enterprises.

Gross value added in overall food manufacturing sector grew at an annual average rate of 22.3 per cent during 1999/00–2001/02 (table 5.4). Bakery product sub-sector registered the highest rate of growth (50.3 per cent), followed by agro-processing (9.3 per cent). The rates were negative in grain milling products (-2.7 per cent) and dairy products (-15.9 per cent) sub-sectors. Employment grew ant an annual average rate of 6.6 per cent in overall food manufacturing sector during 1999/00–2001/02; it was the highest in bakery products (13.2 per cent) but declined in dairy products sub-sector by 35 per cent.

Among food processing sub-sectors, the sub-sector having the highest contribution in terms of both value-added and employment (i.e. bakery product sub-sector) also achieved fastest growth in terms of both employment, value added and fixed assets. However, this sector became more capital intensive during this period.

In order to assess whether the food manufacturing sector is becoming more labour or capital intensive over time, natural logarithm of the capital-labour ratio was regressed on time trend. The time period covered for this analysis was 1990/91 to 2001/02. The results reported in table 5.5 indicate that capital deepening has intensified over time _ at the rate of 3.05 per cent per annum (compound growth rate).

Manufactured food products (mainly frozen food) are an important source of export earnings for Bangladesh. Frozen food (dominated by processed shrimp) earned 4.6 per cent ($459 million) of export earning in 2005/06, which declined from 8 per cent of export earning share in 1990/91.[27] In 2005/06 export earning from agro-processed food and tea were $10.49 million and $11.89 million respectively. UNCTAD (2007) reported an increase of the total value of processed foods exported from Bangladesh from $1.6 million in 2003/2004 to $5.6 million in 2004/2005.

[26] BAPA refers to Bangladesh Agro Processors' Association.

[27] Though export statistics considers frozen food as a primary export, fish processing and preservation activity is included under manufacturing in the CMI statistics (BSIC code 1512).

5.1.3 Incentives and obstacles

For about two decades, food manufacturing, especially agro-processing and the frozen food sectors have been receiving considerable attention in various policies (box 5.1). Agro-processing has been identified as a thrust sector in industrial policies of 1999 and 2005. Further, the Industrial Policy 2005 proposed for providing cash incentives to the agro-processing establishments within the EPZs. This sector was selected for development under a crush programme in the Export Policy 1995-97 and was allowed 50 per cent tax exemption on export earnings. Export policies of 2003-06 and 2006-09 have considered agro-processing as one of the highest priority sectors. This sector was allowed complete tax exemption since the beginning of the fiscal year (FY) 2003 until the end of FY 2006 and was allowed to receive export loan at a lower interest rate. The frozen food sector was declared as a thrust sector in the Export Policy 1989-91, and was allowed to have 100 per cent XPB. Moreover, 100 per cent export oriented firms were allowed to import packaging materials under back to back L/C. Besides, the Agricultural Policy of 1999 has particularly focused on agro-processing and agro-based industries; the government also offers 20 per cent cash incentive for those exported agro-products, which include more than 70 per cent of domestic agricultural raw materials.

Box 5.1 Regulatory Incentives/Constraints: Food Manufacturing Sector

Policies	Since 1991	Regulations/Incentives
Industrial Policy	Industrial Policy 1991	➢ Nothing Specific
	Industrial Policy 1999	➢ Identifies agro-processing industries as a thrust sector.
	Industrial Policy 2005	➢ Declares agro-processing as a thrust sector and allows special revenue facilities. ➢ Cash incentives to entrepreneurs in EPZs. ➢ Receive income tax relief from 1 July 2002 to 30 June 2006.
Export Policy	Export Policy 1989-91	➢ Frozen foods under the thrust sector. ➢ 100% Export Performance Benefit. ➢ Air transport booking facilities directly from Rajshahi airport. ➢ Up to 5 acres agricultural farm counted as industry.
	Export Policy 1995-97	➢ Comes under the Crush Program. ➢ Lower air transport fair facilities. ➢ 50% of export income is tax free.
	Export Policy 1997-02	➢ Establishment of Hortex Foundation for the development of agro-processing industry.
	Export Policy 2003-06	➢ Priority sector. ➢ Income tax exemption 1 July 2002 to 30 June 2006. ➢ Financial incentives including cash assistance. ➢ Export loan on easy term and lower rate. ➢ Tax return/bond facility.
Import Policy	Export Policy 2006-09	➢ Priority sector. ➢ Project loans with reduced interest rates on a priority basis. ➢ Income tax exemptions; financial benefits or subsidies for utility services. ➢ Export loans with soft terms and lesser interest rates. ➢ Tax return/ bond facilities.
	Import Policy 1989-91	➢ Industries can export their declared amount against Barter/STA ➢ Industries can export any amount that is listed items on their pass book
	Import Policy 1991-93	➢ Same as Import Policy 1989-91
		➢ 100% export oriented industries under bonded warehouse system shall be allowed to import raw and packaging materials on back to back L/C basis

Box 5.1 Regulatory Incentives/Constraints: Food Manufacturing Sector		
	Import Policy 1995-97	➢ For import of items against back to back L/C by these industries, no authorization from Bangladesh Bank shall be required. ➢ Industrial consumers only, accepted on a regular basis, may import up to three time the value of the entitlement for such items.
	Import Policy 2003-06	➢ 100% export oriented industries allowed to import raw and packaging materials on back to back L/C basis ➢ Without export L/C with the bank client relation industries can import raw materials through site/usages L/C.
	Import Policy 2006-09	➢ Same as Import Policy 2003-06

Food processing (including agro-processing and frozen food) sector has responded positively to various policy incentives. World Bank (2005) has projected a growth rate of 15 per cent for this sector in coming years. However, many of the small scale food processing units may not be able to attain such a growth due to their weak technological base (UNCTAD, 2007). In so far as the growth of agriculture is stagnant and the food processing sector is directly linked to the agriculture sector, the food processing sector may become increasingly dependent on import to meet its demand for raw materials. Poor post- harvest management technique, inadequate market access, lack of crop insurance, poor infrastructure and limited private sector investment etc., in agriculture significantly affect the productivity of agro-processing. The current state of agricultural research and extension system in Bangladesh is unable to generate, transfer and promote the use of modern technologies to enhance both agricultural productivity and the productivity of the agro-processing sector (World Bank, 2005).

Supply of raw materials, i.e. agricultural products is a major constraint for the agro-processing sector. Exporters of agro-processed commodities purchase the raw materials from different procurement channels, which actually do not have direct control over the farming decision of the farmers. This results in fluctuations in the supply of raw materials and thus fluctuations in prices. Developing a contract farming system may solve this problem. This may work as a backward linkage of large agro-processing firms.

Quality of food is an important issue related to food processing industry and expansion of export markets of food products. Sanitary and Phytosanitary (SPS) measures are becoming increasingly important determinant of export at the international markets. It may be recalled that EU imposed a ban on export of shrimp from Bangladesh on SPS ground in 1997, which was later removed after improvement of SPS standards in the shrimp processing firms. Therefore, the expansion of food processing industry has to be associated with quality and safety of products. However that would require extra investment. The Pure Food Ordinance, 1959 of Bangladesh explains various rules and regulations regarding the quality of food, while Bangladesh Standards and Testing Institution (BSTI) is the sole regulatory body to set and monitor food standards. Comparing the standards set by BSTI with those of the widely accepted international food standards set by Codex Alimentarius Commission (CAC) Asaduzzaman (2004) concluded that the BSTI standards are often not in line with the Codex standards. As a result, commodities that pass the standards in Bangladesh may not pass the international standards. This issue needs to be considered seriously while giving incentives for the development of food processing sector.

It may be possible for large food manufacturing firms to invest for improving standards, while the relatively smaller firms find it difficult to invest in measures for raising standard. As a result, it becomes difficult for the smaller factories to grow in

such a way that they are able to export their products in the international market. Government support is required in this regard.

5.2 Leather, leather products and leather footwear industry (BSIC codes 1911, 1912 and 1921)[28]

5.2.1 *Introduction*

The leather and leather products sector has been playing an important role in terms of manufacturing value added and employment in Bangladesh since 1950. Of late, this sector started to make sizeable contribution to export earnings. About 85 per cent outputs of leather products are exported. After the independence of the country in 1971, tanneries were nationalised and controlled

by the Bangladesh Tanneries Corporation with 24 tanneries as its members, but later brought under control of the Bangladesh Chemical Industries Corporation (BCIC). The governments that assumed power after the *coup d'etat* in 1975 reversed its nationalisation decision and started returning the nationalised units to private owners. At the 4–digit BSIC level this sector includes tanning and dressing of leather; manufacture of luggage, handbags, saddlery and harness and leather footwear. Wet-blue and crust leather are generally sold in the local market, while large volume of finished leather is exported abroad. Some enterprises produce a combination of wet-blue, crust and finished leather. The leather sector (hide and skin, leather and leather goods and footwear, except rubber) contributed 0.31 per cent of GDP in 2002-03.[29]

An important feature of the leather sector is that most of the firms in this sector are owned by the private sector, while multinational companies own a small fraction of firms. Moreover, most of the leather processing firms are run by sole owners, i.e. they are family run business. In case of footwear manufacturing units, around 42% are private limited companies and another 42% are sole-ownership firms.

5.2.2 *Production, employment and export*

The production of leather and leather goods shows mixed trend of growth between 1995/96 and 2005/06. Production level decreased to 12.24 million square metres in 2005/06 from 15.9 million square metres in 1995/96. During the intervening years production rose to high at 19.66 million square metres in 2000/01 and low at 7.17 million square metres in 2003/04.[30] The CMI 2001-02 recorded as many as 303 establishments in leather, leather goods, and leather footwear production in 2001-02 (table 5.6). Of these, 183 units were engaged in tanning and dressing of leather, 85 units in manufacturing leather products, and 35 in leather footwear. While 297 establishments were privately owned, 6 were joint ventures. This industry had 3 per cent and 2.6 per cent shares in

[28] These codes follow BSIC 2001. The corresponding codes in BSIC, 1986 were 3241, 3243, and 3251respectively.

[29] Bangladesh Economic Survey, 2003, Ministry of Finance.

[30] Bangladesh Economic Review, various issues.

manufacturing gross value added and value added at factor cost respectively in 2001/02 (table 5.7). However, a large part of this spurt of growth originated in the leather footwear sub-sector. Without this sub-sector the shares of the leather industry were 1.03 and 1.06 per cent of manufacturing gross value added and value added at factor cost respectively during the same period. The leather footwear sector is also a lead sub-sector in terms of employment generation in that it contributed 37 per cent of employment in the leather sector. The three sub-sectors together generate 1.1 per cent of manufacturing employment. Leather and leather products experienced heavy fluctuations in their growth in employment, gross value added and value added at factor cost till mid-1990s, then the magnitude of the growth (positive or negative) slowed down in the later half of 1990s. Some upward trend is observed in the leather sector (without leather footwear) since the beginning of the present decade. Even though the footwear sector experienced rapid growth during the first half of 1990s (except negative growth in 1990/91 and 1992/93), its growth has slowed down during the later half. Considering the entire period of 1990/91 to 2001/02, it is observed that the leather sector as a whole experienced positive growth in employment, value added, value added at factor cost and fixed asset. However the growth rates were very low. Moreover the growth was negative in different sub periods (as has been noted in table 4.6).

Mehrotra (2006) provides some recent accounts on leather tanning and processing. He reports that there were 220 tanneries in Bangladesh in 2005 that employed 70,000 to 80,000 workers from slaughter house to finished leather. Of these, 194 were located in Dhaka, 18 in Chittagong and the rest in other places. While13 (6 per cent) of the tanneries are large (producing more than 5 million square feet per year) and 75 (34 per cent) are medium (producing 1 to 3 million square feet per year), the majority totalling 132 (60 per cent) are small or cottage enterprises (producing 0.5 million square feet or less per year).

The CMI, 2001-02 data reveal that about 27,114 persons were employed in leather industry. Of them, 75 per cent were production workers (operative employees) and the rest were salaried workers (management). About half of these workers are in tanning and dressing of leather of which 78 per cent were production workers. The leather footwear sub-sector employed 9,930 persons of which 67 per cent were production workers. The leather goods production (without footwear) employed 3,578 persons of which 91 per cent were production workers. Rahman and Islam (2006) reported high value added elasticity of employment in the leather and leather product (table 1.2). However, this sub-sector is experiencing slow growth, which could be a reason for slow growth in employment in this sector.

Capital formation in leather and footwear sub-sectors shows mixed trend. In some years the annual average growth is positive and in some other years the growth is negative. The capital labour ratio defined as fixed asset (net of costs for buildings) over employment also shows mixed trend and stood at Tk 168.38 thousand in 2001/02 (table 5.6). In order to assess whether the leather sector is becoming labour or capital intensive overtime, natural logarithm of the capital-labour ratio was regressed on time trend. The time period covered for this analysis was 1990/91 to 2001/02. The results reported in table 5.9 indicate that capital deepening has intensified overtime. It implies that capital deepening is intensifying at a compound rate of 4.08 per cent per annum in the leather sector (without footwear). In order to assess whether the footwear sector is becoming labour or capital intensive overtime, natural logarithm of the capital-labour ratio was regressed on time trend for the same time period. The results reported in table 5.10 indicate that there is a tendency for capital widening overtime. It implies that capital widening is intensifying at the rate of 4.21 per cent per annum. However, the coefficient estimates is not precise.

Leather and leather products are important source of export earnings of Bangladesh, though its share in export earning has declined during 1990s and also in the current decade. Between early 1980s and early 1990s leather and leather products earned 8 per cent of export earnings. Since then the share of this sector in export earnings (including leather footwear) has been declining. Leather and leather footwear earned 3.9 per cent of export earnings in 2001/02 which declined to 2.4 per cent of total export earning of 2005/06. Although export has increased in absolute value its share in total export earning has declined.

5.2.3 *Incentives and obstacles*

The leather and footwear sectors have received considerable attention in export, import and industrial policies of Bangladesh (box 5.2). This sector has been identified as one of the thrust sectors or one of the high priority sectors for development by different industrial policies and export policies. As a result, special priorities and incentives were given to this industry including low cost credit, duty exemption or reduction etc. This sector was declared as 100 per cent export oriented industry in export policy 1995-97 and accordingly was eligible to receive special facilities including 'venture capital' facilities; facility to handle foreign exchange of certain amount beyond the Bangladesh Bank's foreign exchange regime, bonded warehouse and duty draw back facilities, duty free imports of machinery etc. This sector was allowed to import raw and packaging materials under back to back L/C since the declaration of import policy of 1995. Leather factories located in the EPZs receive all benefits of zones. This sector also enjoyed income tax relief at different time period. Export policy of 2006-09 has offered financial benefits or subsidies for utility services in this sector.

Despite all the domestic incentives and tariff preference under generalized system of preference (GSP) in important leather importing countries (e.g. European Countries), growth performance of this sector is not satisfactory, specially, the leather processing sector is performing poorly. This in turn is holding back potentials of employment growth in this sector. The leather sector faces multiple constraints including shortage of raw materials, small size of firms, traditional technology (specially, in leather processing factories), lack of skilled workers, weaknesses in governance and skills among entrepreneurs, lacks in policy incentives etc. A large number of leather processing units remain unutilised due to shortage of raw materials. The production capacity of tanneries is noted to be 300 million square feet, while they get only 200 million square feet of raw hide for processing.[31]

According to GTZ (2004), reasons behind poor performance of the leather industry are poor quality of processing, illegal export of hides and skin to India, poor technological base, inadequate financing, low value addition and lack of marketing skill. Lack of skill of the workers of this sector is a major obstacle for the growth of this sector. The leather industry mostly uses domestic raw materials together with imported chemicals. Around 80 per cent of the annual supply of hides and skins originates during the country's annual festival of *Eid-ul-Adha*, when a large number of animals are slaughtered and as a result huge volume of hides and skins need to be collected and

[31] The Daily Star (English Daily in Bangladesh), December 19, 2007.

prepared (salting, curing) and preserved within a shorter period of time.[32] Due to poor technology and skill in collection and preparation of the raw material result in production of low quality leather. Value of hides and skin is reduced by 20% due to lack of skills in processing and the leather industry incurs an annual loss of Tk3 billion as a result (Mehrotra, 2006). In the developed country such wastage is only 1 per cent. If we could reduce the wastages we would be able to increase export earnings from leather to a large extent.

Frequent changes in policies of the government regarding the leather sector also acted as a problem for the growth of this sector. From Box 5.2 it is observed that government banned export of wet blue leather in early 1990s, while export of crust leather was banned in 1997, which was opened again at a later stage. And again export of crust leather was banned in 2000. In the budget 2007-08 government has imposed a 10 per cent duty on import of raw hide and wet blue leather.[33] This may hamper the value addition and competitiveness of the leather processing firms, 80 per cent production of which is exported. During discussions with stakeholders, it was mentioned that frequent changes in policies hamper long term planning for this sector. Average duty structure (total tax incidence) of raw hides and leather goods are presented in table 5.11. It reveals the fluctuations in actual duty incidence during 2001/02 to 2005/06. It is also noted that leather goods sub-sector is highly protected by duty. Though cash subsidy is given to the leather sector, the entrepreneurs do not get the full benefit of cash incentives due to system loss and corruption. Cash incentive is not even disbursed according to the committed amount.

It was noted that poor quality of public utility supply and infrastructure compel the leather sector to depend on private sources (or in some cases on their own) for utility supply like water and electricity, which increases the cost of production. Bhattacharya (1996) also mentioned that problem of electricity and gas supply, bad and congested roads, and poor telecommunication system are significant factors increasing the cost of production leather manufacturing (and also RMG) sector. Credit is another constraint for the growth of leather sector. Specially, this sector requires short-term and easy financing, which is often not available. Khan (2000) attributed persistence of quality problems in this sector to lack of formal research and development. Though some initiatives have been undertaken to improve the quality of finishing, dyeing and designing of leather and leather products with the assistance of different organizations (e.g. the German Association of Technical Cooperation), significant skill improvement is needed for butchers engaged in skinning animals in the slaughter houses (Sharif and Mainuddin, 2003). GTZ (2004) reported that only 2 per cent of the employees of the leather sector are trained and most of them work in footwear industry.

[32] The Daily Star (English Daily in Bangladesh), December 20, 2007.

[33] The Daily Star (English Daily in Bangladesh), December 24, 2007.

Box 5.2 Regulatory incentives/constraints: Leather and footwear sector		
Policies	**Since 1991**	**Regulations/Incentives**
Industrial Policy	Industrial Policy 1991	➢ Special Bonded Warehouse and notional import tax and VAT facilities. ➢ Flat rate for Duty Draw Back. ➢ 100% tax incentives for 100% export oriented firms.
	Industrial Policy 1999	➢ Identifies leather and leather products as a thrust sector. ➢ Special facilities including 'venture capital' facilities.
	Industrial Policy 2005	➢ Identifies leather and leather product as a thrust sector ➢ Receives special revenue facilities. ➢ Preference given to small and medium scale investors in the allotment of plots in BSCIC industrial enclaves. ➢ Receives special facilities including 'venture capital' facilities and facility to handle foreign exchange of certain amount beyond the Bangladesh Bank's foreign exchange regime.
Export Policy	Export Policy 1989-91	➢ Put under the Crush Program. ➢ Receive loan at 7% reduced rate. ➢ Back-to-back LC facilities for imported raw materials. ➢ Banned export of wet-blue leather since July 1, 1990.
	Export Policy 1995-97	➢ Declares leather as 100% export oriented from 80% export oriented industry. ➢ Supervised Bonded Warehouse facilities for imported raw materials. ➢ Banned export of crust leather from July 1997.
	Export Policy 1997-02	➢ Waver of 2.5% customs duty and 2.5% license fee for next three years import of wet-blue and pickled raw leather. ➢ Banned export of crust leather from 2000.
	Export Policy 2003-06	➢ Declares leather as the highest priority sector. ➢ Income tax exemption; financial incentives including cash assistance. ➢ Export loan on easy term and lower rate. ➢ Tax return/bond facility.
	Export Policy 2006-09	➢ Highest priority sector. ➢ Project loans with reduced interest rates on a priority basis. ➢ Income tax exemptions; financial benefits or subsidies for utility services. ➢ Export loans with soft terms and lesser interest rates. ➢ Tax return/ bond facilities.
Import Policy	Import Policy 1989-91	➢ Industries can export their declared amount against Barter/STA ➢ Industries can export any amount of items listed on their pass book
	Import Policy 1991-93	➢ Same as Import Policy 1989-91
	Import Policy 1995-97	➢ 100% export oriented industries under bonded warehouse system allowed to import raw and packaging materials on back to back L/C basis ➢ For import of items against back to back L/C by these industries, no authorization from Bangladesh Bank shall be required. ➢ Industrial consumers only, accepted on a regular basis, may import up to three time the value of the entitlement for such items. ➢ Industrial consumers accepted on an ad hoc basis may import restricted items only up to double the value of the half-yearly amount as recommended by the sponsoring
	Import Policy 2003-06	➢ 100% export oriented industries shall be allowed to import raw and packaging materials either on back to back L/C basis or up to 4 months requirements without any master export L/C. ➢ Without export L/C on the basis of bank client relation, industries can import raw materials through site/usages L/C.
	Import Policy 2006-09	➢ Same as Import Policy 2006-09

Mondal (1999) emphasized on enhancement of technological capability of leather industry to make it more competitive in the global market. He viewed improvement in management efficiency as an important contributor in technological improvement in this sector. Specially, small and medium firms within this industry need to develop their technological base to become more competitive. It is revealed that technology has gone

through some changes in the last decade but further improvement is required, specially in the tanneries. Moreover to achieve higher return from the leather sector Bangladesh needs to move to the production of higher value-adding leather and leather products. Growth of footwear and other leather goods sectors can be a good source of employment and export earnings. Though the part of the finished leather used in footwear and other leather goods manufacturing and most of the chemicals used are imported from abroad, the accessories (including decorative accessories) used in them are mostly local. Therefore, growth of these sectors will generate employment in the backward linkage sectors.

In the international market Technical Barriers to Trade (TBT) and Sanitary and Phytosanitary Measures (SPS) are becoming increasingly important determinants of export. These regulations are equally applicable to leather and leather products. Therefore, the leather industry of Bangladesh needs to comply with international standards. Such compliance will, however, require capacity building of the Standard Institutions in the Government as well as the private sector. Sharif and Mainuddin (2003) has also noted that issues of pollution control and labour standard have been largely overlooked in case of leather industry of Bangladesh. These issues are important in their own right as future market access will increasingly depend on product quality as well as compliance with international social and environmental standards. There is a need for a centralized/dedicated effluent treatment plant and chrome recovery plant.

5.3 Furniture sector (BSIC code 361)

5.3.1 Introduction

Furniture sector is among the few sectors whose production volume positively correlates with the macroeconomic performance of the country. Hence, with increasing economic growth of Bangladesh, the demand for furniture is going to increase. The furniture industry consists of wooden, metal, bamboo and cane furniture. While manufacturing of wooden furniture dominates this sector, metal furniture is a new entrant in this sector. This analysis encompasses wooden, cane and bamboo furniture manufacturing (industry code 361 according to BSIC 2001).

5.3.2 Production, employment and export

Furniture is a labour intensive industry and is heavily dominated by small scale enterprises. According to the CMI, 2001-02, there are 773 establishments in furniture industry (table 5.12). Of these, 438 (57 per cent) had 10 to 19 employees, 88 (11 per cent) had 20 to 49 employees and the remaining (33 per cent) were large (had more than 49 employees). As the CMI does not include establishments with less than 10 employees but the LFS does, there is a discrepancy in employment records between the two sources. While the CMI records about 26 thousands employees, the LFS data shows 3.79 hundred thousand employees in furniture industry in 2002/03. Therefore, it may be inferred that this sector mostly consists of small (less than 10 employees) establishments.

CMI data of 2001-02 reveals that 773 furniture and fixture establishments together constitute 2.9 per cent of gross manufacturing value added, 3 per cent of value added at factor cost and 1.1 per cent of manufacturing employment (table 5.12). The gross value added generated by the furniture and fixture sector in 2001/02 entirely originated in wooden furniture production, while cane and bamboo furniture sector had 1.7 and 0.25 per cents share in value added in 1990/91 and 1999/00 respectively (table 5.13).

Employment in furniture and fixture manufacturing also entirely originated in the wooden furniture sector in 2001/02. This sector was employing 2811 persons in 1990/91, which increased to 26470 persons in 2001-02 (table 5.14). Gross value added in overall furniture and fixture sector grew at an annual average rate of 114.5 per cent during 1999/00–2001/02. As mentioned above, all of it originated in the wooden furniture sector. During this period total employment in this sector grew at an annual average rate of 93 per cent; while the growth rate of operative employee was lower (79 per cent). During the entire period of 1990/91 to 2001/02 the furniture and fixture sector has grown at an annual average rate of 46 per cent inducing an annual average employment growth of 23 per cent and fixed growth asset growth of 18 per cent.

Capital–labour ratio (in terms of fixed asset) in furniture and fixture was Tk.6.9 thousand in 2001/02. This ratio is much lower than capital–labour ratio of the overall manufacturing sector (Tk90 thousand) in the respective year. The capital – labour ratio in the furniture and fixture increased from Tk7.98 thousand in 1990/91 to Tk40.65 thousand in 1995/96 but declined to Tk9.54 thousand in 1999/00 and further to Tk6.9 thousand in 2001-02. The ratio declined mainly due to higher growth rate of employment compared to that of fixed asset in this sector. In order to assess whether the furniture and fixture sector is becoming labour or capital intensive overtime, natural logarithm of the capital-labour ratio was regressed on time trend. The time period covered for this analysis was 1990/91 to 2001/02. The results reported in table 5.16 indicate that capital widening has intensified overtime. It implies that capital widening is intensifying at the rate of 0.8 per cent per annum. However, the coefficient estimates is not precise.

It is worth mentioning that the furniture and fixture sector of Bangladesh has gone through massive change in terms of products in last 5 years which is not covered in the CMI 2001/02. Furniture made from metal and plywood has become very popular in recent years, which has possibly changed the technology, investment patters and employment in this sector. Further research is needed to clearly understand the nature and extent of these changes. Based on recent data, Katalyst (2005) claimed that the furniture industry has generated employment of 5 million people which may be extended up to 10 million by removing various obstacles prevailing in this sector.

Furniture is a relatively new export sector for Bangladesh. In 2005/06 export earning from furniture was $2.17 million compared to $1 million in 2003/04. Though the value is very low in terms of the total export earnings, it is a promising sector (Katalyst, 2006).

5.3.3 *Incentives and obstacles*

The furniture and fixture sector has received special attention in various policies. In industrial policy of 1991, the furniture industry was allowed to receive tax holiday facilities as an SME. This continued throughout the 1990s and during the first half of current decade. The industrial policy 2005 identifies furniture as a thrust sector and gives special tax incentives to it. However, it has not received much attention in export policies or import policies. As the furniture sector is dominated by SMEs, measures for its development can enhance income of many people working in the sector. This sector is yet to graduate from cottage based carpentry to mass scale industrial set-up. The small and medium scale manufacturers of this industry need to transform their carpentry workshops into industrial units so as to be able to receive special tax benefit on utility consumption and easy access to loan. Small firms are not able to avail collective advocacy opportunities as they are not united till date. The growth of this sector would create employment opportunities for many people and ensure higher return. However, this requires enhancement of investment capacity of these small and medium scale furniture manufacturers.

One of the main obstacles of furniture industry is scarcity of local raw material, i.e. timber. Approximately 4,500 sawmills all over the country produced only 2.7 M3 of saw timber against the demand of 5.4 M3 in 2005.[34] Moreover, lack of seasoning facility hampers delivery of quality wooden furniture. Such a situation leads to import of raw materials including furniture fittings. However, import of raw materials erodes its competitiveness due to high duty (table 5.17). The customs duty on various types of board and furniture fittings is as high as 25 per cent on which additional duties (VAT, supplementary duty etc.) are applicable. It should also be noted that 25 per cent customs duty is also faced by finished furniture, which acts as a protection to local furniture sector. In the budget of 2007-08, 20 per cent supplementary duty has been imposed on import of metal framed furniture and at the same time supplementary duty on boards of all types has been withdrawn. Though this is a good incentive for the growth of this sector, entrepreneurs demand duty reduction up to 5 per cent on all types of boards and furniture fittings. Policies should give more emphasis on timber import rather than finished furniture import. Local furniture entrepreneurs also complain that under-invoicing of imported furniture is hampering the growth of this sector.

Box 5.3 Regulatory incentives/constraints: Furniture sector

Policies	Since 1991	Regulations/Incentives
Industrial Policy	Industrial Policy 1991	➢ With the recommendation of BSCIC appropriate furniture industry, under SME category, would get Tax Holiday facilities.
	Industrial Policy 1999	➢ Like thrust sectors SMEs will get special revenue facilities.
	Industrial Policy 2005	➢ This policy identifies furniture as a thrust sector. Therefore this sector will get special revenue facilities. ➢ In respect of foreign investments in this thrust sector, preference will be given to small and medium scale investors when allotting plots in BSCIC industrial enclaves.
Export Policy	Export Policy 1989-91	➢ Nothing specific.
	Export Policy 1995-97	➢ Nothing specific.
	Export Policy 1997-02	➢ Nothing specific.
	Export Policy 2003-06	➢ Nothing specific.
	Export Policy 2006-09	➢ Nothing specific.
Import Policy	Import Policy 1989-91	➢ Industries can export their declared amount against Barter/STA ➢ Industries can export any amount that is listed items on their pass book
	Import Policy 1991-93	➢ Same as Import Policy 1989 /91
	Import Policy 1995-97	➢ Industrial consumers only, accepted on a regular basis, may import upto three time the value of the entitlement for such items.
	Import Policy 2003-06	➢ At the time of wood packing materials export Fito Sanitary Certificate (to prevent from harmful organism) should be issued from importing country under the rule of International Plant Protection Convention.
	Import Policy 2006-09	➢ Same as import policy 2003-09

[34] http://www.fao.org/docrep/007/ad104e/AD104E06.htm

Lack of trained manpower is an important factor constraining the production of quality furniture. Therefore, institutional training facility is required for even the traditional carpenters. Even though the Under Privileged Children Education Programme (UCEP), the German-Bangladesh Technical Institute and other non-government schools are trying to impart hands-on training to a few carpenters, it is not enough to meet the growing demand for trained carpenters. Lack of coordination between the furniture industry and these training institutes also hampers designing of proper training modules for the carpenters. Female participation at the factory level is still very limited. Though large manufacturers such as Hatil, Otobi employ female workers in their sales outlets, trained or at least semi-trained female workers in furniture production is not visible at all.

The local furniture market is expanding rapidly with the growth of economy and the exposure of an increasing number of people to foreign countries. However, most of the people in Bangladesh cannot afford to buy high quality furniture. Therefore, graduation of this sector into a full-fledged industry depends much on its success in expanding the export market. The furniture sector lacks innovative designs and international marketing skills. To become globally competitive, the furniture industry of Bangladesh needs government support for both easy accesses to imported raw materials, training facilities for carpenters and low cost credit. Duty on raw materials like ply board or particle board, colour and others should be lessened. Government should encourage foreign and local investment in this sector by giving extra facilities, such as low cost credit. tax relief for the enterprises graduating from small scale to medium or large scale, advertising Bangladeshi furniture products abroad etc. The issue of under-invoicing of imported finished furniture should be taken as a serious concern and measures to should be taken to control this.

5.4 Information and communication technology (ICT) services

5.4.1 Introduction

The information and communication technology (ICT)[35] service sector of Bangladesh includes software development, computer hardware related services, internet services, information technology based business support etc. This sector possesses great prospect to employ educated unemployed youths,

5.4.2 Nature of services, employment and export

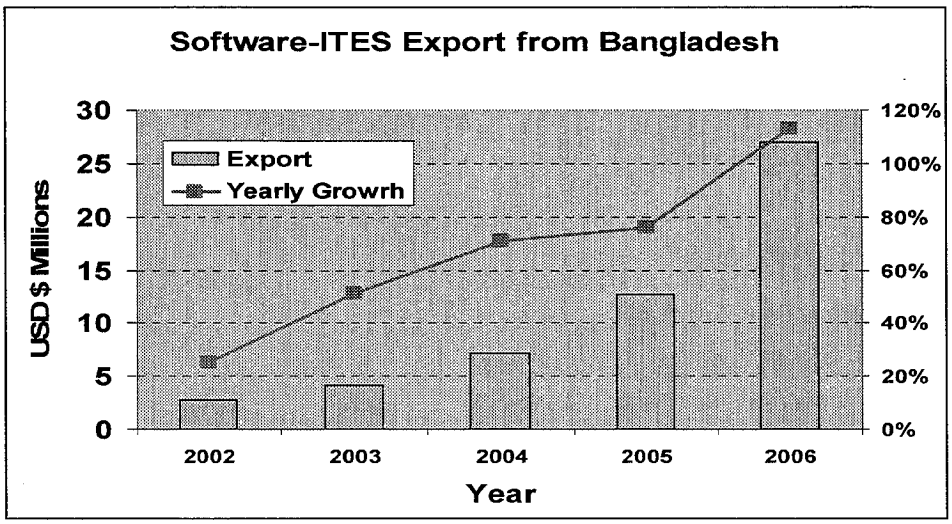
According to LFS data, 2002-03, IT sector was employing 6,805 employees, of which 27 per cent was engaged in data processing, 19 per cent hardware consultancy, another 19 per cent for maintenance, 13 per cent in data base activities and 8 per cent in software consultancy. Though data processing and data base related activities are entirely confined in urban areas, hardware and software services are available in rural areas (table 5.18). Data from another source (IRIS / JOBS, 2005) reveal that there were more than 400 IT

[35] This sector is popularly known as information and communication technology (ICT) sector. As this section focuses mainly on information technology and the next section covers telecommunication services, the term information technology (IT) services is simultaneously used in this section.

firms in Bangladesh, which employed more than 6,000 IT personnel in 2005. Of these, the export industries employed about 2,000 IT professionals; this was expected to grow by more than 50 per cent per year. By 2007 these exporting IT firms are expected to require more than 5,000 personnel to keep up with their projected foreign clients.

Bangladesh has started exporting software since 2001/02. In FY05, there was 75 per cent growth in the export earning from software (Ahmed 2006b). About 50 IT companies of Bangladesh are exporting their software and IT enabled services to 30 countries. The bulk of these exports are for programming services and graphics/animation works. However, Bangladesh is increasingly becoming a destination for software support services, multi-media content development and business process outsourcing. Bangladesh earned $2.8 million in 2001/ 02 from export of software, which rose to $7.2 million in 2003/04. [36] Currently the size of the local software industry is Tk3 billion, which is growing at an annual rate of 15 per cent.[37]

Figure 5.1 Software export from Bangladesh and its growth



Source: http://www.katalystbd.com/admin/downloads/20060507053018.pdf (accessed on 30 July 2007)

5.4.3 *Incentives and obstacles*

Since the mid 1990s ICT sector is receiving considerable attention in various policies. Industrial policy of 1999, export policies of 1997-2002, 2003-06 and 2006-09 recognised this sector as one of the thrust sectors or highest priority sectors. As a result, this sector

[36] http://www.katalystbd.com/admin/downloads/20060507053018.pdf (accessed on 30 July 2007)

[37] The Daily Star (English Daily in Bangladesh), December 17, 2007

has been allowed tax exemption from July 2002 to June 2010 along with 15 per cent cash incentives, easy access to export loan at lower interest rate, tax return facility, etc.

Bangladesh has achieved considerable progress in information and communication technology (ICT). Initially Bangladesh ICT market was dominated by hardware importers and IT training providers. But gradually a software cum information technology enabled services (ITES) industry emerged. Internet services were introduced in the mid 1990s. The government has taken some special measures to make internet facilities available to the poor at low cost. To that end, the Voice Over Internet Protocol (VOIP) has been made accessible (with conditions) to the private sector to facilitate internet expansion at a low cost. Deregulation of the very small aperture terminal (VSAT) policy in 2000 has stimulated an increase in the number of internet service providers (ISPs) with individual bandwidths ranging from 128 kilobits per second to 8 megabits per second (PRSP, 2005).

The demand of ICT related services such as e-banking, internet uses, e-commerce etc. are growing at a faster rate. Currently there are about 5 million computer users in Bangladesh. There are more than 100 ISPs, with more than 500,000 internet subscribers in the country. Until the submarine cable came into being in 2006, the total VSAT international bandwidth was around 200 Mbps[38] (IRIS / JOBS, 2005). After the submarine cable connectivity, the total bandwidth usage by the ISPs and the IT firms has exceeded more than 500 Mbps and it is increasing very fast (Bangladesh Telecommunications Regulatory Commission, 2006). Fiber optic network usage is very restricted and limited as there is no national fiber optic backbone network throughout the country. Bangladesh Telephone and Telegraph Board (BTTB) and mobile telecom operators have their own backbone networks. This is a major bottleneck for the growth of the IT industry.

Box 5.4 Regulatory incentives/constraints: Telecommunications and ICT sector

Policies	Since 1991	Regulations/Incentives
Industrial Policy	Industrial Policy 1991	➢ Nothing specific.
	Industrial Policy 1999	➢ This policy declares ICT industries as a thrust sector.
	Industrial Policy 2005	➢ In this policy, telecommunication, computer software and programming under ICT, e-commerce, digital network and alliance are all considered service industries in the context of today's competitive world. ➢ The Board of Investment will provide one-stop service in telecommunications sector ➢ Computer software businesses will receive income tax relief from 1 July 2002 to 30 June 2006.
Export Policy	Export Policy 1989-91	➢ Nothing about ICT and software industries.
	Export Policy 1995-97	➢ Supervised bond facilities at the time of computer import for 100% ICT and software export industries.
	Export Policy 1997-02	➢ ICT and Software is declared as special priority sector. ➢ Information Technology Village will be established.
	Export Policy 2003-06	➢ ICT and software is declared as highest priority sector. ➢ Income tax exemption from 1 July 2002 to 30 June 2010.

[38] Mega bites per second.

Box 5.4 Regulatory incentives/constraints: Telecommunications and ICT sector		
		➢ Financial incentives including cash assistance. ➢ Export loan on easy term and lower rate. ➢ Tax return/bond facility.
	Export Policy 2006-09	➢ Highest priority sector. ➢ Project loans with reduced interest rates on a priority basis. ➢ Income tax exemptions; financial benefits or subsidies for utility services. ➢ Export loans with soft terms and lesser interest rates. ➢ Tax return/ bond facilities.
Import Policy	Import Policy 1989-91	➢ Industries can export their declared amount against Barter/STA ➢ Industries can export any amount that is listed items on their pass book
	Import Policy 1991-93	➢ Same as Import Policy 1989-91
	Import Policy 1995-97	➢ Industrial consumers only, accepted on a regular basis, may import up to three time the value of the entitlement for such items. ➢ Foreign Commercial firm, engaged in computer business, shall be allowed to import their proprietary items, i.e., computer and its spare accessories, either by opening L/C or by direct payment abroad.
	Import Policy 2003-06	➢ Private Sectors can import telecommunication equipments under the 'no objection certificate' from BTRC.
	Import Policy 2006-09	➢ Same as Import Policy 2003-06

The national ICT policy approved in 2002 contains an integrated approach to help flourish this sector (box 5.5). The ICT policy of Bangladesh is addressing the importance of development of IT sector for capturing a share in the multi-billion dollar software export market, ensuring good governance and for developing world class ICT professionals and institutions. The ICT policy also highlights the importance of developing ICT infrastructures, hardware industries, e-commerce, e-governance, legal issues related to ICT, application of ICT in health care, application in agriculture to exploit the potential for the development of rural economy and agro-business etc. Though in a limited and pilot basis, ICT is being used in Bangladesh for distant medical advice, distant education and agricultural activities (advising the farmers about how to fight farming problems on a need basis, informing them about the prices of agricultural products at different places of the country etc.).[39]

[39] For example, D-Net, a local NGO, is providing such services.

Box 5.5 Some highlights of the ICT Policy 2002

- As telecommunication infrastructure is an integral part of ICT, so the telecommunication sector should be deregulated and made open to private sector investors as early as possible.
- To facilitate development of telecommunication infrastructure at the least possible cost with little or no customs duty during construction of the infrastructure up to June, 2006.
- Bangladesh Telegraph and Telephone Board (BTTB) has resources like land, MW/UHF Towers all over the country which should be shared with other Private sector companies for augmenting Information Infrastructure.
- BTTB will increasingly shift its role from Service Provider to individual subscribers Infrastructure Provider to all other Telecommunication Service Providers and ISPs on commercial basis.
- To support the installation of ISPs in the country national high speed communication backbone for Internet will be developed and international high-speed gateway facilities for ISPs will be provided on commercial basis.
- Bangladesh Computer Council will encourage ICT R&D activities carried out by the public and private sector organizations.
- Government will set up an ICT Incubator to assist fast development of local Software Industries. The government will extend start-up financial support to the local software industry.
- Multinational foreign companies, who will establish hardware production facilities in Bangladesh and employ our workforce, shall be offered special incentives.
- Legal framework to provide the guiding principles, rules and legislation for e-Commerce shall be put in place.
- All Government ministries, divisions, departments, autonomous bodies and all District headquarters, Upzilla headquarters and Union Parishad offices must be networked to the National Data Resource Centre in the shortest possible time.
- Software copyright provisions embodied in the Copyright Act 2000 will be implemented by promptly setting up appropriate enforcing bodies as mentioned in the Act.
- Nation-wide ICT systems will be implemented for rural development activities, agricultural, horticulture, fisheries and livestock extension for farmers, career guidance for youth, technology guidance for rural enterprises, micro level planning etc.
- The Ministry of Science and Information & Communication Technology and BCC will be the focal point for the regional and international cooperation in the area of Information and Communication Technology.
- Those ICT companies will get preferential terms, which will be able to meet up 20 per cent of its revenue expenditure from the earnings of export of software and ICT-enabled services.
- A centralized fund for R&D and HRD will be created within BCC. It will be encouraged to contribute 1% of all profits from Software and ICT-enabled services to the R&D and HRD fund.

To meet the demand of skilled manpower in ICT sector, over 40 universities and 60 colleges in Bangladesh are offering ICT related courses at the undergraduate and graduate levels (IRIS/JOBS, 2005). Commercial training centres including Aptech and NIIT (two leading IT training organisations in Bangladesh) produce more than 5,000 ICT graduates per year. But the total need of skilled manpower of 85,000 by 2010 (as estimated by the IRIS/JOBS, 2005) and the current level of production of professionals remains far below this need.

One major obstacle faced by IT sector is the high internet tariff of the government. The local software firms have to pay Tk35000 a month for 256 kilobits per second dedicated internet connection to Bangladesh Telegraph and Telephone Board (BTTB). In India, firms pay a charge equivalent to around Tk1800 for the same connection. This is a major problem for competing in the market of data outsourcing from which India earns

about $12.5 billion annually. Thus to strengthen the position of Bangladesh software industry in the global market, the internet tariff rates should be reduced. Moreover, not only export loan, this sector should receive easy access to bank loan.

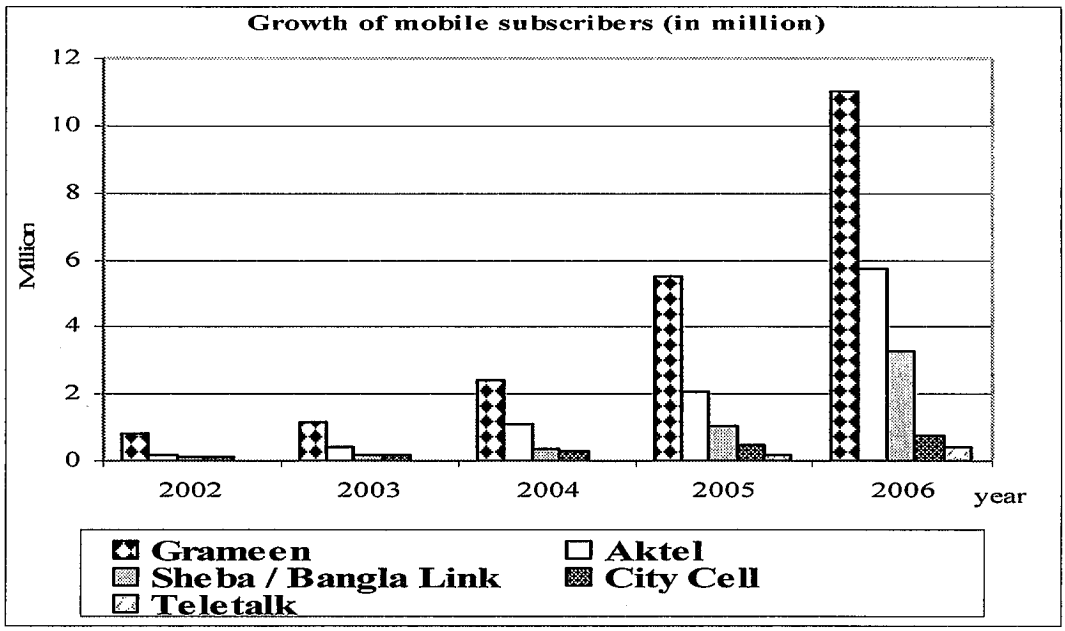
5.5 Telecommunication sector

5.5.1 Introduction

Telecommunication service acts as a basic infrastructure for economic growth. Therefore, indirect employment created by this sector is far higher than the direct employment. Before 1989, telecommunication services in Bangladesh remained under the monopoly of the public sector. The Bangladesh Telegraph and Telephone Board (BTTB) was the sole implementing agency providing fixed-line basic telephony services in a minuscule scale. The telephone density (mainline per 100 people) in Bangladesh was very low at only 0.158 in 1988/89 (table 5.22) with very slow growth during the regime. Before the deregulation of the mobile phone sector, the BTTB was unable to provide an adequate number of Public Switched Telephone Network (PSTN) connections. Even in 2005, total capacity of telephone exchange of the BTTB was a marginally above 1 million fixed telecom lines for a population of around 145 million people (table 5.23). Though the telecom sector was opened up for private sector to a limited extent in the early 1990s, BTTB's monopoly continued up to the second half of 1990s. Orthodox economic arguments of natural monopoly and revenue sourcing were used to justify the retention of the sector under complete government jurisdiction until 1997.

Situation started to change when the government opened up the cellular telecom market in 1997 and licenses were granted to three operators equipped with cheaper Global System for Mobile Communications (GSM) technology. The three mobile (or cellular) telecom operators were Grameen Phone Bangladesh Limited with the brand *Grameen Phone (GP)* (a joint venture between Telenor, Norway and Grameen Telecom of Bangladesh); *AKTel* (a joint venture between Telecom Malaysia Berhad and A.K Khan & Company Ltd. Bangladesh) and Bangladeshi owned *Sheba Telecom* (later renamed as Banglalink with the ownership change to Orascom Telecom Holding, Egypt). Both *GP* and *AKTel* started their operations in 1997, while *Sheba Telecom* began operation in 1999. After these companies entered the market, density of telephone access experienced a rapid growth from 0.307 in 1996/97 to 3.685 in 2003/04. By 2007 the mobile penetration rate is over 12 per cent, with 6 mobile telecom operators in the market: state run BTTB/TeleTalk, Citycell, AKTeL, Warid, Banglalink and GP.

Figure 5.2 Subscribers of different mobile operators in Bangladesh



Source: Based on data provided in Economic Review, 2006 and published data of mobile operators.

The increase in the number of companies led to a high level of competitiveness in this sector and benefited consumers in terms of lower prices for telecommunication services. These companies initiated fierce competition in lowering call charges (discussed below). As a result the number of subscribers increased at a high rate. As of December 2006, the 5 mobile operators together have 21.21 million subscribers. *GP* has 61 per cent of the mobile telecom market share followed by *AKTel* (27.15 per cent), *Banglalink* (15.55 per cent), City Cell (3.54 per cent) and *Tele Talk* (1.9 per cent). The rapid growth of mobile telephone subscribers was observed when first *Banglalink* and then *Tele Talk* started operation in 2005 (figure 5.2).[40] As a result, while total mobile subscribers were 0.66 million in 2001 it increased to 4.15 million in 2004 and further to 9.27 million in 2005 ensuing a phenomenal 123.3 per cent growth. In 2006, this sector experienced a growth of 128 per cent (till June 2006, growth was 53 per cent). At the same time all operators disclosed a huge direct and indirect employment in Bangladesh. Government has also allowed private sector participation in land phone system, which is not however, covered in this study, as this service has not yet flourished at a significant level.

5.5.2 *Employment and investment*

As mentioned earlier, telecommunication sector is attracting large volume of FDI. It may be noted that dominant share of ownership of all but one (*Tele Talk*) of the 6 mobile companies operating in Bangladesh is foreign owned. As such this sector has become a growing sector attracting increasing volume of foreign investment. In 2005, the highest FDI was attracted by the telecommunication sector. This single sector attracted 33.3 per

[40] Economic Review, 2006, Ministry of Finance.

cent of FDI worth US$278.8 million while in 2003, the share of telecom sector in FDI was only 13.38 per cent (Economic Review, 2003).

We may look into the investment profile of selected mobile companies.[41] For example, since starting the business in Bangladesh, Telenor of Norway has invested US$1 billion up to 2006 in the network and services of *GP*. Capital expenditure of *GP* was $289.6 million in 2005 and it became $382.03 million 2006.[42] Orascom Telecom Holding's capital expenditure for *Banglalink* was $113 million in 2005 and $126 million in 2006. However, these foreign companies are also repatriating a large part of their profits from business in Bangladesh. Thus, it is perceived that employment generation and government revenue earnings are the main value added from expansion of mobile telecom services in Bangladesh.

One notable contribution of the cellular companies is generation of both direct and indirect employment. The direct beneficiary group is the people who are directly involved in providing services in the fixed and cellular telephone companies. *GP* alone is employing 5,000 people (Annual Report, *Grameen Phone*, 2006) working in technical, marketing and sales, finance, customer information centres and physical communication infrastructure departments. It is speculated that total employment in this sector could be two to three times the *GP* employment. However, the LFS 2002/2003 reports the total number of telephone and telegraph operators and mechanics around 32,000. State owned company *Tele Talk* has employed 299 persons till August, 2007.[43] Though it is difficult to discern about the gender specific employment in all divisions of telephone operators, *GP* reported to have 10 per cent female participation in its top level management.

Generation of indirect employment by the telephone companies is also noteworthy. Employment in cellular telecom related activities such as service centres, hand-set business, network equipment and capital equipment suppliers and manufacturers are also quite significant. Numerous stores in shopping malls or centres register the rapid growth of handset business and phone servicing centres over the last few years. Although no estimate is currently available, a large number of people provide telephony service commercially across the country. Mushrooming of Phone/Fax outlet here and there strongly supports the indirect employment benefit from growth of telecom sector in Bangladesh. About 70,000 people are claimed to be directly dependent on GP for their livelihood, working for the GP dealers, retailers, scratch retail outlets, suppliers, vendors, contractors and others.[44] This anecdotal evidence suggests that indirect employment is much higher in mobile sector than its direct employment.

[41] Information of other operators was not accessible. The statistics are taken from Annual report, 2005, *Grameen Phone*, Annual report of Orascom Telecom, 2005, End year report 2005, Orascom Telecom

[42] Capital expenditure refers to change in fixed assets, which includes work in progress, network, IT, and other tangible and intangible fixed assets during the reporting period

[43] From personal communication with the General Manager, Customer Service (*Tele Talk*) on August 15, 2007.

[44] Annual Report, 2005, Grameen Phone.

In the rural areas, a joint venture by *GP* and Grameen Bank (GB) has added momentum in the context of both women empowerment and employment generation for rural poor women. It is reported that approximately 200,000 rural women earn their living through the village phone program of the GP-GB joint venture (Annual Report, 2005, Grameen Phone). This programme exhibits an exponential growth overtime signifying tremendous untapped potential to generate female employment by the village phone programme. Even though BTTB dominated the telephone sector of Bangladesh for a long time, it has been losing its market share after introduction of mobile phone operators. Consequently, BTTB's employment decreased by 10.38 per cent in 2005/06. In contrast, employment in CityCell and GP increased by 37.5 and 25 per cents respectively.

Another contribution of telephone companies in Bangladesh is creation of lucrative formal sector jobs for skilled technologists. Before mid 1990s, engineering graduates, especially electrical engineers, could find few sectors in Bangladesh to apply their expertise. The ultimate effect was international out-migration of these people. Rapid growth of telecom sector is providing these people with job opportunities at home. This would definitely entail a significant impact on the long-run technological development of the country.

5.5.3 *Incentives and obstacles*

After independence of the country in 1971, Bangladesh Telegraph and Telephone Department was established under the Ministry of Posts and telecommunications (MOPT) to run the telecommunications services in Bangladesh. The Department was converted into a corporate entity titled 'Telegraph and Telephone Board' through promulgation of Telegraph and Telephone Board Ordinance, 1975. In February 1979, the Telegraph and Telephone Board was renamed into "Bangladesh Telegraph and Telephone Board"[45] However, the Bangladesh Telecommunication Act No. 18 passed on April 16, 2001, set the scene for a radical change to the regulatory environment. As an offshoot of this Act the Bangladesh Telecommunications Regulatory Commission (BTRC) was established in 2002 entrusting with certain powers and regulatory functions in the telecom sector. This Act possesses superseding and overriding effect over all other laws to the extent that those are inconsistent therewith. After implementation of this Act, BTTB received a new status and became an operator like her private sector counterparts in the field. Various policy induced changes in the telecommunication sector of Bangladesh have generated significant impact in this sector (box 5.6). This sector is an important source of revenue generation for the government (table 5.19). Revenue earning rose from Tk18.61billion in 2000 to Tk44.72 billion in 2004. As a result, revenue as a percentage of GDP has increased from 0.81 per cent in 2000 to 1.34 per cent in 2004.

Two main sources of government revenue earnings from cell phone operators are tax on mobile SIM and sharing revenue earning of the operators. The Tk900 SIM tax was introduced in the national budget of 2005-06 (i.e. in July 2005). In the same year import duty on handsets was reduced from Tk1500 to Tk300. While the reduction of import duty on handsets reduced the price of handsets, the SIM tax acted as a barrier for potential cell phone subscribers. Later the SIM tax was set at Tk300. Various taxes (both on telephone companies and consumers) are imposed to generate this revenue (table 5.18).

[45] Under the provisions of ordinance no XII of 24th February 1979.

Box 5.6 Impact of policy induced changes on the telecommunication sector of Bangladesh		
Year	**Policy induced Changes**	**Impact on the Telecom Sector**
1972-1989	Since independence: BTTB landline operation was under GOB	State owned monopoly providing only basic fixed line telephony services at a very miniscule scale.
1989-1990	Mobile phone license given to Pacific Telecom (*City Cell*) and BRTA and BTL were given licenses for Rural telecommunications services and paging, radio trucking & revering telecom services.	Telecommunication sector was opened for private participation at a very limited scale. But the initiatives of deregulation were not successful. Cellular license holder enjoyed Private monopoly and totally failed to affect the accessibility of mass people. Other two granted licenses had insignificant achievements.
1997	Market opened up to three more GSM mobile license operators: *Grameen Phone*, Telekom Malaysia (*Aktel*), *Sheba Telecom* (now *Bangla Link*)	Gradually mass-people started to enjoy accessibility because of the affordable cellular phone services. Connection price came down to a significant extent. Private monopoly of *City Cell* & public monopoly of BTTB started to lose power.
2002	BTRC, a licensing and regulatory body set up under the provision of Bangladesh Telecom Act 2001 came into effective operation.	An independent regulator had been to make a level playing field for all operators. State owned monopoly, BTTB, virtually lost its regulatory power.
2005	Fifteen private companies received license for land phone operation in five different regions except Dhaka multi-exchange area.	Land telephone sector was de monopolized. People outside the metropolitan areas started to get access to basic telephony services at a low price.
2006	Emergence of *TeleTalk* – Government-run BTTB started mobile phone service.	Competition increased in the market. Market power of the existing giants was apprehended to be shrunk. Price came down and interconnection facilities grew up.
2006	*Warid Telecom,* a venture by Dhabi group of United Arab Emirates, is given license. It has started operation in May 2007.	Expectation of more competition in the market with the operation of *Warid Telecom*. Consumers will be the main gainer.

As has already been mentioned, telecommunication is the fastest growing sub-sector among the service sectors and has the highest share in attracting FDI. Despite that telecom sub-sector faces the following problems such as (i) high tax rate on subscriber identity module (SIM) as a barrier to decrease various charges on calls; (ii) lack of quality education in business oriented subjects at different levels to meet the market demand of mobile companies; (iii) shortage of engineering graduates; (iv) tension between BTRC and mobile companies to follow the government regulations on various times. Similarly, BTTB as the largest land phone operator, is facing some additional problems in recent years, such as, (i) Whether or not to open the market for new generation consumers through voice over internet protocol (VOIP) under which private sector can offer low cost international telecom facilities through internet; (ii) decrease in demand for public land phone service due to wide availability of mobile service; (iii) losing competitive edge in the market due to the long time processing of files in relevant ministries (iv) lack of capacity to serve the customers' cable TV, internet and telephone in one line.

There is no denying the fact that development of telecommunication sector can have widespread positive impacts on the economic growth as a whole. Therefore, the policy should encourage low cost telecommunication service for all.

6. Conclusions and policy implications

As productive employment plays a key role in translating the benefits of economic growth into poverty reduction, the employment outcome of growth is perceived to be an important aspect of pro-poor growth. In order for growth to be employment-intensive, it would be important for sectors with high employment elasticity to grow at high rates. Whether or not growth is promoting employment can be inferred from changes in the employment structure in the economy over time as a well as the performance of industries with higher employment elasticity. As an economy grows, it is expected that its structure (both in terms of the composition of output and employment) will also shift towards larger shares of manufacturing and service sectors. Public policy framework can play an important role in shaping the growth of various sectors. Since policies targeted to industrial and service sector development can, in fact, influence the magnitude of employment generation in the economy, it is desirable to support them with proper policies. Absence of proper policy may lead to a pattern of growth that is not in line with the comparative advantage of the country and not pro-poor. It is observed that economic growth achieved by Bangladesh since the mid-1990s has been associated with increasing inequality in income distribution. This indicates that economic growth may not have been successful in adequate employment generation which could, in turn, be due either to the pattern of growth favouring less labour intensive sectors or to rise in capital intensity[46].

The present study was aimed at exploring the performance of manufacturing and service sectors of Bangladesh since the early 1990s with special attention to employment generation in these sectors. In particular, the study tried to find out whether there has been any structural shift in the overall manufacturing sector in terms of factor intensity (i.e., either towards more capital-intensive sectors or towards more labour-intensive ones). The study has explored various policies, which have influenced the performance of manufacturing and service sectors in terms of value addition, employment generation and factor intensity. The study has also given careful attention to the performance of some key employment intensive manufacturing and service sub-sectors, and has discussed opportunities and constraints faced by them. The analysis of this study is mainly based on secondary sources of data supplemented with limited primary information for the sub-sector studies and overall employment situation. Information has also been collected from different stakeholders through unstructured interviews. Views of employers and labour representatives were taken on the overall employment situation of Bangladesh.

The major findings of the analysis of this study are summarized below.

- Bangladesh has gone through diverse policy changes since independence which received momentum in the early 1990s. The country pursued import substituting industrialisation policy for quite some years after independence in 1971. Though

[46]Average amount of capital per unit of labour.

export–led industrialisation policy along with various structural reforms in the economy was initiated since the early 1980s or in some cases even since the end of the 1970s, the rigorous reforms and liberalisation of the economy were observed towards the end of 1980s and throughout 1990s. Privatisation of state owned enterprises, rapid rise of private sector participation, trade liberalisation measures along with increased openness of the global economy created a positive base in which rapid manufacturing sector growth was expected to be achieved. Emergence and development of new and efficient service sectors were also supportive of the situation.

- It has been observed that policy changes towards private sector led-growth and export-led industrialisation have resulted in structural changes in the GDP towards the industrial sector. Annual average industrial growth rate doubled during the 1990s compared to that in 1980s. The service sector has also undergone structural changes mainly in terms of the emergence of privately owned telecommunication facilities, rapid rise in the use of information technology, and expansion of banking and insurance services.

- Employment grew at an average annual rate of 3.14 per cent between 1995/96 and 2005/06. In contrast the economically active population or labour force grew at an annual rate of 3.21 per cent during 1995/96 to 2005/06. Though these numbers reveal that employment growth rate was close to the growth rate of labour force and therefore unemployment rate is low, underemployment rate is found to be high (up to 38 per cent). Moreover, no significant structural change has taken place in the composition of employment at the broad sectoral level. Agriculture still remains the dominant source of employment generation. The share of the manufacturing sector in employment generation declined during the 1990s (from 10.06 per cent in 1995-96 to 9.7 per cent in 2002-03, and then increased to 11 per cent in 2005/06).

- Since the beginning of the process of liberalisation of the economy, both domestic and foreign direct investments have increased substantially. However, investment is concentrated in a few sectors. The service sector, especially the telecommunication sub-sector, has been successful in attracting sizeable amounts of FDI in recent years. Notable changes have also been observed in the trade structure of Bangladesh, which got transformed from a jute-dominated export basket to a RMG-dominated export basket. However, the export sector has not been successful in diversifying the commodity composition. A notable feature of imports is the rapid rise of machinery import since late 1990s, indicating either rapid expansion of manufacturing sector or a rise in capital intensity (or both).

- An analysis of the performance of the manufacturing sector reveals that during the entire period of 1990/91 – 2001/02, manufacturing employment grew at an annual rate of 7.53 per cent which is associated with an annual average growth rate of value added by 10.87 per cent. During this period overall manufacturing sector has become slightly more capital intensive as the capital-labour ratio increased from Tk. 60 thousand in 1990/91 to Tk. 90 thousand in 2001/02 at the constant 1990/91 price.

- Trend in the composition of the manufacturing sector does not show any systematic rise in the share of industries that are more labour-intensive. For example, the shares of sectors like leather and footwear, and wearing apparel in value added have declined, while that of food products (e.g., bakery, sugar, etc.) and non-metallic mineral products increased. The share of food processing (i.e., meat, fish, fruits, vegetables, etc.) has remained roughly unchanged.

- No systematic relationship has been found between the growth of various industries and their labour-intensity – thus implying that labour-intensive sectors are not necessarily growing faster than others.

- Among the top-10 manufacturing sub-sectors of 2001-02, the highest value adding sector at the 3-digit level was 'other chemicals' (including pharmaceuticals), whereas RMG had the highest share in employment. It is observed that capital–labour ratio rose in 5 sub-sectors such as "other chemicals", RMG, textile, "other food products" and non-metallic mineral products between 1999/00 and 2001/02. In other sectors it declined or remained stagnant.

- The sub-sectors which have experienced high rate of value added growth (say an annual average rate of more than 20 per cent), during 1990/91- 2001/02 include furniture and fixture, printing and publishing, pharmaceuticals, pottery and non-metallic minerals. All these have high or very high employment elasticity. In terms of employment generation this is a positive sign. However, slow or even negative growth rates of other sectors and fluctuations in growth of different sub-sectors at different sub-periods limit our conclusions regarding stability of sub-sectoral performance in manufacturing.

- During the three sub-periods considered (i.e. 1990/91-1995/96, 1995/96-1999/00 and 1999/00-2001/02), only four sectors have registered positive value added growth at the 3-digit level; they are:

    - Textile (moderate employment elasticity)
    - Furniture and fixtures (high employment elasticity)
    - Food manufacturing (high employment elasticity)
    - Non-metallic mineral products (very high employment elasticity)

- For the entire period of 1990/91 to 2001/02, five sectors experienced negative value added growth; they are:

    - Paper and paper products (low employment elasticity)
    - Industrial chemicals (low employment elasticity)
    - Fabricated metal products (low employment elasticity)
    - Other textiles (low employment elasticity)
    - Wood and cork products (very high employment elasticity)

- During the period mentioned above, a number of industries experienced negative employment growth, although value added growth was positive; they are: rubber products, electrical machinery, iron and steel products, transport equipments, tobacco manufacturing, and textile manufacturing. Capital deepening appears to have occurred in all of them except iron and still and transport equipments.

The above findings would lead one to conclude that although in recent years there has been an acceleration of overall economic growth and the growth of the manufacturing sector, yet the country does not seem to be firmly on the path of labour-intensive industrialization (of the kind seen in some countries of East and South-East Asia) that could help absorb its surplus labour at a rapid pace. The base of the sector remains narrow, and high growth has not yet been sustained over a long period of time. While the overall rate of growth has to be higher and more sustained, the sector needs to diversify towards other labour-intensive sectors.

The study has taken a close look at five sub-sectors (viz., food processing, furniture. leather and leather products, ICT, and telecommunication) from where the following conclusions can be drawn:

- Food manufacturing (includes agro- processing, dairy products, grain mill products and bakery products)

  - Most of the food manufacturing enterprises are small and medium enterprises.
  - The gross value added generated by the food processing sector originated mainly in bakery products (54 per cent). This sub - sector also has highest share in terms of employment and fixed asset.
  - The food manufacturing sector is becoming more capital intensive. Capital deepening is intensifying at the rate of 3.05 per cent per annum.
  - For about two decades food manufacturing, especially agro-processing and the frozen food sectors have been receiving considerable attention in various policies i.e. export policy, industrial policy etc.
  - Supply of raw materials, i.e. agricultural products is a major constraint for the food processing sector (except shrimp). As a result this sector may become increasingly dependent on import to meet its demand for raw materials.
  - Sanitary and Phytosanitary (SPS) measures imposed by developed countries are becoming a key constraint for export of processed food at the international markets.

- Leather and leather products (including leather footwear)

  - Most of the firms in leather and leather products are privately owned, while multinational companies own a small fraction of firms.
  - A large part of growth in this sector originates in the leather footwear sub-sector.
  - While leather and leather products (without footwear) sector is becoming more capital intensive, capital widening is observed in the footwear sector. Capital deepening is intensifying at the rate of 4.08 per cent per annum in leather and leather product sectors. Capital widening is intensifying in footwear sector at the rate of 4.21 per cent per annum. However, the coefficient estimates is not precise for footwear industry.
  - This sector has been identified as one of the thrust sectors or one of the high priority sectors for development by different industrial policies and export policies. Still leather and footwear sectors face multiple constraints including shortage of raw materials, small size of firms, traditional technology (specially, in leather processing factories), lack of skilled workers, weaknesses in governance and skills among entrepreneurs, frequent policy changes etc.

- Furniture sector

  - Furniture is a labour intensive industry and is heavily dominated by small scale enterprises.

- Gross value added in overall furniture and fixture sector grew at an annual average rate of 114.5 per cent during 1999/00–2001/02. During this period total employment in this sector grew at an annual average rate of 93 per cent.
- Capital widening is observed in the furniture sector, which is intensifying at the rate of 0.8 per cent per annum. However, the coefficient estimates is not precise.
- The industrial policy 2005 identifies furniture as a thrust sector and gives special tax incentives to it. However, the sector has not received much attention in export policies or import policies.
- One of the main obstacles of furniture industry is scarcity of local raw material, i.e. timber. The customs duty on import of various types of board and furniture fittings is also high, in some cases, as high as 25 per cent.

- Information and communication technology (ICT) services

  - The information and communication technology (ICT) service sector of Bangladesh includes software development, computer hardware related services, internet services, information technology based business support etc.
  - Bangladesh has started exporting software since 2001/02.
  - Since the mid 1990s ICT sector has been receiving considerable attention in various policies. Industrial policy of 1999, export policies of 1997-2002, 2003-06 and 2006-09 recognised this sector as one of the thrust sectors or highest priority sectors.
  - The demand of ICT related services such as e-banking, internet uses, e-commerce etc. are growing at a faster rate.
  - Currently there are about 5 million computer users in Bangladesh. There are more than 100 ISPs, with more than 500,000 internet subscribers in the country.
  - The national ICT policy approved in 2002 contains an integrated approach to help flourish this sector
  - One major obstacle faced by IT sector is the high internet tariff of the government. Another obstacle is lack of skilled manpower.

- Telecommunication sector

  - Before 1989, telecommunication services in Bangladesh were the monopoly of the public sector. The telephone density (mainline per 100 people) in Bangladesh was very low at only 0.158 in 1988/89. Situation started to change when the government opened up the cellular telecom market in 1997. After various mobile telecom companies entered the market, density of telephone access experienced a rapid growth from 0.307 in 1996/97 to 3.685 in 2003/04.

The policy suggestions that can be made from the findings of the study are presented here and a brief summary of sector specific constraints and recommendations are presented in box 6.1.

- As the economy is showing a tendency to become more capital intensive along with growth, it would be important to target policy support for sectors having higher employment elasticity. In particular policies should aim at increasing the value addition of the sectors experiencing positive employment growth alongside growth in value addition. These sectors include, for example, furniture and fixture; printing and publications; pharmaceuticals, plastic products; food manufacturing, pottery; non-metallic minerals and leather and leather products (especially footwear). Special attention should be given to those sectors which, despite negative growth in value addition, generated positive employment growth; they include: fabricated metal products and "other textile" sub-sectors. These industries would not only contribute to the employment goal, but with an enabling policy atmosphere, could also achieve positive value added growth and strengthen the industrial base of the economy.

- From the point of view of employment intensive growth, particular attention should be given to a few sectors which are employment intensive and yet have not been able to achieve their potential growth. In this regard, mention may be made of wood products, and dairy products.

- In terms of employment growth of industries with high employment elasticity and low or moderate growth in value addition, policies should focus on the composition of employment towards blue-collar jobs. A faster growth of blue-collar jobs will help make growth more pro-poor. To that end, special policy focus should be given to the ICT and furniture and fixture sectors. As found above, these sectors have already proven their potential as a source of growth in employment. As the Indian experience shows, ICT industry does not require huge investment on the part of the entrepreneur; instead 'sizeable and genuine' infrastructural investment such as uninterrupted supply of electricity and gas for industrial use is required for realising the full potential of the sector.

- High duty on imported raw materials seems to be a major obstacle for the growth of the sectors like furniture and leather processing. Duty rates should be reduced on imported raw materials like timber, various types of boards and raw hides.

- Infrastructure, especially various utility services, transport system and port are major constraints on industrial growth and the growth of the service sector. Policies should address this issue with seriousness.

- Lack of skilled workers is an important constraint in both low and high-skilled jobs. This results in import of skilled manpower from abroad which not only raises the cost of production (relatively higher salary is paid to foreign skilled workers), but also intensifies unemployment problem of the country. Government support is needed to establish more quality training centres in the country. For example, a large number of the unemployed youths can be trained to find employment in furniture industry. To that end, the government can establish and run training centres exclusively designed to train people on carpentry. Special training programme can also be offered for enhancing the capacity of female labour force.

- Though the government provides cash incentives to various thrust sectors like agro-processing or leather, the benefit is not fully received by the respective sectors mainly due to bureaucratic system loss, shortage of fund and corruption. Policies should give special attention to this issue.

- There is no denying the fact that access to credit is a major obstacle to growth in Bangladesh. The credit constraint is more severe for small businesses. As has been noted in this study, even the creation of a special fund for SMEs is not really helping them much because the interest rate is too high or they simply can't access the funds. Policy attention is needed to monitor this issue.

- Frequent changes in policy decisions sometimes act as disincentives for the growth of some sectors. For example, the leather sector is facing this problem. This issue should be considered while formulating policies for industries.

- Support is needed to expand international markets for the products of Bangladesh. To that end, government missions abroad, in close association with the private sector, may organise Bangladeshi product fairs. This marketing strategy along with enhanced technical and entrepreneurial skills will help growth and diversification in the industrial sector (Khan, 2000).

- Though the study did not cover the issue of quality of employment, it needs policy attention. During an interview under the current study it was noted by experts on labour issues that due to the non-implementation of industrial and labour laws, workers are deprived of benefits that should be assoicated with the jobs. As a result, they cannot move out of the clutch of poverty even with their employment.

Direct employment is dependent on composition of goods produced in the economy, which, in turn, is dependent on both demand and supply side factors. The demand for commodities includes both domestic and export demand. One expects that export demand in a labour surplus economy like Bangladesh will be for labour intensive goods. This is also found to be true for Bangladesh as the main export commodity of Bangladesh in RMG. However there can be other labour intensive goods, which may be exported to a larger extent. For example, leather and leather products, furniture, food products etc. Moreover, expansion of domestic demand for labour intensive goods may help those sectors grow. However, expansion of domestic demand depends on patterns of income distribution. Therefore, policies are needed to reverse the current trend of increasing income inequality and to attain a more egalitarian distribution of income.

It is recognized that the generation of productive employment is the major channel through which benefits of growth can reach the poor. For an effective use of this channel, well structured policies with clear long term vision are needed. The recent performance of the manufacturing and service sectors of Bangladesh indicates that there is ample scope for improvement in the policy environment that would help in transmitting the benefits of growth to the poor.

Box 6.1 Summary of problems and recommendations with regards to different manufacturing and service sectors

Sub-sectors	Major constraints	Policy recommendation
Food manufacturing	➢ Shortage of supply of raw materials ➢ Sanitary and Phytosanitary (SPS) measures imposed by developed countries ➢ Mostly small scale production; few large scale production ➢ Weak technological base mainly of the small scale production units	➢ Improve post- harvest management technique and marketing of agricultural products, i.e. increase number of cold storage, ➢ Introduce a system of crop insurance through local government. ➢ Encourage private sector investment in large scale agricultural production.

Box 6.1 Summary of problems and recommendations with regards to different manufacturing and service sectors		
		➢ Improve agricultural research and extension system
Leather and leather products (including leather footwear)	➢ shortage of raw materials, ➢ small size of firms, ➢ traditional technology (specially, in leather processing factories), ➢ lack of skilled workers, ➢ weaknesses in governance and skills among entrepreneurs, ➢ frequent policy changes	➢ Duty rates should be reduced on imported raw materials like raw hides
Furniture	➢ scarcity of local raw material, i.e. timber ➢ high customs duty on import of various types of board and furniture fittings ➢ Scarcity of skilled workers and own design	➢ Duty rates should be reduced on imported raw materials like timber and various types of boards
Information and Communication Technology (ICT) Services	➢ high internet tariff ➢ lack of skilled manpower	➢ Special incentives should be given to this sector so that there is faster growth of blue-collar jobs.
Telecommunication Sector	➢ Tax on subscriber identity module (SIM) ➢ shortage of engineering graduates ➢ tension between BTRC and mobile companies to follow the government regulations on various issues	➢ Reduce SIM tax ➢ Encourage mobile companies to float share in the share market
Manufacturing and service sectors as a whole	➢ Lack of skilled workers ➢ Infrastructural bottlenecks ➢ transport system and port facilities ➢ bureaucratic system loss, shortage of fund and corruption in distributing cash incentives for priority sectors ➢ access to credit specially for SMEs ➢ Frequent changes in policy decisions	➢ infrastructural investment such as uninterrupted supply of electricity and gas for industrial use ➢ transport system and port facilities should be improved ➢ establishment of more quality training centres to generate skilled workforce ➢ More attention should be given to the employment sectors like furniture and fixture; printing and publications; pharmaceuticals, plastic products; food manufacturing, pottery; non-metallic minerals and leather and leather products. ➢ Stability of policies

Appendix: Statistical tables associated with different chapters

Chapter 1

Table 1.1 (a) Gini ratios based on the household survey data

	1991-92	1995-96	2000	2005
Khan-Sen Estimates of Gini Ratios for Income Distribution				
Bangladesh	0.303	0.359	0.405	
Rural	0.276	0.310	0.356	
Urban	0.327	0.389	0.437	
World Bank Estimates of Gini Ratios of Income Distribution				
Bangladesh	0.39	0.43	0.45	0.47

Note: Income Gini ratios are all for national income.
Source: Khan and Sen, 2006 and World Bank, August 2006 (cited in Khan, 2007).

Table 1.1(b) Income share of households in different income groups (various years)

Income Groups	1983-84	1991-92	2000	2005
Bottom 20%	7.20	6.52	6.17	5.26
Bottom 40%	18.95	17.41	15.96	14.36
Ninth decile	15.08	15.64	14.00	15.07
Top 10%	28.30	29.23	38.01	37.64

Source: (Islam, 2007).

Table 1.2 Ranges of value-added elasticities of employment at three-digit level, 1980-1998

Sub-sectors	Range of Value Added Elasticity of Employment, 1980-1998
321 Textiles manufacturing 341 Paper and paper products 352 Industrial and chemicals 353 Other chemical Products 371 Iron and steel basic 382 Fabricated metal products 383 Non-electrical machinery	<0.50
312 Food manufacturing 332 Furniture and fixture 342 Printing and publishing 351 Drugs and pharmaceuticals 356 Rubber products 357 Plastic products 384 Electrical machinery 385 Transport equipment	0.50 - 0.75

Sub-sectors	Range of Value Added Elasticity of Employment, 1980-1998
311 Food manufacturing 314 Tobacco manufacturing 322 Textiles manufacturing 324 Leather and leather products 331 Wood and cork products 361 Pottery 369 Nonmetallic minerals 381 Fabricated metal products	≥.75
All twenty-three sub-sectors	Average 0.76

Note: Industry codes are according to BSIC 1986.
Source: Rahman and Islam (2006).

Chapter 2

Table 2.1 Tariff structure in Bangladesh

Fiscal Year	Number of Tariff Bands	Maximum Rate (%)	Un-weighted Average Tariff Rate (%)	Import weighted Average tariff rate (%)
1991-92	18	350.0	70.0	24.1
1992-93	15	300.0	47.4	n.a.
1993-94	12	300.0	36.0	n.a.
1994-95	6	60.0	25.9	20.9
1995-96	7	50.0	22.3	17.0
1996-97	7	45.0	21.5	18.0
1997-98	7	42.5	20.7	16.0
1998-99	7	40.0	20.3	14.1
1999-00	5	37.5	19.5	13.8
2000-01	5	37.5	18.6	15.1
2001-02	5	37.5	17.1	9.7
2002-03	5	32.5	16.5	12.5
2003-04	5	30.0	15.6	11.5
2004-05	4	25.0	13.5	9.6
2005-06	4	25.0	13.4	8.1
2006-07 (July February)	4	25.0	12.2	7.0

Source: BEI (2005) and Bangladesh Economic Review (2004).

Table 2.2 Removal of QRs at the 4-digit HS classification level

Year	Total	Restricted for trade reasons			Restricted for non-trade reasons
		Banned	Restricted	Mixed	
1985-86	478	275	138	16	49
1986-87	550	252	151	86	61
1987-88	529	257	133	79	60
1988-89	433	165	89	101	78
1989-90	315	135	66	52	62
1990-91	239	93	47	39	60
1991-92	193	78	34	25	56
1992-93	93	13	12	14	54
1993-94	109	7	19	14	69
1994-95	114	5	6	12	92
1995-97	120	5	6	16	93
1997-2002	122	5	6	16	95
2003-2006	63	5	8	10	40

Source: Compiled from various sources (Yilmaz and Varma, 1995; Bayes *et al.*, 1995; Taslim, 2004). Figures for 2003-06 are derived from the Import Policy Orders 2003-06.

Table 2.3 Impact of tariff reforms on average rate of custom duty by type of commodities

Financial Year	2000-01		2001-02		2002-03		2003-04		2004-05		2005-06		2006-07 (July-Feb)	
Import Classification	U	W	U	W	U	W	U	W	U	W	U	W	U	W
Primary goods	15.7	14.9	20.1	9.4	21.0	11.9	19.9	11.3	17.6	9.0	17.8	6.9	16.6	4.7
Intermediate goods	17.7	15.0	15.6	16.2	14.9	15.9	14.4	15.1	12.5	12.7	12.2	9.3	10.6	8.4
Capital goods	11.3	10.4	7.0	3.3	8.0	8.0	7.9	6.4	7.3	5.2	7.5	5.2	6.2	4.3
Final Consumer goods	29.6	20.3	26.0	14.0	22.9	11.7	21.3	10.7	18.2	15.1	18.1	13.4	17.2	13.0

Note: U = Un-weighted average tariff rate and W = Weighted average tariff rate.

Table 2.4 Lending rates (in percentage)

Types of Lending	Sept. 1985	Jan. 1990	April 1995	April 2000	Feb. 2005	May 2007
Industry in general	12.0-14.5	13-14.5	10-14.5	9.5-16.5	9.75-13.5	11-15.5
Export	9-12.0	9.0-12.0	8.0-10.0	8.0-10.0	7	7

Source: Economic trend, Bangladesh Bank.

Chapter 3

Table 3.1 Compound Growth Rates of GDP and Broad Sectors

Year	GDP	Agriculture	Industry	Service	Per capita GDP
1972-73 to 1979-80	3.68	1.86	5.26	5.17	-
1980-81 to 1989-90	3.90	1.84	3.16	5.43	-
1990-91 to 1999-00	4.90	3.03	7.37	4.56	3.1
2000-01 to 2005-06	5.76	2.89	7.80	5.84	3.9

Source: Calculated on the basis of data from National Accounts Statistics (various Issues), Twenty Years of National Accounts of Bangladesh, 1993.

Table 3.2 Sectoral Composition of GDP (Share in percentage, at constant 1995-96 price)

Sectors	1995-96	1999-00	2003-04	2004-05	2005-06	2006-07
Agriculture	**25.68**	**25.58**	**23.08**	**21.91**	**21.8**	**21.13**
1. Agriculture & Forestry	20.32	19.49	17.97	16.88	16.9	16.4
2. Fishery	5.36	6.09	5.11	5.03	4.9	4.73
Industry	**24.87**	**25.7**	**27.69**	**28.44**	**29.2**	**29.77**
3. Mining & Quarrying	1.05	1.03	1.11	1.14	1.2	1.19
4. Manufacturing	15.43	15.4	16.16	16.58	17.08	17.79
-Large and medium scale	11.01	11.01	11.41	11.66	12.14	12.68
-Small-scale	4.42	4.39	4.76	4.85	4.94	5.11
5. Electricity, Gas & Water	1.50	1.43	1.59	1.64	1.7	1.63
6. Construction	6.89	7.84	8.83	9.08	9.2	9.16
Services	**49.45**	**48.71**	**49.23**	**49.65**	**49.4**	**49.13**
7. Wholesale & Retail Trade	12.91	13.35	13.97	14.12	14.2	14.17
8. Hotel & restaurant	0.61	0.63	0.68	0.69	0.7	0.70
9. Transport, Storage & Communication	9.07	9.2	9.79	10.01	10.1	10.21
- Surface transport	6.44	6.65	6.96	6.92	6.7	6.52
- Water transport	1.43	1.18	0.97	0.93	0.9	0.85
- Air transport	0.16	0.18	0.12	0.12	0.1	0.12
- Related transport services & maintenance	0.37	0.36	0.33	0.31	0.3	0.32
-Post & telecommunication	0.68	0.83	1.41	1.76	2.11	2.40
10.Financial Intermediations	1.58	1.57	1.65	1.70	1.7	1.73
- Bank	1.32	1.22	1.23	1.27	1.3	1.29
- Insurance	0.21	0.28	0.35	0.36	0.4	0.37
- Others	0.05	0.07	0.06	0.07	0.1	0.07
11.Real Estate, Renting & Business	9.46	8.88	8.30	8.14	7.9	7.65

Sectors	1995-96	1999-00	2003-04	2004-05	2005-06	2006-07
12.Public Administration & Defense	2.52	2.55	2.63	2.76	2.7	2.75
13.Education	2.07	2.20	2.40	2.46	2.5	2.54
14.Health and Social Services	2.28	2.20	2.22	2.25	2.3	2.29
15.Community, Social and Personal Services	8.95	8.13	7.59	7.52	7.3	7.09
Total	**100**	**100**	**100**	**100**	**100**	**100**

Source: Bangladesh Economic Review, 2006 and 2007.

Table 3.3 Sectoral Growth Rates of GDP (in percentage at constant 1995-96 price)

Sectors	1995-96	1999-00	2003-04	2004-05	2005-06	2006-07
1. Agriculture & Forestry	2.03	6.92	4.38	1.80	5.23	2.95
2. Fishery	7.39	8.87	3.09	3.65	3.91	3.99
3. Mining & Quarrying	7.81	9.48	7.66	8.38	9.26	10.02
4. Manufacturing	6.41	4.76	7.10	8.19	10.77	11.19
5. Electricity, Gas & Water	5.43	6.78	9.09	8.90	7.67	5.37
6. Construction	8.50	8.48	8.25	8.31	8.31	7.05
7. Wholesale & Retail Trade	4.63	7.30	6.57	7.06	6.75	7.44
8. Hotel & restaurant	4.98	6.94	7.05	7.12	7.45	8.15
9. Transport, Storage & Communication	5.15	6.08	6.21	7.97	7.98	8.24
- Surface transport	5.50	6.32	6.02	4.25	4.14	4.41
- Water transport	-1.46	1.78	0.16	1.95	1.95	1.81
- Air transport	6.25	16.80	0.84	2.49	5.25	7.89
- Related transport services & maintenance	9.98	13.15	-1.35	2.92	6.13	7.08
-Post & telecommunication	14.71	5.57	14.56	31.79	26.70	23.49
10.Financial Intermediations	4.87	5.50	7.02	8.92	8.5	7.54
- Bank	1.94	3.87	6.73	9.11	8.19	7.08
- Insurance	18.35	13.09	8.06	8.34	9.16	8.56
- Others	46.36	5.54	6.91	8.51	10.94	10.58
11.Real Estate, Renting & Business	3.40	3.83	3.58	3.65	3.69	3.77
12.Public Administration & Defense	4.16	5.97	7.06	8.02	8.15	8.51
13.Education	2.57	7.74	7.69	7.90	9.05	9.01
14.Health and Social Services	2.70	4.80	6.17	7.40	7.79	7.56
15.Community, Social and Personal Services	2.78	3.06	3.97	4.05	4.09	4.51
Growth rate of GDP	4.62	5.94	6.27	5.96	6.63	6.77

Note: Growth rate refers to the actual growth from the previous year, not the average annual growth rates.
Source: Bangladesh Economic Review, 2006 and 2007.

Table 3.4 Characteristics of the labour force (in million and percentage)

Indicators		1995-96	1999-00	2002-03	2005-06
Economically active population	Total	36.1	40.7	46.3	49.5
or the Labour force	Male	30.7	32.2	36.0	37.3
(million)	Female	5.4	8.6	10.3	12.1
Total employed person	Total	34.8	39.0	44.3	47.4
(million)	Male	29.8	31.1	34.58	36.1
	Female	5.0	7.9	9.8	11.3
Labour Force Participation Rate (%)	Total	52.0	54.9	57.3	58.5
	Male	87.0	84.0	87.4	86.8
	Female	15.8	23.9	26.1	29.2
Unemployment rate	Total	3.5	4.3	4.3	4.3
(%)	Male	2.8	3.4	4.2	3.4
	Female	7.8	7.8	4.9	7.0
Underemployment rate	Total	na	16.6	34.2	24.5
(%)	Male	na	7.4	23.1	10.9
	Female	na	52.8	72.3	68.3
Unpaid family worker	Total	4.2	4.7	8.1	10.3
(million)	Male	3.3	2.0	3.4	3.5
	Female	0.4	2.7	4.7	6.8

Note: 1. Usual Definition (excluding household activities) of Labour force is considered for all years.

2. Labour force is defined as persons aged 15 years and older. It includes persons aged 15 years and above, who are either employed or unemployed during the reference period. It excludes disabled and retired persons, income recipients, fulltime housewives and students, beggars and other persons who did not work for pay or profit at least one hour during the reference week (preceding week of the day of survey enumeration). Labour force participation rate refers to percentage of total population of 15 years and above who are part of the labour force. 2005-06 provisional data are taken from the website of Bangladesh Bureau of Statistics (BBS).

Source: LFS (various issues).

Table 3.5 Employment by Major Sectors (Total in million and share in percentage)

Sectors	1995-96		1999-00		2002-03		2005-06	
	Total	Share	Total	Share	Total	Share	Total	Share
Total	34.8		39		44.3		47.4	
Agriculture, forestry, fisheries	17	48.85	19.8	50.77	22.9	51.69	22.8	48.1
Industry	4.6	13.22	5.1	13.08	6	13.54	6.9	14.56
Mining, quarrying	0	-	0.2	0.51	0.1	0.23	0.1	0.1
Manufacturing	3.5	10.06	3.7	9.49	4.3	9.71	5.2	11
Electricity, gas, water	0.1	0.29	0.1	0.26	0.1	0.23	0.1	0.2
Construction	1	2.87	1.1	2.82	1.5	3.39	1.5	3.2
Services	13.5	38.79	14.1	36.15	15.2	34.31	17.7	37.34
Trade, hotel, restaurant	6	17.24	6.1	15.64	6.7	15.34	7.8	16.5
Transport, storage, communication	2.2	6.32	2.5	6.41	3	6.77	4	8.4
Finance, business services	0.2	0.57	0.4	1.03	0.3	0.68	0.7	1.6
Public administration & defense	0.3	-	-	-	2.5	6.32	2.6	5.6
Community and personal services and others	4.8	13.79	5.1	13.08	2.7	5.64	2.6	5.4

Note: Empty cell refers to very small numbers.
Source: LFS (various issues).

Table 3.6 Average Annual Growth Rate of Employment by Sectors

Major Industry	Average Annual Growth Rate (%)		
	1995/96-1999/00	1999/00-2002/03	2002/03-2005/06
Total	2.9	4.3	2.3
Agriculture, forestry, fisheries	3.9	4.9	-0.1
Industry	2.6	5.5	4.7
Mining, quarrying	-	-20.4	0.0
Manufacturing	1.4	5.1	6.5
Electricity,gas,water	0.0	0.0	0.0
Construction	2.4	10.8	0.0
Services	1.1	2.5	5.2
Trade,hotel,restaurant	0.4	3.1	5.1
Transport,storage,communication	3.2	6.2	10.0
Finance, business services	18.9	-9.1	32.3
Public administration & defense	-	-	1.3
Community and personal services and others	1.5	-18.9	-1.2

Note: Calculated on the basis of data from the Labour Force Survey (various issues).

Table 3.7 Investment scenario (at constant 1995-96 prices)

Fiscal year	Total Investment (in billion taka)	Investment as percentage of GDP	Private (%)	Public (%)
1990 – 91	235.25	16.9	10.27 (60.8)	6.63 (39.2)
1994 – 95	344.62	20.72	13.70 (66.1)	7.02 (33.9)
1999 – 2000	471.75	23.02	15.61 (67.25)	7.41 (32.75)
2000 – 01	498.14	23.09	15.84 (68.6)	7.25 (31.4)
2001 – 02	521.48	23.15	16.78 (72.50)	6.37 ((27.50)
2002 – 03	555.05	23.41	17.21 (73.5)	6.20 (26.5)
2003 – 04	607.63	24.02	17.83 (73.23)	6.19 (26.77)
2004 – 05	654.88	24.53	18.32 (74.41)	6.21 (25.59)
2005 – 06	701.71	24.65	18.65 (74.39)	6.00 (25.61)
2006 – 07 (provisional)	737.71	24.33	18.73 (77.0)	5.60 (23.0)

Note: The numbers in the parenthesis indicate the share of the respective sector in investment.
Source: Bangladesh Economic Review (various issues).

Table 3.8 Sector-wise foreign direct invest (FDI) inflow and share

Year	FDI inflow (million USD) and Share (%)						
	Agriculture	Share	Industry	Share	Service	Share	Total FDI Flow
1995	0.0	0.0	48.7	52.8	43.6	47.2	92.3
1996	0.3	0.1	136.2	58.8	95.1	41.1	231.6
1997	1.4	0.2	404.5	70.3	169.4	29.4	575.3
1998	1.4	0.2	375.0	65.1	200.0	34.7	576.4
1999	2.9	0.9	275.3	89.1	30.9	10.0	309.1
2000	15.2	2.6	494.5	85.5	68.9	11.9	578.6
2001	1.1	0.3	324.6	91.6	28.8	8.1	354.5
2002	1.6	0.5	200.8	61.2	125.9	38.3	328.3
2003	4.1	1.2	253.3	72.3	92.8	26.5	350.2
2004	1.7	0.4	263.5	57.2	195.2	42.4	460.4
2005	2.3	0.3	427.6	50.6	415.4	49.1	845.3

Source: Statistics Department, Bangladesh Bank & Bangladesh Bureau of Statistics.

Table 3.9 Sectoral distribution of FDI inflow in 2005 (million US$ and share in percentage)

FDI Sectors	FDI-2005	Share (%)
Agriculture & Fishing	2.3	0.3
Industry	427	50.5
Power, Gas & Petroleum	208.3	24.6
Manufacturing	219.4	26.0
Textile &Wearing	96.5	11.4
Chemicals & Pharma	3.9	0.5
Metal & Machinery Prods.	0.1	0.0
Vehicle & Transport Eqp.	1.6	0.2
Fertilizer	61.2	7.2
Cement	45.3	5.4
Leather & Leather Prods.	0.7	0.1
other Manufacturing	10.1	1.2
Services	415.4	49.1
Trade & Commerce	130.5	15.4
Transport, Storage & Comm.	281.9	33.3
Telecommunication	278.8	33.0
Other Services	3.0	0.4
Total	845.4	100.0

Source: Bangladesh Bank Enterprise Survey, 2006 (cited in Economic Review, 2006).

Table 3.10 Sectoral share in merchandise export (in percentage)

Item	1980- 81	1990-91	1995-96	1999-00	2000-01	2001-02	2004-05	2005-06
Primary commodities	29.4	17.8	14.0	8.15	7.50	6.52	7.49	7.34
Raw jute	16.8	6.1	2.7	1.25	1.03	1.02	1.11	1.41
Tea	5.8	2.5	1.0	0.31	0.33	0.29	0.18	0.11
Frozen food	5.6	8.3	9.2	5.98	5.62	4.61	4.86	4.36
Other primary	1.3	1.0	1.1	0.64	0.49	0.59	1.34	1.00
Manufactured goods	70.6	82.2	100	91.85	92.50	93.48	92.51	92.66
Jute goods	51.7	16.9	9.7	4.62	3.56	4.07	3.55	3.43
Leather & leather goods	8.0	7.9	6.2	3.40	3.93	3.46	2.55	2.44
Woven garments	0.4	42.9	57.2	53.60	52.01	52.20	41.58	38.8
Knitwear	0.0	7.6	17.5	22.08	23.14	24.38	32.58	36.26
Chemical products	1.5	2.3	2.9	1.63	1.50	1.11	2.28	1.96
Other Manufactured goods	8.9	4.5	5.6	6.10	8.07	7.97	7.53	9.77
Total merchandise Export (million US $)	710	1717	3408	5752	6467	5986	8654	10526

Source: Various issues of Statistical Yearbook of Bangladesh and Bangladesh Economic Review 2006.

Table 3.11 Sectoral share in merchandise import (in percentage)

Sectors	1990-91	1995-96	1999-00	2001-02	2004-05	2005-06
Primary goods	18.33	14.77	11.70	9.51	12.75	12.57
Rice	0.11	5.15	1.37	0.18	1.99	0.79
Wheat	9.42	3.28	3.18	2.00	2.37	2.03
Oilseeds	0.03	1.28	1.07	0.84	0.65	0.61
Crude Petroleum	6.08	2.39	2.77	2.83	2.66	4.10
Raw cotton	2.68	2.66	3.31	3.65	5.07	5.03
Intermediate Goods	19.97	13.39	14.38	15.35	20.25	20.36
Edible Oil	5.96	2.58	3.06	2.94	3.35	3.21
Petroleum Products	5.94	4.17	4.85	5.63	9.52	9.49
Fertilizer	2.59	1.40	1.67	1.25	2.53	2.32
Cement	3.23	0.36	0.70	1.76	1.29	1.42
Staple fibers	0.17	0.62	0.51	0.46	0.57	0.52
Yarn	2.08	4.26	3.58	3.31	2.99	3.40
Capital Machinery	na	4.30	3.75	6.49	8.48	9.89
Others	61.70	67.54	70.17	68.65	58.52	57.19
Total Imports (million US $)	3470	6947	8374	8540	13147	14746

Note: Other goods include consumer goods other than primary goods. For 1990-91, separate data for capital machinery alone was not available. Therefore it is included in others category for this year.

Source: Bangladesh Bank (Economic Trend), Bangladesh Economic Review, 2006 and Bangladesh Economic Survey 1992-93.

Table 3.12 Bangladesh trade in services (in million Taka)

Year	Category	Services								Services Total
		1	2	3	4	5	6	7	8	9
1997-98	Export	4225	3087	1195	81	582	53	3128	19789	32140
	Import	38878	7535	494	3769	949	59	2237	4116	58037
	Balance	-34653	-4448	701	-3688	-367	-6	891	15673	-25897
1998-99	Export	4463	2370	1622	107	781	47	2296	22711	34397
	Import	43640	6809	514	4039	892	70	3064	3804	62832
	Balance	-39177	-4439	1108	-3932	-111	-23	-768	18907	-28435
1999-00	Export	5007	2583	2089	172	795	148	404	28152	42750
	Import	47020	14866	356	4411	1462	74	2999	3754	74942
	Balance	-42013	-12283	1733	4239	-667	74	805	24398	-3219
2000-01	Export	4269	2638	744	117	490	130	5411	27151	40950
	Import	57311	14340	409	5239	1024	67	6367	5427	90184
	Balance	-53042	-11702	335	-5122	-534	63	-956	21724	-49234
2001-02	Export	4405	3087	1313	176	566	165	5919	34013	49644
	Import	56470	5030	278	5373	735	57	4247	6115	78305
	Balance	-5378	-1943	1035	-5197	-169	108	2084	27898	-28661
2002-03	Export	5040	3207	3457	196	1088	250	7884	30245	51367
	Import	65459	7705	414	5953	526	44	5465	5928	91494
	Balance	-60419	-4498	3043	-5757	562	206	2419	24317	-40127
2003-04	Export	4140	3784	4155	185	1411	429	9694	35793	59591
	Import	74280	9792	674	7201	414	101	6086	6006	104554
	Balance	-70140	-6008	3481	-7016	997	328	3804	29787	-44963
2004-05	Export	5871	4199	1418	259	989	789	15670	45872	75067
	Import	91604	9793	1336	8706	649	120	6422	6241	124871
	Balance	-85733	-5594	82	-8447	340	669	9248	39631	-49804
2005-06 (July-March)	Export	5574	3815	1774	405	970	1143	12525	38137	64343
	Import	79048	6841	700	7788	709	201	7586	10062	112935
	Balance	-73474	-3026	1074	-7383	261	942	4939	28075	-48592

Note:
1 = Transport
2 = Travel
3 = Communication
4 = Insurance
5 = Financial
6 = Computer & Information
7 = Others (construction, royalties and license fees, other business, and entertainment, cultural & recreational)
8 = Government Services n.i.e.

Chapter 4

Table 4.1: Establishment, employment and value added in public and private sectors (at constant 1990-91 price)

Year	No. of establishment	Share		Employment	Share		Gross value added (Million Taka)	Share	
		Public	Private		Public	Private		Public	Private
1985-86	4473	3.89	96.11	466636	46.70	53.30	38687	46.33	53.67
1990-91	25890	0.89	99.11	1110582	25.23	74.77	66412	28.57	71.43
1992-93	26677	0.88	99.12	1248707	19.57	80.43	81791	21.98	78.02
1993-94	27247	0.70	99.30	1203017	11.92	88.08	133980	15.87	84.13
1995-96	28920	0.58	99.42	1714037	10.65	89.35	151974	11.39	88.61
1997-98	29573	0.53	99.47	2104247	8.90	91.10	156733	16.07	83.93
1999-00	24752	0.59	99.41	2259717	6.99	93.01	169730	12.08	87.92
2001-02	28065	0.49	99.17	2465397	5.61	94.40	206432	6.93	93.07

Note: Calculated on the basis of data from CMI (various issues).

Table 4.2: Manufacturing establishments by size (value in million Taka)

Indicators	1995-96				1999-00				2001-02			
	Large	Medium	Total (Both L&M)	Handloom (alone)	Large	Medium	Total (Both L&M)	Handloom (alone)	Large	Medium	Total (Both L&M)	Handloom (alone)
Persons engaged	1615141	246288	1861429	162414	2311441	302138	2613579	236916	2473071	345979	2819050	109694
Share (%)	86.77	13.23		8.73	88.44	11.56		9.06	87.73	12.27	100.00	3.89
Gross Value added	142622	13068	155690	2260	169162	8734	177896	2305	191979	14153	206132	2183
Share (%)	91.61	8.39		1.45	95.09	4.91		1.30	93.13	6.87	100.00	1.06
Value added at factor cost	92219	10654	102873	2150	110730	7004	117734	2234	129858	10909	140767	2144
Share (%)	89.64	10.36		2.09	94.05	5.95		1.90	92.25	7.75		1.52

Note: *L = Large with handloom, M= Medium with handloom

*Large Scale Establishments include those establishments which have more than 49 workers.

*Medium Scale Establishments include those establishments, which have more than 9 workers and less than 50 workers.

*Handloom includes both large and medium scale establishments

Source: Census of Manufacturing Industries, different issues.

Table 4.3: Manufacturing sector – at a glance (at constant 1990-91 price, value in million Taka)

Year	Number of establishments	Total employee	Operative employee	Gross value added	Gross value added at factor cost	Value of fixed assets without building and construction	Capital-labour ratio (K/L)
1990-91	25890	1110582	941869	66412	45518	68582	0.06
1991-92	26446	1327287	984792	70516	49183	68727	0.06
1992-93	26677	1248707	1069002	78830	51931	80663	0.06
1993-94	27247	1203017	1040804	130530	99567	77985	0.07
1995-96	28920	1714037	1486875	157951	105023	92182	0.08
1997-98	29573	2104247	1838667	158828	104104	141221	0.10
1999-00	24752	2259717	2005038	177896	117734	133406	0.08
2001-02	28065	2465397	2142401	206132	140767	150726	0.09

Note: K/L is calculated as (fixed asset /total employee).
Source: CMI (various issues).

Table 4.4: Annual average growth rates of different indicators of manufacturing sector (in percentage)

Year	Total Employment	Gross Value Added	Gross Value Added at Factor Cost	Value of Fixed Assets	Capital - Labour Ratio
1990-91	2.40	-4.69	-9.47	0.21	3.62
1991-92	19.51	6.18	8.05	17.37	2.01
1992-93	-5.92	11.79	5.59	-3.32	5.99
1993-94	-3.66	65.59	91.73	18.21	25.96
1995-96	19.36	10.00	2.70	23.77	6.20
1997-98	10.80	0.28	-0.44	-2.81	-7.45
1999-00	3.63	5.83	6.35	6.29	4.13
2001-02	4.45	7.64	9.34	11.85	10.58
1990/91 to 2001-02	7.53	10.86	10.82	9.62	5.19

Source: Calculated on the basis of data from CMI (various issues).

Table 4.5: Share of top-10 industries of 2001/02 in value added, employment and fixed assets (at constant 1990-91 Price)

BSIC Code (2001)	Type of industry	2001-02			1999-00			1995-96		
		Empt (%)	GVA (%)	FA (%)	Empt (%)	GVA (%)	FA (%)	Empt (%)	GVA (%)	FA (%)
242	Manufacture of other chemical (including pharmaceuticals)	4.89	22.68	8.37	2.07	6.53	3.28	2.01	7.54	3.14
181	Manufacture of wearing apparel (except fur apparel)	54.91	22.44	11.64	45.01	24.22	8.51	42.03	23.84	8.22
171	Spinning, weaving and finishing of textile	18.76	16.15	37.02	25.43	10.84	33.19	26.53	10.43	27.70
160	Manufacture of tobacco products	0.57	5.47	0.83	0.71	12.47	1.94	1.11	19.39	1.70
154	Manufacture of other food products (Bakery, sugar, tea, coffee, salt refining etc.)	3.44	5.40	3.78	2.93	2.77	2.47	3.77	3.19	2.99
269	Manufacture of non-metallic mineral products	3.36	5.16	7.46	5.66	3.96	3.29	2.82	2.35	2.75
151	Food Processing (meat, fish, fruit, vegetables, oils and fats)	0.82	2.99	2.32	0.78	2.90	3.52	1.22	2.54	2.21
192	Manufacture of footwear (leather and others)	0.41	2.00	0.54	2.36	6.66	3.78	3.67	6.82	2.82
221	Publishing	2.75	1.65	0.35	1.52	2.90	0.59	1.35	2.49	0.66
241	Manufacture of basic chemicals	0.39	1.52	10.92	0.45	2.45	17.93	0.45	3.30	21.54
Total in the economy (Empt. in number and value in million Taka)		2465397	206132	188562	2259717	177896	150726	1714037	157951	141221

Note: 1. Empt = Total Employment, GVA= Gross value added and FA= Fixed Assets.

Source: Calculated on the basis of data from CMI (various issues).

Table 4.6: Growth in employment, gross value added, and gross capital formation in top-10 industries of 2001/02 at 3-digit level (at constant 1990-91 Price)

BSIC Code (2001)	Industry	Employment		Gross value added		Fixed Asset	
		1995/96-1999/00	1999/00-2001/02	1995/96-1999/00	1999/00-2001/02	1995/96-1999/00	1999/00-2001/02
242	Manufacture of other chemical (including pharmaceuticals)	7.96	60.47	-0.65	100.69	2.83	78.61
181	Manufacture of wearing apparel (except fur apparel)	9.00	15.37	3.43	3.60	2.52	30.86
171	Spinning, weaving and finishing of textile	6.02	-10.28	4.01	31.40	6.34	18.13
160	Manufacture of tobacco products	-4.29	-5.95	-7.74	-28.71	5.08	-26.88
154	Manufacture of other food products (Bakery, sugar, tea, coffee, salt refining etc.)	0.60	13.19	-0.56	50.33	-3.11	38.45
269	Manufacture of non-metallic mineral products	27.52	-19.51	17.42	22.80	6.36	68.40
151	Food Processing (meat, fish, fruit, vegetables, oils and fats)	-4.09	7.02	6.50	9.25	14.14	-9.06
192	Manufacture of footwear (leather and others)	-4.02	-56.74	2.41	-40.96	9.35	-57.68
221	Publishing	10.35	40.47	6.97	-18.79	-1.11	-13.60
241	Manufacture of basic chemicals	7.17	-3.03	-4.31	-15.26	-2.92	-12.71

Source: Calculated on the basis of data from CMI (various issues).

Table 4.7: Capital –labour ratio in top-10 industries of 2001 (in million Taka)

BSIC Code (2001)	Industry	2001-02	1999-00	1995-96
242	Manufacture of other chemical (including pharmaceuticals)	0.131	0.106	0.128
181	Manufacture of wearing apparel (except fur apparel)	0.016	0.013	0.016
171	Spinning, weaving and finishing of textile	0.151	0.087	0.086
160	Manufacture of tobacco products	0.111	0.183	0.126
154	Manufacture of other food products (Bakery, sugar, tea, coffee, salt refining etc.)	0.084	0.056	0.065
269	Manufacture of non-metallic mineral products	0.170	0.039	0.080
151	Food Processing (meat, fish, fruit, vegetables, oils and fats)	0.217	0.300	0.150
192	Manufacture of footwear (leather and others)	0.102	0.107	0.063
221	Publishing	0.010	0.026	0.040
241	Manufacture of basic chemicals	2.140	2.641	3.922
	Total Manufacturing	0.076	0.067	0.082

Source: Calculated on the basis of data from CMI (various issues).

Table 4.8: Top-10 industries of 1999-00

Industry	Share in gross value added (%)	Share in persons engaged (%)
Wearing Apparel except Fur App.	24.21	39.23
Tobacco Manufacturing	12.47	2.59
Manufacture of Textiles	10.84	23.85
Food Manufacturing	7.72	8.29
Electrical Machinery	6.89	1.36
Footwear Manufacturing	6.66	2.05
Drugs & Pharmaceutical products	4.02	1.34
Non-metallic mineral Products	3.76	9.33
Printing & Publishing	3.57	2.12
Other Chemical products	2.6	0.82
Total	100	100

Source: CMI 1999-00.

Table 4.9: Value-added elasticities of employment in manufacturing, 1980/89-1990/98

Level	Value Added	Value Added Elasticity of Employment			Percentage change between Two Periods
		1980-1989	1990-1998	1980-1998	
Three-digit	Value Added	0.7463	0.6859	0.7580	-8.1
Four-digit	Value Added	0.7848	0.7263	0.7845	-7.5

Source: CMI (various issues).

Table 4.10: Gross value added of manufacturing sectors with different employment elasticities (value in thousand Taka and growth in percentage)

Sub Sector	1990-91	1995-96	1999-00	2001-02	1990-91 to 2001-02
Sectors with low or moderate employment elasticity (e<0.50)					
321 Textiles manufacturing	14991375	16472058	19280867	33287782	
Growth		1.90	4.01	31.40	7.53
341 Paper and paper products	1542846	2527822	1058195	1077128	
Growth		10.38	-19.56	0.89	-3.22
352 Industrial chemicals	5453588	5299480	4465273	3148648	
Growth		-0.57	-4.19	-16.03	-4.88
353 Other chemical products	2134529	5075294	4631846	9195585	
Growth		18.91	-2.26	40.90	14.21
371 Iron and steel basic	1769086	5079360	4438286	2279738	
Growth		23.48	-3.32	-28.33	2.33
382 Fabricated metal products	487013	606400	4251408	471180	
Growth		4.48	62.72	-66.71	-0.30
383 Non-electrical machinery	237057	549507	460944	265077	
Growth		18.31	-4.30	-24.17	1.02
Sectors with high employment elasticity (0.50<e> 0.75)					
332 Furniture and fixture	95813	523617	1301858	5992125	
Growth		40.45	25.57	114.54	45.70
342 Printing and publishing	565203	3937957	6357588	4231133	
Growth		47.44	12.72	-18.42	20.10
351 Drugs and pharmaceuticals	3729380	7181164	7150335	37805419	
Growth		14.00	-0.11	129.94	23.46
356 Rubber products	141975	242874	104624	360860	
Growth		11.34	-18.99	85.72	8.86
357 Plastic products	284452	253816	402521	844990	
Growth		-2.25	12.22	44.89	10.42
384 Electrical machinery	2068580	4482327	12255839	3285618	
Growth		16.73	28.59	-48.22	4.30
385 Transport equipment	2192611	584111	2296187	3780858	
Growth		-23.24	40.81	28.32	5.08
312 Food manufacturing	8502612	12421852	13740955	20291155	
Growth		7.88	2.56	21.52	8.24
Sectors with very high elasticity (e>0.75)					
314 Tobacco manufacturing	8329241	3062274	22180780	11273355	
Growth		-18.14	64.05	-28.71	2.79
322 Other textiles manufacturing	813056	4232275	4427683	736759	
Growth		39.09	1.13	-59.21	-0.89
324 Leather and leather products	1203301	996804	1040855	2118705	
Growth		-3.70	1.09	42.67	5.28
331 Wood and cork products	395512	403278	433752	247195	
Growth		0.39	1.84	-24.51	-4.19
361 Pottery	359320	518231	359235	2860718	
Growth		7.60	-8.75	182.19	20.78
369 Non-metallic minerals	816726	3191370	6691952	7772273	
Growth		31.33	20.34	7.77	22.76

Source: CMI various issues; Elasticity value from Rahman and Islam (2006).

Table 4.11: Value and growth of fixed asset of manufacturing sectors with different employment elasticities (value in thousand Taka and growth in percentage)

Sub Sector	1990-91	1995-96	1999-00	2001-02	1990-91 to 2001-02
Sectors with low or moderate employment elasticity (e<0.50)					
321 Textiles manufacturing	2237486	39121185	50025787	69806306	
Growth		77.23	6.34	18.13	36.76
341 Paper and paper products	2929533	1744901	1700441	761689	
Growth		-9.84	-0.64	-33.07	-11.54
352 Industrial chemicals	25216045	30451286	27071627	20591374	
Growth		3.85	-2.90	-12.79	-1.83
353 Other chemical products	947701	1672758	1289073	1780215	
Growth		12.03	-6.31	17.52	5.90
371 Iron and steel basic	4126243	5236103	3666808	2187875	
Growth		4.88	-8.52	-22.76	-5.61
382 Fabricated metal products	731946	485066	2868611	328475	
Growth		-7.90	55.94	-66.16	-7.03
383 Non-electrical machinery	2209853	227479	337853	135896	
Growth		-36.54	10.39	-36.58	-22.41
Sectors with high employment elasticity (0.50< e > 0.75)					
332 Furniture and fixture	22440	193927	67561	182892	
Growth		53.93	-23.17	64.53	21.04
342 Printing and publishing	382117	878062	1266198	1110456	
Growth		18.10	9.58	-6.35	10.19
351 Drugs and pharmaceuticals	1443533	3102420	3707597	14203974	
Growth		16.53	4.56	95.73	23.13
356 Rubber products	121864	210398	182690	228360	
Growth		11.54	-3.47	11.80	5.88
357 Plastic products	344390	490997	512576	851619	
Growth		7.35	1.08	28.90	8.59
384 Electrical machinery	1099585	6201305	5860474	2867006	
Growth		41.34	-1.40	-30.06	9.11
385 Transport equipment	3374977	6861811	2083116	984977	
Growth		15.25	-25.77	-31.24	-10.60
312 Food manufacturing	7155840	9826907	12610589	15421142	
Growth		6.55	6.43	10.58	7.24
Sectors with very high elasticity (e>0.75)					
314 Tobacco manufacturing	899410	2400961	2927195	1564861	
Growth		21.70	5.08	-26.88	5.17
322 Other textiles manufacturing	753744	1992813	1153605	596225	
Growth		21.46	-12.77	-28.11	-2.11
324 Leather and leather products	968547	1474686	1281175	3545240	
Growth		8.77	-3.46	66.35	12.53
331 Wood and cork products	335589	502642	389973	260761	
Growth		8.42	-6.15	-18.23	-2.27
361 Pottery	232139	441422	791207	7079979	
Growth		13.72	15.71	199.14	36.48
369 Non-metallic minerals	327353	3425565	4172062	949202	
Growth		59.93	5.05	-52.30	10.17

Note: Growth refers to annual average growth rate for the relevant period.

Source: CMI various issues; Elasticity value from Rahman and Islam (2006).

Table 4.12: Employment in manufacturing sectors with different employment elasticities (employment in number, growth in percentage)

Sub Sector	1990-91	1995-96	1999-00	2001-02	1990-91 to 2001-02
Sectors with low or moderate employment elasticity (e<0.50)					
321 Textiles manufacturing	525183	454810	574617	462518	
Growth		-2.84	6.02	-10.28	-1.15
341 Paper and paper products	17579	11482	16190	11035	
Growth		-8.17	8.97	-17.44	-4.15
352 Industrial chemicals	10025	8261	11457	9723	
Growth		-3.80	8.52	-7.88	-0.28
353 Other chemical products	15601	16210	16695	18973	
Growth		0.77	0.74	6.60	1.80
371 Iron and steel basic	15604	17412	14451	11572	
Growth		2.22	-4.55	-10.51	-2.68
382 Fabricated metal products	7590	7290	12612	11243	
Growth		-0.80	14.69	-5.58	3.64
383 Non-electrical machinery	5821	5434	8394	11820	
Growth		-1.37	11.48	18.67	6.66
Sectors with high employment elasticity (0.50<e> 0.75)					
332 Furniture and fixture	2811	4771	7085	26470	
Growth		11.16	10.39	93.29	22.64
342 Printing and publishing	11313	29633	50832	83086	
Growth		21.24	14.44	27.85	19.90
351 Drugs and pharmaceuticals	18280	25355	33324	108100	
Growth		6.76	7.07	80.11	17.55
356 Rubber products	3199	4088	3194	2765	
Growth		5.03	-5.98	-6.96	-1.32
357 Plastic products	3551	5001	2846	8250	
Growth		7.09	-13.15	70.26	7.97
384 Electrical machinery	18157	36875	33276	12958	
Growth		15.22	-2.53	-37.60	-3.02
385 Transport equipment	11223	26863	11437	6169	
Growth		19.07	-19.22	-26.56	-5.30
312 Food manufacturing	104101	123022	132601	150586	
Growth		3.40	1.89	6.57	3.42
Sectors with very high elasticity (e>0.75)					
314 Tobacco manufacturing	39063	19061	15997	14151	
Growth		-13.37	-4.29	-5.95	-8.83
322 Other textiles manufacturing	16557	33249	58749	23861	
Growth		14.96	15.29	-36.27	3.38
324 Leather and leather products	9707	11445	11165	17184	
Growth		3.35	-0.62	24.06	5.33
331 Wood and cork products	12187	9648	11530	4196	
Growth		-4.56	4.56	-39.67	-9.25
361 Pottery	3736	5552	7335	26425	
Growth		8.25	7.21	89.80	19.49
369 Non-metallic minerals	19327	42800	120519	50114	
Growth		17.23	29.54	-35.52	9.06

Note: Growth refers to annual average growth rate for the relevant period.

Source: CMI various issues; Elasticity value from Rahman and Islam (2006).

Table 4.13: Operative employment of manufacturing sectors with different employment elasticities (employment in number, growth in percentage)

Sub Sector	1990-91	1995-96	1999-00	2001-02	1990-91 to 2001-02
Sectors with low or moderate employment elasticity (e<0.50)					
321 Textiles manufacturing	464654	403950	530629	412932	
Growth		-2.76	7.06	-11.78	-1.07
341 Paper and paper products	11569	8577	13445	8769	
Growth		-5.81	11.89	-19.24	-2.49
352 Industrial chemicals	5848	4215	5307	4870	
Growth		-6.34	5.93	-4.21	-1.65
353 Other chemical products	11947	12482	11909	12916	
Growth		0.88	-1.17	4.14	0.71
371 Iron and steel basic	11473	13504	11005	9127	
Growth		3.31	-4.99	-8.93	-2.06
382 Fabricated metal products	6170	5629	10705	9731	
Growth		-1.82	17.43	-4.66	4.23
383 Non-electrical machinery	3870	4507	6752	8530	
Growth		3.09	10.63	12.40	7.46
Sectors with high employment elasticity (0.50<e> 0.75)					
332 Furniture and fixture	72674	89134	99839	113715	
Growth		4.17	2.88	6.72	4.16
342 Printing and publishing	2411	3843	5907	19065	
Growth		9.77	11.35	79.65	20.70
351 Drugs and pharmaceuticals	8205	18654	32953	70236	
Growth		17.85	15.29	45.99	21.58
356 Rubber products	7992	11651	13474	41414	
Growth		7.83	3.70	75.32	16.15
357 Plastic products	2709	3092	2764	2236	
Growth		2.68	-2.76	-10.06	-1.73
384 Electrical machinery	2684	3599	2292	6397	
Growth		6.04	-10.67	67.06	8.22
385 Transport equipment	14235	26080	24225	9360	
Growth		12.87	-1.83	-37.84	-3.74
312 Food manufacturing	17302	37783	109485	44473	
Growth		16.91	30.47	-36.27	8.97
Sectors with very high elasticity (e>0.75)					
314 Tobacco manufacturing	7474	20550	8964	4571	
Growth		22.42	-18.73	-28.59	-4.38
322 Other textiles manufacturing	35624	13395	9320	7659	
Growth		-17.77	-8.67	-9.35	-13.05
324 Leather and leather products	14109	28112	50864	20208	
Growth		14.78	15.98	-36.97	3.32
331 Wood and cork products	7872	9349	9045	13929	
Growth		3.50	-0.82	24.10	5.33
361 Pottery	10274	7170	9977	3466	
Growth		-6.94	8.61	-41.06	-9.42
369 Non-metallic minerals	2896	4789	6267	22229	
Growth		10.58	6.96	88.33	20.38

Note: Growth refers to annual average growth rate for the relevant period.

Source: CMI various issues; Elasticity value from Rahman and Islam (2006).

Table 4.14: Capital-labor ratio of manufacturing sectors with different employment elasticities (value in thousand Taka, growth in percentage)

Sub Sector	1990-91	1995-96	1999-00	2001-02	1990-91 to 2001-02
Sectors with low or moderate employment elasticity (e<0.50)					
321 Textiles manufacturing	4.26	86.02	87.06	150.93	
Growth		82.40	0.30	31.67	38.35
341 Paper and paper products	166.65	151.97	105.03	69.024853	
Growth		-1.83	-8.82	-18.93	-7.71
352 Industrial chemicals	2515.32	3686.15	2362.89	2117.8004	
Growth		7.94	-10.52	-5.33	-1.55
353 Other chemical products	60.75	103.19	77.21	93.828864	
Growth		11.18	-6.99	10.24	4.04
371 Iron and steel basic	264.43	300.72	253.74	189.06631	
Growth		2.60	-4.16	-13.68	-3.01
382 Fabricated metal products	96.44	66.54	227.45	29.215948	
Growth		-7.15	35.97	-64.16	-10.30
383 Non-electrical machinery	379.63	41.86	40.25	11.497082	
Growth		-35.66	-0.98	-46.55	-27.26
Sectors with high employment elasticity (0.50<e> 0.75)					
332 Furniture and fixture	7.98	40.65	9.54	6.91	
Growth		38.48	-30.40	-14.88	-1.31
342 Printing and publishing	33.78	29.63	24.91	13.365144	
Growth		-2.58	-4.25	-26.75	-8.09
351 Drugs and pharmaceuticals	78.97	122.36	111.26	131.39661	
Growth		9.15	-2.35	8.67	4.74
356 Rubber products	38.09	51.47	57.20	82.589369	
Growth		6.20	2.67	20.16	7.30
357 Plastic products	96.98	98.18	180.10	103.22652	
Growth		0.25	16.38	-24.29	0.57
384 Electrical machinery	60.56	168.17	176.12	221.25372	
Growth		22.66	1.16	12.08	12.51
385 Transport equipment	300.72	255.44	182.14	159.67	
Growth		-3.21	-8.11	-6.37	-5.60
312 Food manufacturing	68.74	79.88	95.10	102.41	
Growth		3.05	4.46	3.77	3.69
Sectors with very high elasticity (e>0.75)					
314 Tobacco manufacturing	23.02	125.96	182.98	110.58	
Growth		40.48	9.79	-22.26	15.35
322 Other textiles manufacturing	45.52	59.94	19.64	24.99	
Growth		5.65	-24.34	12.81	-5.31
324 Leather and leather products	99.78	128.85	114.75	206.31	
Growth		5.25	-2.86	34.09	6.83
331 Wood and cork products	27.54	52.10	33.82	62.15	
Growth		13.60	-10.24	35.55	7.69
361 Pottery	62.14	79.51	107.87	267.93	
Growth		5.05	7.92	57.60	14.22
369 Non-metallic minerals	16.94	80.04	34.62	18.94	
Growth		36.42	-18.90	-26.03	1.02

Note: Growth refers to annual average growth rate for the relevant period.

Source: CMI various issues; Elasticity value from Rahman and Islam (2006).

Table 4.15: Comparison of codes according to BSIC-1986 and BSIC-2001 for selected sub-sectors

Sub-sectors	Class (BSIC 1986)	Class (BSIC 2001)
Textiles manufacturing	321	171
Paper and paper products	341	210
Industrial chemicals	352	241,2421, 2431
Other chemical products	353	2422,2424, 2425, 2429, 2432, 2433, 2434
Iron and steel basic	371	271
Fabricated metal products	382	2814-17, 2819, 2896, 2899
Non-electrical machinery	383	291 and 292 except 2914
Furniture and fixture	332	3611-13, 3619
Printing and publishing	342	221, 222
Drugs and pharmaceuticals	351	2439, 2426-28, 2423
Rubber products	356	251
Plastic products	357	252
Electrical machinery	384	311, 312, 313, 314, 319, 321-23
Transport equipment	385	341-43, 351, 352, 353, 359
Food manufacturing	312	151, 152, 153, 154
Tobacco manufacturing	314	160
Other textiles manufacturing	322	172
Leather and leather products	324	182, 191
Wood and cork products	331	201, 202
Pottery	361	2691
Non-metallic minerals	369	2692, 2699

Source: BSIC 2001.

Chapter 5

Table 5.1: Food manufacturing sector at a glance (shares in percentage)

Year	Number of Establishments	Share in employment (%)	Share in gross value added (%)	Share in Value added at factor cost (%)
1990-91	5728	9	12.80	13.93
1995-96	6054	7	7.86	7.54
1999-00	5453	6	7.72	8.34
2001-02	5737	6	9.96	8.40

Source: Calculated on the basis of data from CMI (various issues).

Table 5.2: Share of different sub-sectors (at 3 digit levels) in food manufacturing (in percentage)

	Share in employment				Share in value added			
	Agro processing	Dairy Product	Grain mill	Bakery products	Agro processing	Dairy Product	Grain mill	Bakery products
1990-91	12.56	1.32	28.88	57.23	26.04	1.46	18.95	53.55
1995-96	16.95	3.39	27.07	52.58	32.28	7.21	19.96	40.55
1999-00	13.31	2.81	33.91	49.98	37.55	6.64	19.97	35.84
2001-02	13.42	1.03	29.17	56.38	29.99	3.14	12.66	54.21

Source: Calculated on the basis of data from CMI (various issues).

Table 5.3: Capital - labour ratio (capital formation / employment) in food manufacturing and its sub-sectors (at constant 1990-91 price, in thousand Taka)

Year	Agro processing	Dairy Products	Grain mill	Bakery products	Capital -Labour ratio in food manufacturing
1990-91	166.22	148.57	61.42	49.19	68.74
1995-96	149.71	130.28	58.39	65.58	80.09
1999-00	300.37	158.72	66.80	56.08	95.10
2001-02	216.88	321.90	77.73	83.90	102.41

Source: Calculated on the basis of data from CMI (various issues).

Table 5.4: Annual average growth in food manufacturing sector and its sub-sectors (at constant 1990-91 price, in percentage)

Year	Employment					Gross value added					Gross fixed assets				
	Food mfg. total	Agro processing	Dairy Products	Grain mill	Bakery products	Food mfg. total	Agro processing	Dairy Products	Grain mill	Bakery products	Food mfg. total	Agro processing	Dairy Products	Grain mill	Bakery products
1990-91 to 1995-96	3.40	9.78	24.86	2.07	1.66	7.88	12.62	48.46	9.00	2.04	6.61	7.51	21.62	1.04	7.68
1995-96 to 1999-00	1.89	-4.09	-2.81	7.79	0.60	2.56	6.50	0.47	2.57	-0.56	6.36	14.14	2.11	11.48	-3.26
1999-00 to 2001-02	6.57	7.02	-35.32	-1.17	13.19	22.25	9.25	-15.90	-2.65	50.33	10.58	-9.06	-7.89	6.60	38.45
1990-91 to 2001-02	8.37	9.77	16.19	4.47	8.49	8.35	9.76	16.18	4.45	8.47	7.24	6.59	8.51	5.75	8.42

Note: Gross fixed asset refers to fixed asset net of building costs.
Source: Calculated on the basis of data from CMI (various issues).

Table 5.5: Regression results: capital deepening in food manufacturing industry

Variables	Dependent variable: natural log of the capital- labour ratio		
	Coefficient	't' statistic	Significance level
Constant	4.152	73.386	0.00
Time Trend	0.030	4.172	0.00
Adjusted R-squared		0.578	

Source: Calculation of the authors.

Table 5.6: The leather (including leather goods) and leather footwear industry at a glance (at constant 1990-91price)

Year	Establish ment	Total persons engaged	Total employee	Total operative employee	Value added ('000' Taka)	Value added at factor cost ('000' Taka)	Gross fixed assets ('000' Taka)	Capital - Labour ratio ('000' Taka)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(7/3)
1990-91	385	14035	13668	10829	2121851	1359155	1391031	101.77
1991-92	386	16361	16092	13031	2732850	1801370	1450484	90.14
1992-93	331	16422	16094	12949	1540782	703282	1565785	97.29
1993-94	408	60225	59992	57458	2805103	2158733	2404315	40.08
1995-96	306	74648	74349	63385	11762445	6802626	5458118	73.41
1997-98	313	48136	47656	37086	12680047	8521033	6422022	134.76
1999-00	234	64821	64554	53539	12884597	7967780	6977100	108.08
2001-02	303	27686	27114	20604	6190635	3613725	4565392	168.38

Note: Gross fixed asset refers to fixed asset net of building costs.
Source: Calculated on the basis of data from CMI (various issues).

Table 5.7: Importance of the leather (including leather goods) and leather footwear industry in the economy and changes overtime (in percentage)

Year	Share in employment		Share in gross value added		Share in Value added at factor cost	
	Leather and leather footwear	Leather without leather footwear	Leather and leather footwear	Leather without leather footwear	Leather and leather footwear	Leather without leather footwear
1990-91	1.23	0.87	3.19	1.81	2.99	1.71
1991-92	1.21	0.81	3.88	2.49	3.66	2.66
1992-93	1.29	0.76	1.95	1.18	1.35	1.13
1993-94	4.99	0.80	2.15	1.00	2.17	0.99
1995-96	4.34	0.67	7.45	0.63	6.48	0.53
1997-98	2.26	0.57	7.98	0.74	8.19	0.61
1999-00	2.86	0.49	7.24	0.59	6.77	0.61
2001-02	1.10	0.70	3.00	1.03	2.57	1.06

Source: Calculated on the basis of data from CMI (various issues).

Table 5.8: Average annual growth in leather (including leather goods) and leather footwear industry (at constant 1990-91 price, in percentage)

Year	Growth in employment		Growth in gross value added		Growth in value added at factor cost		Growth in Gross fixed assets	
	Leather and leather footwear	Leather without leather footwear	Leather and leather footwear	Leather without leather footwear	Leather and leather footwear	Leather without leather footwear	Leather and leather footwear	Leather without leather footwear
1990-91	-7	-10	-14	-26	-23	-32	-7	-7
1991-92	18	11	29	46	33	68	4	-1
1992-93	0	-12	-44	-47	-61	-55	8	6
1993-94	273	1	82	40	207	69	54	19
1995-96	11	9	105	-13	78	-25	51	10
1997-98	-20	3	4	8	12	7	8	5
1999-00	16	-4	1	-6	-3	6	4	-11
2001-02	-35	24	-31	43	-33	44	-19	66
1990-91 to 2001-02	6	5	10	5	9	6	11	13

Note: Gross fixed asset refers to fixed asset net of building costs.

Source: Calculated on the basis of data from CMI (various issues).

Table 5.9: Regression results: capital deepening in leather industry

Variables	Dependent variable: natural log of the capital- labour ratio		
	Coefficient	't' statistic	Significance level
Constant	4.440	36.621	0.00
Time Trend	0.040	2.643	0.02
Adjusted R-squared		0.332	

Source: Calculation of the authors.

Table 5.10: Regression results: capital deepening in footwear industry

Variables	Dependent variable: natural log of the capital- labour ratio		
	Coefficient	't' statistic	Significance level
Constant	4.878	15.976	0.00
Time Trend	-0.043	-1.106	0.29
Adjusted R-squared		0.018	

Source: Calculation of the authors.

Table 5.11: Average duty rate on leather and leather goods import

Year	Range of total duty rates on raw hides (%)	Average duty on leather goods
2000-01	23.25 to 24.04	58.02
2001-02	4.74 to 27.13	44.22
2002-03	26.74 to 27.62	25.24
2003-04	27.62	27.95
2004-05	7.54	27.13
2005-06	3.02 to 6.67	29.6

Note: Total duty includes customs duty, supplementary duty, value added tax and development surcharge

Source: Average rates calculated on the basis of duty data collected from the National Board of Revenue, Bangladesh.

Table 5.12: Furniture and fixture sector – at a glance (at constant 1990-91 price)

Year	Establishment	Share in employment (%)	Share in gross value added (%)	Share in Value added at factor cost (%)
1990-91	257	0.25	0.14	0.18
1995-96	359	0.28	0.33	0.21
1999-00	462	0.31	0.73	1.00
2001-02	773	1.07	2.91	3.02

Source: Calculated on the basis of data from CMI (various issues).

Table 5.13: Employment and value added shares of different furniture & fixture manufacturing sub-sectors (at 4 digit level) (in percentage)

Year	Share in employment		Share in value added	
	Wooden furniture	Cane & bamboo	Wooden furniture	Cane & bamboo
1990-91	88.90	11.10	98.28	1.72
1995-96	99.79	0.21	99.92	0.08
1999-00	97.04	2.96	99.75	0.25
2001-02	100.00	0.00	100.00	0.00

Source: Calculated on the basis of data from CMI (various issues).

Table 5.14: Capital-labour ratio in furniture & fixture manufacturing (at constant 1990-91 price, in thousand Taka)

Year	Total employee	Gross fixed assets	Capital -Labour ratio
1990-91	2811	22439	7.98
1995-96	4771	193927	40.65
1999-00	7085	67561	9.54
2001-02	26470	182892	6.91

Note: Gross fixed asset refers to fixed asset net of building costs.
Source: Calculated on the basis of data from CMI (various issues).

Table 5.15: Annual average growth in furniture & fixture manufacturing sector (at constant 1990-91 price)

Year	Employment	Growth (%)	Operative Employee	Growth (%)	Value added	Growth (%)	Value added at factor cost	Growth (%)	Value of fixed assets	Growth (%)
1990-91	2811		2411		95813		81342		22439	
1995-96	4771	11.16	3843	9.77	523617	40.45	225306	22.60	193927	53.93
1999-00	7085	10.39	5907	11.35	1301858	25.57	1178717	51.24	67561	-23.17
2001-02	26470	93.29	19065	79.65	5992125	114.54	4255342	90.00	182892	64.53
1990-91 to 2001-02		23		21		46		43		21

Note: Calculated on the basis of data from CMI (various issues).
Source: CMI various issues.

Table 5.16: Regression results: capital deepening in furniture and fixture industry

Variables	Dependent variable: natural log of the capital- labour ratio		
	Coefficient	't' statistic	Significance level
Constant	2.520	15.976	0.00
Time Trend	-0.008	-0.190	0.85
Adjusted R-squared		-0.087	

Source: Calculation of the authors.

Table 5.17: Duty structure of imported furniture raw materials and final goods

Serial	Particulars	HS Code	Present Duty
1	Particle Board/Melamine Laminated Particle Board	4410.90.00	CD-25% SD-15% Vat-15% Others-9.5%
2	Fiber Board>MDF (Density exceeding 0.8 g/cm3)	4411.11.00 4411.19.00	CD-25% SD-15% Vat-15% Others-9.5%
3	Plywood	4412.00.00	CD-25% SD-15% Vat-15% Others-9.5%
4	Finished Furniture	9403.00.00	CD-25% SD-25% Vat-15% Others-9.5%
5	Furniture Fittings	9401.90.00 8205.59.00 3926.30.00 7319.30.00 7318.15.00 and all other HS code related to furniture fittings	CD-25% SD-00% Vat-15% Others-9.5%

CD= Custom Duty, SD= Supplementary Duty, Others = advanced income tax (3%), Infrastructure development charge (4%), ATV-1.5% & PSI-1%

Source: Provided by KATALYST, Bangladesh during a meeting under the current study.

Table 5.18: Employment in IT sector according to labour force survey

Sub-sectors	Bangladesh	Urban	Rural
Hardware consultancy	1278	463	815
Software consultancy	548	463	85
Data processing	1851	1851	-
Data base activities	925	925	-
Maintenance and repair of office, accounting and computing machine	1278	463	815
other computer related activities	925	925	-
Total	**6805**	**5090**	**1715**

Source: Report on Labour Force Survey 2002-03 p. 129-130.

Table 5.19: Export of software

Year	Growth
2002-03	51%
2003-04	71%
2004-05	75%
2005-06 (expected)	70%+

Source: The Daily Star (English daily in Bangladesh), 4-03-06.

Table 5.20: Employment scenario of mobile and land phone company

Company Name	Employee in 2004			Employee in 2005			Employee in 2006			Growth
	Male	Female	Total	Male	Female	Total	Male	Female	Total	
BTTB	12911	1477	14388	12092	1285	13377	10699	1290	11989	-10.38%
City Cell	85	415	500	136	664	800	187	913	1100	37.50%
Grameen						4000			5000	25%
Tele Talk									299	

Source: Annual reports of relevant operators.

Table 5.21: Estimated ICT human resources demand by 2010

	Sector	Number of Institutions (rounded)	Estimated Number of Professionals Needed
1	Universities and Tertiary Institutions (2@each institute)	4000	8000
2	Secondary Schools (1@each)	10000	10000
3	Primary Schools (1 @ each)	30000	30000
4	Government/armed forces (100 per Ministry, branches and its dept.)	30	3000
5	Financial Institutions (1 per branch)	2000	2000
6	Telecom Service Providers, ISPS, Cafes (per estimate of ISPBA)	10000	10000
7	Industry and other private enterprises (for large industries and ICT SMEs)	2000	2000
8	NGOs and Missions (1 per)	20000	20000
	Total Need		85,000

Source: IRIS, University of Maryland, 2005, ICT Sub Sector Study in Bangladesh, Jobs Project, Dhaka.

Table 5.22: Tele-density and density of access in Bangladesh 1974-2006

Year	Telephone density (fixed)	Density of access(fixed + mobile)
1973-74	0.061	0.061
1975-76	0.070	0.070
1979-80	0.091	0.091
1980-81	0.094	0.094
1984-85	0.109	0.109
1988-89	0.158	0.158
1989-90	0.169	0.169
1990-91	0.182	0.182
1991-92	0.199	0.199
1992-93	0.206	0.207
1993-94	0.217	0.220
1994-95	0.231	0.239
1995-96	0.236	0.253
1996-97	0.258	0.307
1997-98	0.294	0.373
1998-99	0.324	0.455
1999-00	0.344	0.575
2000-01	0.364	0.945
2001-02	0.435	1.385
2002-03	0.518	1.967
2003-04	0.537	3.685
2004-05	0.615	7.562
2005-06	0.789	9.079

Note: Telephone Density = mainline per 100 people.
Density of access = (fixed + mobile) phone/100 people.

Table 5.23: Different indicators of state owned BTTB

Description	Status on October 2001	Status on March 2005
Total capacity of telephone exchange	685400 lines	1003251 lines
Total telephone connection	564600 lines	865599 lines
Total capacity of digital exchange in Bangladesh	549191 lines	957754 lines
Total digital telephone connection in Bangladesh.	457630 lines	834651 lines
Total capacity of the telephone exchanges in Dhaka Multi-Exchange area.	341000 lines	509172 lines
Total connection under Dhaka Multi-Exchange area.	317519 lines	481021 lines
No. of districts equipped under with digital exchange	43	64 (all districts)
No. of upazillas equipped with digital exchange	54	166
No. of districts having internet services	8	64 (all district)
No. of upazillas having internet services	1	166
Subscriber of BTTB Internet service	3900	16794
Number of working NWD circuits	22770	42965
Number of International Voice circuits	2767	7254

Source: Teletech (a journal of BCS telecom Samity of Bangladesh), May, 2005.

Table 5.24: Taxes related to telecommunication services

Tax structure related to telecommunication services	Year	
Taxes	2005	2006 or 2007
Corporate taxes	40%	
Tax on revenue earning of the companies	1%	5.5%
Tax on SIM card	Tk.900	Tk.300
Tax on equipment/ Import duty on equipment	7.50%	
Government Royalty and License Fee	Tk100	
Tax on voice service/ airtime VAT/ service tax	15%	

Table 5.25: Government revenue from telecom sector

Year	Telecom Revenue (current billion BDT)	Revenue as percentage of GDP
2000	18.61	0.81
2001	20.41	0.8
2002	30.33	1.11
2003	36.06	1.2
2004	44.67	1.34

Source: WDI, World Bank, 2006.

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