International Labour Organization

PROMOTING EMPLOYMENT INTENSIVE GROWTH IN SRI LANKA:

Policy Analysis of the Manufacturing and Service Sectors

ILO Country Office for Sri Lanka & Maldives
202-204, Bauddhaloka Mawatha,
Colombo 07, Sri Lanka.
Tel : 0094 11 2592525 Fax: 0094 11 2500865
E-mail: colombo@ilo.org
Web: www.ilo.org/colombo

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Sunil Chandrasiri

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Sunil Chandrasiri

Sunil Chandrasiri is a Professor at the Department of Economics and currently, functions as the Dean, Faculty of Graduate Studies of the University of Colombo. He teaches Industrial Organization Theory, Industrial Policy, International Economics, Labour Economics, and Environmental Economics at graduate and undergraduate level. He has worked extensively on industry and trade policy, small and medium scale enterprises, environmental economics, tertiary education and labour market in Sri Lanka, Maldives, Pakistan, Viet Nam and Mongolia.

Contents

Acronyms

ADB	Asian Development Bank
BOI	Board of Investment
DCS	Department of Census and Statistics
DoC	Department of Commerce
EDB	Export Development Board
FDI	Foreign Direct Investment
F&B	Food and Beverages
GAFA	Gross Additions to Fixed Assets
GDP	Gross Domestic Product
GoSL	Government of Sri Lanka
GSP	Generalized System of Preference
GTZ	German Technical Co-operation
HRD	Human Resource Development
ICT	Information and Communication Technology
IMF	International Monetary Fund
MoF	Ministry of Finance
MoFA	Ministry of Foreign Affairs
MID	Ministry of Industrial Development
OSH	Occupational Safety and Health
R&D	Research and Development
QLFS	Quarterly Labour Force Survey
SMI	Small and Medium Scale Industry
SME	Small and Medium Scale Enterprises
SMESDP	Small and Medium Enterprise Sector Development Project
SOE	State Owned Enterprises
TWA	Textiles and Wearing Apparel
UNCTAD	United Nations Conference on Trade and Development
VAT	Value Added Tax
WWP	Wood and Wood Products

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Executive Summary

The purpose of this paper is to examine the employment effect of growth in manufacturing sector industries in Sri Lanka covering a period of 17 years from 1990. In the main text, two periods are distinguished in terms of employment elasticity: a) the slow growth period of the 1990s and b) the period of high growth (post-2000). The paper uses an integrated framework which qualifies the relative importance of the key factors determining employment elasticity and its variations between the two time periods. The findings indicate that the manufacturing sector has responded positively to policy reforms of the post-1977 period in terms of growth, export orientation, productivity, profitability and employment creation.

The total labour force in Sri Lanka has grown from 6 million in 1990 to 8 million in 2008, indicating an annual growth of 2 per cent per annum. Of this labour force, about 5.5 million were employed in 1990 and it increased up to 7.5 million in 2008. The rate of unemployment and under-employment was around 5.2 and 3.7 percent respectively in 2008.

With the introduction of liberalized policy reforms in the late 1970s, manufacturing sector entered a rapid growth phase and maintained an average of 6 percent growth per annum as opposed to 4.8 percent growth at national level. In fact, since the late 1980s manufacturing growth surpassed that of other sectors and this has been attributed to several contributory factors, such as the free availability of imported inputs and capital goods, flow of foreign direct investment, export-oriented policy support and emphasis on productivity.

Manufacturing is the main contributor to value added in industry and its relative share of GDP increased from 13 percent in 1990 to 17 percent in 2000 and reduced to 16 percent in 2006. The contribution of manufacturing to total employment varied from 13 percent in 1990 to 19 per cent in 2006, demonstrating its capacity to create employment opportunities under a liberalized policy regime. The female share of employment in manufacturing has remained unchanged (49 percent) between 1990 and 2006, except a moderate increase in 2000. An assessment of quality of employment measured in terms of different categories of employment revealed that more than 80 percent of jobs in manufacturing are shared by skilled (59 percent) and unskilled (24 percent) workers. In terms of income generation, skilled and unskilled workers account for about 51 and 17 percent of salaries and wages earned by persons engaged in manufacturing, respectively. This could be viewed as an important stream of pro-poor benefits as a sizable proportion of workers belonging to skilled and unskilled categories are more likely to represent the low-income segment of the population.

An assessment of growth performance of the economy in terms of value added reveals high growth rates maintained by manufacturing as opposed to the services sector and the national economy. Since 2001, growth of value added in manufacturing was rather low and the services sector emerged as the best performer. In terms of employment intensity, however, the manufacturing sector ($e = 1.55$ for 2000-2006) performed better than that of the services sector ($e = 0.34$ for 2000-2006) and the national economy ($e = 0.41$ for 2000-2006). This implies a transition of manufacturing sector from low employment intensity to high employment intensity between 1990 and 2006 relative to other sectors.

This evidence was further confirmed by employment elasticity estimates at 2-digit level and 4-digit level. For example, employment elasticity estimates at 4-digit level indicate that more than 50 percent of industry sub-sectors in manufacturing record high employment elasticity ($e < 0.75$), particularly between 2000 and 2006. Decomposing of employment elasticity values for the two time points covering the entire manufacturing sector, as well as the three-sub-sectors indicate an increasing trend of employment elasticity from $e = 0.55$ to $e = 0.99$ for 1990-2000 and 2000-2006 periods, respectively.

The inter-sectoral variations in employment elasticity was carried out using three sub-sectors: a) Food and Beverages (ISIC 31) to represent high employment elasticity (0.5 < e); b) Textile and Wearing Apparel (ISIC 32) to represent moderate employment elasticity (0.25 < e <0.5); and c) Wood Products and Furniture (ISIC 33) to represent low employment elasticity (e < 0.25) in manufacturing. These three sub-sectors jointly account for more than 50 percent of value added and gross additions to fixed assets (GAFS) in manufacturing. It also accounts for more than 60 percent of establishments in manufacturing. In terms of exports, it accounts for about 47 percent of total export earnings and 58 percent of non-traditional export earnings. In overall terms, the findings points to a systematic, positive relationship between labour supply and employment intensity of growth. The evidence at sub-sectoral level confirms positive effects of export orientation, firm size, K/L ratio and productivity on growth of employment. However, there is some evidence in support of the view that jobs created in some sub-sectors tend to be of lower quality.

5.2 Policy Implications - Overall policy Issues

The overall policy issues affecting growth and employment creation include both incentive policies and structural policies. With respect to the former, the state has to play a major role in promoting employment intensive growth particularly in the present context of global economic downturn. Thus, policy measures need to be introduced, paying particular attention to fiscal consolidation, exchange rate management, and appropriate monitory policies. Similarly, structural policies are of primary importance in promoting employment intensive growth. This covers a wide range of policy interventions, including skills development, investments in research and development, infrastructure facilities and institutional support.

Food and Beverages (F&B)

The F&B sector has been a major beneficiary of both sector specific policies and overall policy reforms. In spite of positive responses from the F&B sector, the government needs to pay special attention to the following interventions to further strengthen employment intensive growth of F&B sector.

a) Increase access to foreign markets through multi-lateral and bi-lateral trade agreements, that is,SAFTA, ILBFTA, etc through bi-lateral and multi-lateral trade negotiations.
b) Maintain quality standards of F&B products to meet quality standards set by foreign buyers.
c) Invest in technology development.
d) Invest in skills development.
e) Promote awareness of the importance of occupational health and safety issues on the part of employers and employees.
f) Educate SMEs on potential benefits of industrial safety.
g) Maintain the image of Sri Lankan F&B products by way of ensuring good quality and brand marketing.
h) Maintain the image of Ceylon Tea by way of ensuring good quality and brand marketing.
i) Promote other tea-based products, that is,health care products.
j) Encourage replantation with vegetatively-propagated plants cultivation.
k) Encourage production of fruits, vegetables, fisheries sub-sectors.

Textile and Wearing Apparel (TWA)

The TWA sector has also received considerable policy support during the post-liberalization period. As a result, the garments sector has marked a significant growth in terms of production, export earnings and employment during the post-1990 period. The policy makers need to concentrate on the following areas to further strengthen pro-employment benefits of TWA sector.

a) Provide attractive incentives to attract foreign investors into Sri Lankan fabric mills sub-sector.
b) Invest in fabric mills.
c) Promote duty free import of textiles.
d) Reform Labour Laws, that is, amend labour regulations to permit flexible downscaling, remove restriction of maximum 10 hour working day.
e) Invest in skills development.
f) Develop electronic data interchange (EDI) facilities at the Port and the Customs, introduce e-shipping, implement speeder import/export documentation.
g) Provide assistance and support to modernize the factories to meet international factory standards and working conditions.
h) Access to foreign markets through multi-lateral and bi-lateral trade agreements, that is,SAFTA, ILBFTA, etc.
i) At international negotiations, the government should link the issue of market access issue for garment exports with poverty reduction efforts of the economy.
j) The government should also negotiate for deeper labour-related GSP tariff cuts and for more relaxed rules of origin, especially in the case of fulfilling regional accumulation.
k) Structural changes in foreign markets should also to be taken into account in designing development strategies to TWA sector.

Wood and Wood Products (WWP)

The WWP has received policy support through various policy reforms relating to industry, investment, trade, export promotion, skills development and environmental protection. The following policy recommendations may further improve employment intensity of WWP sector.

a) Permission for industrial consumers to import timber and wood packing materials
b) Continue to offer duty concessions to import machinery and equipment
c) Provide training for individuals engaged in WWP industry under a sector specific programme
d) Upgrade saw mills and introduce new technology, wood seasoning facilities
e) Good governance and simplification of procedures

1 Introduction

1.1 Introduction

Sri Lanka is a small labour surplus open economy with a per capita income of US$ 2014 in 2008 at market prices. The estimated labour force in 2008 was 7.6 million and 37 percent of them were females. Sri Lanka has been pursuing liberal and pro-market economic policies since 1977 and, as a result, the structure of the economy has changed from a traditional type export - import economy to a manufacturing exporter with large domestic oriented service sector. The relative contribution to GDP by agriculture, industry, and service sectors stood at 12, 28 and 60 percent respectively in 2008. The relative shares of employment by agriculture, industry, and service sectors were 31, 27 and 42 percent, respectively, in the same year.

Employment generation is a key concern in promoting growth and it is a function of several factors comprising of structural, policy and governance issues. The relative magnitude of these factors in determining growth of employment can be examined at national, sectoral and sub-sectoral level. Existing body of evidence indicates that a growth process closely linked with job creation is the best way of promoting development. The primary purpose of the present study is to examine the interaction between economic growth and employment with special reference to manufacturing sector industries in Sri Lanka.

Post-1977 policy reforms have been identified as a key factor in transforming the economy of Sri Lanka from traditional type export-import economy to a more outward looking export-oriented economy. During this period, Sri Lanka has moved rapidly down the path of economic liberalization and lowered tariff barriers progressively and has made efforts to deregulate industry and trade. As a result, the average real GDP has grown at a rate of 5 per cent per annum during the post-1997 period (or post-liberalization period), despite the civil war and turbulent economic environment at the global level. The continued practice of this policy led to major structural changes of the national economy. For example, the relative significance of manufacturing and service sectors in the national economy increased its relative share of the national economy, against the declining trend of the agricultural sector.

1.2 Objectives

The primary purpose of the present study is to examine the link between growth and employment in the Sri Lankan economy, based on national, sectoral and sub-sectoral analysis. More specifically, the study is aimed at examining the following issues in detail.

a) Analyze the overall growth performance of small open economy of Sri Lanka during the post-liberalization period.
b) Analyze the growth experience of manufacturing sector industries in terms of employment and value added.

c) Analyze the regulatory framework under which the manufacturing sector industries operate with a focus on a few selected sub-sectors.
d) Identify the factors determining the growth of a sector and / or impediments which restrain the growth.
e) Identify the factors affecting (positively or negatively) the employment structure (growth and composition) of manufacturing.
f) Identify policy interventions, which are desirable for the growth of the selected sectors.

1.3. Methodology

This study is mainly based on secondary data published by the Department of Census and Statistics (DCS) and Central Bank of Sri Lanka. The 'Survey of Manufacturing Industries' conducted by the DCS was used for detailed analysis of manufacturing industries in terms of structure, growth, capital intensity, technology orientation, scale of operation, and quality of employment. It should be noted that the coverage of manufacturing establishments in the present analysis is confined to establishments employing 5 or more employees in units and does not cover micro level enterprises, that is, units with less than 5 employees. The data set is fairly comprehensive and provides information on a number of establishments, output, value added, investment, employment, salaries and wages, cost of intermediate inputs, and summary tables of scale of operation and regional dispersion of industrial establishments. Some of the information, particularly data on investment and employee earnings are incomplete and does not provide full details for the three time points covered in the present study, that is, 1990, 2000 and 2006.

The Quarterly Labour Force (QLF) statistics compiled by the DCS was also used to examine structural changes of employment at national and sub-sectoral level. It is comprehensive and useful for a detailed assessment of structural changes of the labour market. The national income statistics and price indices published by the Central Bank of Sri Lanka were also employed to examine structural changes of the economy during the period under investigation. In an attempt to decompose factors determining employment elasticity some proxy measures had to be employed in the absence of a producer price index.

In addition, information has also been collected from various private sector organizations (Chamber of Commerce and Industry), Employers Federation of Sri Lanka to elicit information on the impact of policy-induced factors and support services and governance issues. A series of depth interviews covering policy makers, key officials of industry promotion organizations and academics was also conducted as a part of the study, mainly to interpret statistical evidence and to examine policy perspectives of jobless growth. The analytical framework is based on existing body of theoretical and empirical evidence in the literature. In addition, various policy documents published by the Ministry of Finance and Planning, National Planning Department and various line ministries have also been used to analyse policy changes with respect to labour relations, trade liberalization, industrial development and technology orientation.

In order to analyse the effects of regulatory changes on employment, the present study attempts to analyse recent performance (in terms of their value addition, employment generation and capital formation) of manufacturing and service sectors as a whole and performance of manufacturing at sub-sectoral level.

The study design comprises of three main stages: a) analysis of overall trends at national level and sectoral level, b) detailed analysis of growth and employment relationships, and c) analysis of policy variables. The first part of this study, analysis of overall trends at national level examines the structural changes of the national economy over a period of 17 years from 1990 with special reference to major sub-sectors of the national economy. The purpose is to set the background for the main study on employment and growth in manufacturing. The second part of the study presents an overall assessment of manufacturing sector industries using 4-digit level data with special emphasis on employment and growth. The third part of the analysis delves into links between growth and employment, covering three major sub-sectors; a) Food and Beverages (F&B), b) Textile, Wearing and

Apparels (TWA), and c) Wood, Wood Products and Furniture (WWF). The selection of these three sub-sectors is based on two main criteria: a) economic growth and b) employment elasticity. In terms of relative magnitude, these three sub-sectors account for about 58 percent of establishments and more than 60 percent of value added (VA) gross additions to fixed assets (GAFA) in manufacturing.

At sub-sectoral level, the reasons for choosing Food and Beverages sub-sector for further analysis is its high employment elasticity (0.75 < e). Another reason is apparent dominance of small and medium scale industrial (SMIs) enterprises in F&B sub-sector. The SMIs operating in Food and Beverages sub-sector are labour intensive and scattered in various parts of the island. The locational aspect of F&B sub-sector is important from the point of view of regional development, poverty reduction and inclusive growth. The selection of Textile and Wearing Apparels and Wood, Wood Products and Furniture are based on its moderate (0.50< e > 0.75) and low (e > 0.50) employment elasticity experience of post-1990 period. These three sub-sectors jointly account for more than 50 percent of value added and GAFA in manufacturing. It also accounts for more than 60 percent of establishments in manufacturing and 58 percent of non-traditional export earnings.

The analysis of the services sector is limited to 2-digit level analysis due to lack of information at 3-digit or 4-digit level. Even the Census of Trade and Services does not provide any data on turnover or value added. Albeit with data limitations, the findings of the services sector provide some important implications for employment generation of highly skilled and semi-skilled workforce in Sri Lanka. 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 poverty reduction. Recent data reveal that telecom sector has performed extremely well during the post-liberalization period. It will continue to be a key growth sector of employment creation, particularly with the emergence of business process outsourcing (BPO) activities.

The analysis of data also poses problems for the specification of the time periods undertaken. Theoretically, we should be first looking at the overall trends of employment elasticity in manufacturing covering the entire period from 1990 to 2007 to mark the time periods which ought to be distinguished. But we were forced to select 1990, 2000 and 2006 for detailed assessment of changes in employment in manufacturing, due to serious data limitations at 4-digit level. The overall trend, however, does not indicate any major changes leading to clearly distinguishable sub-periods. The introduction of ISIC 3rd revision since 2003 has also caused some statistical problems in harmonizing pre and post-2003 ISIC 4 digit level data.

1.4 Outline of the Report

After the introduction, Chapter 2 presents a brief account of the Sri Lankan economy, along with post-liberalization policy reforms at the national level. It also provides an overview of manufacturing and service sectors of Sri Lanka. Chapter 3 presents a brief theoretical note on the determinants of employment elasticity with some empirical work. Chapter 4 deals with the employment outcome of growth in three selected sub-sectors of manufacturing: a) food and beverages, b) textile and apparel and c) wood products and furniture. Chapter 5 discusses the role of various policies adopted by Sri Lanka in promoting growth in manufacturing. Finally, Chapter 6 provides conclusions and recommendations.

2

Performance of the Economy

2.1 Introduction

The purpose of this Chapter is to provide some background details for a sector specific study on economic growth and employment creation. It presents overall trend patterns of the national economy in terms of growth, productivity, employment, and openness, with a view to provide a sector specific policy focus. It also provides an assessment of manufacturing sector industries in terms of relative magnitude, structure, profitability and productivity.

2.2 The Macro Economy

The most promising feature of Sri Lanka's economic performance during the post-liberalization period has been the acceleration of economic growth to a rate of 5 percent per annum. At the sectoral level, the services sector recorded the highest growth as opposed to the agriculture and manufacturing sectors. Sri Lankan economy also displays a number of macro-economic problems, including low savings and investment, excessive budget deficit, consumer price inflation, widening external account deficit and depreciation of the Rupee. In part, problems stem from the fact that Sri Lanka's recent economic expansion has been driven partly by relatively relaxed fiscal and monitory policies. The ethnic conflict has also exerted considerable pressures on fiscal operations and growth performance.

Table 2.1 Structural Changes of the National Economy

	GDP %			Employment %		
	1990	**2000**	**2006**	**1990**	**2000**	**2006**
Agriculture.	28.3	20.5	16.8	46.8	36.2	32.2
Industry	22.1	27.6	27.0	18.7	23.3	26.6
Services	49.6	52	56.2	34.5	40.5	41.2
	100.0	100.0	100.0	100.0	100.0	100.0

Source: CBSL

The structural changes of the economy between 1990 and 2006 are analysed in Table 2.1 and the evidence reveals a gradual increase in relative shares of industry and services sectors in terms of GDP and employment, in contrast to a declining trend of the agricultural sector. For example, the employment share of manufacturing

[1]*The author is thankful to Nuwan Indika for statistical assistance in conducting the study.*

and services sector increased from 53 and 68 percent between 1990 and 2006. Another important structural change worth noting is the emergence of services sector, as the key sector of employment, compared to agriculture during the post-1990 period. Within the services sector, the major areas of employment growth have been in retail trade, health, education, business and personal services sub-sectors. In addition to liberalized policies, these industries have also benefited from the high demand stemming from high per capita income, particularly from middle and upper income segments of the population.

2.3 The Labour Market

This section of the paper deals with structural changes of the labour force in Sri Lanka during the post-1990 period. As revealed in the analysis given in Figure 2.1, the total labour force in Sri Lanka has grown from 6 million in 1990 to 8 million in 2008 indicating an annual growth of 2 per cent per annum. Of this labour force, about 5.5 million were employed in 1990 and it increased upto 7.5 million in 2008. The rate of unemployment and under employment was around 5.2 and 3.7 percent, respectively in 2008. Among the unemployed, the rate of unemployment was higher among the educated in contrast to less educated individuals (Table 2.2).

Table 2.2 Unemployment Rate: 1990-2008

Level of Education	1990	1995	2000	2006	2008
Total	15.9	12.3	7.6	6.5	5.4
Below GCE O/L	22.3	16.2	8.5	5.8	3.4
GCE O/L	23.9	18.4	11.3	9.9	7.7
GCE A/L and Above	29.4	20	14.9	11.6	10.5

Source: DCs QLF data

Another important feature worth noting is high rate of unemployment among females at all levels of education as opposed to males. For example, among individuals with GCE A/L and above qualifications the rate of unemployment among females in 2008 was 15.3 as against 6 percent among males.[2] Similarly among females with GCE O/L qualifications the rate unemployment was 12.4 and 5.3 percent among females and males respectively. As shown in Figure 2.2, the service sector has emerged as the most important sector of the national economy in absorbing net additions to the labour market during the post-1990s.

Table 2.3 Employed Persons by Employment Status (000)

	Public		Private		Total employment*	% share	
	Govt.	Semi. Govt	GCEC	Others		Public	Pvt.
1990	649	703	104	1,520	5,047	21.5	33.7
1995	738	569	233	3,817	5,357	15.6	44.3
2004	542	418	233	3042	7394	13.0	46.4
2008	622	480	233	3817	7252	15.2%	41.1%

Source: Central Bank Annual Reports and Quarterly Labour force Surveys (QLF)

* Refers to total employment in terms of employee (public and private sector), employer, own account worker and unpaid family worker groups.

[2] *In the first quarter of 2009 total unemployment was 5.5 percent and among males and females, it was 4.2 and 7.9 percent, respectively.*

Another important structural feature, which is clearly evident, is the dominance of the private sector in absorbing labour, and its relative share has increased from 34 to 46 percent between 1990 and 2004. In contrast, the relative share of public sector employment reduced from 22 to 13 per cent during the same period. In 2008, however, the share of public sector employment increased up to 15 percent while private sector employment reduced to 41 percent (Table 2.3). In fact, in the first quarter of 2009 it went up to 15.5 percent[3] indicating continued upward trend of increasing public sector employment. The development initiatives by the government since 2004 and its efforts to promote public sector participation in primary, secondary and tertiary sector activities may have contributed towards this upward trend.

The increasing trend of foreign employment is yet another important feature of employment during the post-1990s. Existing estimates indicate that foreign employment in the early 1990s was in the region of 400,000 persons and in 2008 it went up to 1.8 million. This broadly includes Sri Lankan nationals working abroad under five major occupational groups: professional, middle level executives, skilled and unskilled workers and housemaids. The share of female workers in foreign employment was 39 percent in the mid 1980s and it drastically went up to 75 percent 75 percent in 1997. In 2008, however, it decreased to 49 percent. In contrast, the male share of foreign employment increased from 25 percent in 1997 to 51 percent in 2008. Most of the females who went overseas for foreign employment in 2008 were housemaids and it accounted for 88 percent of total female migrant workers.

The informal economy (IE) is an important segment of the labour market which deserves special emphasis in examining 'jobless growth' hypothesis. In Sri Lanka, the IE accounts for a significant share of employment and covers a wide cross-section of economic activities representing primary, secondary and tertiary sectors of the economy. Based on the existing body of evidence (Chandrasiri, 2009), it was estimated that the relative share of IE in Sri Lanka was in the region of 60 to 70 percent of total employment.[4] The Department of Census and Statistics estimated the IE share of employment to be around 60.4 percent for 2008. In a separate study, (Gunalilaka, 2008) estimated the IE share to around 66 percent of all employed people. The IE sector has emerged as the most important source of employment in Sri Lanka particularly during the post-liberalization period[5].

With the implementation of structural adjustment programmes in the 1980s and 1990s, there were job losses in the public sector due to divestiture of public enterprises and early retirement schemes for public sector employees. During this time the formal sector, including the private sector, failed to provide job opportunities for the unemployed labour and surplus labour from rural-agricultural economy. The pro-market policies of post-1977 led to major changes in investment, export-import trade and emergence of an export-oriented manufacturing sector. Its rapid growth and competitive conditions in the market resulted in sub-contracting and the emergence of informal type micro and small-scale enterprises, particularly in secondary and tertiary sectors of the economy.

At sectoral level, the IE share is 84 and 51 percent in agricultural and non-agricultural employment respectively. Within the non-agricultural sector, its share is 83 percent in construction and mining and quarrying subsectors, while it was 55 and 46 percent in hotels and restaurants and manufacturing sectors, respectively (Table 2.4). In terms of gender, highest proportion of females is employed in the informal sector accounting for about 66 percent total female employment (Table 2.5).

[3] *This is excluding the North and East Provinces, but when the East was included and the North was excluded, it was 16 percent in the first quarter of 2009.*

[4] *For details see Chandrasiri (2009) and references cited therein.*

[5] *For Indian experience see Dasgupta and Singh (2005).*

Table 2.4 Composition of Employment by Economic Sector 2006

Employment	Formal		Informal		Total	
	No (000)	%	No (000)	%	No (000)	%
Agricultural	365	16	1922	84	2287	100
Non-agricultural	2362	49	2456	51	4818	100
Total	2727	38	4378	62	7105	100

Source: DCS, QLF

The IE sector is also dominated by individuals with less education, in contrast to those in the formal sector. In terms of type of employment, 47 percent of the total informal sector employment is by own account workers, while another 35 percent belongs to the employee category. Across different occupational groups, more than 35 percent of informal sector employment is in the skilled agricultural and fishery workers, while another 21 and 19 percent are employed in elementary occupations and craft worker categories. The growth and expansion of IE sector in Sri Lanka has been largely due to the weak labour absorptive capacity of formal sector, particularly the private sector, to generate adequate employment and income for new entrants to the labour market. Informalization is, in fact, part of an economic process and its growth and expansion needs to be promoted through appropriate policy interventions.

Table 2.5 Composition of Employment by Economic Sector and Gender 2006

Employment	Formal		Informal		Total	
	No (000)	%	No (000)	%	No (000)	%
Male	1625	35	2986	65	4610	100
Female	1102	44	1392	66	2495	100
Total	2727	38	4378	62	7105	100

Source: DCS, QLF

2.4 Structure of manufacturing sector industries in Sri Lanka

Manufacturing is the main contributor to value added in industry and its relative share of GDP increased from 13 percent in 1990 to 17 percent in 2000 and reduced to 16 percent in 2006. In terms of employment, the contribution of manufacturing to total employment varied from 13 percent in 1990 to 19 per cent in 2006[6] demonstrating its capacity to create employment opportunities under a liberalized policy regime. This share could have been much higher if there was political stability and less policy uncertainty in the country. However, a significant growth of employment can be seen in organized manufacturing during the post-1977 period. This has predominantly come from the private sector as against the declining trend of public sector employment. Moreover, the presence of public sector in manufacturing is limited to a few sub-sectors, such as Chemicals, Petroleum, Rubber and Plastic products (Table 2.6)[7]. As a result, the private sector emerged as the main source of employment and the relative share of public sector employment in manufacturing reduced to 15 percent in 2006.

[6] *In terms of absolute numbers this is an increase from 669000 in 1990 to 1.4 million in 2006.*

[7] *This is due to the presence of large state owned enterprises, that is, Ceylon Petroleum Corporation.*

Table 2.6 Industry structure by Ownership

Industry Division		Public		Private	
		1,990	2006	1990	2,006
31	Food. Beverage and Tobacco	43	1	57	99
32	Textile, Wearing Apparels and Leather	21	0	79	100
33	Wood, Wood Products and Furniture	28	4	72	96
34	Paper Products, Printing and Publishing	30	2	70	98
35	Chemicals, Petroleum, Rubber, Plastic	31	24	69	76
36	Non- Metallic Mineral Products	15	1	85	99
37	Basic Metal Industries	25	0	75	100
38	Metal Products, Machinery and Equipment	7	0	93	100
39	Other manufacturing industries	15	0	85	100

Source: DCS (ASI, 1990, 2001, 2007)

An analysis of industry structure by number of establishments indicates heavy concentration of business establishments in Food. Beverage and Tobacco (ISIC 31) and Textile, Wearing Apparels and Leather (ISIC 32) are sub-sectors accounting for more than 50 percent of total establishments. It also reveals industry sub-sectors such as Chemicals, Petroleum, Rubber, Plastic (ISIC 35), Non- Metallic Mineral Products (ISIC 36), and Paper Products, Printing and Publishing (ISIC 34) which account for more than 30 percent of establishments in manufacturing.

The distribution of enterprises between sectors revel an estimated 16,405 manufacturing enterprises operating in urban areas and another 620,000 enterprises in rural areas (ADB & WB, 2004). The rural sector enterprises account for about 1.5 million workers or 20 percent of the country's labour force. It was also revealed that urban manufacturing enterprises tend to be older and more stable than rural enterprises.[8] Urban sector firms are also more capital intensive and more productive than their rural counterparts (Table 2.8).

Table 2.7 Analysis of Industry Structure by Number of Establishments

Industry division		Establishments		
		1,990	2,000	2,006
31	Food. Beverage and Tobacco	37	12	25
32	Textile, Wearing Apparels and Leather	25	33	25
33	Wood, Wood Products and Furniture	8	21	8
34	Paper Products, Printing and Publishing	3	7	5
35	Chemicals, Petroleum, Rubber, Plastic	9	2	8
36	Non- Metallic Mineral Products	9	7	15
37	Basic Metal Industries	0	13	2
38	Metal Products, Machinery and Equipment	7	0	3
39	Other manufacturing industries	2	4	9
		100	100	100

Source: DCS (ASI, 1990, 2001, 2007)

[8] *In 2004, the average age of urban and rural manufacturing firms was 30 years and 9 years respectively.*

Table 2.9 is an attempt to analyse the structure of manufacturing sector enterprises in terms of gross addition to fixed assets (GAFA) and value added (VA). It clearly indicates the dominance of industry sub-sectors ISIC 31, ISIC 32 and ISIC 35 in manufacturing, accounting for about 64 percent of GAFA and VA. This is followed by ISIC 35, ISIC 36 and ISIC 34 accounting for about 28 percent of GAFA and VA.

Table 2.8 Productivity, Capital Intensity and Labour Costs of Urban and Rural Firms (LKR)

Sector	Value Added per Worker	Fixed Assets per Worker	Annual labour costs per Worker
Urban enterprises	**411,257**	**400,487**	**94,919**
Food & Beverages	495,024	509,764	90,836
Garments	275,940	232,974	97,898
Textiles	177,337	368,217	96,068
Rural enterprises	**93,763**	**198,217**	**33,333**
Production	54,779	203,862	27,000
Services	162,447	195,832	36,000
Trade	97,725	194,099	30,000

Source: ADB & WB (2004)

Table 2.9 Industry Structure by GAFA and Value Added

Industry division		GAFA			Value Added		
		1,990	2,000	2,006	1,990	2,000	2,006
31	Food. Beverage and Tobacco	28	28	20	9	39	30
32	Textile, Wearing Apparels and Leather	28	32	28	43	31	30
33	Wood, Wood Products and Furniture	1	1	1	1	1	1
34	Paper Products, Printing and Publishing	5	1	7	4	3	4
35	Chemicals, Petroleum, Rubber, Plastic	8	21	16	17	14	21
36	Non- Metallic Mineral Products	15	9	5	10	4	3
37	Basic Metal Industries	1	3	5	1	0	5
38	Metal Products, Machinery and Equipment	13	2	1	10	6	0
39	Other manufacturing industries	1	2	16	3	2	6
		100	100	100	100	100	100

Source: DCS (ASI, 1990, 2001, 2007)

The structure of manufacturing sector industries in Sri Lanka could also be examined in terms of large, medium, small, and micro level enterprises[9]. The structural changes of manufacturing sector enterprises between 1983 and 2003 indicate an increase in the relative share of SMI sector enterprises during the post-liberalization period. For example, SMI's contribution to value added in manufacturing increased from 29 percent in 1983 to 41 percent in 2003, while the share of employment remained 34 percent between 1983 and 2003 (Table 2.10). In contrast, the employment share of large scale industries increased from 36 to 46 percent between 1983 and 2003. Another important structural feature worth noting is the declining trend of relative magnitude of micro

[9] *Based on employment criteria, industrial establishments with total employment less than 5, 5-29, 30-149 and 150 and above are defined as micro, small, medium, and large scale industries.*

level enterprises with respect to number of enterprises, employment and value added since the 1990s. We attribute these changes as a result of micro and small scale enterprises graduating up to medium and large scale enterprises under a pro-business policy environment.

Table 2.10 Relative size of SMIs: 1983 and 2003 (%)

Size group	1983			2003		
	Establishments	Employment	Value added	Establishments	Employment	Value added
Micro	85.7	29.6	7.7	80.1	20.3	4.2
Small	12.4	20.6	10.4	17.3	18.6	7.9
Medium	1.6	13.7	18.3	1.8	14.9	33.0
Large	0.3	36.1	63.6	0.8	46.2	55.1
All	100.0	100.0	100.0	100.0	100.0	100.0

Source: Department of Census and Statistics (DCS).

2.5 Performance of manufacturing sector industries in Sri Lanka

With the introduction of liberalized economic policies in 1977, the manufacturing sector entered a rapid growth phase and maintained an average of 6 percent growth per annum as against 4.8 percent growth at national level. In fact, since the late 1980s manufacturing growth surpassed that of other sectors and this has been attributed to several contributory factors, such as the free availability of imported inputs and capital goods, flow of foreign direct investment, export-oriented policy support and emphasis on productivity. During this period, the economy also demonstrated a substantial reduction in the imports of consumer goods against a significant increase in imported capital goods and intermediate inputs. This has enabled manufacturing sector enterprises to enhance its capacity utilization and overall productivity. As a result, manufacturing emerged as the highest growth performer upto 2001 and since then, the services sector emerged as the best performer relative to primary and secondary sectors (Figure 2.3).

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Source: CBSL, Annual Reports, various issues.

Figure 2.5 is an attempt to analyse export-oriented growth performance of manufacturing with special reference to post-1990 period. The evidence reveals that trade intensity (exports plus imports as % of GDP) fluctuated between 65 to 80 percent between 1990s and 2006. During the post-liberalization period trade intensity has even exceeded 80 percent of GDP, indicating high degree of openness relative to closed economy policy regime of pre-1977 period. Similarly, export orientation of manufacturing measured in terms of the ratio of manufacturing exports to output increased significantly during the post-1977 period. Within manufacturing, the dominant sub-sectors of high export intensity were textile and clothing followed by footwear, rubber goods, leather goods and ceramics. Another important change worth noting is the shift towards new export sectors such as electronics, toys, plastic products and jewellery. These are labour-intensive products and the expansion of export industries into such areas reflects commodity diversification and labour-absorptive capacity of manufacturing.

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Source: CBSL, Annual Reports, various issues.

An analysis of performance of manufacturing sector enterprises in terms of productivity[10] and profitability[11] reveal significant variations across subsectors. For example, in1990, ISIC 35, ISIC 36 and ISIC 37 sub-sectors recorded highest productivity and in 2006, Food, Beverages and Tobacco (ISIC 31) sub-sector emerged as one of the top performers in productivity. It is also interesting to note that ISIC 35 and ISIC 37 continued its high productivity levels between 1990 and 2006.

Table 2.11 Industry Performance by Productivity and Profitability (PCM)

Industry division		Productivity (LKR)			Profitability (%)		
		1990	2000	2006	1990	2000	2006
31	Food. Beverage and Tobacco	25678	576493	1112973	21.4	46.45	40.66
32	Textile, Wearing Apparels and Leather	63011	201447	556412	30.36	33.67	53.73
33	Wood, Wood Products and Furniture	32727	70000	308887	24.64	34.41	21.54
34	Paper Products, Printing and Publishing	52349	255446	863220	10.51	20.32	24.93
35	Chemicals, Petroleum, Rubber, Plastic	151860	482694	2077224	16.25	20.47	29.85
36	Non- Metallic Mineral Products	80970	253171	474005	25.73	35.61	14.71
37	Basic Metal Industries	108854	244920	1567167	21.39	5.21	35.92
38	Metal Products, Machinery and Equipment	25913	355083	218332	35.91	32.47	15
39	Other manufacturing industries	93975	203167	613850	23.32	23.74	67.97
	Overall	54525	316302	848141	15.36	32.82	38.07

Source: DCS (ASI, 1990, 2001, 2007)

An assessment of industry profitability reveals food and beverages as the best performer, while textiles and wearing apparel sub-sector recorded the second highest profitability in manufacturing. Of highly productive sub-sectors, Non-Metallic Mineral Products (NMMP) sub-sector has also recorded high profit margins in 1990 and 2000 and relatively low profitability between 2000 and 2006. The difference in industry performance across sub-sectors in terms of performance could be attributed to wide range of factors stemming from industry structure, conduct and performance.

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Sources: DCS and EDB

2.6 Employment effects

An assessment of the structure of employment in manufacturing at 2-digit level reveals major structural changes during the post-liberalization period. For example, in the early 1980s heavy concentration of employment can be seen in food, beverages and tobacco (33%) and non-metallic mineral products (16%) sub sectors accounting for about 49 percent of total employment in manufacturing (Table 2.12). In 2000, however, heavy concentration of employment can be seen in textiles and wearing apparel (48%), and food, beverages and tobacco (21%) sub sectors amounting to about 69 percent of total employment in manufacturing. The heavy concentration of employment in textiles and apparel sector in the 1980s and 1990s has led to a decline in relative shares of employment in other sub-sectors except for basic metal industries and metal products, machinery and equipment categories. The growth and expansion of textiles and appeal sub-sector was directly linked with MFA quota system. In terms of salaries and wages, a) Textile, Wearing Apparels and Leather (46%), b) Food Beverage and Tobacco (23%) and c) Chemicals, Petroleum, Rubber, Plastic (9%) sub-sectors account for about 70% of total salaries and wages in manufacturing. The other significant sub-sectors in terms of employment and salaries and wages include Non- Metallic Mineral Products (7%) and Basic Metal Industries (7%).

[10] *Defined as value added per employee*

[11] *Measured using Price-Cost Margins (PCM). i.e. _*

Table 2.12 Sector wise employment and Salaries and Wages (%)

INDUSTRY DIVISION		Employment			Salaries and Wages		
		1990	2000	2006	1990	2000	2006
31	Food. Beverage and Tobacco	20.0	21.2	22.6	22	17	17
32	Textile, Wearing Apparels and Leather	37.4	49.1	45.7	42	45	39
33	Wood, Wood Products and Furniture	2.3	2.9	1.8	2	1	2
34	Paper Products, Printing and Publishing	4.3	3.3	4.4	4	6	5
35	Chemicals, Petroleum, Rubber, Plastic	6.1	9.2	8.7	10	13	14
36	Non- Metallic Mineral Products	7.0	5.4	5.1	2	6	7
37	Basic Metal Industries	0.7	0.3	2.8	8	1	7
38	Metal Products, Machinery and Equipment	20.2	5.7	1.2	2	8	1
39	Other manufacturing industries	2.0	3.0	7.8	9	3	7
	TOTAL	100.0	100.0	100.0	100	100	100

Source: DCS

An assessment of quality of employment measured in terms of different categories of employment reveals skilled (59%) and unskilled (24%) workers accounting for more than 80 percent of jobs demonstrating high degree of labour-absorptive capacity and probable contribution to poverty reduction (Figure 2.7). In terms of income generation, skilled and unskilled workers account for about 51 and 17 percent of salaries and wages earned by the persons engaged in manufacturing respectively. Undoubtedly, this type of employment structure and income generation activities in manufacturing provide a wide range of pro-poor benefits to low income earners of the society. In 2006, the relative share of skilled and unskilled categories reduced by 23 percent, while the relative share of administrative category increased up to 19%.

Table 2.13 Employment by Gender

Sub-sector	1990		2000		2006	
	M	F	M	F	M	F
Food and Beverages	69	31	74	26	59	41
Textiles and Garments	23	77	24	76	27	73
Wood, Wood Products and Furniture	89	11	82	18	91	9
Total Manufacturing	51	49	48	52	51	49

Source: DCS

An assessment of employment by gender reveals a stable pattern with a female share of 49 percent in total employment (Table 2.13). Of the three subsectors covered in the study, textiles and garments account for the highest female participation (73%) followed by food and beverages sub sector (41%). It is around 8 percent in wood, wood products and furniture sub-sector. Within textiles and garments, the highest share of female share of employment is reported in made-up textile goods (88%), and wearing apparel subsectors (77%), and in the case of food and beverages it is higher in canning and fruit and vegetable preservation (69%) and food products (51%) sub-sectors.

2.7 Growth and Employment

An assessment of growth performance reveals pro-employment effects of policy reforms in Sri Lanka as against its counterparts in Asia (Table 2.14). In fact, Sri Lanka records the highest employment elasticity in the 1980s and 1980s in comparison with its counterparts in Asia. During this period its productivity growth was 2.8 percent. Kahn (2001) asserts that employment elasticities in developing economies should ideally be around 0.7 until these economies attain upper-middle-income status. He indicates that employment elasticities gradually fall as a country becomes more developed and more labour scarce. Kahn further argues that labour abundant economies, and especially those with relatively high incidences of poverty, need to achieve relatively higher employment intensity than do less labour-abundant economies.[12] Kapsos (2005) estimated total employment elasticity of Sri Lanka to be around 0.14, 0.18 and 0.19 for 1991-95, 1995-99 and 1999-2003 periods, respectively.

Table 2.14 Employment Elasticities and Labour Productivity in Selected Asian Countries, 1980s and 1990s

	Elasticity		Productivity growth 1980-2001 (%)
	1980s	1990s	
Bangladesh	0.550	0.495	1.5
China	0.330	0.129	5.2
India	0.324	0.312	3.2
Indonesia	0.435	0.379	1.8
Malaysia	0.628	0.406	2.8
Thailand	0.325	0.193	3.9
Sri Lanka	0.770	0.476	2.8 (1981-2000)

Source: Economic and Social Survey of Asia and the Pacific (2006) and author's calculations for Sri Lanka.

An assessment of growth performance of manufacturing in terms of value added reveals high growth rates maintained by manufacturing in contrast to the services sector and the national economy (Figure 2.8). Since 2001, however, growth of value added in manufacturing was rather low and the services sector emerged as the best performer. In terms of employment growth, however, manufacturing sector performed better than that of the services sector and the national economy (Figure 2.9). The analysis given in Table 2.15 further confirms this finding. For example, high employment elasticity values of manufacturing (e = 1.55 between 2000 -2006) during the post-1990 period relative to the national economy (e = 0.41 between 2000 -2006) and the services sector (e = 0.34 between 2000 -2006) demonstrates employment intensity of economic growth. The transition of manufacturing sector from low employment growth to high employment growth between 1990 and 2006, relative to other sectors is analysed in Table 2.16.

Table 2.15 Economic Growth and Employment Growth: 1990-2000 and 1990-2006

Employment Elasticity	Economic Growth		Employment Growth		Employment Elasticity	
	1990-2000	1990-2006	1990-2000	1990-2006	1990-2000	1990-2006
National	6.60	5.04	2.50	2.05	0.38	0.41
Manufacturing	9.58	3.27	5.62	5.07	0.59	1.55
Services	7.39	6.82	4.90	2.33	0.66	0.34

Source: CBSRL and DCS

[12] *Poverty levels in Sri Lanka in 1990/91, 1995/96 and 2002 were 21.8%, 24.3% and 19.2 percent respectively. In 2006/07, poverty at the national level decreased to 15.2%.*

Table 2.16 Employment Elasticity: 1990-2000 and 1990-2006

Classification	1990-2000	2000-2006
Very High (e> 0.75)		Manufacturing
.High (0.5 < e > 0.75)	Manufacturing and Services	
Low/Moderate (e<0.5)	National	National and Services

Source : DCS

Table 2.17 Employment Elasticity in Manufacturing- 2 Digit level Estimates

Industry sub-sector	1990-95	1995-2000	2000-2006
31. Food. Beverage and Tobacco	0.02	1.35	0.70
32. Textile, Wearing Apparels and Leather	0.16	-1.17	0.42
33. Wood, Wood Products and Furniture	0.14	-0.38	0.16
34. Paper Products, Printing and Publishing	0.04	2.99	0.37
35. Chemicals, Petroleum, Rubber, Plastic	0.06	9.00	0.24
36. Non- Metallic Mineral Products	0.11	-1.98	0.72
37. Basic Metal Industries	0.01	0.52	0.23
38. Metal Products, Machinery and Equipment	-0.05	0.45	0.59
39. Other manufacturing industries	0.19	1.07	0.46
TOTAL	0.06	-0.25	0.47

Source : DCS

Table 2.18 Employment elasticity 1990 to 2006

Classification	1990-1995	1995-2000	2000-2006
Very High (e> 0.75)		31, 34 ,35, 39	
High (0.5 < e > 0.75)		37	31, 36,38,
Moderate (0.25<e>0.5)	33	38	32,34,39
Low (e<0.25)	31, 32,34, 35, 36, 37, 38,39	32, 33, 36	33,35,37

Source : DCS

The analysis given in Table 2.17 and 2.18 is an attempt to examine employment intensive economic growth in manufacturing using 2-digit level data. An assessment of employment elasticity in manufacturing for the three time points covered in the present study clearly indicate the emergence of an inclusive growth pattern in manufacturing. For example, except wood and furniture products, all other sub-sectors have recorded low employment elasticity between 1990 and 2000. Between 2000 and 2006, however, employment elasticity in manufacturing has increased significantly with some variations across sectors. The employment elasticity values of Food and Beverages (ISIC 31), Non- Metallic Mineral Products (ISIC 36) and Metal Products, Machinery and Equipment (ISIC 38) sub-sectors exceeded 0.5 indicating its capacity to generate employment opportunities under a liberalized policy regime. Similarly, ISIC 32, ISIC 34 and ISIC 39 sub-sectors emerged with moderate employment elasticity (0.25 < e <0.5) values demonstrating its potential for creating more employment along with economic growth. Finally, only three sub-sectors (e.g. ISIC 33, ISIC 35, and ISIC 37) have recorded low employment elasticities, indicating some evidence from manufacturing in support of 'jobless growth' hypothesis.

We propose to select three sub-sectors to discuss policy issues relating to industry sub-sectors which recorded high, moderate and low employment elasticity values, that is, a) food and beverages (ISIC 31), b) textiles and apparel (ISIC 32), and c) wood products (ISIC 33) sub-sectors. The rationale for the selection of these sub-sectors is based on three criteria: productivity, profitability and employment elasticity (Table 2.19). The matrix based on these three criteria indicates food and beverages placed in the high performance sector followed by textiles and apparel in the medium range and, finally, wood products placed in low performance category. The findings lend strong evidence in support of close links between productivity, productivity and employment elasticity.

Table 2.19 Productivity, Profitability and Employment Elasticity (2006)

Performance	Productivity	Profitability	Employment Elasticity
High	31, 35	31, 32, 39	31, 36, 38
Medium	32, 34, 37, 39	34, 35, 37	32, 34, 39
Low	33, 36, 38	33, 36, 38	33, 35, 37

Source: Table 2.11 and 2.15.

Table 2.20 Variations in Employment Elasticity at 4-Digit Level 1990 to 2006

Classification	No of sub-sectors	%	No of sub-sectors	%
Very High (e> 0.75)	21	27	42	54
.High (0.5 < e > 0.75)	12	16	4	5
Moderate (0.25<e>0.5)	8	10	11	14
Low (e<0.25)	33	42	21	27
No complete data	4	5	-	-
	78	100	78	100

Source: Appendix 2.1

The analysis on employment elasticity presented so far indicate pro-employment benefits of economic growth in manufacturing, as opposed to the services sector and the national economy. Employment elasticity estimates at 4-digit level further confirm this evidence, indicating more than 50 percent of manufacturing sub-sectors reporting very high employment elasticitiy values (e > 0.75), particularly between 2000 and 2006 (Table 2.20). Some of the key sub-sectors with very high employment elasticity include ISIC 3115, 3116, 3117, 3121, 3215, 3319, 3412, 3522, 3610, 3692, 3699, 3813, 3819, 3822, 3832, 3844, 3849, 3851, 3852, 3901, and 3903. The proportion of sub-sectors with high (0.5 < e > 0.75) and moderate (0.25 < e > 0.5) employment elasticity values was 10 percent and 6.5 percent respectively. About 26 percent of industry sub-sectors were in the category of low employment elasticity (e < 0.25). More specific details on variations in employment elasticity across industry sub-sectors are given in Appendix 2.1.

Several shortcomings of using employment elasticities as an analytical tool should be considered before attempting to draw inferences from them about employment performance. While this is an important macroeconomic indicator in its own right, it states nothing about overall changes in the quality of jobs or growth in the number of "decent" jobs.[13] Another caveat worth noting is the value judgements on employment elasticity, that is, whether employment-intensive or productivity intensive growth is more desirable from an economic development perspective. The present study takes the view that employment growth and productivity growth are closely interlinked and both must be jointly pursued in order to maximize potential gains from development.

[13] *For more details see Kapsos (2005) and references cited therein.*

Existing evidence on productivity growth clearly indicate close links between pro-market policy reforms and growth of employment. An intertemporal comparison of productivity growth in manufacturing encompassing pre and post-liberalization years points to a significant improvement in productivity in private sector manufacturing following liberalization. The rapid growth of private sector enterprise in the face of declining share of state owned enterprises (SOEs)[14] and an increase in FDI has played a pivotal role in promoting growth of industrial output and employment during the post-liberalization period. A striking pattern observed in aggregate, as well as across most industries, is the decline in the relative contribution of capital deepening to total factor productivity growth (TFPG). Athukorala and Rajapathirana (2000) observed that average annual TFPG during post-reform period in Sri Lanka was higher than that of other developing countries even T&G was excluded.

One of the key contributors to both productivity and employment growth during post-liberalization period is the export-orientation of manufacturing. Any sub-sector in manufacturing which failed to enter into foreign markets has marked low employment elasticity values. From the late 1980s, there has been a noticeable increase in exports of labour-intensive products. The ratio of exports to gross manufacturing output increased from 3 percent in the mid-1970s to over 55 percent in the mid-1990s.

The increase in labour-intensive exports in the post-liberalization was mainly driven by export oriented foreign direct investment (EOFDI) policy of the government. For example, local employment in EOFDI projects[15] increased from 10,538 to over 223,000 between 1980 and 1995. In contrast, the increase of employment in the non-GCEC projects was from 2500 to 50,000 from 1978 to 1988. Roughly, 50 percent of these employment opportunities were in export oriented manufacturing.[16] In overall terms, Sri Lanka experience highlights the significant role of EOFDI in employment generation. The exploitation of full benefits from EOFDI participation, however, depends on policy responses to improve the investment climate in Sri Lanka.

As argued in the literature, export-oriented growth promotes employment due to stringer backward linkages than import substitutes. Watanabe (1972) estimated that about 30 percent of total employment in Korean manufacturing was attributable directly or indirectly to exports. Moreover, exports tend to be marginally more skill-intensive than import substitutes, and significantly more skill-intensive than general domestic production. In the case of small open economy of Sri Lanka, this argument is more valid given the elastic international demand for Sri Lankan exports. Based on international trade theory, producing according to comparative advantage is likely to yield employment-pay-offs.

Growth in output and productivity has been interpreted as the reward for liberalization. However, liberalized policies in manufacturing may also lead to job losses. In the context of Indian manufacturing, Bhalotra (1998) concluded that jobless growth is due to growth in productivity, actual hours worked and hourly product wage.[17] As causal factors they also identified poor quality of infrastructure facilities, greater capital utilization and product market competition. They concluded that the future path of employment growth in India would depend, to a considerable extent, on how the factors underlying productivity growth evolve.

2.9 Conclusion

The analysis presented in this chapter reveals improved growth performance of the national economy during the post-1990 period. It also indicates high growth performance of manufacturing as against the average values at national and sectoral level particularly with regard to ISIC 31, 33, 36, and 38. The findings on employment elasticity indicate pro-employment benefits of economic growth in manufacturing. The causal factors of these developments will be covered in the rest of the analysis

[14] *The share of SOEs in total manufacturing in 1993 was 9.5% as against 45% in 1985.*
[15] *Refers to Greater Colombo Economic Commission (GCEC) projects.*
[16] *For more details see Athukorale and Rajapathirana (2000).*
[17] *Bhalotra (1198) in fact reject the wage growth hypothesis proposed by the World Bank (1898) in the context of Indian manufacturing.*

3

Determinants of Employment Elasticity: A Conceptual Framework

3.1 Introduction

The problem of low employment elasticity in manufacturing or jobless growth has been a major issue in small open economy of Sri Lanka. Over the past two decades economy of Sri Lanka has been experiencing high economic growth, inequity and educated youth unemployment. This chapter presents some theoretical issues relating to this debate. It also provides some theoretical underpinnings of economic growth and employment.

3.2 Economic growth and employment creation in manufacturing

The expansion of manufacturing industry has often been recognized as crucial for promoting growth and employment. Firstly, manufacturing enterprises are in a better position to gain scale economies and enhance productivity. Secondly, the use of various resource inputs in industrial production leads to both backward and forward linkages and external scale of economies. As a result, high growth in manufacturing results in productivity increases in non-manufacturing sector industries as well. Consequently, there will be an increase in employment in all sectors of the economy.

In development economics, these impacts are widely discussed under surplus labour hypothesis by Lewis (1954) and Hirschman (1959) type linkage effects. For example, Lewis (1954) argued that the manufacturing sector has capacity to absorb surplus labour from other sectors of the economy and reduce disguised unemployment and raise productivity in other sectors of the economy, leading to further opportunities for increased savings, investment and growth. Thus, structural transformation of an economy relies upon the manufacturing sector to draw 'surplus' labour off the land into more productive employment (Lewis, 1954). The argument put forward by Hirshman (1958) was that manufacturing sector has the capacity to contribute to growth and employment by creating external economies and industry linkages. Similarly, in 1949, P.J. Verdoorn, basing his argument on cross country industrial production statistics revealed that there is a positive linear relationship between productivity growth p and output growth q. In algebraic form this can be expressed as

$$p = c + dq \qquad (1)$$

Where c and d are constants, and $d > 0$.

In his 1966 Inaugural Lecture Kaldor3 used a version of this "law" of Verdoorn to explain the relatively poor performance of the British economy. After examining data drawn from twelve countries, he claimed to have

confirmed Verdoorn's law for industry by establishing the existence of a strong positive relationship between p and q in manufacturing, public utilities and construction during the period 1953-54 to 1963-64. In each case he estimated d to be in the region of 1/2. From this Kaldor concluded that the potential growth of industrial productivity is limited by the supply of labour, arguing that when industry suffers from a shortage of labour it is unable to exploit economies of scale and productivity is thereby harmed. The explicit argument of Kaldor is an equation of the following kind, linking productivity growth p to employment growth e

$$p = \alpha + be \qquad (2)$$

Where α and b are constants and $b > 0$. This equation states that a faster growth of employment is associated with a faster growth of productivity.

For appropriate values of a and *b*, the two equations are mathematically equivalent and we can view equation (2) as a reformulation of Verdoorn's original law, with employment growth e replacing output growth q as the independent variable. Clearly, this substitution is necessary when one is using Verdoorn's law to understand the role of labour supply as a constraint on potential productivity. This is clearly explained in "Kaldor's Law" as given in equation (2).

The manufacturing sector enterprises also have the capacity to enhance productivity due to internal economies of scale. As argued by Mamgain (1999) the significance of manufacturing sector industries as a promoter of economic growth can be emphasized through 3 criteria: a) superior productivity and external economies, b) increase in labour productivity due to scale economies, and c) productivity increases in non-manufacturing sectors. Kaldor (1974) proposed "manufacturing as the engine of growth hypothesis" and argued the vital role of manufacturing in promoting growth.

The high growth in manufacturing is closely associated with productive efficiency. As argued in Industrial Organization (IO) Theory, productive efficiency in industry depends on several structural factors, such as presence of monopolistic/oligopolistic markets, foreign direct investment, and import competition. The IO theory also argues high research and development intensity, high advertising intensity, and profitability as key determinants of productive efficiency.

3.3 The determinants of employment elasticity - Theory[18]

The concept of employment elasticity deals with economic growth and employment. As argued in theory, there are three important determinants of employment elasticity:

a) Wage share - the trend in the share of wages, that is, the rate of growth of the wage bill relative to value added in current prices facing the producer;
b) Relative price - the relative rates of increase in the producer and consumer price indices which determine the value of the wage bill for the workers; and
c) the trade-off between employment increase and real wage increase.

Of these three variables, the second, relative price is an exogenous variable while the 1st and 3rd are labour market variables. In a competitive market environment, prices of both producer and consumer goods are given and hence, the firm is a price-taker. The other two determinants, the share of wages and the wage-employment trade-off are determined by factors specific to the labour market. In more recent discussions economists have recognized the importance of expectations both in the determination of the wage per worker and the share of wages. The key arguments have been derived from neo-classical and the post-Keynesian economics which emphasize the significance of factor supply function and the importance of decisions originating on the employers' side.

[18] *This section of the study is heavily based on work by Mazumdar (2003 and 2005).*

In post-Keynesian models the independence of the investment function from the general savings function is stressed. There is a long tradition in economics which has worked with the idea that firms finance investment principally from the internal surpluses generated by the firm. Even though we have external financing the need to achieve the target gearing ratio effectively makes internal sources the principal source of investment. Thus the share of profits in value added becomes a key determinant of employment elasticity. This does not mean that firms are able to fix their investment and share of wages arbitrarily. For any investment rate, there is a determined level of the wage bill corresponding to the wage share. The firm must make sure that this level of the wage bill is sufficient to determine the supply of labour needed to work with the investment which is achieved.

In the theory of the firm, supply of labour is defined as a function of two variables: the number of workers and labour productivity. Thus a profit-maximizing firm, for a given wage bill, the optimum labour supply will be determined by equating the marginal cost of hiring an extra unit of labour to the marginal benefits of increasing the same number of labour. This formal condition hides a number of factors which affects the employer's choice of pro-employment growth. This includes institutional factors like job security legislation, union pressures, as well as economic variables affecting the relationship between the decision makers in the firm and their employees. For example, if trade unions are very powerful, employers might be induced to fix higher wage levels or invest in capital intensive technology. A similar situation might arise if job security laws make employers wary of the cost of employing a large body of workers which might be difficult to lay off.

The wage cost per efficiency unit of labour is one of several key variables which will influence the choice of technique for the investment to be undertaken. In a full equilibrium situation the value added must be sufficient to support both the wage bill for the supply of labour units needed and the profit share to finance the investment planned. Thus, the decision about the level of wages to be fixed and the investment rate are interrelated and must be consistent with each other.[19] Mazumdar (2003 and 2005) adds producer price index and consumer price index for the purpose of translates the wage bill growth into real terms. He also employed a technological and behavioral parameter α as a constant to explain algebraic formulation of the relationships between key determinants of employment elasticity.

The relationship defining the movement of the wage bill with respect to value added over time is specified by the following equation:

$$S_w = AV^{\alpha}$$
$$S_w = \alpha v \qquad (3)$$

where A is a positive constant less than unity, determined by the base-year share of wages. Then, the equation for the real wage growth can be written as:

$$w = S_w - L - P_c \qquad (4)$$
$$= \alpha (v + Pp - L - Pc$$

$$\alpha v - L + \alpha Pp - Pc$$
(Output Effect - Employment Effect + Price Effect) (5)

[19] *Mazumdar (2003 and 2005) provided an algebraic formulation of the relationships between these variables as follows:*
$L^{\cdot} = \alpha v^{\cdot} + \alpha P_p^{\cdot} - P_c^{\cdot} - w^{\cdot}$ ..... *(1)*
where w is the real wage (average earnings per worker) ; v is value added (in constant producer prices); L is employment; P_p is the index of producer prices and P_c index of consumer prices; and α is a technological and behavioral parameter which is assumed to remain constant over the period under consideration. A variable written with a dot on top ($^{\cdot}$) represents the proportionate rate of change of the variable concerned.
The relative movements of the producer price and the consumer price indices, sometimes called the 'domestic real exchange rate' (DRER) translates the wage bill growth into real terms (Mazumdar (2003). The negative relationship between $w^{\cdot}$ and $L^{\cdot}$ clearly shows the wage-employment trade-off that is, the way the growing wage benefit is divided between wage increase and employment increase.

Where, w is real wages (average earnings per worker); S_W is the wage bill (in current prices); V is value added (in current prices); v is value added (in constant prices); L is employment; Pp is index of producer prices, P_C is index of consumer prices; and α is a technological and behavioral parameter which is assumed to remain constant over the period under consideration.

Thus, the trend rate of growth of real wages explained in equation (5) can be defined to include the sum of three effects: a) the output effect, b) the employment effect and c) the price effect. The equation defines employment elasticity as being an outcome of the trade-off between employment growth and wage growth. The equation shows that real wage growth is higher the lower is employment growth. But two other factors have an impact upon it: the output effect, which is the part of the real wage increase ascribed to real growth in value added, given the value of α ; and the last two terms, showing the impact of changes in the price levels facing producers and consumers over time.

In the present analysis, the price effect is defined to include two distinct elements: a) inflation and b) the ratio of producer and consumer prices. The first element, inflation, refers to the wage share effect of price changes over time. If the share of wages in net output falls over time in current prices, then, certain part of the real output growth, is not available for the growth of the real wage bill. This means the higher the inflation rate the greater will be the leakage from the available wage bill in real terms to support wage and/or employment growth. This effect can be traced to the lag in the adjustment of wage to the inflationary increase in prices. The second term refers to the rate of change in the ratio of producer to consumer prices. The argument is that consumer prices are tied to international prices of traded goods and resulting consumer price increases are faster than increases in producer prices. Hence, an increase in consumer price affects the real wages. It has a negative impact, which implies that a portion of the real output growth is used to keep the wage bill growing at the same real rate. Both these price effects, if negative, can be thought of as leakages from the real output growth, which decrease the rate of growth of the portion available for supporting either employment or real wage growth.

According to neoclassical theory, the share of wages in value-added is determined by the technological factor of the production function. In Kaleckian economics, it is the mark-up price above costs which the producer is able to charge-or the 'degree of monopoly' in the market-which determines how much of the output is available for distribution to labour. Whatever the importance of these factors, it is likely that the share of wages would change only slowly over time. Given the growth of the wage bill in current prices, its value in real terms from the point of view of the workers is determined by change in the ratio of producer prices to consumer prices. In the absence of a producer price index in Sri Lanka, we propose to employ the wholesale price index to capture price changes at producer level.

The share of wages in value added according to neo-classical theory is determined by the technological factors of the production function. In alternative theories especially in Industrial Organization (IO) literature, 'degree of monopoly' or 'market power' it is also recognized as a key determinant of share of wages. Thus, in an economy with a high rate of inflation, workers suffer due to the lag of wage adjustment to price increase and (ii) high rate of increase in consumer prices as against producer prices. This is also known as the 'price effect' (Mazumdar, 2003).

The increase in the wage bill can be used to support either an increase in employment at the going wage or an increase in the real average earnings of workers. There is thus a clear trade-off between employment growth and wage growth. In the neoclassical model of labour markets, the causal mechanism runs from wages to employment. Real wage growth is determined first by the trends in the supply price of labour (alternative earnings), and employment growth responds to this through an inverse functional relationship. The extent of the trade-off is determined by the elasticity of substitution between labour and other factor inputs, for example, capital and management. In the neo-Keynesian version, however, labour market institutions, public policy and the macro-environment are recognized as key factors affecting the distribution of growth benefits between employment growth and wage growth.

The share of wages has also been explained in terms of Implicit Contract (1C) theory.[20] Accordingly, a typical labour contract in modern firms involves two elements: wages and job-security. Workers are willing to accept a lower wage in exchange for higher job security, and similarly, employers would demand to pay a lower wage if they were to offer greater job security. Since the trade-off between wages and employment is in the same direction for both groups, an optimal solution beneficial to both parties is possible only if the rate of trade-off differs systematically for the two groups. Several reasons have been cited in the literature as to why the rate of trade-off between wages and employment might differ.

The Insider-outsider theory is yet another model which dealt with the issue of the trade-off between wage and employment growth - the insider-outsider theory. It defines those who are employed as insiders and who are unemployed as outsiders. The insider-outsider theories assume that labour market power originates, at least in the first instance, with the workers. Accordingly, insiders lean towards increasing their own wages at the expense of increasing the employment of those who are unemployed. This is in contrast to efficiency wage theories which assign more powers to firms and employers in making decisions on wages and employment. However, in some economies, political and institutional pressures might in fact be exerted in the opposite direction. This is the case when state policies might strongly favour employment creation. Thus, it is possible for the outcome to be tilted towards employment growth at the expense of wage growth to a greater extent than profit-maximising employers might have desired in the prevailing economic conditions.

From the above discussion it is explicit that the existing body of work on wage-employment trade-off recognizes the influence of institutional factors (that is, labour and political) in addition to demand and supply side factors of the labour market[21]. The level of wages determined by these factors in 'formal' manufacturing could differ significantly from the supply price of labour employed in other sectors of the economy. The solutions lie outside the realm of labour market regulations and involve development policy more broadly, particularly regarding macroeconomic policy, development of the domestic market and strategic engagement with the global economy.

3.4 Decomposition of the Factors Determining Employment Elasticity: Empirical Results

This section of the chapter makes an attempt to examine the link between economic growth and employment in the context of Sri Lankan manufacturing. Following the assessment given in Chapter 2, the analysis covers two time periods: a) Reform period (1990-2000 and b) Post-reform period (2000-2006).

Table 3.1 Proportionate growth rates of selected variables for two periods - Entire Manufacturing Sector

Period	ΔW	Δv	ΔL	ΔP_p	ΔP_c	α	Output Effect	Price Effect	Employment Elasticity
I (1990-2000)	6.60	3.43	3.59	6.03	7.84	1.91	6.53	3.65	1.05
II (2000-2006)	7.22	6.15	13.67	5.30	4.79	2.24	13.79	7.10	2.22
III (1990-2006)	14.29	9.79	17.76	11.65	13.00	2.10	20.57	11.48	1.81

Δ = Proportionate change; α = is a technological and behavioral parameter which is assumed to remain constant over the period under consideration.

[20] *For details see Mazumdar (2003, 2005 and 2007) and references cited therein.*

[21] *For more details on social and economic implications of labour institutions and regulations see Berg and Kucera (Eds). (2008)*

Period I - Reform Period

The findings of Table 3.1 point to significant changes in employment elasticities from e = 1.05 in the first period to e = 2.22 in the second period. The former, period I can be considered as a period of continued policy reforms both at national and sectoral level. During this period, the economy experienced an output growth of 7 per cent per annum as against 3 percent and 4.8 percent between 1970-77 and 1977-1990 respectively. This was, however, suppressed by an unfavourable trend in the consumer prices relative to producer prices. Since the value of Alpha (α) was over unity, the share of wages in gross value added grew at a larger rate than output, so that in terms of real wage bill the growth rate was over 6 per cent per annum, including the real output growth plus the relative increase in producer prices. The high employment elasticity suggests positive effects of policy reforms on economic growth and employment. This would have been much higher if trade union power at industry level was discouraged and better industrial relations were promoted rather than job security legislation. It is seen from Table 3.1 that the benefits of high growth was shared between wage growth and employment growth, with the former taking the lead with the more substantial share of the wage bill growth.

Of the non-labour market variables, the relative price, (that is, producer prices vs. consumer prices) indicates significant differences. The rate of growth of consumer prices relative to producer prices was higher during the first period, and quantitatively it was a significant 'leakage' from the growth in the real output. This can be seen by comparing the magnitudes in the column of the 'price effect' with those in the column headed 'Δv'. This adverse trend in the domestic terms of trade against manufactured products must be considered to be a major factor tending to dampen the value of employment elasticity during the first period (1990-2000) of our study. The macro-economic factors causing a shift in the trend of the above variables will be considered in the next Chapter under overall policy issues.

Period II - Post-Reform Period

Period II indicates a significant increase in employment elasticity turning strongly positive. This was led by strong growth of output relative to period I. As demonstrated in Table 3.1 a jump in output growth to around 14 per cent during post-reform period (2000-2006) is significant. Another feature of the period was relatively low growth of wages as against the growth of output. Furthermore, the change in relative prices was in favor of producer goods, so that the growth rate of the real wage bill-which could support ether wage or employment growth-was high. The change in the wage-employment trade-off was also drastic, swinging substantially to employment rather than wage growth. It appears that the wage-employment trade-off towards employment growth and the decline in the share of wages in value added are partly due to the weakening of union power in the late 1990s.

The changes in employment elasticity at sub-sectoral level provide even more interesting findings. For example, the F&B sector, indicates a significant increase in employment elasticity of e = 0.74 in reform period to e = 4.81 in post-reform period as against a moderate increase in employment elasticity (e = 1.34 to e = 1.21) by TWA sector during the same period. A similar pattern can be observed with respect to WWF sector (e = 0.118 to e = 1.284) for reform period and post- reform periods. In terms of policy analysis, it is expected that these three sub-sectors will provide some interesting evidence on policy interventions in promoting inclusive growth. During this period, not only labour was used more efficiently, employers in this period are widely reported to have used a variety of other methods of organizing production which helped to moderate the increase in 'permanent' employment. A major development discussed in the literature was the increasing use of sub-contracting.

Table 3.2 Proportionate growth rates of selected variables for two periods - F&B Sector

Period	ΔW	Δv	ΔL	ΔP_p	ΔP_c	α	Output Effect	Price Effect	Employment Elasticity
I (1990-2000)	4.46	2.20	-1.64	8.23	9.74	1.20	2.65	0.17	0.74
II (2000-2006)	7.52	5.70	27.41	4.84	5.74	3.86	21.99	12.94	4.81
III(1990-2006)	12.32	8.03	25.36	13.47	16.04	2.50	20.05	17.62	3.159

Table 3.3 Proportionate growth rates of selected variables for two periods - TWA Sector

Period	ΔW	Δv	ΔL	ΔP_p	ΔP_c	α	Output Effect	Price Effect	Employment Elasticity
I (1990-2000)	8.06	5.10	6.84	5.63	4.28	1.79	9.12	5.78	1.34
II (2000-2006)	7.00	6.34	7.68	0.83	2.31	2.37	15.03	-0.35	1.21
III(1990-2000)	15.62	11.76	15.04	6.50	6.69	2.05	24.06	6.60	1.28

Table 3.4 Proportionate growth rates of selected variables for two periods- WWF Sector

Period	ΔW	Δv	ΔL	ΔP_p	ΔP_c	α	Output Effect	Price Effect	Employment Elasticity
I (1990-2000)	5.04	4.50	0.53	4.76	8.50	1.52	6.84	-1.26	0.118
II (2000-2006)	8.49	9.86	12.65	0.53	5.35	2.55	25.14	-3.99	1.284
III(1990-2006)	13.97	14.80	13.25	5.32	5.32	1.62	23.94	3.28	0.895

During the post-2000 period a complete change of attitudes towards private sector can also be noticed at policy making level. As a result, the power exerted by large-scale industry wide unions, often backed by political parties and sometimes supported by the government in power, was considered as a major constraint affecting productivity and competitiveness of the industry. The competitive pressure stemming from both domestic and foreign sources led to a turning point in industrial relations in the large-scale manufacturing sector. The analysis presented in Figure 3.1 lends further evidence in support of this conjecture. The drop in mandays lost due to strikes in private sector industries after 1999 can be viewed as an indicator of improved industrial relations.

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As pointed out by Chandratilleke (1999), in the 1990s there was shift in the nature of bargaining institutions. It began to be much more plant-oriented than industry based. Industry wide unions were in decline throughout the 1990s, making way for firm-specific bargaining. There is evidence for continued disputes at the plant level, sometimes spilling over into closures of factories. But such closures ceased to be industry-wide phenomena. The decline of large industry-wide unions in the 1990s has been attributed to several socio-politico-economic factors, including pro-market orientation of manufacturing sector industries.

The increased investment rate was a major factor which influenced employment elasticity during the post-reform period. There was a sharp acceleration in investment between 1990-2000 period and the rate of growth of the capital stock[22] was more than six times the rate of growth of employment in manufacturing (Table 3.5). There are several reasons for this spurt in investment, some of them having to do with the easing of import regulations and investment promotion efforts. The fact that the capital build-up was so much faster than the increase in the stock of labour shows that employers were still wary of labour as a potentially costly quasi-fixed factor, although improving the quality of production through more mechanized techniques might have been an additional motivation. This meant that although the trade-off shifted to employment growth employment elasticity was lower than it might have been. A change of this pattern could be noticed with a reduction in growth rate differentials between investment and employment during the post-2000 period.

Table 3.5 Growth of Investment and Employment (% per annum)

	1990-2000	2000-2006
Growth of Investment at National level	39	22
Growth of Employment at National level	2.44	2.19
Growth of Investment in Manufacturing*	28	93
Growth of Employment in Manufacturing	5.62	5.07

** Based on gross additions to fixed assets (GAFA) at current market prices*

Sources: CBSL and DCS

3.5 Conclusion

The theoretical explanations relating to determinants of employment elasticity is highly complex and the key arguments cover both internal and external factors. The internal factors are industry and firm specific, while external factors deal with macro-economic aggregates at national level. The joint effect of these factors in promoting growth and employment in manufacturing is reflected in employment elasticity value of e = 1.81 for the post-1990 period. This was further confirmed by the statistical evidence at sectoral level. The causal factors of these developments are closely linked with pro-market policy reforms of post-1977 period. More detailed explanations on growth effects of employment and relevant policy variables will be presented in Chapter 4.

[22] *At the national level.*

4

Experience of Key Sub-Sectors

4.1 Introduction

This Chapter has been designed to examine sub-sector specific issues relating to pro-employment benefits of economic growth. The selection of sub-sectors is based on empirical findings of employment elasticity analysis discussed in Chapter 2. Accordingly, food and beverages, textiles and apparel and wood products sub-sectors have been selected to examine inter-sectoral variations in employment elasticity and regulatory changes. These three sub-sectors jointly account for more than 50 percent of value added and gross additions to fixed assets (GAFA) in manufacturing. It also accounts for more than 60 percent of establishments in manufacturing, 47 percent of total export earnings, and 58 percent of non-traditional export earnings.

4.2 Food and Beverages (F&B) Sub-sector

The food and beverages (F&B) sector plays an important role in terms of employment generation, export earnings, value added and linkages with primary sector of the national economy. It comprises of 5 sub-sectors: a) production, processing and preserving of meat, fish, fruit and vegetables, b) manufacture of diary products, c) and manufacture of grain mill products and prepared animal feeds, d) manufacture of other food products, and e) manufacture of beverages. Among these sub-sectors, food products, grain mill products and bakery products sub-sectors account for more than 60 percent of establishments in F&B sector (Table 4.1). Of these three categories, manufacture of tea and tea products sector accounts for a bigger share of enterprises.

The output of the food and beverages sector grew around 5 percent and the improved performance in a wide range of products such as milk products, soy products, ice cream and fruits and vegetable processing and canning. There were about 5,041 establishments in the food and beverage industry, out of which 4762 were food and 279 were beverage industries, respectively. The percentages of large, medium, small and micro industries were 3.7, 23.6, 29 and 43.7 percent respectively. In terms of gender, male employees dominate all the categories in the food sector, with the exception of Bakery products. The Cocoa, Chocolate and Confectionary category has almost equal contribution from both genders. The overall proportion of male and female employees in the food sector is 60.5 and 39.5 percent, respectively. The overall proportion of male and female employees in the beverage sector is 88.0 and 12.0 percent, respectively. The contribution of operatives by both genders is equal in the Canning and Processing Fish sub sector. The Beverage sub sector is entirely dominated by male employees (95%). The proportion of the overall skilled and unskilled workforce in the food industry is 40 and 28.5 percent, respectively. In the beverage industry it is 19.4 and 39.8 percent, respectively.

The creation of employment in food manufacturing mostly takes place in the food products sector (93% in 2006) and it includes four sub-sectors[23]: a) manufacture of macaroni and noodles, b) manufacture of tea and tea

[23] *According to the new classification adopted in 2006.*

products, c) manufacture of chilli powder, condiments powder and processing of spices, and d) manufacture of other food products n.e.c. Among them, about 90 percent employment is accounted by manufacture of tea and tea products sector (Table 4.2). In absolute terms, it provides employment for about 166,000 individuals[24] accounting for about 62 percent total employment in F&B sector. The other sub-sectors significant in employment creation include manufacture of grain mill products (33,000), and processing and preserving of fish and fish products (17,000) sub-sectors. Of the total employed in F&B about 26 percent are employed as unskilled workers. The F&B sub-sector has also marked a significant improvement in terms of export earnings particularly since 2004 (Figure 41).

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Source: EDB

Table 4.1 Industry Structure, F&B Sub-sector (% of Establishments)

Food manufacturing	1990	2000	2006
3111 Slaughtering and Preserving meat	0.55	0.27	0.46
3112 Dairy products	2.47	1.78	3.43
3113 Canning and fruit and Vegetable Processing	0.69	0.62	1.90
3114 Canning and Processing Fish	0.82	1.16	6.20
3115 Vegetable, Animal oils and Fats	3.16	2.05	9.61
3116 Grain mill products	10.84	21.86	17.59
3117 Bakery products	9.05	20.65	13.77
3118 Sugar Factories and Refineries	1.65	10.62	0.04
3119 Cocoa, Chocolate and Confectionery	3.84	2.77	3.78
3121 Food products	63.65	35.99	37.54
3122 Prepared animal foods	0.55	0.49	0.04
3131 Distilling Rectifying sprits	1.78	0.40	0.40
3132 Wine industries	0.41	0.71	0.28
3133 Malt Liquor and Malt	0.14	0.22	0.81
3134 Soft drinks and Carbonated waters	0.41	0.40	4.14
	100.00	100.00	100.00

Source: DCS

[24] *Based on 2006 figures.*

Table 4.2 Distribution of employment - F&B (%)

Sector	1990	2000	2006
3111 Slaughtering and Preserving meat	11.94	1.11	0.01
3112 Dairy products	0.30	3.66	0.71
3113 Canning and fruit and Vegetables Processing	1.11	0.81	0.94
3114 Canning and Processing Fish	0.69	0.78	0.10
3115 Vegetable, Animal oils and Fats	0.60	3.62	1.00
3116 Grain mill products	2.27	6.01	1.81
3117 Bakery products	1.73	9.57	0.76
3118 Sugar Factories and Refineries	3.16	7.86	0.06
3119 Cocoa, Chocolate and Confectionery	1.01	1.45	0.59
3121 Food products	33.71	58.78	93.48
3122 Prepared animal foods	33.53	0.52	0.01
3131 Distilling Rectifying sprits	0.19	2.75	0.09
3132 Wine industries	6.85	0.16	0.09
3133 Malt Liquors and Malt	2.54	0.67	0.09
3134 Soft drinks and Carbonated waters	0.37	2.24	0.25
Group Total	100.00	100.00	100.00

Source: DCS

The capital-labour ratio measured in terms of gross additions to fixed assets in the F&B sector reveals relatively high capital intensity in the beverages sector, in contrast to food manufacturing. Within food manufacturing Slaughtering and Preserving meat, Vegetable, Animal oils and Fats, Sugar Factories and Refineries and cocoa, chocolate and confectionary sub-sectors are capital intensive. The value added in F&B sector grew at a rate of 25 percent between 1990 and 2006. Canning and processing fish (ISIC 3114) sub-sector registered the highest growth (40 percent), followed by Canning of fruit and vegetables sub-sector (ISIC 3113). The growth rates were negative in dairy products (-5 percent) and cocoa products (-3 percent) and food products (-6 percent) sub-sectors. Within beverages sub-sectors, Malt Liquors and Malt (ISIC 3131) and Soft Drinks and Carbonated Waters (ISIC 3134) recorded positive growth in terms of value added. All other sectors in the beverages sub-sector recorded negative growth rates in terms of value added between 1990 and 2006. The overall rate of growth in employment was around 30 percent per annum during post-1990 period and canning of fruit and vegetables processing sub-sector recorded the highest growth of about 33 percent per annum during the same period followed by grain mill products (30%) sub-sector.

Table 4.3 Capital- Labour (K/L) intensity - F&B

	1990	2000	2006
3111 Slaughtering and Preserving meat	17772	14826	327553
3112 Dairy products	11375	18560	28026
3113 Canning and fruit and Vegetables Processing	17326	13809	26396
3114 Canning and Processing Fish	17752	15174	18206
3115 Vegetable, Animal oils and Fats	14646	17361	113119
3116 Grain mill products	14670	58886	65051
3117 Bakery products	21541	18160	28160
3118 Sugar Factories and Refineries	27316	21217	79853
3119 Cocoa, Chocolate and Confectionery	20378	23719	97029
3121 Food products	13594	16428	51604
3122 Prepared animal foods	13675	38505	42321
3131 Distilling Rectifying sprits	15680	15680	87926
3132 Wine industries	11351	40345	251217
3133 Malt Liquors and Malt	20625	170089	315581
3134 Soft drinks and Carbonated waters	18017	20657	63355

Source: DCS

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Source: EDB

Manufactured food and beverages products are an important source of export earnings and export of confectionary and bakery products account for about 67 percent of total F&B exports (Figure 4.2). The relative share of beverage exports is around one percent. The key export markets of F&B sector products include India, Singapore, Italy, United Kingdom, Belgium, Maldives, United Arab Emirates, Australia, South Korea, and Germany, representing the top ten export markets. In terms of export performance, no major changes in the product mix can be seen between 1990 and 2006. However, a drop in the relative share of process food sub-sector in 1995 and regaining its relative position in 2005 is noticeable. The relative position of processed fruit sub-sector has reduced to 5 percent in 2006. Confectionary and bakery products sub-sector has also marked a declining trend in terms of export earnings (Figure 4.2).

The high growth performance of the F&B sector could be partly attributed to policy support both at national and sectoral level. For example, the Industrial Policy Statement of 1989 and 1995 identified the F&B sector as a thrust sector and introduced a package of policies for its growth and development. Furthermore, the Industrial Policy Statement of 1995 proposed for financial incentives for agro-processing establishments located in the EPZs. This sector was selected for development under export-led growth policy and allowed 50 percent tax exemption on export earnings. Export policies of post-1990 have also recognized agro-processing as one of the highest priority sectors.

Quality of food is an important factor in promoting F&B exports. It is also affected by Sanitary and Phytosanitary (SPS) measures introduced by the WTO. In this regard it is worth noting that Japan imposed a ban on export of tea from Sri Lanka on SPS ground in 2004, which was later removed after submitting scientific evidence on quality standards of Ceylon Tea by the Sri Lankan Tea Board. Thus, the expansion of the F&B industry has to be associated with quality and safety standards of foreign markets. Sri Lanka Standards Institution (SLSI) is the sole regulatory body to set and monitor quality standards of product.

In terms of productive efficiency, food manufacturing is more productive than the beverages sector. Within the food sector, high productive sub-sectors include ISIC 3111, 3112, 3114 and 3117 and within the beverages sub-sector ISIC 3132, 3121 and 3133 (Table 4.4).[25] As shown in Table 4.5, high productivity in F&B sector is directly linked with high R&D investments. Although our measure of R&D intensity[26] in industry is a proxy measure, the findings clearly indicate potential benefits of R&D investments in the F&B sector, particularly with respect to ISIC 3112, 3114, 3117, 3121, 3132 and 3133 sub-sectors.

Table 4.4 Labour Productivity F&B

	1990	2000	2006
3111 Slaughtering and Preserving meat	1112742	749993	1394490
3112 Dairy products	61189	135355	1255869
3113 Canning and fruit and Vegetables Processing	37478	464712	43579
3114 Canning and Processing Fish	1966286	101326	678113
3115 Vegetable, Animal oils and Fats	1079483	450105	302568
3116 Grain mill products	273973	167905	109450
3117 Bakery products	510764	129941	641542
3118 Sugar Factories and Refineries	189043	229922	236110
3119 Cocoa, Chocolate and Confectionery	7267650	251141	612383
3121 Food products	5186	1168581	2307358
3122 Prepared animal foods	28271750	2253426	29846
3131 Distilling Rectifying sprits	49991	75285	382031
3132 Wine industries	1274491	2499952	6618944
3133 Malt Liquors and Malt	-	846199	1566699
3134 Soft drinks and Carbonated waters	2137447	747169	284557

Source: DCS

Table 4.5 Research and Development Intensity F&B

	2000	2006
3111 Slaughtering and Preserving meat	1	2
3112 Dairy products	5	9
3113 Canning and fruit and Vegetables Processing	8	3
3114 Canning and Processing Fish	5	9
3115 Vegetable, Animal oils and Fats	2	7
3116 Grain mill products	4	3
3117 Bakery products	1	28
3118 Sugar Factories and Refineries	5	15
3119 Cocoa, Chocolate and Confectionery	6	0
3121 Food products	17	25
3122 Prepared animal foods	6	0
3131 Distilling Rectifying sprits	5	12
3132 Wine industries	17	12
3133 Malt Liquors and Malt	5	12
3134 Soft drinks and Carbonated waters	2	3

Source: DCS

[25] *One must be careful in interpreting productivity trends between the three time points, due to the application of revised ISIC classification in 2006.*

[26] *Measured in terms of number of technical staff as a percentage of total employed.*

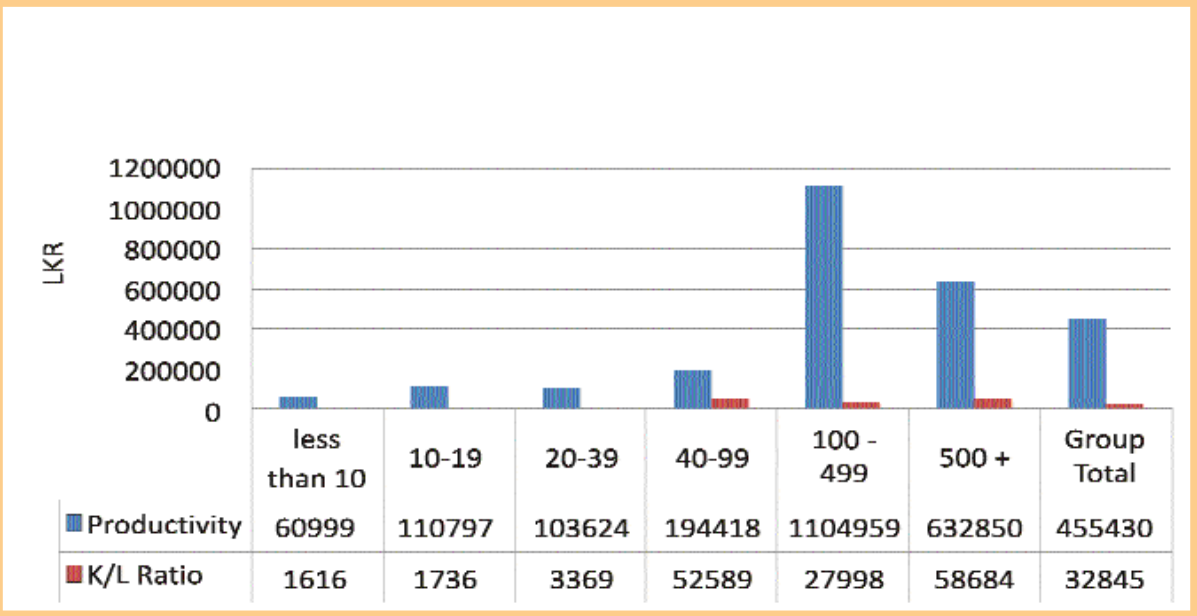
The evidence on employment elasticity in the F&B sector reveals slow growth in employment in 8 sub-sectors between 1990 and 2000. However, this has reduced only to three sub-sectors during the post-2000 period (Table 4.6). This includes Canning and Processing Fish, Prepared animal foods, and Soft drinks and Carbonated waters. Sub-sectors, such as Bakery products and Food products have recorded high employment elasticity values throughout the post-1990s, indicating high employment intensity in F&B sector. These two sub-sectors account for about 94 percent of total employment in F&B sector.

Table 4.6 Employment Elasticity F&B

	1990-2000	2000-2006
3111 Slaughtering and Preserving meat	-0.08	0.91
3112 Dairy products	1.56	0.47
3113 Canning and fruit and Vegetables Processing	-0.94	0.10
3114 Canning and Processing Fish	0.00	-2.59
3115 Vegetable, Animal oils and Fats	-5.74	0.13
3116 Grain mill products	-25.49	1.63
3117 Bakery products	1.96	5.25
3118 Sugar Factories and Refineries	-2.51	6.46
3119 Cocoa, Chocolate and Confectionery	0.47	0.97
3121 Food products	0.81	10.45
3122 Prepared animal foods	-0.49	-1.58
3131 Distilling Rectifying sprits	-0.66	0.34
3132 Wine industries	1.03	0.08
3133 Malt Liquors and Malt	0.27	4.78
3134 Soft drinks and Carbonated waters	-0.25	-8.05

Source: DCS

Figure 4.3 F&B Sub-sector Performance by no of Persons Engaged - 2006



Source: DCS

As can be seen from Figure 4.3, F&B sector is dominated by small and medium scale enterprises (SMEs), accounting for about 90 percent of employment and more than75 percent of gross additions to fixed assets (GAFS). In terms of output, however, large scale enterprises account for more than 80 percent of total output of F&B. In fact, its 4-firm concentration ratio has been more than 80 percent during the post liberalization period. This is to be expected given the relative market shares of leading suppliers operating in F&B sector. This is much closer to an oligopolistic market structure and hence, requires detailed investigation. The large scale manufactures in F&B have access to modern technology and are in a position to invest in quality enhancement programmes. The small and medium scale firms, however, find it difficult to invest in quality improvement. It is also a segment which could absorb more unskilled labour. However, the working conditions of SMIs in the F&B sector, particularly occupational safety and health conditions, (OSH) are very poor. The main concern is that these establishments are unprotected and characterized by hazardous work, excessive hours of work, low wages and absence of social protection. Hence, strengthening SMIs in F&B sector would promote economic growth and create more employment opportunities, in addition to enhancing quality of employment.

4.3 Textiles and Wearing Apparel (TWA) Sub-sector

The Textiles and Wearing Apparel (TWA) industry has emerged as a significant sector of the economy over the past 30 years. By 2006, Sri Lanka's TWA sector accounted for 6 percent of GDP, 38 percent of industrial production, and 33 percent of manufacturing employment. Of the two sub-sectors in TWA, textiles were essentially an import substitution industry confined to a few large-scale textile industries run by the government. In contrast, the garments industry has its origins in the mid-1960s and it was mainly run by the private sector. It was an oligopolistic market shared by a few companies. During the pre-liberalization period, the garments industry was entirely dependent on the domestic market.

The relative significance of TWA at national level is further elaborated in Table 4.7 in terms of exports, imports, employment, number of establishments, and investment covering a period of 12 years from 1990 (Kelegama and Wijayasiri, 2004). In addition to employment and exports, the inflow of foreign investment in TWA has been very significant, accounting for 15 percent of total cumulative FDI in 2002. Existing evidence also indicates that more than 50 percent of garment factories were owned by foreigners and account for 90 percent of total TWA exports. The TWA is also dependent on imported textile materials. The textiles sector comprises of 6 sub-sectors and Spinning, Weaving and Finishing sector has emerged as the key sub-sector accounting for 76 percent of establishments (Table 4.8). In terms of export earnings the TWA has marked a significant improvement and annual earnings have exceeded US$ 3000 in 2006 (Figure 4.4). Of total TWA exports garments account for about 94 percent of exports and it is the only sector which has registered a positive growth of 3.44 percent per annum. Both the USA (61 percent and UK (21 percent) account for about 82 percent of total TWA exports. The phenomenal growth of TWA during the post-liberalization period has been attributed to three main factors: a) market -oriented liberal economic policies of post-1977 period, b) supportive measures taken by the government, and c) Multi-Fibre Agreement (MFA)[27] .

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Source: EDB

[27] *For more details see Kelegama (2004).*

Table 4.7 Profile Textile and Garments Industry

	Under MFA regime 1990	Under agreement on Textile and Clothing		
		After 1st Phase-out 1995	After 2ed Phase-out 1998	After 3rd Phase-out 2003
No of establishments (Garments)	142	678	891	1061
Employment (000)	102	250	227	330
Cumulative investment (US$ Mns)	36	108	158	158
Cotton Yarn and Textile imports (US$ Mns)	442.0	1216.0	1477.6	1429.0
TWA Exports (US$ Mns)	628	1853	2460	2424
TWA Exports as % of total exports	33	49	52	52
TWA Exports as % of industrial exports	61	65	68	67

Source: Kelegama and Wijayasiri (2004).

Table 4.8 Industry Structure Textiles - % of Establishments

Textiles	1990	2000	2006
3211 Spinning, Weaving and Finishing	5	53	76
3212 Made-up textile goods	6	4	7
3213 Knitting mills	6	2	5
3214 Carpets and Rugs	7	13	3
3215 Cordage, Rope and Twine	68	29	1
3219 Textile nec	8	0	8
Total	100	100	100
3220 Wearing Apparel	100	100	100

Source: DCS

The Gender Distribution is female biased with 84 percent of the Machine Operators and majority of the Helpers being females. Furthermore, 68 percent of the Supervisors are female. The Male representation is high in occupations such as Sewing Machine Mechanics (100 percent), Electricians (100 percent), Cutters (88 percent), CAD Operators (85 percent) and Fabric Inspectors (86 percent). Males continue to dominate in Senior and Middle Manager categories accounting for 85 and 69 percent of employment, respectively. The majority of Sewing Machine Operators were in the age groups of 18-24 years (39 percent) and 25 - 29 years (44 percent), with 15 percent being in the age group of 30 - 39 years. In the male dominant jobs such as Electricians, Mechanics and Cutters, the majority are in the age groups of 25 - 29 years and 30 - 39 years. The majority of Executives were in the age groups of 25 - 29 years and 30 - 39 years. But most of the Senior Managers were found to be in the age group of 30 - 39 years, which amounts to 71 percent of the senior grade. Educational qualifications of most operator grades were found to be GCE (O/L). The majority in supervisor grade possess GCE (O/L). However, there were 42 percent who are GCE (A/L) qualified. Majority of Middle and Senior Level Managers were with GCE (A/L) qualifications. There were also 10 - 30 percent who had either a Diploma or a Degree.

The employment creation in TWA mostly takes place in the garments sector with a total employment of about 482,000 persons in 2006. Of the total employed, about 19 percent are unskilled workers and another 65 percent are skilled workers. Within textiles sector a) Spinning, Weaving and Finishing, and b) Knitting mills sub-sectors provide employment for about 33,000 individuals[28] accounting for about 70 percent total employment in the textiles sector.

Table 4.9 Distribution of Employment- Textiles and Wearing Apparel (%)

	1990	2000	2006
3211 Spinning, Weaving and Finishing	50.00	46.27	33.56
3212 Made-up textile goods	2.99	4.51	4.05
3213 Knitting mills	15.65	27.25	37.44
3214 Carpets and Rugs	0.47	10.66	3.51
3215 Cordage, Rope and Twine	1.34	10.82	1.92
3219 Textile nec	29.55	0.50	19.51
Total	100	100	100
3220 Wearing Apparel	100	100	100

Source: DCS

Within TWA, textiles sub-sector is more capital intensive particularly the Carpets and Rugs (ISIC 3214) and Made-up textile goods (ISIC 3212) sub-sector. These values have also increased significantly between 1990 and 2006. With respect to the garments sector, however, capital intensity is low and it has been relatively stable for the past 17 years (Table 4.10). The value added of TWA grew at an annual average rate of 20 percent between 1990 and 2006. Within textiles, Carpets and Rugs (3214) sub-sector registered the highest growth (30 percent), followed by Made-up textile goods sub-sector (ISIC 3212). The growth rates were negative in Cordage, Rope and Twine (-5 percent) and Made-up textile goods (-4 percent) sub-sectors. In terms of employment, overall growth for textiles sub-sector was around 15 percent per annum and during 1990-2006 and the highest rate was recorded by Cordage, Rope and Twine (18 percent) sub-sector. In the case of garments, however, the growth in value added was around 20 percent as against a negative growth in employment (-6 percent) between 1990 and 2006.

Table 4.10 Capital Intensity in TWA (K/L ratio)

	1990	2000	2006
3211 Spinning, Weaving and Finishing	3451	3144	6500
3212 Made-up textile goods	7986	21716	138704
3213 Knitting mills	7997	11726	52163
3214 Carpets and Rugs	9363	16779	147508
3215 Cordage, Rope and Twine	5996	30720	30024
3219 Textile nec	5756	15889	32426
3220 Wearing Apparel	20998	21876	21919

Source: DCS

[28] *Based on 2006 figures.*

TWA is one of the key sub-sectors which have been receiving considerable policy support both at national and sectoral level during the post-1977 period. At the national level, the TWA sector has been identified as a thrust sector during the post-1977 period. This sector was selected for development under export-led growth policy and granted 50 percent tax exemption on export earnings. Research and development investments in TWA sector is relatively low and only Made-up textile goods (ISIC 3212) and Cordage, Rope and Twine (ISIC 3215) sub-sectors (Table 4.11) appear to have made some progress in R&D. The TWA has been able to face the initial challenges in overcoming the quota free trade market situation. Further, it is evident that the small scale factories have not been able to withstand this transition and, as a result, 115 out of 271 factories have shut down during the period 2001 - 2006.

Table 4.11 Research and Development Intensity Textiles

	2000	2006
3211 Spinning, Weaving and Finishing	2	2
3212 Made-up textile goods	5	11
3213 Knitting mills	1	5
3214 Carpets and Rugs	1	6
3215 Cordage, Rope and Twine	3	11
3219 Textile nec	5	4
3220 Wearing Apparel	2	5

Source: DCS

In terms of productivity the textiles sub-sector records the highest labour productivity, mainly due to high capital intensity. However, labour productivity in garments industry has also increased at an annual rate of 2.9 percent (Table 4.12). In terms of firm size, establishments with more than 100 employees appear to be highly productive as against the small scale operations (Figure 4.5). It also reveals a positive relationship between firm size, K/L ratio and productivity. This suggests a positive link between productivity and employment. Employment elasticity estimates of TWA for the post-1990s reveal only Cordage Rope and Twine (ISIC 3215), and Textile nec (ISIC 3219) reporting employment elasticity of more than 1. The second highest employment elasticity has been reported in Carpets and Rugs (ISIC 3214) followed by the Wearing Apparel sector. The employment elasticity of Wearing Apparel (ISIC 3220) sub sector has reduced from e =0.74 to e = 0.44 between 1990-2000 and 2000-2006. Both Spinning, Weaving and Finishing (ISIC, 3211) and Made-up textile goods (ISIC, 3212) sub-sectors have reported negative employment elasticity values (Table 4.13).

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Source: DCS

Table 4.12 Labour Productivity Textiles

Sub-sector	1990	2000	2006
3211 Spinning, Weaving and Finishing	524692	34061	21187
3212 Made-up textile goods	39948	176417	488580
3213 Knitting mills	23190	18098	29656
3214 Carpets and Rugs	19005	58551	114708
3215 Cordage, Rope and Twine	182935	122935	125991
3219 Textile nec	119436	146616	156616
3220 Wearing Apparel	111988	154901	164901

Source: DCS

Table 4.13 Employment Elasticity in TWA

	1990-2000	2000-2006
3211 Spinning, Weaving and Finishing	0.10	-0.07
3212 Made-up textile goods	-0.32	-0.85
3213 Knitting mills	0.25	0.21
3214 Carpets and Rugs	0.17	0.60
3215 Cordage, Rope and Twine	1.49	1.43
3219 Textile nec	0	1.38
3220 Wearing Apparel	0.74	0.44

Source: DCS

4.4 Wood Products and Furniture (WPF) Sub-sector

The wood products and furniture sector consists of saw mills and wood mills, wooden and cane products, wood and cork products and furniture sub-sectors (Table 4.14). Of these sub-sectors, saw mills and wood mills sub-sector account for about 45 and 33 percent of establishments and employment, respectively in WPF sector. However, the relative significance of wooden cane products sub-sector has marked a significant increase in its relative share in terms of number of establishments and employment in contrast to a significant decrease in wood and cork products sector between 1990 and 2006. In terms of capital intensity, wood and cork (ISIC 3319) sub-sector appears to be the most capital intensive sector followed by wooden and cane products (ISIC 3312) sub-sector (Table 4.15).

Table 4.14 Structure Wood and Furniture - (% of Establishments)

Sub-sectors	% of Establishments			% of Employment		
	1990	2000	2006	1990	2000	2006
3311 Saw mills and Wood Mills	39	38	45	64.57	32.80	33.39
3312 Wooden and Cane products nec	13	13	25	4.96	11.14	33.27
3319 Wood and Cork products nec	10	10	2	3.65	13.05	0.37
3320 Furniture and Fixture	39	40	28	26.82	43.00	32.96
Total	100	100	100	100.00	100.00	100.00

Source: DCS

Table 4.15 Capital - Labour (K/L) intensity - Wood products and Furniture

	1990	2000	2006
3311 Saw mills and Wood Mills	2950	5878	8466
3312 Wooden and Cane products nec	7985	9996	51626
3319 Wood and Cork products nec	13152	45898	95464
3320 Furniture and Fixture	1098	6660	30480

Source: DCS

The WPF provides employment opportunities for more than 50,000 people and majority are employed in furniture industry. This is also an industry which offers a diverse scale of activities ranging from cottage level industries operating with a single person to large-scale labour intensive industrial units.[29] The industry is dominated by private sector enterprises accounting for about 95 percent of the total market share. The domestic market is the main market for WPF and majority of the industrialists concentrate on both manufacturing and trading (52 percent) activities while a lesser proportion concentrates only on manufacturing (39 percent). The estimated timber requirements of WPF is around 1.2 million cubic meters per year and local timber dealers function as the main source of supply (MIIP, 2005). It has been reported that the annual output of major saw mills of the country is well below the required quality standards resulting in the usage of only 44 percent of the output (MIIP, 2002). About 75 percent of sawn wood is used for construction purposes while the rest is shared by furniture industry (15 percent) and other types of industries in WWF.

The growth potential the WPF is very high in view of increasing per capita income in the domestic market and high demand in foreign markets. Its relative share in industrial production is less than 1 percent of the total and it has marked a declining trend between 1994 and 2003 (that is, negative coefficient of -.0.0202 per year, MIIP 2005). In terms of product groups the growth rates of furniture (-0.0206), wooden craft items (-1.5946), and parquet floor items (-0.1205) are negative while there were positive growth rates for broomsticks (0.1399) and other wood products (0.6443). The capacity utilization of wood industry also marked a declining trend (-0.8727) during the same period. Over the past several years, the growth of WPF in terms of value addition has been also very slow and it has been partly attributed to lack of exposure to innovations and advances in the global industry (MIIP, 2005).

Of the four sub-sectors in WPF, labour productivity is higher in saw mills and wood mills sub-sector. Furniture and wooden cane products sub-sectors occupy 2nd and 3rd highest labour productivity in WPF (Table 4.16). This high performance, however, has not resulted employment creation except for wood and cork products (e = 1.02) and saw mills and wood mills (e = 0.33) sub-sectors. The saw mills and wood mills sub-sector also appear to be more research and development (R&D) oriented relative to other sub-sectors in WPF (Table 4.16). The lower employment elasticity of furniture sector (e = 0.08) in post-2000 period relative to high employment elasticity (e = 1) in pre-2000 period further confirms this conclusion (Table 4.17). Of the two major sub-sectors in WPF, wood products is a labour-intensive industry and is heavily dominated by small scale enterprises accounting for about 50 percent of enterprises employing less than 10 persons per enterprise (Figure 4.6). The proportion of employment by same scale of establishments in furniture sector is 42 percent. In terms of quality of employment about 13 percent of employment in wood products is in the unskilled category while it is 7 percent in furniture sector. The proportion of skilled workers employed in wood products and furniture is 69 and 49 percent, respectively.

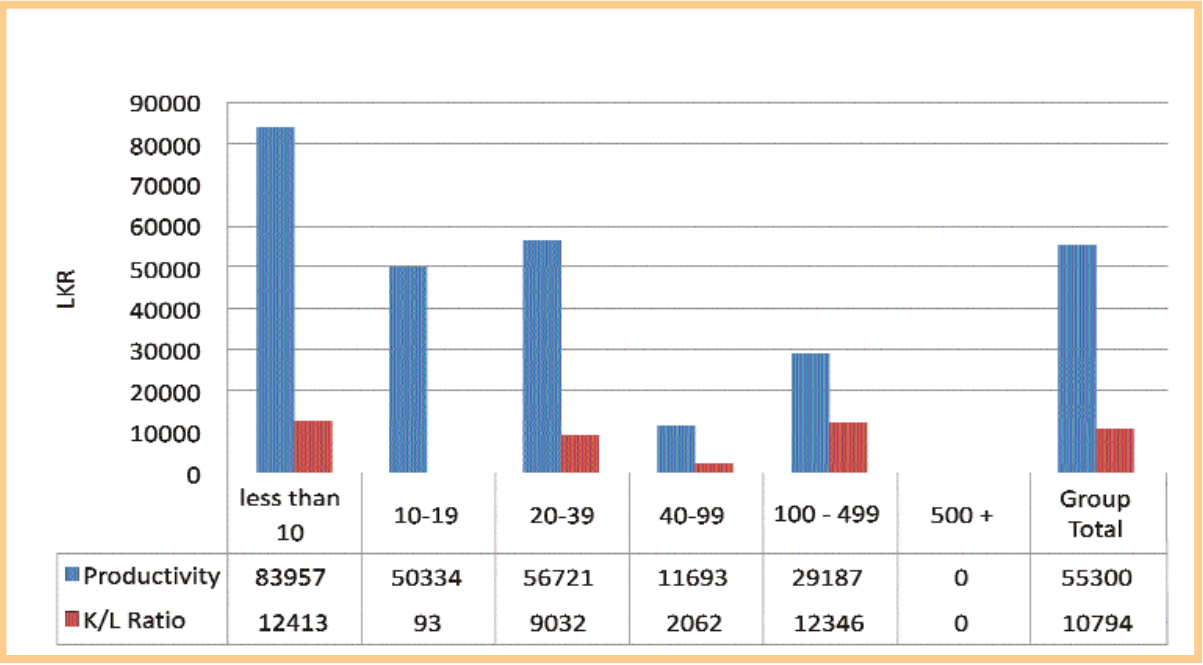
Table 4.16 Labour Productivity and R&D Intensity in WPF Sector

Sub-sectors	Labour Productivity			R&D Intensity	
	1990	2000	2006	2000	2006
3311 Saw mills and Wood Mills	68129	100507	247841	2	6
3312Wooden and Cane products nec	1235	17555	110291	1	4
3319 Wood and Cork products nec	20488	64823	74262	4	4
3320 Furniture and Fixture	23313	27705	227965	2	5

Source: DCS

[29] *In Moratuwa which is the main production centre of WPF, about 80% of furniture manufacturers operate with less than5 workers.*

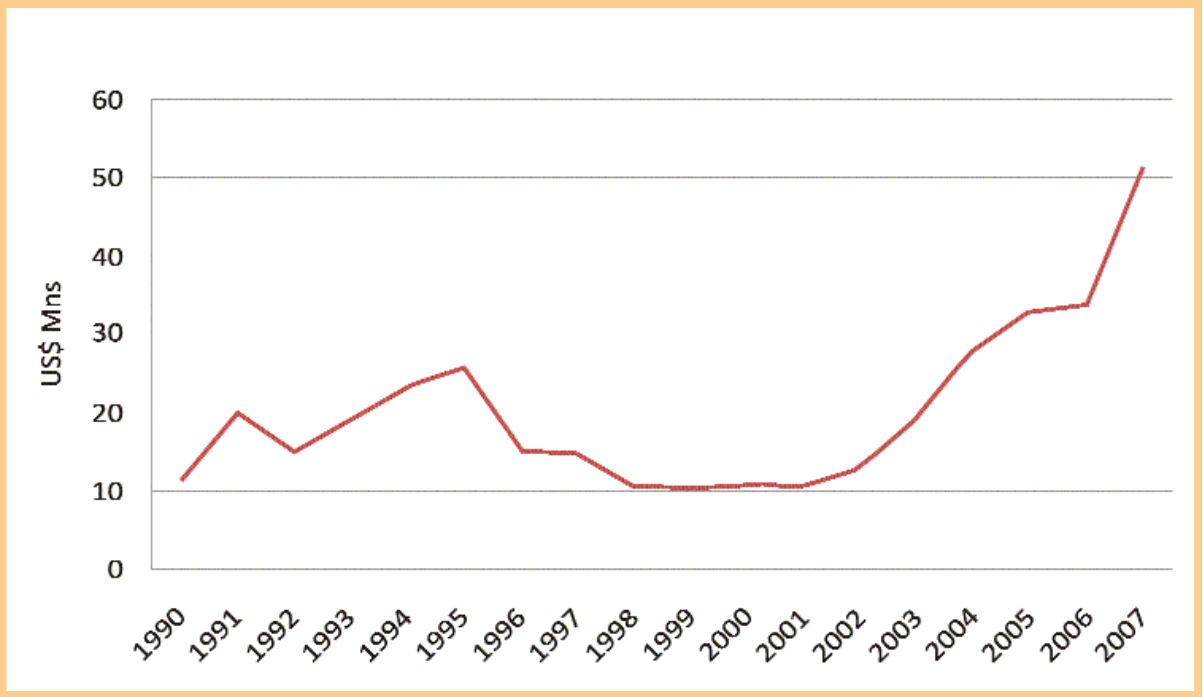
Figure 4.6 Wood Products and Furniture Sub-sector



	less than 10	10-19	20-39	40-99	100 - 499	500 +	Group Total
Productivity	83957	50334	56721	11693	29187	0	55300
K/L Ratio	12413	93	9032	2062	12346	0	10794

Source: DCS

Figure 4.7 Export of Wood and Woden Products



Source: EDB

Table 4.17 Employment Elasticity - Wood Products and Furniture

	1990-2000	2000-2006
3311 Saw mills and Wood Mills	-0.13	0.33
3312Wooden and Cane products nec	-0.15	0.15
3319 Wood and Cork products nec	0.27	1.02
3320 Furniture and Fixture	0.79	0.08

Source: DCS

The export of wood and wooden products marked an increasing trend from 1990 to 1995 and since then reported a downward trend (Figure 4.7). However, it recovered in 2000 reached $51.24 million in 2007, compared to $10.37 million in 1999. Accordingly, the product mix has also changed significantly. For example, the dominant position enjoyed by wooden craft products up to 2000 was gradually taken over by fiber boards and wood sub-sector since 2001 (Figure 4.8). It has marked an annual growth rate of more than 50 percent between 2004 and 2007, as against the average growth of 19 percent per annum by the entire WWP between 1999 and 2007. Furniture is the other high growth sub-sector in WWP with an average growth of 14 percent per annum between 1999 and 2007. In overall terms, WWP is a promising sector for growth and expansion in foreign markets in spite of its low export earnings.

4.5 Conclusion

The pro-employment benefits of economic growth in manufacturing industries was examined in this chapter paying particular attention to three sub-sectors which experienced high, moderate and low employment elasticity values between 1990 and 2006. First, the findings confirm the earlier evidence of low employment elasticity values between 1990 and 2000 and high elasticity values during the post-2000 period. This means that post-1977 policy reforms have led to high economic growth and employment creation in manufacturing sector industries. Secondly, variations in employment elasticity within sub-sectors are noticeable and hence the analysis needs to be extended to include both policy variables and institutional factors. The former will be addressed in the next Chapter.

5

Policy Initiatives to promote economic growth and employment

5.1 Introduction

This Chapter deals with various policy measures initiated by successive governments to promote growth and employment create employment during the post-1977 period. It covers both macro policy measures and sector specific policy issues. The former would be discussed under two broad headings: a) incentive policies and, b) structural policies. The first, incentive policies, deal with macro-economy, trade, foreign investment, competition, exchange rate management and other policy measures aimed at removing market distortions. The second, structural policies, refer to policy measures aimed at improving supply side conditions such as technology, manpower, skills development, finance, infrastructure development and institutional support.

5.2 Overall Policy Measures

A stable and predictable macroeconomic policy is a pre condition for improved export competitiveness and therefore it has been a major concern of successive governments of post-1977 period. In fact, most of the stabilization and structural adjustment programmes of the IMF and the World Bank in the 1980s deal with macroeconomic policy reforms. By and large, policy reforms of post-liberalization period cover wide range of macroeconomic policy reforms under fiscal and monetary policy reforms.

The government is a key player in promoting economic growth and job creation. The challenge faced by successive governments in Sri Lanka has been continued expansion of budget deficits. As a result, interest rates have pushed up and crowded out private investment. In response, governments have curtailed productivity enhancing public investment, such as infrastructure development, while maintaining non-productive current expenditures including subsidies and wages, pensions and interest payments. In addition, macro management challenges are also likely to arise with greater inflows of foreign aid, and their tendency to lead to appreciating real exchange rates. Thus, macroeconomic management and policy consistency are key factors in promoting growth and employment.

Trade policy reform has been a key element of post-liberalization policy reforms in Sri Lanka. In fact, Sri Lanka was the first country in the South Asian region to introduce extensive policy reforms in foreign trade. After 1990, the Sri Lankan tariff structure has undergone a major reduction of tariff rates and compression of tariff bands reflecting country's commitment to trade liberalization. By 2000, tariffs were grouped into 4 bands of zero, 10 and 25 percent except for some agricultural items kept outside the standard structure at 35 percent. Due to revenue considerations, policy direction changed somewhat in 2001 and recorded an increase in tariff rates. Moreover, specific duties were introduced in place of ad-valorem duties for selected agricultural and industrial

products. In 2004, import surcharge was reduced to 10 percent and increased the minimum positive tariff from 2 to 2.5 percent and placed a few items in the 20 percent rate. In addition, removal of export taxes and introduction of export promotion schemes were also introduced as a part of the trade reform policies introduced during the post-liberalization period.

Table 5.1 Nominal and Effective Protection to Import-Competing Manufacturing

ISIC	Industry	1991		1994		2002	
		NRP	ERP	NRP	ERP	NRP	ERP
31	Food. Beverage and Tobacco	50	61	47	68	21	36
32	Textile, Wearing Apparels and Leather	45	58	46	84	25	54
33	Wood, Wood Products and Furniture	43	96	37	52	25	57
34	Paper Products, Printing and Publishing	50	93	46	106	22	53
35	Chemicals, Petroleum, Rubber, Plastic	38	118	42	69	25	125
36	Non- Metallic Mineral Products	32	91	35	59	18	41
37	Basic Metal Industries	40	273	41	104	22	85
38	Metal Products, Machinery and Equipment	48	132	45	95	25	86
39	Other manufacturing industries	55	122	50	115	20	25
3	Total manufacturing	45.3	77.2	43	70	23	56

Source: World Bank (2004)

Official estimates indicate that effective rate of protection (ERP) for import competing manufacturing declined from 70 to 56 percent between 1991 and 2002 (Table 5.1). As a result, a considerable convergence of the domestic prices of manufactured goods towards world market prices could be noticed in the 1990s. In fact, following the continuous trade reforms in 1990, the wedge of domestic and world prices virtually disappeared in the 1990s. These trends point to a significant reduction in the incentive bias against exporting during the post-1990s. Trade promotion through regional and bilateral economic cooperation is yet another important policy measure initiated in the post-1990s. For example, in 1998, a bilateral free-trade agreement was signed between India and Sri Lanka and this was extended to several countries including USA, Pakistan, Bangladesh, and China. Sri Lanka has also been a participant of three regional trading agreements: a) the South Asian Preferential Trading Agreement (SAPTA), b) the Bangladesh, India, Myanmar, Sri Lanka and Thailand (BOMESTEC), and c) the Bangkok Agreement.

Promoting Foreign investment is vital in promoting growth and employment. A liberal investment policy regime has effectively complemented Sri Lanka's export-led growth strategies. The investment promotion package offered by successive governments in 1980s and 1990s include complete foreign ownership of projects, unlimited access to foreign currency credit at world interest rates, introduction of free trade zone facilities, attractive export promotion incentives and creation of a separate policy regime, that is, Board of Investment (BOI) and less restrictions on the ownership of joint-venture projects outside the BOI. Of the BOI companies which started operations between 1978-2002, over two thirds involved FDI, mostly through joint ventures with local firms. Initially, FDI was heavily concentrated in the garments industry but subsequently expanded into several other labour intensive sectors i.e. footwear, travel goods, plastic products, gems and jewellery, rubber-based products, and ceramics.

As sated earlier, structural policies refer to supply side factors, such as manpower, skills development, finance, technology, infrastructure and institutional support. Of these policy measures, labour market policies

deserve special emphasis in an assessment of economic growth and employment creation. The organized segment of the labour market in Sri Lanka is governed by a plethora of labour laws and regulations[30]. The Sri Lankan industrial law consists of inter alia about forty labour statutes, regulations gazetted under the labour statutes, decisions made by the Labour Courts and Appellate Courts, collective agreements and the writings of recognized authors in industrial law (Sarveswaran, 2000). Most of the labour laws that are claimed to be impediments for private sector led growth came into operation during the pre-1977 period or closed economy period. Among them, the following have been identified as major impediments to employment creation.

a) Termination of Employment of Workmen (special provision) Act No. 45 of 1971, and its amendments
b) Wages Boards Ordinance No. 5 of 1953, and its amendments
c) Industrial Disputes Act No. 43 of 1950, and its amendments
d) Payment of Gratuity Act No. 12 of 1983, and its amendments
e) Maternity Benefits Ordinance No. 32 of 1939, and its amendments
f) Employment Provident Fund Act No. 15 of 1958, and Employment Trust Fund Act No. 46 of 1980, and its amendments
g) Workmen's Compensation Act No. 19 of 1934, and its amendments
h) Trade Union Ordinance No. 14 of 1935, and its amendments

The key argument against the above laws has been that many of them are not in accordance with the policy framework of post-liberalization period. They are rather over-protectionist and detrimental to employment creation. Discussions on labour law reform have been in progress for some time, and have been carried out by trade unions and employers separately, and in tripartite discussions and workshops. There are some areas which are non-controversial and where consensus has been reached, whilst others need further consultation and discussion (Ranarajah, 2006).

In a competitive market environment, rigid labour legislation could increase cost of production both directly and indirectly. The indirect cost increases come from delays in settling labour disputes, legal costs of disputes and related other administrative costs. The direct costs comprise of wages and loss of labour productivity[31]. A number of economists have conjectured that stiff anti-firing legislation and the high severance payments required may be as important as high wages in holding back the growth of industrial employment. The reasoning is that employers are unlikely to hire extra workers when they see an uncertain new sales opportunity if they know that they will not be able to release them if it does not turn out to be permanent[32]. The findings of Investment Climate Survey also noted that Sri Lanka's labour regulations have created an insider-outsider distinction among workers (WB, 2005). It may also lead to an increase in capital intensive export goods and promote growth without an increase in employment.

The policy reform package of 1977 contained a proposal to reform the labour legislation to achieve greater flexibility in labour market operations. However, these proposals never came to effect due to successful agitation by the trade unions. In the late 1980s, issues relating to labour gained much prominence among various socio-politico groups and with the change of government in 1994, the new government decided to come up with a Workers Charter. This was heavily critized on the grounds of restricting competitive pressure from the unorganized and unregulated segment of the labour market. Six years later in 2001, the deregulation efforts led by the private sector placed heavy emphasis on labour market reforms as a matter of urgency in promoting national competitiveness. Following this trend, the Ministry of Employment commenced another important policy debate with the introduction of National Employment Policy (NEP, 2002)[33]. Its overall policy strategy was designed to include seven initiatives: a) manpower planning, b) education and training for life-long employability, c) redefine foreign employment, d) improving quality of life through SMEs and self employment, e) fulfilling social obligations, f) partnerships re-aligned, and g) reaching out employment sourcing and delivery system.

[30] *For a detailed elaboration of these issues see Alagarathnam (1996), Gunatilake and Kelegama (1996) and Ranarajah (2006).*
[31] *For a detailed elaboration of these points see Gunatilake and Kelegama (1996) and Ranarajah (2006).*
[32] *Discussions with Employer's Federation of Ceylon.*
[33] *This was not finalized due to various reasons.*

Good labour management relations have also been identified as a key factor in promoting employment and economic growth. The dynamics of enterprise labour relations and their impact on productivity and job creation has become even more important with the internationalization of production. Thus, labour is treated as a resource rather than a cost to be minimized by effective mechanisms of control and subordination. The emergence of industry-specific and company-specific competitive practices has also led to a change of managerial strategies from labour subordination to co-operation[34]. In line with these developments, gradual change in government attitude towards trade unions, declining union power and changes in union structure and objectives could also be noticed during the post-liberalization period. This probably contributed to the apparent shift in union priorities and to the rise of productivity bargaining, whereby productivity increases are negotiated in exchange for wage increases. An indirect effect on productivity may be expected if more 'progressive' attitudes made it easier to redeploy labour in the face of changing product market conditions[35].

As argued by Yatawara (2004), the issue of labour market regulations is more easily understood by characterizing a job, in terms of wages and job security. Both are costs to the employers, and hence, there is a trade-off between wages and job security. This may also lead to two equilibria: a) Equilibirum 1-low wage/high job security (low variance of wages) outcome and b) Equilibrium 2-high wage/low job security (high variance) outcome. Yatawara (2004) argues that during the post-liberalization period Sri Lanka has chosen Equilibrium 1 or low wage/high job security option. The Investment Climate Survey (WB, 2005) stated that labour regulations have been designed to protect the few who are employed in the formal sector -a policy that has restricted labour mobility, limited productivity improvements, increased unemployment, and hindered investment.

Another important area closely linked with labour market policy is education and training. Investments in skills development should take place in primary, secondary and tertiary levels of education, mainly to develop literate, multi-lingual, numerate production workers for promoting labour-intensive industrialization. As a country moves into more complex production activities, industry-specific vocational training is a pre-condition to maintain competitiveness and reach the next stage of industrialization. Successive governments of post-1977 period have introduced various policy initiatives to strengthen human resource development of Sri Lanka. It broadly covers wide range of policy reforms introduced at primary, secondary and tertiary level[36]. The policy reforms introduced by Ministry of Vocational and Technical Training in the 1980s and 1990s are of particular relevance to the present study[37]. In spite of these efforts, the tertiary education sector continues to be state dominant and supply driven[38].

Technology is yet another key determinant of economic growth. For example, many economies at global level have made heavy investments in research and development (R&D), mainly to build up R&D capabilities and enhance productivity. The government has, in fact, made significant investments in R&D during the post-1977 period. It has also provided necessary restructuring of existing R&D institutions, policy support, and introduction of incentive schemes to promote investments in R&D, that is,advanced technology support scheme.

Development of entrepreneurship and revitalizing small and medium enterprises (SMEs) is an important strategy to enhance labour absorptive capacity of industry. During the post-1990 period several policy initiatives have been taken to promote entrepreneurship and SMI development, including a White Paper on SME Policy (2003). Some of the policy recommendations have also been implemented (for example, establishment of the SME Bank and SME Development Authority) and the SME sector continues to get more policy support from the government.

[34] *For a detailed theoretical and empirical account of this issue see Chandratillake (1997).*
[35] *Discussions with Employer's Federation of Ceylon.*
[36] *For details see Chandrasiri (2009).*
[37] *For details see Chandrasiri (2003).*
[38] *Discussions with Federation of Chambers.*

In the late 1980s the government adopted three strategies to increase employment opportunities in industry and business: a) increasing employment opportunities within industries, b) based on sub-contracting systems, building up several small industrialists and craftsmen connected to the larger industries, and c) promoting the creation of new industries[39]. The overall policy support system that existed for the development of manufacturing industries is summarized in Table 5.2. It spells out policy measures introduced by key ministries dealing with the policy support system. It also indicates key areas of policy support for industrial development, that is, investment promotion, financing, research and development, trade policy, export promotion, human capital development, and labour market and industrial relations. It should be noted that these measures were introduced within an overall policy framework characterized by private sector dominant, pro-competitive, and export-led growth strategies. The continued implementation of these policies over a period of 25 years, irrespective of difficult political ideologies of successive governments led to high growth performance of manufacturing in the post-1990s.

Table 5.2 Policy support system for the development of manufacturing industry

Institution	Intervention
Ministry of Industrial Development (MID)	a) Establishment of Greater Colombo Economic Commission (GCEC) in 1978 and offering attractive investment promotion packages. b) Establishment of Export Processing Zones c) Amalgamation of Foreign Investment Advisory Committee (FIAC) and GCEC and set up a new Board of Investment (BOI) d) Establishment of Export Development Board in 1979. The EDB was expected to coordinate export development and promotion work concentrating on three main areas of activity: i) improve the policy climate, ii) provide specialized and professional services to exporters, and iii) develop and adapt products and services to meet the needs of the international market. e) Establishment of Sri Lanka Export credit Insurance Corporation (SLECIC) in 1979. f) Establishment of Sri Lanka Standard Institution (SLSI) and Industrial Technology Institute (ITI) to provide training and advice relating to technical matters and technology to the export community.
Ministry of Finance (MoF) and MID	Introduce refinancing schemes - restructure existing refinancing schemes; packing credits for products of new industries; refinancing facilities for a period of 150 days in selected categories of industries; concessionary medium and long-term finance.
MID , Dept of Inland Revenue (DIR) and MoF	a) Provide tax holidays/tax exemptions for a period of 5 years b) Double deduction of taxes on expenses relating to overseas trade fairs; overseas trade offices; overseas advertisements; overseas market development. c) Tax incentives on R&D work - double deduction of expenditure on R&D expenditure; write-off against revenue over 10 years; industrial building allowances on buildings used for R&D; grants for R&D work; technical assistance to SMIs upgrade themselves etc.

[39] *Ministry of Industries, Review of Activities, 1988-1989; p.18*

Institution	Intervention
MID and MoF	a) Tariff Protection - provide protective tariffs to an initial gestation period; Rationalization of tariff: (i) raw material and capital goods 5%, ii) intermediate inputs 15%, iii) chemicals and other inputs 35%, iv) finished products 50%; v) remove non-tariff barriers; and vi) introduce anti-dumping legislation. b) Trade and tax policies: move towards a non-discriminatory uniform tariff rate; avoid multi-point taxation; lower the rates of income tax and broaden the tax base.
MID	Technology transfer: a) Appointment of a Committee in 1985 to examine and report on the sick industries b) Establishment of Industrialization Commission in 1991 under the Industrial Promotion Act No. 46 of 1990 with a view to coordinate industrial policy matters among different agencies responsible for industrial development. c) Establishment of Advisory Council for Industry in 1996 under the revised Industrial Promotion Regulation No. 1 of 1996. As a part of this effort, Development and Review Committees were set up to assist 5 sectors: i) food, beverages, tobacco and leather, ii) chemicals, wood products, paper and paper products, iii) rubber goods, iv) basic metal products and v) small and medium scale industries. d) encourage access to and utilization of intellectual property; skills development and on-the-job training
MID and MoF and BOI	Technology development: a) Appointment of a Committee on Transfer of Technology and Quality Improvement of Products (TTQC) in 1985. Assistance to industrialists under this scheme covered, i) Research and Development, ii) Consulting, iii) Training, iv) Technical assistance, and v) General i.e. support for priority areas such as Food Processing, Rubber based industries, and Light engineering. b) The MID was associated with donor agencies in the implementation of three projects: i) Technology Initiative for the Private Sector (TIPS) since 1991, ii) Industrial Technology and Market Information Network (ITMIN), and iii) Promotion of Agriculture Machinery (PAM) Project.
MID and EDB	Marketing and export promotion: encourage industrialists to form small semi-captive domestic markets; encourage companies to develop their own brands; set up export trading houses;
MID and Ministry of Vocational and Technical Training and several other ministries	Manpower development and training: a) Establish a separate Ministry for Vocational and Technical Training b) Set up Tertiary and Vocational Education Commission (TVEC) to coordinate and develop technical and vocational training c) Upgrade technical training institutions;

Institution	Intervention
	d) Provide training facilities at lower levels paying particular attention to skills development at regional level e) Promote private sector participation in technical education and vocational training f) Implement National Vocational Qualification (NVQ) programmes.
Ministry of Labour Relations (MLR)	a) Labour market and industrial relations: codify the existing labour laws; address issues relating to minimum wages etc. b) Compensation formula for retrenchment of workers under TEWA (Amendment) Issued (January 2004) c) Industrial Disputes Act amended to reduce time to resolve labour disputes (January 2004).

It is[40] important to note that growth performance and employment creation are closely linked with policy support both at macro and micro level. It has been observed that even after a quarter of a century since the introduction of market oriented policy framework, the experience and prospects for the economy are less encouraging than expected. Low and lackluster growth, inadequate investment and savings, continuation of macro economic imbalances, low productivity, inefficient resource allocation and under utilization of resources continue to be major concerns in the in the national economy. Meanwhile, major economic problems such as widespread poverty, a low per capita income, high structural unemployment, high inflation, rising public debt, continued exchange rate depreciation, and vulnerability to external shocks continued and in some cases have been aggravated (CBSR, 2002). This means Sri Lanka has failed to realize full benefits of pro-market policy reforms and thereby create more employment opportunities for net additions to the labour market.

As viewed by the Central Bank (2002) the unsatisfactory performance of the Sri Lankan economy during the post-liberalization period is due to three main factors: a) continuation of costly and destructive civil disturbances, b) continued high fiscal deficits and, c) delays in economic reforms. Various other critics however, identify market failures, policy failures, institutional failures and dependency syndrome of private sector organizations as major reasons for unsatisfactory performance of the Sri Lankan economy. The Investment Climate Survey (ADB and WB, 2005) results indicated the quality of infrastructure in Sri Lanka, especially in electricity supply and road network, is a key constraint to economic growth. The ability of both rural and urban firms to increase their productivity depends virtually on improving Sri Lanka's electricity. Similarly, road transport poses the biggest obstacle for entreprenures in rural areas, with both poor access to roads and their poor quality continue to impede regional development. Lack of access to good quality roads not only hampers existing business, it also makes it extremely difficult to start or participate in rural non-farm enterprises.

It is also important to note that despite policy failures and institutional failures, a number of firms have made it to the top by devising an effective firm level strategy. In an analysis of industry and firm level competitiveness, Nanayakkara (1999) identified several country specific features that provide some measure of competitive advantage to several industries in Sri Lanka. Among them are the low cost labour, highly trainable workforce, high literacy rate, ample land, introduction of free trade zone facilities, and attractive export promotion incentives. This study also pointed out that competitiveness requires firm level initiatives to increase productivity and capture greater value in the market place, not just by being more efficient at work and improving quality but also choosing where to compete, and product innovations.

[40] *Discussions with Ceylon Chamber of Commerce.*

5.3 Sub-sector specific issues

This section of the Chapter deals with sub-sector specific policy issues paying particular attention to theoretical and empirical evidence analysed in Chapter 3 and 4.

5.3.1 Food and Beverages (F&B)

Food and Beverages sector in Sri Lanka is a priority industry for development of rural economy. While identifying the opportunities in domestic and foreign markets, the F&B sector development efforts have been targeted at promoting SMIs. In addition, some of the well established large scale manufactures in F&B have been taking full advantage of liberalized policy reforms. Over the past 30 years, F&B sector has been receiving policy support under various sector and sub-sector specific interventions. In 1985, for example, the TTQC provided know-how and training schemes benefited manufacturers of Yoghurt, Jam, Jelly, Cordials, De-hydration of Vegetables, and growing and preservation of Mushroom. These interventions have also led to several self-employment projects.

Similarly, policy statements of 1999 and 2005 have identified agro-processing as a thrust sector for growth and expansion. In fact, the Industrial Policy Statement of 2005 proposed to provide cash incentives for agro-processing establishments operating within the EPZs. Both poverty reduction and export-led growth strategies of post-1990 period also considered agro-processing as one of the priority sectors for growth and development. Similarly, food processing sector was provided with wide range of policy measures including fiscal incentives, export promotion, introduction of new technology and access to raw-material and intermediate inputs. This was further strengthened by the Agricultural Policy of post-1990 which focused on agro-processing and agro-based industries. Some of the specific policy measures targeted at F&B sector are summarized in Table 5.3.

During the post-1977 period, F&B sector has responded positively to various policy incentives. Some of the leading manufacturers in F&B sector are well established in both domestic and foreign markets through continuous product development and image building. Some of the bi-lateral and multi-lateral trade agreements have also helped these firms to overcome tariff barriers of foreign markets. However, one of the key constraints faced by the agro-processing industry is inadequate supply of raw materials. This has been attributed to failure of agricultural sector at national level over the past 25 years. This broadly covers low productivity, poor agricultural research and extension service system, inadequate market access, and poor infrastructure facilities. It is also affected by a weak institutional support system.

Quality of food is also an important issue related to the 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 Japan imposed a ban on export of tea for Sri Lanka on SPS ground in 2006, which was later removed after submission of scientific evidence by Sri Lanka Tea Board on manufacture of tea. Therefore, the expansion of food processing industry depends on quality and safety standards of products. It may be possible for large food manufacturing firms to commit such investments required for quality improvement, but small scale operators may find it difficult to invest in R&D. Thus, technology support may be a strong factor in promoting growth and expansion of small scale manufacturers in F&B industry.

Table 5.3 Policy support for Food and Beverages Sector

Sub-sector	Institution	Intervention
Food Products	EDB, Chambers	Maintain the image of Sri Lankan F&B products by way of ensuring good quality and brand marketing
	MID	Appoint a Committee on Transfer of Technology and quality Improvement of Products (TTQC) in 1985
	Sri Lanka Bureau of Standards	Maintain quality standards of F&B products to meet quality standards set by foreign buyers
	MoFA, MoF, DoC, MID	Negotiate reductions, elimination of tariff barriers for value added products of F&B sector
	Ministry of Agriculture	Encourage production of fruits, vegetables, fisheries sub-sectors
	MoF, MoFA, DoC, MID	Increase access to foreign markets through multi-lateral and bi-lateral trade agreements i.e. SAFTA, ILBFTA, etc through bi-lateral and multi-lateral trade negotiations
Tea	Sri Lanka Tea Board (SLTB), EDB and Chambers	Maintain the image of Ceylon Tea by way of ensuring good quality and brand marketing,
	Tea Research Board (TRB)	Maintain quality standards of green leaf, Maintain Hazard Analysis Critical Point (HACCP) in manufacturing blending and warehousing
	MoFA, DOC	Negotiate reductions, elimination of tariff barriers for value added products
	Tea Research Institute (TRI)	Encourage replantation with vegetatively propagated plants cultivation
	TRI	Promote other Tea based products i.e. health care products

5.3.2 Textile and Wearing Apparel (TWA)

The TWA sector, especially the garments sector has marked a significant growth in terms of production, export earnings and employment during the post-1990 period. The peak of this growth was reported in 2000 with exports amounting to US$ 2.7 billion. As noted in Chapter 2, this has also been a sector which recorded moderate employment elasticity during the post 1990s. This could be attributed to high growth of demand in foreign markets, policy support and positive response from the industry. The sector specific policy support for TWA by type of institution is analysed in Table 5.4. At the national level, fiscal incentives, promoting foreign investment,

simplification of import duties, financing and refinancing facilities, infrastructure development and creation of specific investment regimes (that is, EPZs, BOI etc.) assisted the garments sector to expand very rapidly. In the 1980s EPZs were mainly dominated by garments factories. In fact, the foreign investment policy of the government attracted foreign investors who were keen in relocating their production facilities. From the domestic side, highly literate and trainable pool of labour provided additional strength to attract foreign investments to T&G sector. The small domestic market was not a constraint for growth and expansion as 95 percent of industrial production was exported. The local market was considered only to fill production gaps and an outlet for rejects.

Table 5.4 Policy support for Textiles and Apparel Sector

Policy	Institution	Intervention
Textiles	BOI, MoF	Provide attractive incentives to fabric mills to relocate into Sri Lanka
	MoF, BOI , Chambers	Invest in fabric mills
Textiles	Ministry of Textile Industries (MTI), Sri Lanka Customs (SLC), BOI	Duty free import of textiles
Garments and textiles	Ministry of Labour Relations (MLR),	Reform Labour Laws, that is,amend labour regulations to permit flexible downscaling, remove restriction of maximum 10 hour working day
	MoF, MTI, MID,	Promote vertical integration and horizontal specialization
	EDB, DoC, Ports Authority, MID	Develop electronic data interchange (EDI) facilities at the Port and the Customs, introduce e-shipping, implement speeder import/export documentation
Garments	MID	a) Establishment of the Textile Training and Services Centre in 1984 to provide training, testing and consultancy services for the textiles industry b) Establishment of the Clothing Industry Training Institute in 1984 to extend and improve the existing standards of the Clothing Industry by broadening and enhancing skills of the employees
	Ministry of Textile Industries (MTI)	Provide assistance and support to modernize the factories to meet international factory standards and working conditions
	MTI, BOI	The 200 Garment Factory Programme
	MTI, DoC	Quota allocation Policy

Policy	Institution	Intervention
	MTI, DoC, BOI	Quota free entry to EU i.e. GSP
	MTI, DoC, BOI	Access to foreign markets through multi-lateral and bi-lateral trade agreements, that is,SAFTA, ILBFTA, etc.

At present, however, the T&G sector is faced with several challenges. This includes issues relating to market access, heightened competition from low cost suppliers (that is, Vietnam, Bangladesh, China), formation of regional trade blocs and granting of preferential trading terms, high turn-around time, environmental and labour regulations imposed by the WTO on the foreign front and, labour regulations, weak macro-economic management, high cost of production, poor infrastructure facilities and low productivity[41].

Of all these threats, 'market access' can be viewed as the key factor affecting the survival of T&A industry in Sri Lanka. In order to overcome this threat, the investors need to build the industry on its strengths and the government needs to provide necessary policy support[42]. More specifically, in dealing with international organizations, the government should link the issue of market access with garment exports and resulting poverty reduction benefits. In fact, poverty reduction efforts by the ADB, World Bank and the IMF and Millennium Development Goals (MDGs) of the UNDP should be linked with pro-poor benefits associated with T&A industry[43]. The direct and indirect employment impact of T&A industry is very significant and it needs to be brought to the notice of the donor community. The government should also negotiate for deeper labour-related GSP tariff cuts and for more relaxed rules of origin especially in the case of fulfilling regional accumulation.

Structural changes in foreign markets also need to be taken into account in designing strategies to overcome emerging challenges of T&A industry. For example, in the western retail markets buyers have changed the method and time of sourcing. Traditional pre-season orders are being replaced by 'speed sourcing' and it accounts for about 50% of apparel product sourcing and growing rapidly. These changes are also associated with the application of Supply Chain Management (SCM) enabling technologies. This will be a major problem for T&A industry as only a few apparel exporters in Sri Lanka have invested in SCM technology. The relatively high lead-time in garments manufacturing (that is,90 days) would further aggravate this situation.

Owing to the lack of a fabric and accessory base (lack of vertical integration), the turn-around time of Sri Lanka's garment industry remains close to 90-150 days compared with the ideal international lead time of around 60 days. Some buyers are willing to work with a lead time of this nature, however, dynamic retailers such as Victoria's Secret and Marks and Spencer will not accept this lead time and will demand for a shorter lead time on delivery. The large turn-around time is an issue in the context of competitiveness, particularly when Eastern European suppliers have become major suppliers to the European Union, and Mexico and Caribbean countries have become major suppliers to the US under preferential tariff arrangements. This has become even more significant when "just-in-time" delivery has become an accepted principle and requirement in the global market..

5.3.3 Wood and Wood Products (WWP)

As explained earlier, the market for WWP comprises of both domestic and foreign markets. With high growth in per capita income in the post 1990s, the local furniture market has been expanding rapidly. It also has high growth potential in foreign markets. In wood products sector, product items include wooden toys, sport

[41] *Discussions with Garments Exporters' Association.*
[42] *Discussions with Fruit Exporters' Association.*
[43] *For more details see Kelegama (2004).*

goods, educational items for children, household items, furniture, sculpture and toys, and ceilings. The Wooden toy industry in Sri Lanka is an established industry with over 50 exporters and over US$ 70 million annual exports. Most of the products are value added products and value addition depends on the design, method of production, and quality of the final product.

The WWP has received special attention in various policies relating to industrial development, trade promotion, investment promotion, export development, skills development and environmental protection. Most of the incentive packages introduced under industrial development, investment promotion and Trade promotion offered a wide range of policy support for growth and expansion of the WWP. For example, policy packages of post-liberalization period on investment promotion, industrial development and SMI development offered tax holiday facilities for WWP. The export Development Board (EDB) worked out several measures to provide policy support on export development, quality standards, and import policies. Similarly, Ministry of Industrial Development and Ministry of Rural Industries offered policy support on import of machinery, production technology and supply of raw material. Ministry of Technical and Vocational Training offered skill development programmes for the WWP. The policy support for the development of WWP covering a period of 18 years is summarized in Table 5.5.

As revealed by a recent survey (MIIP, 2005), about 68% of the workers in Moratuwa area are not professionally-qualified and production is carried out in an ad-hoc manner in most SMEs. The same survey also revealed that the majority of the SMEs operating in WPFrun business simply for the sake of supporting their day-to-day living, and were not exploiting the vast potential to develop their business. It also showed that around 95 percent of industrialists unwilling to receive any training related to wood technology, although they have never undergone any formal training. However, 86 percent of industrialists have indicated lack of information on new technology related to wood industry as a major problem. It also indicated that 66 percent of SMEs accept that they have a poor idea about the quality standard required by the export market. The survey identified the following reasons for as root causes for stagnation of the W&WB industry in Moratuwa: a) insufficient access to appropriate technology, b) inefficiencies in the production process, c) insufficient market share, and d) frequent operation failures.

Table 5.5 Policy support for Wood products and furniture industry

Sub-sectors	Institution	Intervention
WWP	MID, DoC, MoF, and DoCst	Permission for industrial consumers to import timber and wood packing materials
WWP	MID, DoCom, MoF, DoCst	Duty concessions to import machinery and equipment
WWP	TEVC	Provide training for individuals engaged in WWP industry under a sector specific programme
Wood	EDB, ITI	Upgrade saw mills and introduce new technology, wood seasoning facilities
	Dept of Forest	Good governance and simplification of procedures

As noted in Chapter 2, the furniture sector is dominated by SMEs and hence its future growth requires more institutional and policy support.

Lack of skilled workers is an important factor constraining the production of quality furniture. Thus, existing technical and vocational training facilities need to be continued with a focus on skill requirements at district level. Except for some of the few large scale operations, medium and small scale operators require more institutional support particularly in exporting. This is also a sector which is not well organized as a lobby group to influence policy making bodies. The SMI segment of WWP also requires enhancement of investment capacity and provision of new technology. The furniture sector in particular, lacks innovative designs and international marketing skills. To become globally competitive, the furniture industry needs government support for easy accesses to imported raw materials (that is, timber) and penetration into foreign markets.

5.4 Conclusions

The findings of this Chapter indicate post-1977 policy reforms both at national and sub-sectoral level. The policy reforms at national level appear to be a major factor in promoting growth and employment during the post-1990 period. The findings also reveal that Sri Lanka has failed to realize full benefits of pro-market policy reforms due to continued high fiscal deficits, delays in policy reforms, and continuation of costly and destructive civil disturbances. Structural policies, however, appear to have constrained the pro-poor benefits of liberalized economic policies. The analysis at sub-sectoral level reveals dominance of factor endowments and competitive forces and policy support as key factors affecting growth and employment in manufacturing. It was also noted that supply side factors at domestic level and market access at international level hindering the growth and labour-absorptive capacity of the industry.

6

Conclusions and Policy Implications

6.1 Conclusions

The employment outcome is an important aspect of economic growth. It is expected that as an economy grows, its production structure, consumption structure, trade structure and employment structure will also change towards greater shares of manufacturing and service sectors. Policy measures both at national and sectoral levels, implemented through an efficient institutional support system could further strengthen such structural changes and promote employment intensive growth. In the absence of an efficient institutional mechanism and policy support, the economy may utilize its resources at sub-optimal level.

The present study was aimed at exploring the performance of the manufacturing sector of Sri Lanka since the early 1990s with a special focus on employment generation. In particular, the study examines pro-employment benefits of economic growth in manufacturing. The study has explored various policies which have influenced the performance of the manufacturing sector in terms of value added, employment generation and factor intensity. The analysis has been carried out both at 2-digit and 4-digit level. The study has also taken a closer look at the performance of three sub-sectors with high, moderate and low employment elasticity. It also has examined the effect of policy variables on growth and employment. The analysis of this study is mainly based on secondary data supplemented with limited primary information collected from industry experts, policy makers, academics and other stakeholders.

The total labour force in Sri Lanka has grown from 6 million in 1990 to 8 million in 2008 indicating an annual growth of 2 per cent per annum. Of this labour force, about 5.5 million were employed in 1990 and it increased upto 7.5 million in 2008. The rate of unemployment and under-employment was around 5.2 and 3.7 percent, respectively in 2008.

Manufacturing is the main contributor to value added in industry and its relative share of GDP increased from 13 percent in 1990 to 17 percent in 2000 and reduced to 16 percent in 2006. The contribution of manufacturing to total employment varied from 13 percent in 1990 to 19 per cent in 2006 demonstrating its capacity to create employment opportunities under a liberalized policy regime. An analysis of industry structure by a number of establishments indicates heavy concentration of business establishments in Food Beverage and Tobacco (ISIC 31), and Textile, Wearing Apparels and Leather (ISIC 32) sub-sectors, accounting for more than 50 percent of total establishments.

With the introduction of liberalized policy reforms in 1977 the manufacturing sector entered a rapid growth phase and maintained an average of 6 percent growth per annum as against 4.8 percent growth at national level. In fact, since the late 1980s manufacturing growth surpassed that of other sectors and this has been attributed to several factors such as the free availability of imported inputs and capital goods, flow of foreign direct investment, export-oriented policy support and emphasis on productivity.

An assessment of the structure of employment in manufacturing at 2-digit level reveals major structural changes during the post-liberalization period. For example, in the early 1980s heavy concentration of employment can be seen in food, beverages and tobacco (33 percent) and non-metallic mineral products (16 percent) sub sectors accounting for about 49 percent of total employment in manufacturing. In 2000, however, a heavy concentration of employment can be seen in textiles and wearing apparel (48 percent), and food, beverages and tobacco (21 percent) sub sectors accounting for about 69 percent of total employment in manufacturing.

An assessment of growth performance of manufacturing in terms of value added reveals high growth rates maintained by manufacturing as against the services sector and the national economy. Since 2001, however, growth of value added in manufacturing was rather low and the services sector emerged as the best performer. In terms of employment intensive growth however, manufacturing sector (e = 1.55 for 2000-2006) performed better than that of the services sector (e = 0.34 for 2000-2006) and the national economy (e = 0.41 for 2000-2006).

The findings on employment-intensive growth in manufacturing at 2-digit level indicate emergence of an inclusive growth pattern in manufacturing. The evidence on employment elasticity at 4-digit level further confirms the employment intensity of manufacturing. For example, more than 50 percent of sub-sectors in manufacturing reported high employment elasticity (0.75 < e) during the post-2000 period as against 27 percent during the period of 1990 to 2000. With a view to examining inter-sectoral variations in employment elasticity three sub-sectors were selected for detailed assessment of employment intensive growth in manufacturing: a) Food and Beverages (ISIC 31) to represent high employment elasticity (0.5 < e); b) Textile and Wearing Apparel (ISIC 32) to represent moderate employment elasticity (0.25 < e <0.5); and c) Wood Products and Furniture (ISIC 33) to represent low employment elasticity (e < 0.25) in manufacturing.

The employment elasticity value of e = 1.814 for 1990-2006 period indicates an impressive growth of employment in manufacturing promoted through economic growth. The elasticity values of e = 1.047 and e = 2.224 for 1990-2000 and 2000 to 2006 respectively indicates an increasing trend of employment in manufacturing. It appears that pro-market policy reforms of post-1977 period have led to high economic growth and employment. Similarly, the findings at sub-sectoral level, indicate a continuous increase in employment elasticity for F&B sector from e = 0.74 to e = 4.81 from 1990-2000 to 2000-2006 period. The TWA sector also reported a high employment elasticity values of e = 1.34 and e = 1.21 for 1990-2000 and 2000-2006, respectively, indicating its capacity to absorb labour. The WWF sector, however, reported low employment elasticity value of e = 0.118 for 1990-2000 period and e = 1.284 for 2000-2006 indicating an upward trend in job creation during the post-liberalization period. In overall terms, however, the occupational safety and health conditions of some of the SMIs in are poor and they are characterized by hazardous work, excessive hours of work, low wages and absence of social protection.

Sub-sectoral level analysis

F&B Sector

The food and beverages (F&B) sector plays an important role in manufacturing in terms of employment generation, export earnings, value added and linkages with primary sector of the national economy. It comprises of 5 sub-sectors and food products sub-sector accounts for a higher proportion of establishments and employment in F&B sector. Employment creation in F&B mostly takes place in the food products sector (93 percent in 2006) and it includes four sub-sectors: a) manufacture of macaroni and noodles, b) manufacture of tea and tea products, c) manufacture of chilli powder, condiments powder and processing of spices, and d) manufacture of other food products n.e.c. Among them, tea and tea products sector accounts for about 90 percent employment. Of the total employed in F&B, about 26 percent are employed as unskilled workers.

The evidence on employment elasticity in F&B sector reveals slow growth of employment in 8 sub-sectors between 1990 and 2000. However, this was reduced to three sub-sectors during the post-2000 period, that is, Canning and Processing Fish, Prepared animal foods, and Soft drinks and Carbonated waters. However, Bakery products and Food products sub-sector, which accounts for about 94 percent of total employment in F&B sector have recorded high employment elasticity values throughout the post-1990s indicating high employment intensity in F&B sector.

TWA sector

The Textile and Wearing Apparel (TWA) industry is an important sub-sector of the economy. It accounts for about 6 percent of GDP, 38 percent of industrial production, and 33 percent of manufacturing employment. Its current strength of employment is about 482,000 persons and the bulk of them are in the garments sector. Of the total employed, about 19 percent are unskilled workers and 65 percent are skilled workers. Within the textile sector a) Spinning, Weaving and Finishing, and b) Knitting mills sub-sectors provide employment for about 33,000 individuals accounting for about 70 percent total employment in textiles sector.

Employment elasticity estimates of TWA reveal only Cordage Rope and Twin, and Textile nec reporting employment elasticity value of more than 1. The second highest employment elasticity was reported by Carpets and Rugs sub-sector followed by the Wearing Apparel sector. The employment elasticity of Wearing Apparel sub sector reduced from e =0.74 to e = 0.44 between 1990-2000 and 2000-2006 indicating a declining trend. Two sub-sectors in TWA (that is,Spinning, Weaving and Finishing and Made-up textile goods) reported negative employment elasticity values and they account for about 38 percent of total employment in Textiles sub-sector.

WWF Sector

The wood products and furniture sub-sector consists of saw mills, wood mills, wooden and cane products, wood and cork products and furniture manufacturing. Except Wood and Cork products ($e < 1.02$) all sub-sectors in WWF reported low employment elasticity values. However, an increase in employment elasticity in WWF can be noticed during the post-2000 period.

6.2 Policy Implications

The policy reforms of the post-1977 period particularly in the areas of trade, industry and investment have led to high growth and expansion of economic activities in manufacturing. During this period, the private sector emerged as the main source of employment accounting for about 45 percent of total employment while the self-employed and the public sector accounted for about 31 and 13 percent of employment, respectively in 2006.

It has been observed that policy changes towards export-led industrialisation and pro-private sector growth have resulted major structural changes in the GDP, investment, trade and employment. As a result, the economy has transformed from a traditional export-import economy to an export oriented manufacturing and dominant service sector during the post-1990s. The analysis reveals that various policy measures introduced by successive governments during the post-liberalization period have not been successful in promoting growth and employment at national level. The pro-employment benefits of economic growth measured in terms of employment elasticity were lower in primary and tertiary sectors in 1990s relative to the secondary sector. In contrast, there is clear evidence of employment intensive growth in manufacturing during the post-1990s.

Interventions at National level

With the introduction of liberalized policy reforms a significant increase in investment, particularly in manufacturing can be noticed. This has led to high economic growth and improved employment opportunities in manufacturing. The overall competitiveness of the industry, however, has improved marginally and the share of high technology exports remaining very low. Having followed a low-skilled and low-labour cost strategy for more than 30 years, there is a strong need for Sri Lanka to make a gradual shift to capital-intensive and skill-intensive product lines along with an increase in real wages and labour productivity. Thus, policies should aim at increasing the value addition of the sectors experiencing high employment intensity. These sectors include, bakery products, food products, Cordage, rope and twine, wearing apparel, leather and leather substitutes, basic industrial chemicals, rubber products, pottery, china and earthenware, iron and steel basic industries, agricultural machinery and equipment, radio, TV and communication equipment, professional equipmen.mt, photographic and optical goods, watches and clocks, and jewellery and related articles.

The sub-sectors which marked an increase in employment elasticity special attention in promoting labour absorptive capacity; they include cocoa, chocolate and confectionary, malt liquors and malt, wood and cork products, structural metal products, metal and wood working machinery, industrial machinery and equipment, computing and accounting machinery, and machinery and equipment nec. Policies should also be made to arrest the declining trend of employment elasticity in industry: they include: dairy products, distilling and rectifying spirits, fertilizers and pesticides, paints, varnishes and lacquers, chemical products, tyre and tube industries, plastic products, metal furniture and fixture, engines and turbines, and electric apparatus and supplies nec.

Special attention should also be paid to newly emerging industry sub-sectors which have demonstrated high potential for growth and employment: they include: slaughtering and preserving meet, grain mill products, pulp, paper and paper board, containers, boxes and paper board, pulp, paper and paper board nec, drugs and medicine, glass and glass products, cement, lime and plaster, non-metallic mineral products nec, structural metal products, railroad equipment, motor vehicles, motorcycles and bicycles, transport equipment nec, musical instruments, and sporting and athletic goods. The latter two groups of industries would not only contribute to the employment creation, but with an enabling policy environment, could also achieve value added growth and strengthen the industrial base of the economy.

Overall policy Issues

The overall policy issues cover both incentive policies and structural policies. With regard to the former, the state has to play a major role in promoting employment intensive growth particularly in the present context of global economic downturn. Thus policy measures need to be introduced, paying particular attention to bring down inflation and interest rates. This also involves investment promotion and exchange rate management. Similarly, structural policies are of primary importance in promoting employment intensive growth. This covers a wide range of policy interventions including .skills development, technology, factor market, infrastructure facilities and institutional support. Of these policy measures, labour market policies deserve special emphasis in promoting growth and employment. Sri Lanka also needs to revisit its low wage/high job security equilibrium strategy in designing employment and wage policies. In addition, interventions in skills development needs to be continued as industry specific vocational training is a pre-condition for a country to maintain its competitiveness and reach the next stage of industrialization.

Infrastructure development, especially electricity and transport are major constraints on industrial growth and policy makers should consider it as a priority item in the development agenda. Technology is also an important supply side issue which requires continuous support from the government. The benefits of such investments would be very high in terms of improved productivity, competitiveness, and employment intensive growth.

Similarly, development of entrepreneurship and revitalizing small and medium industries (SMIs) is an important strategy to enhance labour-absorptive capacity of manufacturing. In overall terms, considering the potential peace dividends, the government should continue to improve macro-economic management and provide sector specific policy support for high growth and employment creation.

Sub-sector specific issues

Food and Beverages (F&B)

The F&B sector has been receiving considerable attention and sector specific support since the mid 1908s. Agro-processing, in particular, was identified as a thrust sector and provided with technology and training inputs. These efforts were further strengthened through Agricultural Policy Reforms of post-1990 which promoted on agro-processing and agro-based industries. The F&B sector has responded positively to these policy interventions and some of the leading manufacturers in F&B sector are well established both in domestic and foreign markets. Some of the bi-lateral and multi-lateral trade agreements have also helped these firms to overcome tariff barriers in foreign markets. The government need to continue with these policy measures to ensure continuity of employment intensive growth in F&B sector. Interventions on industrial safety and health are needed to enhance quality of employment, particularly in SMIs of F&B sector. The government should also pay attention to the following interventions to further strengthen employment intensive growth of F&B sector.

a) Increase access to foreign markets through multi-lateral and bi-lateral trade agreements, that is, SAFTA, ILBFTA, etc through bi-lateral and multi-lateral trade negotiations.
b) Maintain quality standards of F&B products to meet quality standards set by foreign buyers.
c) Invest in technology development.
d) Invest in skills development.
e) Promote awareness of the importance of occupational health and safety issues on the part of employers, and employees.
f) Maintain the image of Sri Lankan F&B products by way of ensuring good quality and brand marketing,
g) Maintain the image of Ceylon Tea by way of ensuring good quality and brand marketing.
h) Promote other Tea based products, that is, health care products.
i) Encourage replantation with vegetatively-propagated plants cultivation,
j) Encourage production of fruits, vegetables, fisheries sub-sectors.

Textile and Wearing Apparel (TWA)

The TWA sector has also received considerable policy support during the post-liberalization period. As a result, the garments sector has marked a significant growth in terms of production, export earnings and employment during the post-1990 period. The policy makers need to concentrate on the following areas to further strengthen growth and resulting pro-employment benefits of TWA sector.

l) Provide attractive incentives to attract foreign investors into Sri Lankan fabric mills sub-sector
    a) Invest in fabric mills
    b) Promote duty free import of textiles
    c) Reform Labour Laws, that is, amend labour regulations to permit flexible downscaling, remove restriction of maximum 10 hour working day
    d) Invest in skills development
    e) Develop electronic data interchange (EDI) facilities at the Port and the Customs, introduce e-shipping, implement speeder import/export documentation
    f) Provide assistance and support to modernize the factories to meet international factory standards and working conditions

g) Access to foreign markets through multi-lateral and bi-lateral trade agreements i.e. SAFTA, ILBFTA, etc.

h) At international negotiations, the government should link the market access issue for garment exports with poverty reduction in the country

i) The government should also negotiate for deeper labour-related GSP tariff cuts and for more relaxed rules of origin especially in the case of fulfilling regional accumulation.

j) Structural changes in foreign markets also to be taken into account in designing development strategies to TWA sector.

Wood and Wood Products (WWP)

The WWP sub-sector has also received policy support through various policy reforms relating to industry, investment, trade, skills development and environmental protection. In spite of these policy initiatives, the WWF sector appears to have performed rather poorly in promoting employment in the 1990s. However, the WWP sub-sector appears to have increased its labour absorptive capacity during the post-2000 period. Its potential for growth is high and the following policy recommendations may further improve employment intensity of WWP sector.

a) Permission for industrial consumers to import timber and wood packing materials
b) Continue to offer duty concessions to import machinery and equipment
c) Provide training for individuals engaged in WWP industry under a sector specific programme
d) Upgrade saw mills and introduce new technology, wood seasoning facilities
e) Good governance and simplification of procedures.

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Annex 2.1 Employment Elasticity in Manufacturing - 1990 to 2006

	1990-2000	2000-2006
3111 Slaughtering and Preserving meat	-0.08	0.91
3112 Dairy products	1.56	0.47
3113 Canning and fruit and Vegetables Processing	-0.94	0.10
3114 Canning and Processing Fish	0.00	-2.59
3115 Vegetable, Animal oils and Fats	-5.74	0.13
3116 Grain mill products	-2.49	1.63
3117 Bakery products	1.96	5.25
3118 Sugar Factories and Refineries	-2.51	6.46
3119 Cocoa, Chocolate and Confectionery	0.47	0.97
3121 Food products	0.81	10.45
3122 Prepared animal foods	-0.49	-1.58
3131 Distilling Rectifying sprits	-0.66	0.34
3132 Wine industries	1.03	0.08
3133 Malt Liquors and Malt	0.27	4.78
3134 Soft drinks and Carbonated waters	-0.25	-8.05
3140 Tobacco	1.59	-0.32
3211 Spinning, Weaving and Finishing	0.10	-0.07
3212 Made-up textile goods	-0.32	-0.85
3213 Knitting mills	0.25	0.21
3214 Carpets and Rugs	0.17	0.60
3215 Cordage, Rope and Twine	1.49	1.43
3219 Textile nec	0	1.38
3220 Wearing Apparel	0.74	0.44
3231 Tanneries and Leather	-0.06	12.91
3233 Leather and Leather substitutes	0.61	0.94
3240 Footwear except Rubber or Plastic	1.17	-8.86
3311 Saw mills and Wood Mills	-0.13	0.33
3312 Wooden and Cane products nec	-0.15	0.15
3319 Wood and Cork products nec	0.27	1.02
3320 Furniture and Fixture	0.79	0.08
3411 Pulp, Paper and Paperboard	-0.15	0.80
3412 Containers, Boxes and Paperboard	-0.02	1.24
3419 Pulp. Paper, Paperboard items nec	-0.07	0.36
3420 Printing Publishing	0.55	0.16
3511 Basic Industrial Chemicals	5.64	2.05
3512 Fertilizers and Pesticides	1.17	0.26
3513 Synthetic fibers, Plastic materials	0	1.00
3521 Paints, Varnishes and Lacquers	0.58	0.33
3522 Drugs and Medicines	0.10	2.00
3523 Soap, Perfumes and Other toilet items	0.85	0.35

	1990-2000	2000-2006
3529 Chemical products nec	1.35	-0.44
3530 Petroleum refineries	0.08	0.97
3551 Tyre and Tube industries	0.73	0.31
3559 Rubber products nec	0.52	0.50
3560 Plastic products nec	0.70	0.20
3610 Pottery, China and Earthenware	0.58	1.64
	1990-2000	**2000-2006**
3520 Glass and Glass products	-0.05	1.00
3691 Structural clay Products	3.02	-1.42
3692 Cement Lime and Plaster	-0.48	5.42
3699 Non-metalic Mineral products nec	-0.56	1.66
3710 Iron and Steel basic industries	2.59	0.18
3270 Non- Ferrous Metal basic industries	0.16	0.22
3811 Cutlery and General hardware	-2.19	0.00
3812 Metal Furniture and Fixture	0.94	0.17
3813 Structural Metal products	0.33	1.59
3819 Fabricated Metal products	-3.15	2.16
3821 Engines and Turbines	0.85	0.28
3822 Agricultural Machinery and Equipment	1.02	1.28
3823 Metal and Wood Working Machinery	0.06	1.00
3824 Industrial Machinery and Equipment	0.36	1.00
3825 Computing and Accounting Machinery	0.36	1.63
3829 Machinery and Equipment nee	0.45	0.53
3831 Electrical Industrial Machinery	0.72	-0.03
3832 Radio, TV and Communication Equipment	0.63	0.94
3833 Elect. Appliances and Houseware	0.10	0.24
3839 Elect. Apparatus and Supplies nes	2.44	0.30
3841 Ship Building and Repairing	2.50	0.81
3842 Railroad Equipment	0.19	1.41
3843 Motor Vehicles	-0.04	0.50
3844 Motorcycles and Bicycles	-0.01	0.76
3849 Transport equipment nee	-0.18	1.42
3851 Professional equipment nee	1.60	1.26
3852 Photographic and Optical goods	0.55	0.90
3853 Watches and Clocks	1.60	1.26
3901 Jewellery and Related articles	1.32	1.10
3902 Musical Instruments	0.08	1.00
3903 Sporting and Athletic goods	-2.22	2.63
3909 Industries nec	0.56	2.36
	0	110

Source: Department of Census and Statistics, 1990, 2001 and 2007.