

## EVALUATION OF INDUSTRIAL STRATEGIES OF SRI LANKA THROUGH THE CONCEPT OF OUTPUT-EMPLOYMENT GAP

Ananda J. Patabendige

### **Abstract**

*This paper attempts to introduce the concept of output-employment gap, defined as the real output growth minus employment growth as a novel approach to the Sri Lankan economic literature for evaluating the performance of industrial strategies, particularly employment generation under each major industrial policy regime. Accordingly, the import-substitution era in the period, 1970-1977 was found to be characterised by a negative output-employment gap which was an abnormal phenomenon, and the article identifies a number of underlying reasons responsible for this behaviour. Then, the study found a positive output-employment gap for the period, 1978-1989, indicating a more realistic situation with the introduction of the 1977 economic reforms. However, after 1990 the employment-output nexus shows a widening gap which the study recognises as a jobless growth, and taking this phenomenon into consideration, particularly based on the relevant theoretical underpinning, the paper identifies factor market distortions, labour productivity behaviour, and poor spread effects in industries as the major factors which may have contributed to retard employment generation, particularly in the latter part of the 1990 decade. Therefore, the paper suggests directing more research attempts to capture the recent behaviour of these factors to guide policy makers effectively in formulating correct policies to increase labour absorption in the manufacturing industry.*

### **1. Introduction**

Industrialisation in Sri Lanka was, first, mooted with a view to diversifying its export economy from the beginning of the 20th century<sup>1</sup>. The experience during the First World War (1914-1918) led the government to realise the vulnerability to external vagaries of an economy, which was specialising in a few plantation crops for export (Karunaratne, 1973). As a result, the colonial government took some

---

<sup>1</sup> Snodgrass (1966) defines a classical export economy as one with not merely a high ratio of imports and exports to national income, but one in which all the important macro economic variables such as government revenues and expenditures, private investment, import and national income itself possess strong functional dependence upon the level of export receipts.

steps to make Ceylon less dependent on plantation crops commencing as early as in 1916 by appointing a commission named the “Industries Commission” with the objective “to inquire into and report upon what measures are desirable to encourage such industries (other than agriculture) as exist in this island, and to promote the establishment of new industries” (Report of the Industries Commission, 1922) Next, the Banking Commission Report (1934), the Report on Industrial Development and Policy (1946), foreign advisors as well as Ceylonese professionals suggested that the island should strive to be less dependent upon the plantation industry, and that it should increase local production including essential manufactures (Oliver, 1957)<sup>2</sup>.

After the late 1950s the role of industrialisation was further widened by the need to provide employment for a rapidly increasing workforce which surfaced due to the population explosion that occurred in the late 1940s, particularly in an environment devoid of opportunities in providing jobs in the plantation and the subsistence agricultural sectors<sup>3</sup>. During this time the country’s foreign assets too started declining rapidly<sup>4</sup>. As a result, laissez-faire economic policies hitherto followed had to be abandoned, and the industrialisation strategy, too, was changed over to import-substitution industrialisation (ISI) from the late 1950s. Under the new policy the government took a leading role in developing basic industries through the public sector ownership, giving an attractive package of incentives and protection to the private sector investors as well to engage in other areas of manufacturing industries

This strategy was followed for about two decades without much change, and by the mid -1970s the Sri Lankan economy, altogether, had become one of the most inward-oriented and regulated economies

---

<sup>2</sup> The plantation economy particularly showed a rapid growth in the periods of 1913-29, the Second World War, the Korean War boom in 1950-52, and the tea boom in 1954-55. Apart from these limited boom periods, most other times the terms of trade turned against the island’s economy. In this context, Oliver (1957) among many others emphasises that densely populated Ceylon was not able to raise her people’s living standard appreciably through the exports of primary agricultural products alone. Some diversification, therefore, appeared essential for any substantial long-run development.

<sup>3</sup> A higher percentage of funds were allocated by the new regime, which came to power in 1956 for industrialization. For example, the Ten Year Plan (1959/69) allocated 20.6 per cent of total investment for industry compared to the 4.4 per cent allocation for industry in the previous Six Year Investment Programme (1954/60).

<sup>4</sup> As shown by Snodgrass (1966) the country had foreign assets equivalent to the import ability of 20.9 months in 1946, but it declined to a level of 3.2 months by 1960.

outside the socialist bloc countries (Athukorala and Rajapatirana, 2000). Yet, the two decades of ISI industrialisation failed not only in the diversification of the economy through acquiring an industrial development but also in the creation of sufficient amount of employment for a rapidly growing labour force in the 1960s and the 1970s<sup>5</sup>. For example, during the heyday of ISI (in 1973), the level of unemployment reached 24 per cent of the labour force which was the highest rate of unemployment recorded in Sri Lanka in its recent history.

Responding to the increased unemployment and the other depressing economic performance experienced in the controlled era of two decades, a drastic change was brought about in economic policies in 1977. Accordingly, ISI strategy was replaced by export oriented industrialization strategy (EOI) under which the private sector was considered to be the principal agent to be engaged in the manufacturing industry. By and large, EOI performed much better than ISI by showing a relatively higher growth rate in industrial output<sup>6</sup>. In addition, export oriented industrialisation (EOI) unlike ISI has been successful in transforming the export structure of the country or diversifying the economy by increasing the share of manufactures (excluding petroleum products) in total merchandise exports from 5 per cent in 1976 to 77.2 per cent in 2001 (Athukorala, 1996; CBSL, 2002).

Yet, two-digit unemployment rate which appeared in the mid 1950s continued for two decades even after introducing the export oriented industrialisation (EOI) strategy in 1977. Also, the manufacturing sector's employment share has stagnated around 16 per cent of the employed after 1997. Currently underemployment as a percentage of labour force remained nearly as 22 per cent (CFS, 1996/97; 2003/04). Even by 2003 nearly one in ten of the labour force participants were out of work. When this rate of unemployment is compared with those of most of the other countries in East, South East and South Asia, which have been following open market policies similar

---

<sup>5</sup> As emphasized by Athukorala (1997) manufacturing products under ISI era could not penetrate the export market in order to reduce the manufacturing sector's dependence on the fortunes of the structurally weak traditional export sector. Accordingly, by the mid 1970s, the total earnings from the manufactured exports could cover only 6 per cent of the total import requirements of the industrial sector.

<sup>6</sup> Industrial performance in the post-liberalisation period after 1977 was substantially superior to that of the pre-1977 import-substitution regime. During the 1970-77 era, the average annual growth of the manufacturing sector was 1.1 per cent, whereas it increased to 4.6 per cent during the period 1978-82, and to above 6 per cent during the rest of the period except in 1999.

to Sri Lanka, Sri Lanka's rate is the highest (ILO, 2001). This indicates that EOI and other changed policies under economic reforms have not adequately generated employment in Sri Lanka. In this setting, it is vitally important to examine the success of industrial strategies, particularly the export oriented industrialisation so far followed in Sri Lanka.

Section 2 of the paper reviews the theoretical basis presenting the historical evidence of output-employment relations from both developed and developing countries. Section 3 presents estimates of output-employment gaps pertaining to the different phases of industrialisation while section 4 identifies the possible reasons for the appearance of an expanding output-employment gap in latter phases of economic reforms (1990 -2000) in Sri Lanka. The final section presents the summary of the study.

## **2. Theoretical Basis and Evidence of Output-employment Relations**

Production of goods and services (production function) requires labour to be used along with other physical inputs. As a result, demand for inputs is derived from that of outputs or it depends on output growth. Output growth should, therefore, boost labour demand as well and be positively associated with employment growth (Navaretti et al. 1999). At the aggregate level, the dependence of employment growth on the growth of output can be justified by classical, Keynesian and neo-classical models. In the classical labour market, shifts in the demand schedule for labour come from output growth in the short-run and from capital stock and technology changes in the long-run. They result in an increase in both the quantity of labour demanded and the equilibrium wage rate. In the Keynesian framework, the long-term growth of output driven by that of investment among the components of aggregate demand will normally generate a corresponding increase in labour demand. Okun's law highlights a negative relationship between GDP growth and unemployment, suggesting that GDP growth increases employment generation (Soete, 1987; Mankiw, 1997; Grilli and Zanadla, 1999).

During the 1950s and 1960s, Harrod-Domar and other neoclassical models of economic growth captured a prominent place in the development literature and emphasised that successful economic development could be realised only through the twin forces of substantial capital accumulation and rapid industrial growth.

Accordingly, the 'big push', 'critical minimum effort' and 'take-off' became the 'code words' in the popular models for growth and development, and these models highly influenced developing countries to invest heavily in the modern industrial sector to serve the domestic market and facilitate the absorption of surplus labour in the urban economy (Todaro, 2000; Rangarajan and Dholakia, 1980). Based on these theoretical underpinning researchers have traced output-employment growth relations for both developed and developing countries for a long period. For example, Maddison (1982), presenting data for the period 1870-1979, showed that in industrial countries growth of total employment was paralleled to that of real GDP (see Table 1).

Table 1 - Long Term Trends in Output and Employment Growth in Industrial Countries, 1870-1979

| Period    | Real GDP growth (% per year) | Total employment growth (% per year) | Output elasticity of employment |
|-----------|------------------------------|--------------------------------------|---------------------------------|
| 1870-1913 | 2.5                          | 1.2                                  | 0.5                             |
| 1913-1950 | 1.9                          | 0.7                                  | 0.4                             |
| 1950-1973 | 4.9                          | 1.3                                  | 0.3                             |
| 1973-1979 | 2.5                          | 0.6                                  | 0.2                             |

Source: Maddison (1982)

Despite the differences which bear on employment conditions between developed and developing countries during the course of economic development, Bairoch (1975) identified a positive relationship between real GDP and employment growth in the period 1900-1960 for developing countries also. A similar trend between these two variables in ensuing decades was further confirmed by the empirical studies of Sabolo (1975), Gregory (1980), Harris and Rashid (1986), Grilli (1994), and World Employment Reports-ILO (1994 and 1998-99) (see Table 2).

Table 2 - Long-term Trends in Output and Employment Growth in Developing Countries, 1900-1990

| Period    | Real GDP Growth (% per year) | Total Employment (% per year) | Output elasticity of Employment |
|-----------|------------------------------|-------------------------------|---------------------------------|
| 1900-1960 | 1.7                          | 1.2                           | 0.70                            |
| 1960-1970 | 5.1                          | 2.8                           | 0.54                            |
| 1970-1980 | 6.8                          | 3.3                           | 0.49                            |
| 1980-1990 | 5.1                          | 2.6                           | 0.51                            |

Source: Bairoch (1975), Sabolo (1975), Gregory (1980), Harris and Rashid (1986), Grilli (1994), ILO (1994) and Navaretti et al. (1999).

Notably, these later studies were based on more improved and reliable data gathered in developing countries.

However, contrary to the historical evidence, an increasing amount of doubt emerged from the 1980s onwards over the potential of output growth, particularly of manufacturing industry, to generate increased employment in developing countries. Ginneken (1988) states that the long-term propensity to increase employment in response to output growth in developing countries may have broken down. Based on a sample of 34 developing countries, Grilli and Zanalda (1999) show that the link between the estimates of employment and economic growth was somewhat weaker than in the previous decades in the 1980s, but remained positive. According to that study the employment elasticity of output was estimated at about 0.14 in the faster growing group of developing countries comprising mainly the newly industrial countries (NICs); whereas in the slower growing group of developing countries, mainly consisting of African, South Asian and Latin American countries, employment elasticity of output was around 0.6. The fast growing NICs already seem to exhibit employment-output behaviour similar to those of mature industrial countries. Their employment elasticity of output has declined due to technical progress, the widespread adoption of labour saving technologies and labour productivity increases. In these countries, output growth brings about a less than one-fifth of employment growth, and what reflects in their output is mainly a higher labour productivity (Young, 1995; Grilli and Zanalda, 1999). In the remainder of the developing countries, which are generally slower growing with lower investments than those of NICs, labour productivity has grown much slower, and, therefore, output growth requires, comparatively, a faster growth of labour demand (Todaro, 2000; Grilli and Zanalda, 1999). These differences in elasticities imply that the output-employment gap is still important for developing countries such

as Sri Lanka to examine the ability of employment generation, particularly by its priority sector which is the manufacturing sector.

However, a number of researchers such as Friedman and Sullivan (1974), Gupta (1989) and Farooq and Ofosu (1992) state that the rate of labour absorption in the manufacturing sector of developing countries has been quite inadequate, and there is a trade-off between output and employment expansions, because efforts to increase output do not always imply employment expansion. For example, the growth of manufacturing output for many developing countries, even during the rapid growth years of the 1960s, exceeded the growth of employment by a factor of 3 or 4 to 1 and this phenomenon of jobless growth (output-employment gap) is expected to continue further (Todaro, 2000). However, the observation of a gap in growth rates should not by itself be a cause for concern unless the differentials are as large as those seen in the 1960s and the 1970s. During these decades, a high unemployment could be seen in countries such as Sri Lanka, and they were believed to be caused by the introduction of capital-labour ratios far above the acceptable average level.

Hence, in relation to the surge of interest in the employment issue in developing countries, there has been considerable discussion on the extent to which there is a conflict between the employment and output objectives in the designing of development strategies (Gupta, 1989; Agarwala, 1983; Pack, 1980). Much of this debate has been centered on the question of choice of appropriate factor proportions (technology) within the industrial sector and on whether or not factor price distortions have favoured the choice of more capital-intensive techniques and reduced employment. The "appropriate factor proportion" suggests a combination of factors that is roughly in line with the overall factor availability in an economy (White, 1978). The poorer the country, the less capital (physical and human) relative to labour is expected to be found and, hence, the more-labour intensive the appropriate factor proportions would be. In practice, however, it is the other way round. Especially in the modern sector of developing countries, techniques are much more capital-intensive than would be predicted on the basis of knowledge of factor endowments (Thirlwall, 2003). For example, in Pakistan at the beginning of the 1990s, the capital-labour ratio ( $K / L$ ) in small scale enterprises was only 20 percent of that in the large scale modern sector (Kemal, 1993). In Bangladesh, the large industry sector may be termed as moderately capital intensive, but fixed assets per worker in large industries is nearly 4 times higher than that in small industries and 31 times higher than cottage industries (Rahman and Bakht, 1997). The study carried out by Bajpal (1992) on the

Concentration of Capital in the Indian factory sector estimates that the degree of concentration of capital in larger factories increased from 0.506 in 1979/80 to 0.731 in 1984/85. Also, it was found that K / L ratio in Indian manufacturing industries increased from 1.51 in 1969/70 to 47.4 in 1989/90. The Five Year plan in Sri Lanka (1972-76) stated that unemployment at that time was a direct reflection of past investment policies which almost totally ignored the need for creating employment, primarily because of employing more capital intensive methods of production by both the public and the private sectors. According to Frances Stewart (1974) the appropriate capital stock per person in the United State was eight times than that of Brazil, 20 times than that of Sri Lanka, and over 45 times than that of Nigeria and India. These figures show that capital intensity in Sri Lankan industries was more than twice that of Nigeria and India in the early 1970s. Karunatilake (1987) reports that Sri Lanka's public sector was 10 times more capital-intensive compared to the private sector in the 1970s and the 1980s. These figures and evidence indicate that even in highly populated countries like India, Pakistan, Bangladesh, and Sri Lanka capital intensity is high and has increased further not only in small industries relatively to their large industries but also in large-scale industries.

Evidence proves the fact that most of the developing countries have adopted inappropriate factor proportions, particularly in their modern sector industries. In this setting, the concept of output-employment gap, the size of which depends on a number of factors such as technological development, capital deepening mainly due to factor market distortions, labour productivity behaviour and poor linkage effects, can be considered suitable for the evaluation of the functioning of a whole economy or a particular sector of an economy such as the manufacturing. Therefore, this paper attempts are made to identify output-employment nexuses in order to evaluate the manufacturing sector performance under different economic regimes in Sri Lanka.

### **3. Manufacturing Industry Output-employment Gap**

The behaviour of the output-employment relationship (gap), defined as the real output growth minus employment growth, under each trade policy regime, highlights how well manufacturing industries have performed, particularly in labour absorption. Table 3 and Figure 1 show the estimated output-employment gap under each main phase of industrialisation in Sri Lanka. Accordingly, the average industrial output-employment gap under the ISI policies shows a negative value of



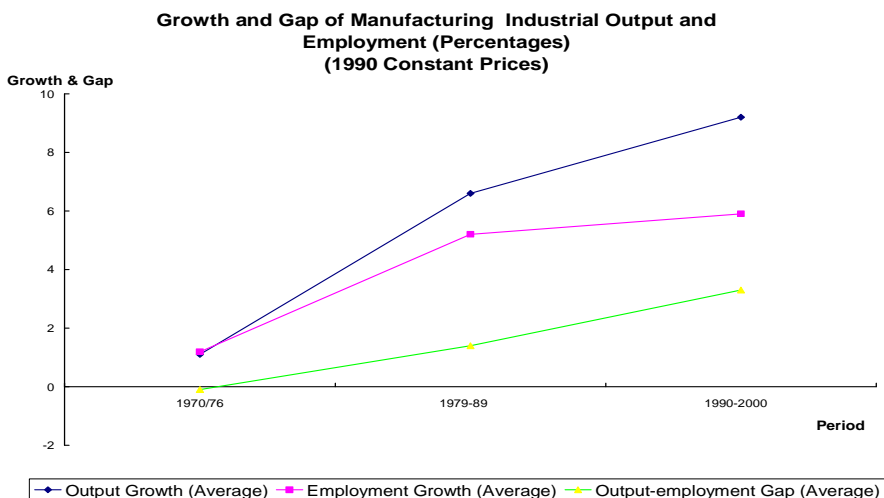
-0.1 percent for the period 1970-76. However, in the first phase of the economic reforms (1978-89), this negative output-employment gap turned to a positive gap, and it averaged to a level of 1.4 percent indicating a more realistic relation between these two variables. But, during the second and third phase of liberalisation (1990-2000) the output-employment gap continued to expand to a level of 3.3 percent.

Table 3 - Growth and Gaps of Manufacturing Industrial Out put and Employment (Percentages)

| Year  | Real Output growth (average) | Employment growth (average) | Output-employment gap (average) |
|---|------------------------------|-----------------------------|---------------------------------|
| Import-substitution era (1970-1977)                           | 1.1                          | 1.2                         | - 0.1                           |
| First phase of liberalisation (1978-1989)                     | 6.6                          | 5.2                         | 1.4                             |
| Second and third phase of economic liberalisation (1990-2000) | 9.2                          | 5.9                         | 3.3                             |

Source: Compiled from the Annual Reports (various), Central Bank of Sri Lanka; Karunatilake, H.N.S (1987); The Economy of Sri Lanka; Athukorala. P (1996) Labour Productivity in the Manufacturing Sector in Sri Lanka.

Figure 1



In a normal well functioning economy, manufacturing employment is expected to grow less rapidly than manufacturing output because of capital deepening, increase in labour productivity and technological changes etc, and in that the gap between these two variables should be positive. The experience in many developing countries too confirm that the growth of manufacturing output substantially exceeded the growth of manufacturing employment from the beginning of their industrialisation (Todaro, 2000). However, a negative relationship between output growth and employment growth experienced by Sri Lanka under the ISI during 1970 -77 is contrary to this normal behaviour.

The performance of the manufacturing industrial sector became weak under the ISI strategy due to a number of specific reasons which contributed to reduce industrial output and increase employment than allowed by the limited output produced by IS industries, resulting in a negative relationship between output and employment. The volume of output that could be produced by IS industries became limited due to frequent supply shortages of raw materials and intermediate inputs and producing for a limited domestic market. On the other hand, particularly the public sector industries, which dominated the industrial production and employment in ISI era, were characterised by overstaffing and low productivity since they became an easy channel for political supporters being employed under each government. Even the private sector industries could not reduce the number of their employees in response to output setbacks mainly due to stringent labour protection regulations such as Termination of Employment of Workmen Act (TEWA) No. 45 of 1971. These occurrences can be attributed to emerging of a negative relationship between industrial output and employment in ISI era.

Subsequently, this negative output-employment gap turned to a positive gap, and it averaged to a level of 1.4 percent during the first phase of the economic reforms (1978-89), indicating a more realistic relation between these two variables after economic reforms. The supply-side constraints previously experienced under ISI era disappeared with the opening up of the economy under the 1977 reforms, and as a result, the industrial capacity utilisation increased from 63 per cent in 1977 to 79.2 per cent in 1989. Also, the private sector reported higher industrial expansion under EOI policies. These tendencies contributed to the appearance of a more realistic association between industrial output and employment. However, during the second and third phases of liberalisation (1990-2000) the output-employment gap continued to expand to a level of 3.3 percent although the industrial capacity utilisation further increased from 81.1 percent in 1990 to 85 per cent in

2000 implying a jobless growth or a retardation of labour absorption by industry.

In this setting, it is appropriate to assess the manufacturing sector's strength in absorbing labour. When compared with the other sectors, the employment share of the industrial sector is the lowest. For example, the industrial sector's employment share of the workforce was 16.6 per cent in comparison to the agricultural sector's employment share of 36 per cent and the service sector's share of 40.3 per cent in 2000 (see Table 4).

Table 4 - Employment in Different Sectors (Percentages)

| Year | Agriculture, Fisheries and Mining & Quarrying | Manufacturing | Construction | Service |
|------|---|---------------|--------------|---------|
| 1990 | 50.0  | 11.9          | 4.6          | 33.7    |
| 1991 | 45.1  | 12.9          | 4.0          | 37.9    |
| 1992 | 41.4  | 13.8          | 5.4          | 39.4    |
| 1993 | 46.6  | 13.3          | 3.8          | 36.3    |
| 1994 | 41.6  | 14.0          | 4.8          | 39.6    |
| 1995 | 38.6  | 14.8          | 5.4          | 41.2    |
| 1996 | 39.3  | 14.8          | 5.5          | 40.4    |
| 1997 | 38.7  | 15.7          | 5.4          | 40.2    |
| 1998 | 40.7  | 15.3          | 5.0          | 39.0    |
| 1999 | 36.2  | 14.8          | 5.3          | 41.9    |
| 2000 | 36.0  | 16.6          | 5.5          | 40.3    |

Source: Annual Reports (various) Central Bank of Sri Lanka

Although the industrial sector's employment share is relatively small, it plays a vital role in providing jobs, especially in a background in which the agricultural sector indicates a declining trend while the service sector became stagnated in employment generation. The agricultural sector shows little room for further expansion mainly due to limited availability of irrigated lands, increasing population density, and increasing cost of farming. The population density increased by threefold from 103 persons per sq kilometer between 1946 and 2000 (CBSL, 2001). Under this scenario the manufacturing sector has recorded the highest percentage of employment growth. For example, there has been a 40 per cent employment growth in the manufacturing sector compared to an 18 per cent increase in employment in the service sector, and the agricultural sector's 28 per cent negative employment growth from 1990 to 2000 (see Table 4). Further, the major policy prescription to develop the economy by the policy makers and the donor agencies, which is accepted by the two major political parties is still the export-oriented

industrialisation. In this background, more responsibility lies in the manufacturing sector for absorbing labour. The following simple estimate suggests the percentage of annual industrial development that should be required, at least, for the absorption of the total annual increase of the labour force. On the basis of 16.6 per cent of the labour force being employed in the manufacturing sector in 2000 and the 2.0 per cent average annual increase of labour force, the employment growth that could be acquired by the manufacturing industrial sector to absorb, at least, the annual increase of labour force (new entrants to the labour force each year) fully can be estimated in the following manner.

(Employment x industrial growth required) =Growth of the labour force

$$\begin{array}{rclclcl}
 0.166 & \times & (?) & = & 0.02 \\
 0.166 & \times & 0.12 & = & 0.02
 \end{array}$$

Hence, the industrial sector should acquire an annual growth rate of 12 per cent to absorb the entire annual growth of the workforce. Under the EOI strategy, so far, that much of industrial growth rate (at constant prices) has not been achieved. Yet, it shows that the industrial sector alone with the average annual real growth of about 6.0 per cent between 1991 and 2000 has absorbed 1/2 (50 per cent) of the new entrants to the labour force annually. This indicates that the relative strength of the manufacturing sector’s labour absorption is very high. Thus, this estimate indicates that the heavy reliance upon the manufacturing sector to solve the unemployment problem is a policy advocacy made in the right direction. In this setting, it is necessary to analyse why there has been a widening output-employment gap between output growth and employment growth in the manufacturing industrial sector in the second and the third phases of economic liberalisation. Such a widening industrial output-employment gap, highlighted by this study for the first time, suggests that employment growth has been weakened mainly owing to the following possible reasons:

1. Adoption of capital-intensive technologies in production due to factor market distortions,
2. Growth of labour productivity, and
3. Having poor spread effect in industries.

**Factor Market Distortions:**

Studies such as Gupta (1989), Agarwala (1983), and Little (1982), highlight that capital-labour ratios (technologies) are in fact sensitive to the relative cost of labour and capital. In this background, if the factor markets are distorted in favour of selecting capital intensive technologies, labour demand is lessened and the growth of employment is impeded. As in the case of most of the developing countries, commentators were of the opinion that in Sri Lanka too the labour market was highly distorted. Agarwala's (1983) study on "Price Distortions and Growth in 31 Developing Countries" identified Sri Lanka as one of the few countries having a highly distorted labour market in the 1970s. According to Agenor (1996), Government intervention in the labour market through passing labour regulations is considered a major source of labour market distortions. When the Sri Lankan situation in this regard is considered, it can be seen that 48 major labour regulations are being operated in covering almost all the aspects of workers life (M L, 1998). As Rama (1994) shows a considerable share of workers (1/3) is directly covered by a profuse and intricate set of labour regulations in the Sri Lankan labour market. The fact that 13 labour new laws were passed in the reform period from 1977 to 1995, shows that even after the 1977 economic reforms, labour market rigidities which arose from stringent labour laws were not lessened to be consistent with the open market policies. Thus, most critiques argue that the existing laws are biased towards workers, and that they unnecessarily increase non-wage costs of labour, reduce labour productivity and restrict labour flexibility of firms to restructure their workforce.

The comparison of the critical labour regulations with those of the other countries in the region by Patabendige (2005) finds that they have a more distortional effect on employment creation in Sri Lanka than other countries. However, it seems that contrary to the conventional view, the minimum wage regulations in Sri Lanka do not have a large positive impact on increasing employers' costs of labour. But, quite the opposite impact on the cost of labour could be seen arising from the regulations related to the employment security, contributions to social security programmes, and the private sector and the public sector

holidays and leave <sup>7</sup>. In Sri Lanka, firing restrictions in the private sector are imposed by the Industrial Dispute Act (IDA) and the Termination of Employment of Workman Act (TEWA). The restrictions and the delays involved in making decisions under these Acts have severely reduced employers' ability to adjust their workforce. For example, as stated by the UNCTAD (2004) Report on Investment Review Policy in Sri Lanka, employers have estimated that at least 10 per cent of the current private sector workforce continues to be employed because TEWA makes it impossible or too expensive to retrench employees to get their workforce adjusted. Further, it has been found that more than anything else the poor state of labour relations has highly distorted the labour market in Sri Lanka due to a number of reasons. They include: i) the fact that the collective bargaining tradition is not sufficiently developed and widespread to develop good relations between employers and employees; ii) long delays involved in giving decisions with regard to labour disputes under regulations such as TEWA and the Labour Tribunal system promote industrial conflicts rather than settle them; iii) the confrontational attitude that emerged between the two social partners, employees and employers from the colonial era and later strengthened through the influence of Marxist and other political parties has continued across the ISI era to the EOI era, contributing much to damaging the industrial relations system; iv) a work culture has not been created to develop favourable attitudes among workers towards their organisations; V) management styles followed by most of the employers do not promote industrial relations; and vi) the government too has not taken any meaningful steps after the introduction of 1977 economic reforms to move towards an industrial relations system which is less reliant on legal controls and which promotes voluntary bargaining.

On the other hand, negative real interest rates, which appeared in some years in the reform period and the appreciation of real exchange rate in the post-reform period suggest that capital market distortions too have not been adequately removed by the financial market reforms implemented with the 1977 economic reforms. In this setting, we can believe that the high level of factor market distortions which emerged in

---

<sup>7</sup> Although impediments produced by these latter labour regulations have been apparent for a long period nothing was done until 2002 to change them. A few amendments were made to Factory Ordinance of 1942, Termination of Employment of Workmen Act 1971, Industrial Dispute Act 1950, Employment of Women, Young Persons, and Children Act of 1956 with a view to making the labour market more flexible starting from 2002. On the other hand, a number of new labour regulations have been enacted during the reform period offering more benefits and rights to employees.

the ISI era before 1977 have continued to the post-reform period and have contributed to increase capital intensity further in manufacturing industries, limiting employment creation in that sector, particularly from the beginning of the second phase of liberalization starting from 1990. In comparison to the first phase of liberalization, the private sector could carry out its role more freely as the driving force of the economy from the second phase of the liberalization, starting from 1990. In this scenario, it is possible to assume that the private sector industrialists have responded more promptly to the market signals in a still distorted factor market and might have selected more capital intensive technologies contributing to expand output-employment gap in the manufacturing industry.

### ***Labour Productivity Behaviour:***

On the other hand, labour productivity can also play a dominant role in determining the degree of labour absorption because there is a close relation between labour productivity and employment, particularly in developing countries. By definition, the rate of growth in output minus the rate of growth in labour productivity approximately equals the rate of growth of employment (Todaro, 2000). This relationship can be transformed into the following expression.

$$\Delta L / L = \Delta Y / Y - \Delta (Y / L) / (Y / L)$$

where L = labour, Y= output.

The link between output and employment based on traditional definition of labour productivity is useful in examining the employment-output gap in developing countries, particularly at their early phase of industrialization. Accordingly, if labour productivity is rising, fewer workers are required to produce any given level of output. In this background, it is necessary to identify the labour productivity behaviour to evaluate its impact on labour absorption in manufacturing industry in Sri Lanka. However, contrary to the inverse relationship between labour productivity and employment creation, some commentators (Athukorala, 1996; Horton et al., 1994) argue that there is a positive association between labour productivity and labour absorption in industry, particularly in the current global market environment.

In the Sri Lankan setting, there are disagreements about the level of labour productivity in the manufacturing industry. Compared to most of the other industries it is generally accepted that productivity in the

garment industry is higher. In this case also, it is found that relative to other countries Sri Lanka's labour productivity is low and non-wage labour cost has been increasing, although the Sri Lankan wages still remain at a lower level (UNCTAD, 2004). Industrialists, particularly, are not satisfied with the level of labour productivity. They complain that stringent job security laws such as TEWA, wage determination practices based mainly on time and cost of living, strong trade union powers, excessive holidays and high absenteeism, etc. often hinder productivity improvement efforts. However, according to the Central Bank data, labour productivity shows an increasing trend throughout the reform period after 1977, and this trend is confirmed by an empirical study carried out on this subject by Athukorala (1996). Accordingly, labour productivity in total manufacturing has increased at a compound annual rate of 7.5 per cent for the period 1981-1993. That study has decomposed labour productivity into two components, namely total factor productivity growth (TFPG) and contribution of capital deepening,  $svk(\Delta K - \Delta L)$  to labour productivity mainly based on the traditional growth accounting (Solow residual) procedure<sup>8</sup>. Yatawara (2004) based on single factor productivity measurement found that overall productivity in the manufacturing industry has increased by 2.8 per cent annually over the period, 1990-99. He divided four digit ISIC manufacturing industries related to this period into 4 quadrants and found that the quadrant-I industries have employed 55 per cent of the employed, showing positive growth in both productivity and employment. The quadrant-II industries have employed 22 per cent of the employed, but show increasing growth in productivity and decreasing growth in employment. This finding implies that capital intensity in the industries in the quadrant-II has increased in the 1990s. The quadrant-III industries account for 11 per cent of the employed, showing a negative growth in both productivity and employment. The quadrant-IV industries have employed 12 per cent of the employed recording negative growth in productivity and positive growth in employment. Out of these categories, the quadrant-I and II

---

<sup>8</sup> As explained by the Slow Residual method growth of labour productivity is given by the equation,  $LPG = TFPG + svk(\Delta K - \Delta L)$ . This equation says that labour productivity growth (LPG) is determined by two factors. One is the growth of total factor productivity (TFPG). The other is the change in the mix of labour and capital used in the production process weighted by the capital share in output [ $svk(\Delta K - \Delta L)$ ]. According to this method, we need to have reliable data to calculate Labour productivity growth. Particularly, data on capital stock in Sri Lanka cannot be considered reliable. For example, Gunawardana (2004), the director of Industrial Division of the Department of Census and Statistics, says that many of the industrialists refuse to declare information or provide false information in industrial censuses and surveys (Sunday Observer, 19<sup>th</sup> December 2004). As a result, particularly capital stock data collected by the annual survey of industries show extreme fluctuations between some years. Consequently, based on such incomplete data on capital stock we cannot come to a reliable conclusion of labour productivity behaviour in the manufacturing industry in Sri Lanka based on Solw Residual method.



industries together account for 85 per cent of the value added in the manufacturing sector. Thus, it is possible to conclude that according to the traditional definition explained earlier, the productivity increase in these two major quadrants relatively to industries in other quadrants might have contributed much to widen industrial sector output-employment gap in the 1990s.

Spread Effects: The EOI unlike the ISI played an important role in the transformation of the export structure of the country. Accordingly, the share of non-traditional exports of the country rose from 25.7 percent in 1977 to 85.0 percent in 2000. In this transformation, the role of foreign firms has been substantial. For example, the share of foreign firms in total exports of manufactures increased from 24 per cent in 1977 to over 79 per cent in 2000 (CBSL, 1978, 2001). However, Lakshman (1988) and Wignaraja (1998), among other commentators question the robustness of direct private foreign investment in Sri Lanka. Because, a few low skilled industries rather than a diversified range of manufactured exports have dominated Sri Lanka's export growth abnormally for a longer period than other countries which follow similar policies to those in Sri Lanka. Thus, there has been a shift away from high-skilled manufacturing employment in Sri Lanka, although the proportion of employment in the high-skilled manufacturing industry has increased sharply in the fast-growing East and South-east Asian countries, (ILO 1998/99; UNCTAD, 2004). Therefore, the Sri Lankan manufacturing industries are believed to be characterised mostly by low skilled industry with lack of backward linkages with the rest of the economy. Particularly, garment, electrical equipment, and petroleum industries are heavily dependent on imported raw materials with an import content of more than 70 per cent (Athukorala and Rajapathirana, 2000). Also, the garment as a single industry accounts for more than two-third of the country's export earnings. The empirical study by Ratnayake and Nayananda (1998) also confirms that Sri Lanka's manufacturing industries, mainly the garment sector, have a very low level of backward linkages.<sup>9</sup> On the other hand, the Central Bank data

---

<sup>9</sup> Where the linkage relationships of the entire export sector of the country are concerned, we rarely find empirical studies carried out on this subject in Sri Lanka. In this respect, the study carried out by Ratnayake and Nayananda (1998) is important. This study records production and employment spread effects of Sri Lanka's export led industrialization (ELI) for the period 1977-97 based on the Linneman (1987) model and some other indices found in the literature. Accordingly, average total backward linkage coefficients (direct plus indirect) in the manufacturing export production (1.24) exceeds those of the primary export sector (1.08). Structural clay, other manufacturing, other machinery, food processing and textile have relatively high backward effects. On the other hand, basic metal, electrical equipment, transport equipment and garments sectors generate comparatively low backward spread effects in the economy. The industries with the highest forward linkages are petroleum, other manufacturing, and structural clay while the weakest are garment, and electrical equipment.

on the changes in domestic cost structure of non-BOI firms also shows a declining trend in the cost of domestic raw materials used from 32.2 per cent in 1995 to 30.2 per cent in 2002, indicating that trade liberalization policy in Sri Lanka has indirectly encouraged the use of imported inputs. Thus, heavy dependence on the production of low value added products for exports abnormally for a longer period suggests that, as a whole, export oriented industrialization in Sri Lanka has generated only a lesser amount of employment, contributing substantially to increase the output-employment gap in the manufacturing industry in the 1990s.

## **5. Conclusion**

Diversification of the Sri Lankan economy and generating a sufficient level of employment have been the two major objectives expected to be achieved through industrialisation in Sri Lanka since the early 1920s. During this period, Sri Lanka followed different industrial strategies, which this paper attempts to evaluate, particularly those followed from the early 1970s through estimating and analysing the output-employment gap under each industrial policy regime. Accordingly, the article found a negative output-employment gap in the ISI era for the period 1970-77 and a positive gap in the first phase of economic reforms in the period 1977-1989, and finally a rapidly widening output-employment gap during the 1990s. Then, taking the widening output-employment gap in the latter phases of liberalization into consideration, the paper highlights that there has been a jobless growth in the manufacturing industry from the early 1990s. Based on the underlying theoretical explanation and some evidence presented by few researchers the paper ends with the conclusion that increasing factor market distortions, behaviour of labour productivity and poor spread effects may have contributed to emerge an expanding output-employment gap in the manufacturing sector in the 1990s. Consequently, the study emphasises the significance of identifying the real behaviour of these factors, particularly for the recent years by carrying out more comprehensive research with a view to guiding policy makers to make right policies for the reduction of high level of unemployment in Sri Lanka, particularly through increasing manufacturing sector employment.

## References

- Agarwala, R. (1983), 'Price Distortions and Developing Countries', *World Bank Staff Working Papers*, No. 575.
- Agenor, P. R. (1996), 'The Labour Market and Economic Adjustment', *IMF Staff Papers*, 43(2): 261-335.
- Athukorala, P. (1997), Dilemmas of Development, In, W. D. Lakshman (ed) '*Foreign Direct Investment and Manufacturing for Export*', Clombo: 386-422.
- \_\_\_\_\_ (1996), '*Labour Productivity in the Manufacturing Sector in Sri Lanka*', Department of National Planning, Colombo.
- \_\_\_\_\_ and Rajapatirana, S. (2000), 'Liberalization and industrial transformation: Lessons from the Sri Lankan experience', *Economic Development and Cultural Change* 48 (3): 543-572.
- Bajpal, A. D. N. (1992), 'The Construction of Capital and Employment Elasticities in Indian Factory Sector' (1979/80-1984/85)- A note, *The Indian Economic Journal* 40(2): 81- 84.
- Bairoch, P. (1975), '*The Economic Development of the Third World Since 1900*', Berkeley, University of California Press.
- Central Bank of Sri Lanka (CBSL), Annual Reports (various issues) Sri Lanka, Colombo
- Central Bank of Sri Lanka, Report on Consumer Finances and Socio Economic Survey, Sri Lanka, 1996/97, 2003/2004, Sri Lanka, Colombo.
- \_\_\_\_\_ (1998), '*Economic Progress of Independent Sri Lanka*' (EPIS), 1948-1998, Central Bank of Sri Lanka, Colombo.
- Farooq, G.M. and Oforu, Y. (1992), *Population, Labour Force and Employment: Concepts, Trends and Policy Issues*, Background Papers for Training in Population, Human Resources and Development Planning, No. 9, Geneva: ILO.
- Friedman, J. and Sullivan, F. (1974), 'The Absorption of Labour in the Urban Economy: the case of developing countries', *Economic Development and Cultural Change*, 22: 385- 413.
- Ginneken, W. Van (1988), 'Employment and Labour Incomes: a cross country analysis', in W. Van Ginneken (eds), *Trends in Employment and Labour Incomes*, Geneva: ILO.
- Gregory, P. (1980), 'An Assessment of Changes in Employment Condition in Less Developed Countries', *Economic Development and Cultural Change*, 28: 673-700.
- Grilli, E. and Zanalda, G. (1999), 'Labour Markets, Poverty, and Development', Navaretti, G. B., Fani, R. and Zanalda, G (ed), *Growth and Employment in Developing Countries: Where do we stand?* Clarendon, Oxford.
- Grilli, E. (1994), 'Economic Growth, Poverty and Income Distribution in Developing Countries: the empirical evidence', in E. Grilli and D. Salvatore (eds.), *Economic Development*, Westport, Conn.: Greenwood Press.
- Gupta, K. L. (1989), '*Industrialisation and Employment in Developing Countries: A Comparative Study*', Routledge, London and New York.

- Harris, G. T. and Rashid, Z. (1986), 'The Employment Performance of Developing Countries during the 1970s', *Developing Economies*, 25: 272-87.
- Horton, S., Kambur, R. and Mazumdar, D. (1991), '*Labour Markets in an Era of Adjustment: An Overview*', Policy Research Working Paper 694, World Bank, Economic Development Institute, Washington, D.C.
- International Labour Organisation, World Employment Report, 1994, 1995/96, 1996/97, 1997/98, 1998/99, 2001, ILO, Geneva.
- Karunatilake, H.N.S. (1987), *The Economy of Sri Lanka*, Centre for Demographic and Socio-economic Studies, Colombo.
- Karunaratne, N. D. (1973), '*Techno-Economic Survey of Industrial Potential in Sri Lanka*', Industrial Development Board, Colombo.
- Kemal, A. R. (1993), 'Why Do Small Firms Fail to Graduate to Medium and Large Firms in Pakistan?', *Pakistan Development Review* 32(4),: 1249-57.
- Lakshman, W. D. (1988), '*Transnational Corporations from Developing Asian Economies: Host Country Perspectives*', United Nations.
- Little, I. M. D. (1982), *Economic Development: Theory, Policy, an International Relations*, Basic Books, New York.
- Maddison, A. (1982), *Phases of Capitalist Development*, Oxford: Oxford University Press.
- Mankiw, N. G. (1997), '*Macroeconomics*', 3rd edition, worth publishers, New York.
- Ministry of Labour (ML), (1998), *50 Years of Service of the Ministry of labour*, CPGJISL, Colombo.
- Navaretti, G. B., Faini, R. and Zanalda, (1999), *Labour Markets, Poverty, and Development*, Clarendon Press, Oxford.
- Oliver, M. H., Jr. (1957), *Economic Opinion and Policy in Ceylon*, Duke University Commonwealth Study Center, London.
- Pack, H. (1980), 'Appropriate Industrial Technology: Benefits and Obstacles, *ANNALS, AAPSS*, 458.
- Patabendige, A. J. (2005), '*Trends in the Factor Markets and their Effects on Labour Absorption: A Study on the Sri Lankan Manufacturing Industry*', Unpublished PhD thesis, University of Waikato, New Zealand.
- Rahaman, M. and Bakht, Z. (1997), 'Constrant to Industrial Development: Recent Reforms and Future Directions', in M. G. Quibria (ed.), *The Bangladesh Economy in Transition*, Oxford University Press.
- Rama, M. (1994), '*Flexibility in Sri Lanka's Labour Market*', Policy Research Working Paper – 1262, World Bank.
- Rangarajan and Dholakia (1980), *Principles of Macro Economics*, New Delhi, Tata McGraw Hill.
- Ratnayake, R. and Nayananda, O. (1998), 'The Production and Employment Spread Effects of Export-Led Industrialization in Developing Countries: A case Study', *Economia Internazionale*, Vol. LI (2), Geneva.
- Report of the Industries Commission (1922), Sessional Paper, No. 1, 1922, Ceylon, Government Press.

# VISTAS

JOURNAL OF HUMANITIES AND SOCIAL SCIENCES

Volume 4

December 2008

- Sabolo, Y. (1975), 'Employment and unemployment, 1960-90', *International Labour Review*, 112: 401-17.
- Snodgrass, D. R. (1966), *Ceylon an Export Economy in Transition*, Homewood, IL: Richard D, Irwin.
- Soete, L. (1987), 'A General Test of Technological Gap Trade Theory', *Weltwirtschaftliches Archive*, 117 (4): 638 – 660.
- Stewart, F. (1974), 'Technology and Employment in LDCs', In Edger, O. Edwards, (ed), *'Employment in Developing Nations'*, Colombia University Press, New York.
- Thirlwall, A. P. (2003), *'Growth and Development with Special Reference to Developing Economies'*, 7th Edition, Macmillan.
- Todaro, M. P. (2000), *Economic Development*, 7th Edition, Addison-Wesley, New York.
- UNCTAD (2004) Report on Investment Review Policy in Sri Lanka, New York and Geneva.
- Yatawara, R. A. (2004), *Economic Policy in Sri Lanka: Issues and Debate*, In S. Kelegama (ed) *'Labour Productivity Growth and Employment Generation'*, Vijitha Yapa publications, Sri Lanka.
- Young, A. (1995), 'The Tyranny of Numbers: Confronting the Statistical Realities of the East Asian Growth Experience', *Quarterly Journal of Economics*, CX, August: 641 -680.
- White, L. J. (1978), 'The Evidence on Appropriate Factor Proportions for Manufacturing in Less Developed Countries: A Survey', *Economic Development and Cultural Change* 27(1): 27-59.
- Wignaraja, G. (1998), *Trade Liberalization in Sri Lanka: Exports, Technology and Industrial Policy* Macmillan, London.