

6.1 Trends in Capital Intensity in the Manufacturing Industry in Sri Lanka and their Impact on Employment Generation

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ABSTRACT

Production techniques used particularly in the modern sector of developing countries are considered much more capital-intensive than would be predicted on the basis of the knowledge of their factor endowments (Thirlwall, 2003). Accordingly, prevailing techniques of production in developing countries might be regarded as more capital intensive or inappropriate, and have exceedingly contributed to remain unemployment high in the countries like Sri Lanka. For example, one out of ten in the labour force is currently unemployed in Sri Lanka. Besides, Sri Lanka's rate of unemployment remains at a higher level than most of the countries in the South and the South East Asian region which follow similar policies to those of Sri Lanka (WER, 2001).

Stewart (1974) estimated that the appropriate capital stock per person in the United State was eight times that of Brazil, 20 times that of Sri Lanka, and over 45 times that of Nigeria and India. These figures show that capital intensity in the 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 than the private sector in the 1970s. Five Year plan (1972-76) attributes unemployment at that time to a higher capital intensity maintained by the public and the private sectors. Such capital intensity is considered as a direct consequence of factor market distortions which were emerged as a result of following dirigiste policies for a long period of about 2 decades until 1977. Agarwala's (1983) study on 'Price Distortion and Growth' of 31 developing countries confirmed the fact that the capital market was highly distorted in Sri Lanka in the 1970s. In this setting, the paper examines how far the rigor of distortions has been reduced by economic liberalization introduced from 1977 onwards to assess particularly the manufacturing industrial sector's labour absorption and its strength to reduce unemployment in Sri Lanka.

The study guided by the review of relevant literature (McKinnon, 1989; Kruger, 1983; Shaw, 1973) identified two major sources of capital market distortions, namely the practice of following a policy of controlled interest rates and maintaining overvalued exchange rates during an era of two decades from the late 1950s. In this setting, the study aimed at determining the impact of the 1977 economic reforms towards market liberalization on the reduction of the severity of these major sources of distortions. Based on this methodology the study estimated real interest rate behaviour and investigated into the behaviour of exchange rate for the reform period.

Accordingly, the study found that in the controlled era before 1977, all deposit and lending rates remained at a very low level, resulting in negative real interest rates. This situation highly distorted capital market and made the price of capital (machinery) low,

which resulted in increasing capital intensity in manufacturing and thereby limiting employment creation. However, after the adjustment of interest rates towards market rates as a part of the 1977 financial market reforms the real interest rate began to show positive values in most of the years in the ensuing period, except in few years. This phenomenon shows that rigor of capital market distortions arisen from negative real interest rates has reduced some what in the reform period.

On the other hand, the real value of the domestic currency in relation to the major currencies with which Sri Lanka mostly transacts has changed over the period. During the controlled era before 1977 the rupee was comparatively overvalued against all the major currencies. After the major devaluations in 1977 and 1989 under the reforms, it reached a more real value. However, most of the other years the real value of the exchange rate started to appreciate, mainly on account of the government's inability to preserve economic stability.

As a whole, the study finds that the measures taken to liberalise the financial market from 1977 onwards have become somewhat effective in making real interest rates positive for most of the years, and supportive to reduce capital intensity to a certain extent in the reform period. But quite contrary to this, the appreciation in real exchange rate in most of the years during the reform period largely limited the success arisen from financial market liberalization to reduce capital intensity. Thus, the study concludes that overvalued real exchange rates in most of the years and having negative real interest rates in some years in the reform period have not contributed considerably to reduce capital intensity which made the importation of machinery and capital equipment still cheaper, and by this means labour absorption has been retarded, particularly in the manufacturing industrial sector even after the 1977 economic reforms.

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(6)

when $k = k'$, under the assumption $R \gg a$. Here c given by $cka = 1$.

If $ka \gg 1$,

$$V_{k,k'}(R) = \frac{2V_{0,0} a^3}{3\pi R^2}$$

(A)

When $k = k'$

$$V_{k,k'}(R) = \frac{2V_{0,0} a^3}{\pi R^2} \left\{ \left[\frac{\cos 2k'R \cos 2k'a}{(2k'a)^2} - \frac{\cos 2kR \cos 2ka}{(2ka)^2} \right] - \left[\frac{\cos 2k'R \sin 2k'a}{(2k'a)^3} - \frac{\cos 2kR \sin 2ka}{(2ka)^3} \right] \right\}$$

(B)

where $K' = k' - k$ and $K = k' + k$

(A) and (B) agrees with numerical calculations very nicely, which is depicted by the figures attached, in case of realistic potentials. In the figure 1, the diagonal potential (1 – 1), (6 – 6) agree exactly the form, mathematically established, and figure 2 in case of non-diagonal potentials.

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