

## **ABSTRACT**

This study is an attempt to measure change in productivity for the national economy of Bangladesh, the major sectors of the economy and for the administrative divisions of the country during the period from 1984-85 to 1999-2000. This is the period in which the economy of Bangladesh achieved a huge momentum with a relatively higher growth rate in gross domestic product. This period is also characterized by a high growth rate of the annual production of the major crop (rice) of Bangladesh agriculture and a very high increase in export volume with a rapid development of ready made garments industry.

A non-parametric approach to growth accounting is used for measuring total factor productivity growth for the national economy and for the major sectors. Here, the productivity change measured in terms of the Solow residual may be the result of growth of many factors not taken into account in the growth accounting model. These potential sources of productivity growth are investigated in this study in a qualitative analysis. Since wage share information is not available from national publications, Social Accounting Matrix constructed for Bangladesh for the year 1993-94 has been used to obtain such price information.

On the other hand, a distance function approach is used to measure the productivity change for the administrative divisions. In this approach, Data Envelopment Analysis technique was used to obtain Malmquist Productivity Indexes for the divisions representing the productivity change of these divisions. The advantage of using this technique is that, although it requires panel data, it does not need price information for measuring productivity change. Since price information at the regional level is usually not available, this technique is a useful tool for measuring productivity change at the regional level. Besides measuring productivity change in the divisions of Bangladesh, attempts were made to identify the potential sources of such productivity changes.

Special efforts had to be made in this study for construction of database for the analyses, since the capital stock data was not available from national publications and also the labor force data had inconsistent definitions of labor force in different surveys. Special attention had to be paid in attempts to either estimate data for the

missing years or adjust the available data for a particular year to make it consistent with definition of other years. Above all, it is the unavailability of continuous series of data for the variables which made this study select non-parametric techniques requiring data on only two points in time for each analysis and close the discussion on the potential sources of productivity growth without going through statistical analysis of the possible factors.

The results show positive trend in total factor productivity growth for the national economy in the study period. The trend is also positive for both the agricultural sector and the non-agricultural sector. An alternative analysis using a different set of data on stock of capital stock also shows positive change in total factor productivity for the national economy. Growth in human capital, growth in export volume, growth in volume of imported capital goods, trade liberalization efforts by the government, development of financial sector, and growth in infrastructure are identified as potential sources of such total factor productivity growth.

The results also show a clear trend of productivity growth for four divisions of Bangladesh out of six. For two coastal divisions (Khulna and Barisal), characterized by lack of road transport accessibility, the growth trend is not confirmed by an alternative analysis using growth accounting technique with assumption of applicability of national price level at the regions. It clearly indicates that, lack of transport accessibility has made these regions lag behind other divisions leaving them unable to convert the high investment in capital and/or employment of labor into similar growth in output. For other divisions showing productivity growth, growth in human capital and infrastructure have been identified as potential sources of such productivity growth.