Regional Empirical Input Output Model - Structural Analysis of West Bengal Economy

Topic: Regional Input-Output Modelling 4
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The construction of input output tables at the regional level using non-survey methods, as used globally, assumes significance in India. This paper is an attempt to construct a social accounting matrix (SAM) for West Bengal, the eastern region state in India, by utilising national accounts data and absorption as well as supply matrices of India's input output system for 2008-09 provided by the Central Statistical Organisation (CSO), government of India. The paper also aims at analysing the spatial influence in the generation of the regional input output tables for the economy of West Bengal.

The paper has been organized in 5 sections. Section 2 deals with methodological issues. Section 3 describes the data on which the SAM has been constructed. The study describes and analyses in detail the interrelationships between structural features of West Bengal economy after more than one and a half decades of economic reforms in section 4. Concluding observations are provided in section 5.

The quotient approach has been applied to generate the entries at the regional level from those at the national level. We have estimated the location quotients (state's sectoral output is divided by the state's total output) for the state of West Bengal under the assumption that the national technical relationships hold good at the regional level. The location quotients measure the relative importance of regional industry in comparison to its national counterpart.

The quotient method makes use of the national input output table to arrive at the regional table. The latest input output tables at the national level are available for 2008-09. In the current input output table, there were 130 sectors, of which the primary sectors accounted for 32, manufacturing 66 and the rest were included in the services sector. The input-output table, in the form of absorption or use matrix, gives the inter-industry transactions in value terms at factor cost. Here, the columns represent the industries and the rows as group of commodities, the principal products of the corresponding industries. Each row of the matrix shows the allocation of total output of the commodities to different industries for intermediate consumption and final use. The entries in industry columns show the commodities used as inputs to produce outputs of particular industries.

In constructing regional input output tables, we have calculated the regional coefficients and the regional inter-sector flow matrix, and then the final demand vector consisting of consumption expenditures, investment expenditures, spending by the state and local governments, as well as exports both abroad and to the rest of the country. The private final consumption expenditure of the final demand has been calculated by monthly per capita consumption expenditure given by the 66th round of the NSS survey on consumer expenditure in India along with the population figures in West Bengal.

The SAM constructed in this paper provides a framework of linkages between activities, commodities, factors, households, domestic institutions and foreign institutions in a tabular form. Row 1 of the matrix records the use of goods and services as households' consumption, intermediate consumption in production, final use by the government, gross fixed capital formation, changes in stocks and exports. Column 1 shows supply of goods and services that were produced by domestic suppliers or imports. The factors are represented by six sectors in which generation of

income within the economy and rest of the world are recorded: net operating surplus, net mixed income, gross wages, social contributions, other taxes on production, and other subsidies on production. The domestic institutional sectors include corporation (both financial and non-financial), government, households and non-profit institutions.

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