

● **METHODOLOGY APPLIED**

The calculations are based on total domestic input-output requirement coefficients for goods and indirect service inputs to Canadian merchandise exports in the year 1991. Not included are exports of foreign merchandise (re-exports) nor direct inputs of imported goods. In the long term, changes in these coefficients reflect changes in Canadian production technology and productivity growth. However, in the short run it is assumed that there are no changes in the growth of technology and productivity that would undermine the model's results. Estimates of total export-related employment requirements are the sum of employment required to produce domestic goods directly required and indirectly required as intermediate inputs, indirect service employment as intermediate inputs, and the movement of final goods to the point of export.

The input-output computations in this Paper were produced by Erik Poole at Statistics Canada using the 1987 input-output model structure containing 216 industries, and 602 commodities. Data for the year 1991 were provided directly to the model by Statistics Canada's International Trade Division and redefined by the Input-Output division to conform to model requirements.

The calculations embody the following criteria: a) direct import requirements were set to zero (i.e., no direct imports); (b) input requirement coefficient matrices used were for 1987 (these coefficients appear to be stable over time); (c) output requirements were estimated from requirement coefficient matrices which also reflect the 1987 structure of the model; and (d) the calculations also include certain other adjustments such as trade margin requirements.⁷

The four main steps in the calculation were: 1) estimating the domestic content of the direct requirement coefficient matrix and its corresponding domestic total requirement coefficient matrix; (2) computing the total domestic input requirements to produce exports by multiplying the domestic total requirement coefficient matrix by a vector of export values; (3) computing the indirect domestic output requirements by multiplying the domestic direct requirements by the export vector and then subtracting the result from the previous step 2; and (4) computing total and indirect domestic employment requirements by multiplying the results of steps 2 and 3 by employment-output ratios. Labour-output ratios in the model have been determined by the data

⁷ Trade margins are the goods and services required to move the goods to be exported from their point of final production to the port of export.