

INTRODUCTION

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The Sixth IIASA Task Force Meeting on Input-Output Modelling took place in Warsaw (Poland) from 16 to 18 December 1985. The programme committee consisted of C. Almon (responsible for participants from the USA and oversea countries), J. Richter (responsible for the participants from Western Europe) and L. Tomaszewicz (responsible for participants from the socialist countries). The Institute of Econometrics and Statistics of the University of Lodz was the local organizer. This volume contains the proceedings of the meeting.

Among the participants there were two IIASA staff members and nineteen specialists representing economic or econometric departments of universities and research institutes from Austria, Czechoslovakia, France, the FRG, the GDR, Norway, Poland, Switzerland, the United Kingdom, the USA and the USSR. Most of them represent the INFORUM-family model builders. The main attention of the meeting was paid to the following topics: the development of input-output models of the national economies and their policy applications including the optimization, as well as the industrial use of the input-output models. Both of them have also been reflected in the research work of the IIASA "Economic Growth and Structural Change" Project, carried out in 1985.

The 16 papers presented at the meeting and the 3 papers contributed to it, have mainly an applied character. The first group of papers examines practical experience stemming from the construction and direct application of input-output models of the national economies to economic policy making. The possibilities of using the input-output approach in optimal decision making at the national level are also discussed. Naturally, international comparisons and practical problems of linkage of various national models (using foreign trade flows) are shown as well.

Papers devoted to the industrial use of input-output models are concentrated on modelling and analyzing the activities of particular branches within the framework of the input-output approach. Special attention is also paid to the problems of the efficiency of energy use.

Each of the above-mentioned areas is briefly described below.

I. INPUT-OUTPUT MODELS AND ECONOMIC POLICY APPLICATIONS

A good introduction to this group of papers is the study of C. Almon, dealing with LIFT in the INFORUM system. C. Almon -- the leader of the

INFORUM-team at the University of Maryland -- concentrates on summarizing the main principles of INFORUM model building. These models use strict input-output relations to ensure internal consistency, the modelling, carried out at a detailed level, is added up to obtain aggregated total values, and attention is paid to the long-run properties of the model. C. Almon analyzes some exceptions to these principles and indicates ways to overcome them. The second section gives an example of the application of LIFT to calculating the effects of protectionist measures applied to particular industries by establishing quotas on imports of competitive goods. The impacts of the protection of the exchange rates are also illustrated.

The next paper, written by P. Sand, is devoted to the input-output model for Norway. The central part of this model is composed of relations representing the technological and cost structure of the economy, as well as other definitional and balance equations. The quantity model and the price model are connected with submodels describing other macroeconomic categories. Apart from the direct application of this model to macroeconomic planning and elaboration of national budgets, an interesting idea of constructing and using impact tables is suggested in the paper. These tables are aimed at showing the effects of changes in exogenous variables. Examples of the application of impact tables in simulation experiments, allowing for verification of the model construction itself, as well as for analysis of different variants of the economic policy, are also given. Special attention is paid to the use of impact tables in testing the stability of input-output coefficients and in adjusting the economic plan during the planning period according to structural changes in basic categories being modelled.

The "bottlenecks" in the economy are one of the main topics in the paper presented by R. Filip-Koehn and R. Staeglin. The authors give a short description of simulation experiments with changes in raw material supply and their impact on production, employment, prices and wages. A separate section is devoted to the impact of defence spending on employment. These considerations are presented with a survey of policy applications of input-output models in the Federal Republic of Germany.

A new approach to cost structure analysis by the use of input-output methods proposed and applied to the investigation of post-war technological progress in the Japanese economy is described in I. Tchijov's and I. Sytchova's paper. The analysis is based on seven comparable input-output tables for 1951-1980. The method reveals relations between economic growth, structural changes and cost reduction, as well as dynamics and interdependencies of the three types of technological progress (labor-material-capital savings) for 18 industries and the Japanese economy as a whole.

The adaptation of a "classical", demand-oriented, INFORUM-type macromodel for the description of economic phenomena in centrally-planned economies is shown by P. Karasz on the example of Czechoslovakia. The differences lie rather in the behavioral part of the model, consisting mainly in introducing specific demand functions of personal and social consumption, and taking into account central regulations of investments and inventory changes, as well as an assumption of full employment in modelling the labour processes.

The computations of macroeconomic structural parameters are shown by J.F. Divay and F. Meunier on the example of input-output coefficients. The authors give an idea of computing these coefficients by applying a relatively simple econometric model based on Leontief's linear relations between output and production factors. The parameters of this model are estimated by applying statistical data from particular enterprises with respect to balancing constraints, heteroscedasticity corrections, a priori