INTERNATIONAL INPUT-OUTPUT CONFERENCE IN BALATONFÜRED

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The International Input-Output Association (IIOA) and the Hungarian Society for Economic Modelling (HSEM) in co-operation with the Hungarian Statistical Association and the Hungarian Central Statistical Office organized a conference on "Inter-industrial Relations in Economic Modelling" in Balatonfüred between 23–26 February 2000.

Back in 1998, the New York conference of the IIOA made clear that researchers are looking for new implementation areas of input-output. Many questioned the future of input-output for researchers, whether it can provide anything new or is 'only' a very important, widely spread and used practical method. The organizers of the Balatonfüred conference hoped to find an answer to these questions.

The aim of the conference was to overview the main up-to-date economic modelling methods and to discuss the forthcoming trends. The programme committee (Mária Augusztinovics, András Bródy and Tamás Révész) did not limit the programme to conventional input-output topics. Other modelling experiments, results were also presented which included input-output a broader framework.

The conference was medium-sized, altogether there were 36 registered participants of 10 countries. The relatively small number of participants gave the conference a workshop-character. Out of 18 announced papers only one was cancelled. The chairmen of the sessions managed to keep the presentations in the desired time limit while they did not discourage anyone's interest in discussing, arguing. Participants regularly attended the meeting. It can be said that the conference had a familiar and at the same time a constructive, creative atmosphere.

Concerning the details: Mr. *Sándor Pálfy*, mayor of Balatonfüred held the welcoming address appreciating the significance of the conference and wishing good work and pleasant stay in the town and in Hungary. A short presentation by Professor *Ferenc Forgó* (Budapest University of Economics), the first president of the co-host Hungarian Society for Economic Modelling was part of the opening ceremony. He spoke about the ten-year function of the HSEM, emphasising the society's work in sustaining modelling activity and in maintaining its earlier appreciated level. He explained why the input-output method preserved its up-to-dateness for 70 years. He listed the following main reasons:

1. The problem that it addresses has been known for a long time and no economist questions the relevance of the analysis of the sectoral

interrelationships in a modern economy.

2. The basic model and most of its variants are relatively simple, elegant, and mathematically treatable.

3. Statistical verification, though imposes a lot of problems, interesting enough in themselves, is not out of reach as is the case with so many elegant, theoretical models.

4. Part of the model can be, and in a lot of countries has been incorporated in the statistical system thereby producing long time series to study.

5. It provides food for thought for a healthy mix of people: economists, statisticians, mathematicians, computer scientists. It is a prototype of a project where cooperation, teamwork and synergy are all part of daily life and indispensable ingredients of success.

1st session

Chaired by JAN OOSTERHAVEN (Groningen University, Netherlands)

- EZRA DAVAR (Ben-Gurion University, Israel): *Input-Output in the 21st Century.* He pointed out that although the majority of statistical offices compile input-output tables, input-output analysis is usually not used for the solution of meaningful economic problems. One of the reasons –in his opinion– was the dissonance between theoretical input-output analysis and real life economic activities. That is why input-output analysis should develop and some directions for its perfection and extension should be suggested. Vivid debate followed this presentation, which the chairman postponed to the closing round table discussion. (The programme committee chose this paper to be presented first on purpose, for they expected the atmosphere to be warmed up.)

- ERNŐ ZALAI (Budapest University of Economics, Hungary): *Economics a'la Leontief versus von Neumann.* The paper focused on the similarities and the difference between the Leontief and Neumann model of growth, then showed a general framework of dynamic economic models from which both models could be derived and that made the conceptual difference explicit.

- PÉTER BUDAVÁRI (Ministry of Finance, Hungary): *Adjustment of I/O: general RAS method*

- ERIK DIETZENBACHER, (Groningen University, Netherlands, co-author: BART LOS): *Structural Decomposition Analyses with Dependent Determinants.* Using the decomposition of value added growth as a prototype example they examined the phenomenon of several determinants being not independent. The paper indicated that dependencies may cause a

bias in the results of decomposition analysis. An alternative to overcome this problem was proposed, illustrated by macroeconomic data of the Netherlands from 1972 to 1986.

- NIKOLAOS ADAMOU, (Aristotelian University of Thessaloniki, Greece, co-author: GÜLAY GÜNLÜK-SENESEN): *Labour Productivity Decomposition: its Origin, Generation and Benifit Spillover. The Case of Turkey 1973-1990*. It was one of the most interesting papers. Starting with the origin of industrial productivity (labour reduction and output expansion) he examined the industrial generation and the benefit spillover of productivity applying the similarity of production and allocation activities in multi-sectoral linear systems. The model was first applied to the Turkish —not to the Greek— economy, since Turk statistical data are of far better quality.

2nd session

Chaired by ERNŐ ZALAI (Budapest University of Economics, Hungary)

- KORNÉLIA MURA-MÉSZÁROS (Hungarian Central Statistical Office, co-authors: MÁRIA FORGON, ZOLTÁN NÁDUDVARI, LÁSZLÓ TELEGDI): *Compilation of the Hungarian IOT with Estimated Industrial Output.* The paper presented the input-output developing tasks in Hungary and the efforts made in order to fulfil the ESA'95 recommendations. In 1998 there were several changes in the Hungarian statistical data collection system benefiting the introduction of commodity flow. The procedure of confronting the data, cross-checking and revision necessitates a continuous co-operation between macroeconomic and branch statistics.

- TAMÁS TARJÁN (Research Institute of Economics, Hungary): The Role of Human Capital of Hungarian in its Integration to Europe (Jánossy's trendline theory: could it be applied to transitional country?) He compared Jánossy's trendline theory with some growth models and on the basis of purchasing power parity data he tried to predict the macroeconomic prospects of Hungary and Central Europe.

- HELMUT MAIER (Berlin School of Economics, Germany): *Using IOT to Reflect Inter-industrial Relations of Investment Decisions* (two recent applications). A practically oriented paper presented two applications of Leontief's theory undertaken in 1999 at Berlin School and an other one which made use of the R59 input-output table of Germany of 1993.

- UTZ-PETER REICH (Mainz University of Applied Sciences, Germany): *Purchasing Power Parity as a Measure of Equality in World Trade.* The paper analysed the inequality of world trade using purchasing power parities calculated by means of a Geary-Khamis index. It proved that this method works in terms of an input-output framework.

- TAMÁS RÉVÉSZ (Ministry of Economic Affairs, Hungary): *Accounting for Demand-effects in Input-output Price-models.* This model introduced so-called reference prices. After the theoretical part the paper presented the results of a plausible scenario for Hungary.

3rd session

Chaired by UTZ-PETER REICH (Mainz University of Applied Sciences, Germany)

- JIRINA LAPISAKOVA (Slovak Statistical Office, co-author: VIERA HAJNOVICOVÁ): *The Impact of Internal and External Disparities on Structural Changes in the Slovak Economy.* The paper showed the development of main macroeconomic indicators in Slovakia during the years of transition (1991-1998). The analysis was based on two supply and use tables for 1994 and 1996.

- MARIUS PLICH (University of Lodz, Poland): *Economic-Ecologic Model for Poland.* The paper described the compilation of environmental data with input-output tables for Poland. A special attention was given to air pollutants.

- SILVANA KÜHTZ (Potenza University, Italy, co-author: CARMEN IZZO): *Economy-Energy-Enviroment Analysis of Tourism-related Activities Using Input-Output Process Aproach.* The input-output process model (IOPM) was applied to the local supply chain of tourism related activities based in a recently established Italian Natural Park.

- ERZSÉBET KOVÁCS (Budapest University of Economics, Hungary): *Industrial Development and Insurance Industry.* Using several statistical methods she presented that the insurance industry is still underdeveloped in the Central European region.

- JAN OOSTERHAVEN (Groningen University, Netherlands, co-authors: GERARD J. EDING, DIRK STELDER): *Cluster, Forward and Backward Linkages, and Bi-Regional Spillovers: Policy Implications for Two Dutch Mainport regions and Rural North.* The paper described a consistent framework to detect clusters of interrelated economic activity and to evaluate both the regional and the national economic significance of individual sectors and of the average sector per region, using bi-regional input-output tables. The authors applied the methodology to three Dutch regions that are especially important from a policy perspective.

4th session

Chaired by HELMUT MAIER (Berlin School of Economics, Germany)

- ALEJANDRO CARDENETE (Huelva University, Spain, co-author: FERRAN SANCHO): *Impact Assesment Using Accounting Matrix*. An empirical study on the role of the petro-chemical sectors in Andalusia using a regional social accounting matrix (SAM). The paper showed the decomposition of the extended multipliers in three categories of effects and the empirical analysis, which measured the impact on sectoral total gross output due to the presence of the petrochemical industries under different scenarios of final demand.

- ILONA CSERHÁTI (ECOSTAT, Hungary): *Fiscal Policy Analysis with Macro Models*. The ECO-LINE quarterly macroeconometric model of the Hungarian economy is designed for short and medium term forecasting and policy analysis. The presentation was illustrated by showing some fiscal policy simulations.

Round table discussion

The round table discussion was the last momentum of the conference chaired by ANDRÁS BRÓDY. He praised Leontief's initiative compared the approaches of Leontief and Neumann, and encouraged the participants to refer to the practical modelling, economic policy and educational aspects of the topic. The following discussion dealt with many significant aspects of input-output. Those intervening recalled the relevant thoughts of Slucki and Lange.

Some claimed that input-output cannot give room to new theoretical ideas any more, and generally the interest in macro-models has decreased. It is hard to attract students to this area, universities do not do enough to improve the situation. (E.g., at the Budapest University of Economic Sciences there is no compulsory course in economic statistics.) A question under discussion was the long procession period (2-3 years) of statistical input-output tables, how much it impedes the credibility of modelling, i.e., the adaptability of input-output to problems of economic policy. It is doubtful to what extent politicians and decision makers rely on existing models.

The majority of the participants (including N. Adamou, H. Maier, A. Bródy, M. Augusztinovics) were more optimistic in the judgement of the present and future of input-output. It is obvious that input-output itself does not provide much new ground for theoretical research, but an increasing number of new application areas emerged. Its system of interdependence is included in almost every complex economic model. An interesting new phenomenon is that more and more researchers of analogous areas attend input-output conferences, since the organic way of thinking, which is induced by input-output, encourages the analysis of logically similar problems not described by input-output.

The chairman closed the conference with an affirmation of the survival of Leontief's conception on interdependence and circularity.