1961

Input-Output Bibliography 1955-1960

Charles E. Taskier

Follow this and additional works at: https://researchrepository.wvu.edu/rri_iotheorymethods

Recommended Citation

Taskier, Charles E., "Input-Output Bibliography 1955-1960" (1961). *Theory and Methods*. 52.
https://researchrepository.wvu.edu/rri_iotheorymethods/52

This Article is brought to you for free and open access by the RRI Input-Output Archive at The Research Repository @ WVU. It has been accepted for inclusion in Theory and Methods by an authorized administrator of The Research Repository @ WVU. For more information, please contact beau.smith@mail.wvu.edu.

**INPUT-OUTPUT
BIBLIOGRAPHY
1955-1960**

*by Charlotte E. Taskier
Harvard University
Harvard Economic Research Project*

UNITED NATIONS

R1.1
UN
IOB55-60
1961

**INPUT-OUTPUT
BIBLIOGRAPHY
1955-1960**

*by Charlotte E. Taskier
Harvard University
Harvard Economic Research Project*

U N I T E D N A T I O N S

New York, 1961

NOTE

This bibliography is reproduced by the United Nations for limited distribution under special arrangements with the Harvard University Economic Research Project and in accordance with the exception for special cases recognized by the United Nations Publications Board.

ST/STAT/7

Ana
by
was
tha
fol
cha
cee
mor

int
int
wit
agr
inc
in
che
mad

ves
div
pro
whe
ind
Ana
dis

*

FOREWORD

The rapid increase in the number of publications dealing with Interindustry Analysis since March, 1955--when the BIBLIOGRAPHY OF INTERINDUSTRY ECONOMIC STUDIES by V. Riley and R.L. Allen, Operations Research Office, Johns Hopkins University, was issued--made it desirable to provide information on such studies published since that time. The objective of the present Bibliography is to serve this purpose. The following pages contain references to over 600 publications in 21 languages, in books, chapters of books, articles, monographs, documents, doctoral theses, conference proceedings, etc., some dealing with the subject on a highly technical level, others in more elementary terms.

In the past few years, the term "Input-Output Analysis" has not only been integrated into the English language and various others,* but it has also become an international term to denote interrelationships among factors not primarily connected with economics, e.g., relationships in the social and behavioral sciences, physics, agriculture, etc.. Consequently, the more recent literature of Input-Output Analysis includes significant articles concerning the application of this method to problems in such varied areas of investigation as city planning, aeronautics (air transport), chemistry, farm economics, agriculture, and electric energy. No attempt has been made here to rank the studies according to their significance.

Since Input-Output Analysis covers a wide and not exactly defined area of investigation, overlapping with other econometric methods, in many instances no strict dividing line can be drawn, e.g., between Interindustry Economic Analysis and linear programming studies. In general, the criteria for listing such publications were whether or not the respective article contained a substantial discussion of Interindustry Economics or a statement to the effect that the techniques of Input-Output Analysis were a necessary prerequisite for following the author's exposition, or a discussion of certain aspects of Input-Output theory relevant to the study. Refer-

* For example:

Afrikaans	Interindustrievloei - Tegniek
Danish	Input-Output analysen, Input-Outputtabellerne
Dutch	Input-Output Tabellen
Finnish	Panos - Tuotos Menetelmä
French	Analyse Input-Output, La Méthode de l'Entrée-Sortie
German	Einsatz - Ausstoss Analyse
Hungarian	A ráfordítási - kibocsátási tabla
Italian	La Tavola di Immissione - Erogazione
Norwegian	Kryssløpsanalyse
Polish	Analiza przepływów międzygałęziowych
Portuguese (Brazil)	Relações Interindustriais
Russian	Balanz zatrat i vipuska produktsii
	Shakmati balanzii
Spanish (Spain)	Tabla Input-Output
	El método del factor - producto
Spanish (Latin America)	Tabla Matriz del Insumo - Producto
Serbo-Croat	Tabela Ulaza - Izlaza

ences to and discussions of Input-Output Analysis in business publications and popularly written articles were included on a selective basis.

The Bibliography is necessarily incomplete since the references were derived from the following sources only: (1) publications sent by their authors to Professor W.W. Leontief, (2) information on Input-Output studies published in various countries obtained through the cooperation of visiting scholars from Belgium, India, Egypt, Japan, Poland, Sweden, etc., and (3) the issues of the important periodicals in the field of economics, statistics, econometrics, mathematics, etc. (AMERICAN ECONOMIC REVIEW, REVIEW OF ECONOMICS AND STATISTICS, ECONOMETRICA, JOURNAL OF THE AMERICAN STATISTICAL ASSOCIATION, THE ECONOMIC JOURNAL, London, etc.), published in the U.S.A. and in Great Britain. Periodicals on file at the Harvard Libraries (Widener, Littauer, Baker), dealing with economics and written in the more accessible Western languages, were systematically surveyed and their contents checked, not only for titles of articles indicating discussions of Interindustry Analysis or any aspect of this method, but also for footnotes and references pertaining to this technique. In addition, the standard library reference works like the INTERNATIONAL INDEX OF PERIODICALS, READERS GUIDE TO PERIODICALS, ECONOMIC ABSTRACT (Ministry of Economic Affairs, The Hague), ECONOMIC ABSTRACT (N.Y.U.), and BIBLIOGRAPHY ON INCOME AND WEALTH, were checked for references to publications dealing with Input-Output Analysis. Actually, only a very small number of such studies were listed in these indices. Due to this limitation of sources, very likely Input-Output Studies either published in periodicals not available at the Harvard Libraries or not received by Professor W.W. Leontief are missing from this Bibliography. Other omissions of Input-Output Studies may be caused by the great delay in receiving publications printed abroad. The closing date for including references in this Bibliography was set as the end of August, 1960. Any publications printed before that date and not included in the following pages, and Input-Output studies printed after August, 1960--as they become available here--will be listed in a Supplement to be issued at a later date.

Since this Bibliography is intended as a continuation of the Riley-Allen volume, in general the same grouping by subject categories has been maintained. In cases where an item could be assigned to more than one subject group, appropriate cross references were entered in the "Index of Authors or Issuing Agencies and Titles." The page number on which the main entry, together with any annotation (if available), appears is listed, e.g.,

ADAMS, A.A., -STEWART, I.G., Input-Output Analysis: An Application,
(U.K.) (8, 9)

123

Details concerning this study are entered in Section 8, "National Studies Other Than the United States," United Kingdom, p. 123, and cross referenced in Section 9, Applications and Uses," under the name of the authors (letter A).

Most of the publications listed in Section 7, "Regional and Interregional Analysis," and Section 8, "National Studies Other Than the United States," were annotated; the year, type, and the dimensions of the Input-Output Matrices and other pertinent information are stated. In other subject sections only those publications were annotated which contained a paragraph summarizing the purpose of the study, e.g., as is the case in articles in ECONOMETRICA. Direct quotations from a study are entered under quotation marks. It should be emphasized that the annotation to a

publication does not indicate any judgment regarding its relative importance, but is the result of the ready availability of a summary.

In the main body of the Bibliography, the titles of publications printed in other languages than English were translated. The following language code was used:

(A) = Africaans	(Fl) = Flemish	(N) = Norwegian
(Cz) = Czech	(G) = German	(P) = Polish
(D) = Danish	(Gr) = Greek	(Po) = Portuguese
(Du) = Dutch	(H) = Hungarian	(R) = Russian
(E) = English	(He) = Hebrew	(S) = Spanish
(F) = French	(I) = Italian	(SC) = Serbo-Croat
(Fi) = Finnish	(J) = Japanese	(Sw) = Swedish

As an example, the following entry on p. 6:

CORNBLIT, O., "Precios en la matriz de Leontief" (Prices in the Leontief Matrix), (S) w. (E) sum., REVISTA DE DESARROLLO ECONOMICO, Vol. 2, No. 2, 1959, pp. 5-16.

indicates that this article is printed in Spanish and that a summary in English is appended.

It should be noted that REPORTS ON RESEARCH of the Harvard Economic Research Project and hectographed memoranda and reports by members of its staff are limited in their distribution.

The responsibility for the selection, subject classification and annotation of the references included in this volume is mine; I also assume the responsibility for the translation into English of titles and the formulation of abstracts of publications written in the more accessible Western languages. I should be grateful to users of this Bibliography for notifying me of any omissions and errors so that they can be corrected in the forthcoming Supplement.

My special thanks are due to Professor W.W. Leontief and Dr. E.W. Gilboy for their many helpful suggestions and corrections and for reading the manuscript. I gratefully acknowledge the generous cooperation and assistance of the members of the Staff of the Economic Research Project, the Staff of Harvard's Libraries, Mr. Herbert S. Levin, Harvard University, Russian Research Center, and the University of Pennsylvania, Mr. Richard Judy, Harvard University, Russian Research Center, and the visiting scholars from various countries. Last, not least, I am specially indebted to Mrs. Lenita Robbins for her patience and for so competently typing a difficult manuscript.

Charlotte E. Taskier

Technical Associate
Harvard Economic Research Project

December 30, 1960
Cambridge, Massachusetts

TABLE OF CONTENTS

<u>Subject Section No.</u>		<u>Page No.</u>
1	THEORETICAL STRUCTURE OF INPUT-OUTPUT ANALYSIS	1
2	MATHEMATICAL AND COMPUTATIONAL TECHNIQUES	26
3	CLASSIFICATION SYSTEMS AND AGGREGATION PROBLEMS	37
4	THE UNITED STATES NATIONAL STRUCTURE	39
5	MANPOWER STUDIES	44
6	DYNAMIC ANALYSIS	46
7	REGIONAL AND INTERREGIONAL ANALYSIS	
	a. In the United States	52
	b. In Countries Other Than the U.S.A.	61
8	NATIONAL STUDIES OTHER THAN THE UNITED STATES	67
	a. Comparative Analysis of the Economic Structures of Various Countries	133
	b. International Applications of Input-Output Analysis Across National Boundaries	135
9	APPLICATIONS AND USES	138
10	APPRAISALS	159
11	CRITICAL REVIEWS OF INPUT-OUTPUT LITERATURE	166
12	INDEX OF AUTHORS OR ISSUING AGENCIES AND TITLES	169

SECTION NO. 1

THEORETICAL STRUCTURE OF INPUT-OUTPUT ANALYSIS

ABDEL-MALEK, M., "Les modèles économiques de Walras et de Léontief," (F), L'ÉGYPTÉ CONTEMPORAINE, Cairo, Vol. 49, No. 292, Apr., 1958.

ACZEL, I., "A marxí ujratermelesi sémák és az input-output-módszer" (H) (The Marxian Reproduction Scheme and the Input-Output Method), KOEZGAZDASAGI SZEMLE, No. 12, 1958, pp. 1282-1295.

A discussion and review of: LANGE, O., "Some Observations on Input-Output Analysis," SANKHYA, Vol. 17, Part 4, Feb., 1957, pp. 305-336.

AERTS, L., "Input-Output en linear programming in het kader van de economische Wetenschap," (Fl) (Input-Output and Linear Programming in the Framework of Economic Science), ECONOMICA DOCUMENTATIE, Leuven (Belgium), No. 4, 1954.

ALLEN, R.G.D., MATHEMATICAL ECONOMICS, St. Martin's Press, New York (Macmillan, London), 1956. Ch. 11, "Interindustry Relations - Leontief Input-Output Analysis"; see also pp. 483-5, 487-8, 489-91, 566, 571-7, 620, 677.

"The Anatomy of Crisis," THE ECONOMIST, London, Sept. 13, 1952, pp. 641-43 (anon.).

A discussion and review of the publication "Great Britain, National Income and Expenditure, 1946-51," HMSO, 1952, with reprints of Great Britain's Input-Output Table for 1948.

ARA, K., -YAMADA, I., -KURABAYASHI, Y., "Input-Output Analysis" (This article is included in the volume "Analysis of the Post-War Economy of Japan"), (J) w. (E) sum., KEIZAI KENKYU, Tokyo, Vol. 6, No. 4, Oct., 1955.

ARTLE, R., SAMPELET MELLAN EKONOMISKA SEKTORER I STOR-STOCKHOLM, (Sw) (The Interaction between Economic Sectors in the Greater Stockholm Area), Business Research Institute, Stockholm School of Economics, 1957, Part II of: "The Economic Structure of Greater Stockholm," pp. 265-317.

Contains two regional Input-Output Tables for the Stockholm area, years 1950 and 1955, 64 Intermediate and 14 Final Demand Sectors, the latter include 7 columns and 12 rows showing the sector flows between the Stockholm area and the rest of Sweden as well as foreign countries. The main purpose of the study is to provide a basis for projecting the needs of manpower and of building capacity (floor space) in the Stockholm area, under various assumptions.

-----, STUDIES IN THE STRUCTURE OF THE STOCKHOLM ECONOMY. TOWARDS A FRAMEWORK FOR PROJECTING METROPOLITAN COMMUNITY DEVELOPMENT. Business Research Institute, Stockholm School of Economics, 1959, 197 pp. plus Appendix.

(ARTLE Continued)

"...Examines 1) the assumptions implicit in Input-Output Analysis, and 2) the applicability of Input-Output techniques to local areas; presents an Input-Output Table of the Stockholm area for 1950, with 62 Intermediate and 16 Final Demand Sectors and its Inverse (62 x 62 sectors); analyses the data by means of various matrix-algebraic operations; explores to what extent the results of the study can be linked with findings that refer to the locational patterns of economic activities within the Stockholm area. . ."

AUKRUST, O., "Teoretiske modeller og deres bruk i økonomisk tenkning" (N) (Theoretical Models and Their Application in Economic Thought), STATSKONOMISK TIDSSKRIFT, Oct., 1955, 26 pp.

Discusses the role of mathematically formulated models in attempts to explain economic relationships and surveys the various types of models: micro and macro models; open and closed models; static and dynamic models, and specifically the Leontief model.

-----, "Principles of National Accounting." Paper presented at the International Conference on Input-Output Analysis, Varenna, 1954, contained in: BARNA, T. (ed.), THE STRUCTURAL INTERDEPENDENCE OF THE ECONOMY, J. Wiley & Sons, Inc., -A. Giuffrè, 1956, pp. 203-16.

AUSTRIA, "Die erste Bestandaufnahme der Oesterreichischen Wirtschaft. Zweck, Organisation und Methode der nichtlandwirtschaftlichen Betriebszaehlung, 1954." (G) (The First Census of the Austrian Economy. Purpose, Organization and Method of the Census of Non-Agricultural Enterprise in 1954.) OESTERREICHISCHES ZENTRALAMT UND OESTERREICHISCHES INSTITUT FUER WIRTSCHAFTSFORSCHUNG, Vienna, 1956. (Input-Output analysis and the possibilities of its application are discussed on pp. 22-25.).

-----, "Makro-oekonomische Modelle fuer die oesterreichische Wirtschaft" (G) (Macro-Economic Models of the Austrian Economy. With a 4 x 4 sector flow table [Leontief open static model]; coefficients and inverse matrices for 1955), TINTNER, G., ZEITSCHRIFT FUER NATIONALOEKONOMIE, Vienna; Vol. 17, No. 2, 1957.

BARNA, T. (ed.), THE STRUCTURAL INTERDEPENDENCE OF THE ECONOMY. Proceedings of an International Conference on Input-Output Analysis, Varenna, June 27-July 10, 1954. J. Wiley & Sons, Inc., -A. Giuffrè, 1956, 429 pp. (*)

Included are the following papers presented at the above Conference:

AUKRUST, O., Principles of National Accounting

BARNA, T., Introduction

-----, Classification and Aggregation in Input-Output Analysis

BERMAN, L.S., National Experiences with Input-Output Analysis:
United Kingdom

(BARNA Continued)

(*) For reviews see Section 11.

BARNA, T. (Continued)

BJERKE, K., -MILHØJ, P., -RASMUSSEN, P.N., National Experiences
with Input-Output Analysis: Denmark

BLANC, L.P., National Experiences with Input-Output Analysis:
France

CAO-PINNA, V., National Experiences with Input-Output Analysis:
Italy

CHENERY, H.B., Inter-Regional and International Input-Output
Analysis

———, Application of Interindustry Analysis to Problems of
Economic Development

EVANS, W.D., Input-Output Computations

GILBOY, E.W., Consumption and Input-Output Analysis

LEONTIEF, W., Input-Output Analysis and the General Equilibrium
Theory

MALINVAUD, E., Aggregation Problems in Input-Output Models

MARKOWITZ, H., Industry-wide, multi-industry and economy-wide
process analysis

MORTON, G., Dynamic Programming

RASMUSSEN, P.N., On Changes in Inter-Sectoral Terms of Trade

SANDEE, J., Input-Output Accounts

———, National Experiences with Input-Output Analysis:
Netherlands

SEVALDSON, P., National Experiences with Input-Output Analysis:
Norway

STONE, R., Input-Output and Social Accounts

———, Linear Expenditure Systems and Demand Analysis: An
Application to British Demand

BASSIE, V., ECONOMIC FORECASTING, McGraw-Hill, Inc., New York, 1958 (Includes a
discussion of Input-Output Analysis and the 50 sectors USA Input-Output
Table for 1947; see pp. 541-8, 565).

BAUCHET, P., LES TABLEAUX ÉCONOMIQUES: ANALYSE DE LA RÉGION LORRAINE, 1952.
Editions Génin, Librairie de Médecis, Paris, 1955, 182 pp. (F) (Contains
a 21 sector Input-Output table of the Lorraine Region).

- BAUMOL, W.J., ECONOMIC DYNAMICS, 2nd Ed., Macmillan, 1959, 396 p., Input-Output Analysis is discussed under the title, "A Dynamic Leontief System," on pp. 370-71, 374-78.
- BILLETER, E., "Kreislauftheoretische Modelle. Ihre Bedeutung und ihre Entwicklung in den U.S." (G) (Circular Flow Models. Their Significance and Their Development in the U.S.), SCHWEIZERISCHE ZEITSCHRIFT FUER VOLKSWIRTSCHAFT UND STATISTIK, Berne, Aug., 1951, Vol. 86, No. 4, pp. 335-41.
- BISWAS, A.K., "Input-Output Analysis, National Income Accounting and Planning," ARTHANITI, Nov., 1959, pp. 56-75.
- , "Input-Output Analysis and General Equilibrium" and
- , "Inter-Industry Transactions and National Income,"
- INDIAN STATISTICAL INSTITUTE, Planning Division, Interindustry Unit, Calcutta, Working Paper Series, Jan., 1958, and May, 1958, respectively.
- BJERVE, P.J., "Kryssløpsforskning i statistisk centralbyrå" (N) (Input-Output Research in the Norwegian Central Bureau of Statistics), STATISTISK TIDSSKRIFT, Vol. 3, 1954.
- BOUDEVILLE, J., "Léontief et l'étude du circuit économique" (F) (Leontief and the Study of Flows in the Economy), REVUE ECONOMIQUE, Nov. - Dec., 1953, pp. 809-47.
- BOUTHOOEN, T.M., "De National rekeningen on 'input-output' tabellen" (Du) (National Accounts and Input-Output Tables), SIGMA, Jaargang 1, No. 3, July, 1955.
- BRAUERS, W.K., "De ontwikkeling van de Input-Output Tekniek" (Fl) (The Development of the Input-Output Technique), ECONOMICA DOCUMENTATIE, Leuven (Belgium), No. 4, 1955, pp. 190-96.
- BRODY, A., "Input-Output. Módszer a nemzetgazdasági folyamatok elemzésére" (Input-Output -- A Method for the Analysis of National Economic Flows, (H) w. (E) sum., KOEZGAZDASAGI SZEMLE, 1957, No. 2, pp. 145-65.
- , "Az ágazati kapcsolatok mérlegének elméletéhez" (H) (On the Theory of Input-Output Balancing of Sectors), KOEZGAZDASAGI SZEMLE, July - Aug., 1958, pp. 823-35.
- BRUNNER, K., "Ein Ausblick auf die oekonometrische Forschungsarbeit" (G) (A Survey of the Research in Econometrics), Discusses, among others, Leontief's method of structural analysis. SCHWEIZERISCHE ZEITSCHRIFT FUER VOLKSWIRTSCHAFT UND STATISTIK, BASEL, No. 2, June, 1955.
- CAO-PINNA, V., "Notes introductives à l'étude et à l'application de la méthode input-output," (F) INSTITUTE UNIVERSITAIRE D'ETUDES EUROPEENNES, DE TURIN, 1955.
- , "El Método de Analisis de las Interdependencias Estructurales-Input-Output" (S) (The Method of Analyzing Structural Interdependences), FACULTAD DE CIENCIAS POLÍTICAS Y ECONÓMICAS, Madrid, 1956 (ANALES DE ECONOMÍA, Sept., 1956).

(CAO-PINNA Continued)

- , "Determinación de las transferencias de renta entre los distintos sectores productivos por efecto de las variaciones en el sistema de precios relativos" (S) (Determination of the Transfers of Income between Sectors of Production through the Effect of the Variations in the Relative Price System), DE ECONOMIA, Madrid, No. 47, Aug., 1957.
- , "Determinazione dei trasferimenti di reddito tra i singoli settori produttivi per effetto delle variazioni nel sistema dei prezzi relativi" (Italian translation of above article), RIVISTA DI ECONOMIA AGRARIA, No. 2, June, 1956.
- , ANALISI DELLE INTERDIPENDENZE SETTORIALI DI UN SISTEMA ECONOMICO, (I) (Analysis of Sectoral Interdependence in an Economic System), Edizioni Scientifiche Einaudi, Serie di Statistica, Torino, 1958, 94 pp.
- , "Il valore aggiunto nella contabilità 'input-output'" (I) (The Value Added Concept in Input-Output Accounting), Atti del III Convegno di Studi di Statistica Aziendale, CEDAM, Padova, 1955.
- , "Analisi delle Interdipendenze Strutturali" (I) (Analysis of Structural Interdependences), Included in: DIZIONARIO DI ECONOMIA POLITICA, Edizioni di Comunità, Milan, 1956, 1722 pp.

The above chapter (pp. 690-726) contains a definition of Interindustry analysis and discussions of its origin and theoretical scheme, the open and the closed model, computational methods, the possible applications and limitations of the method and a review of the Input-Output Tables of the USA and Italy.

Chemical Engineering, "New Tools for Economic Studies," Nov., 1953, pp. 130-32.

CHENERY, H.B., "Tests of Inter-Industry Models of Growth," Stanford University, Department of Economics, Stanford Project for Quantitative Research in Economic Development, Memorandum No. D-1, July, 1957, 12 p., hectographed .

- , -CLARK, P.G., INTERINDUSTRY ECONOMICS, J. Wiley & Sons, Inc., 1959, 345 pp. (*).

A survey of both the theory and the practical applications of Interindustry Analysis presenting a discussion of Input-Output theory, its relation to National Accounts and the Keynesian theory, the extension and modification of the basic Leontief model by the introduction of linear programming techniques and activity analysis, the choice of interindustry models and their empirical bases, and the testing of the validity of Input-Output assumptions. The second half of the book deals with the applications of Interindustry Analysis to: the economics of selected countries (including reprints of the respective Input-Output tables), international comparisons of the structure of production of these countries, the projection of the economic structure, the allocation of resources in development programs, interregional analysis, and the possible future of Interindustry Analysis.

(CHENERY Continued)

(*) For Reviews see Section 11.

CHENERY, H.B. (Continued)

-----, -KRETSCHMER, K.S., "Resource Allocation for Economic Development,"
ECONOMETRICA, Vol. 24, No. 4, Oct., 1956, pp. 365- 99.

Spanish translation, "Distribución de recursos para el desarrollo económico,"
PRODUCTIVIDAD, Madrid, April-June, 1959.

"...The primary purpose of this study is to develop a model based on
linear programming and Input-Output techniques which will assist in the
formulation of development programs for underdeveloped areas. . ." As
an illustration, a model of Southern Italy is constructed.

COLM, G., "Entwicklungen in Konjunkturforschung und Konjunkturpolitik in den
Vereinigten Staaten von Amerika" (G) (Phases in the development of Business
Cycle Research and Policy in the USA), INSTITUT FUER WELTWIRTSCHAFT,
Universitaet Kiel, Kieler Vortraege, 1954.

CORNBLIT, O., "Precios en la matriz de Leontief" (Prices in the Leontief Matrix),
(S) w. (E) sum., REVISTA DE DESARROLLO ECONOMICO, Vol. 2, No. 2, Jan. - March,
1959, pp. 5-16.

"...Some consequences of variations of prices on the coefficients of
Leontief's matrix are studied. A simple procedure is shown for altering
coefficients of the inverted matrix when unit prices vary, without need
of a new inversion of the matrix. . ."

CUMBERLAND, J.H., "Interindustry Analysis -- New Tool in Economics," SCIENTIFIC
MONTHLY, Oct., 1956, pp. 189-97.

DAIÉ LILLO, J., "Método de análisis insumo-producto" (S) (The Method of Input-Output
Analysis), ECONOMÍA (Chile), Vol. 28, Num. 60-61, 1958, pp. 122- 32.

The author discusses the theory of Input-Output Analysis on the basis of
W. Leontief's THE STRUCTURE OF THE AMERICAN ECONOMY, 1919-1939, and a sim-
plified and aggregated Input-Output Table of the United Kingdom for 1948.

DANIÈRE, A.L., "Household Consumption: Theoretical and Empirical Analysis of Con-
sumption within the Input-Output System," Harvard Economic Research Pro-
ject, REPORT ON RESEARCH FOR 1956-1957, Dec., 1957, pp. 135-66.

DELLACASA, D.C., "Lo Schema Leontieviano" (I) (The Leontief Scheme), RIVISTA DI
POLITICA ECONOMICA, Roma, Vol. 45, Serie III, Fasc. V., May, 1955, 20 pp.

DERWA, L., "Une Nouvelle Méthode d'Analyse de la Structure Économique" (F) (A new
method of analyzing the economic structure; Input-Output Analysis of the
Region of Liège, 1953, with three Input-Output Tables), REVUE DU CONSEIL
ÉCONOMIQUE WALLON, Liège (Belgium), No. 28, Sept. - Oct., 1957.

-----, "Technique d'input-output et programmation linéaire" (F), (The technique of
Input-Output and Linear Programming), REVUE DU CONSEIL ÉCONOMIQUE WALLON,
No. 34, 1958, pp. 35-58.

-----, "Notes sur la méthode d'Input-Output" (F) Paper presented at the Conference
of La Société Belge de Statistique, Jan. 12, 1958, published in BULLETIN DE
LA SOCIÉTÉ BELGE DE STATISTIQUE, 1958, pp. 11-30.

(DERWA Continued)

DERWA, L., "Notes sur la méthode d'Input-Output" (Continued)

Contains a discussion of the basic static and dynamic Input-Output models, the specific applications of the model to economic problems, and a critical appraisal of the method.

Dictionnaire des Sciences Économiques (Romeuf, J.), Vol. 1, pp. 621-24, "Inter-industriels": (F) a discussion of Leontief's Interindustry Analysis by C. Vimot, PRESSES UNIVERSITAIRES DE FRANCE, Paris, 1956.

DIVISIA, F., "Note technique sur les travaux d'analyse des interdépendances entre industries 1951-52" (F) (Technical Note Regarding the Analysis of Inter-dependencies between Industries 1951-52, France), ÉCOLE POLYTECHNIQUE, Laboratoire d'Économétrie, Paris, 1953, Memorandum, hectographed.

Dizionario di Economia Politica, see CAO-PINNA, V.

Dizionario Enciclopedico, Vol. IV, pp. 931-33, La Scienza Economica, "Input-Output Analysis" (anon.) (I).

DOMAR, E., ESSAYS IN THE THEORY OF ECONOMIC GROWTH (W. Leontief's Input-Output Analysis is referred to on pp. 8, 17, 20, 27-29, 116, 166, 173, 234), Oxford University Press, New York, 1957.

DORFMAN, R., -SAMUELSON, P.A., -SOLOW, R.M., LINEAR PROGRAMMING AND ECONOMIC ANALYSIS, McGraw-Hill, Inc., New York, 1958, 527 p. (see Ch. Nos. 9 and 10, pp. 204-308, "The Static Leontief System." W. Leontief and the various aspects of Input-Output analysis are referred to in most of the 16 chapters of the book.).

DUMONTIER, J., BUDGET ÉCONOMIQUE ET CAPITAL NATIONAL, Presses Universitaires de France, Paris, 1951, 125 pp. (F) (Includes a discussion of the Leontief Input-Output model).

ECKSTEIN, O., -FROMM, G., STEEL AND THE POSTWAR INFLATION. Study Paper No. 2, Materials prepared in connection with "Study of Employment, Growth and Price Levels" for consideration by the Joint Economic Committee, Congress of the United States (86th Congress, 1st Session), Nov. 6, 1959, U.S. Government Printing Office, 1959, 38 pp.

This paper examines the inflationary impact of the rise in steel prices of the last decade on the U.S. economy and analyzes some of the causes of this price increase. In Section IV, The Magnitude of the Cost-Push from Steel (p. 6) is determined by Input-Output Analysis. The Appendices (pp. 35-38) present the Theoretical Formulation of the Input-Output Computation and The Applicability of Input-Output Analysis to the Cost-Push Computation. Input-Output data for 1947 is used to derive new internal weighting systems for wholesale price indexes to assess the effects of changes in steel prices.

EDEY, H.C., -PEACOCK, A.T., NATIONAL INCOME AND SOCIAL ACCOUNTING ("The Input-Output Table" see Ch. VIII., pp. 141-151, also pp. 32-33, 35), Hutchinson's University Library, London, 1954.

EKKER, M.H., "La Contabilidad del Ingreso Nacional" (S) (National Income Accounting), BANCO DE MEXICO, S.A., Mexico, D.F., 1956.

The article contains a discussion of Input-Output analysis.

FABERINI, L., ISTANZE STATICHE ED ISTANZE EVOLUTIVE NELLA MODELLISTICA CONTEMPORANEA (I) (Leontief-Hayek-Post-Keynesiani), F. Capelli, Sept., 1959, 172 pp. (Static and Dynamic Examples of Contemporary Model Building).

The chapter entitled "Lo schema delle interdipendenze strutturali di W. Leontief" (W. Leontief's Scheme of Structural Interdependences) pp. 11-70, contains an outline of the theory as well as a discussion of the development of the analysis of structural interdependences, the application of the method to the economic analysis of Italy and of other countries, further, an evaluation of the method's possibilities of future development and utilization (see also pp. 7-9 and 102-105).

FOSSATI, E., ELEMENTI DI POLITICA ECONOMICA RAZIONALE (I) (Elements of Rational Political Economy), A. Giuffrè, Milan, 1955.

Contains a discussion of the Input-Output Table.

FRISCH, R., "From National Accounts to Macroeconomic Decision Models" (Part IV., "The Input-Output Approach," pp. 1-26), International Association for Research in Income and Wealth, Series IV. (International Conference on Research in Income and Wealth, Castelgandolfo, Sept., 1953), Bowes & Bowes, London, 1955.

——, "Kryssløpsanalyse" (N) (Interindustry Analysis), Lectures given at the University of Oslo during the Fall term of 1953. University Institute of Economics, Oslo, 1954, 93 pp. mimeographed.

——, "Main Features of the Oslo Median Model," Social-Economic Institute, University of Oslo, Oct. 10, 1956, Memorandum, mimeographed, 37 pp.

Includes an Input-Output Table of Norway for 1948, with 45 Intermediate plus 12 Final Demand Sectors.

FRIŠČIĆ, I., "Input-Output Analiza i Marxova Analiza Reprodukciije" (Input-Output Analysis and Marxian Reproduction Analysis) (SC) w. (E) sum., EKONOMSKI PREGLED, Vol. 9, No. 10, 1958, pp. 697-724.

GARCÍA BARBANCHO, A., "El modelo del equilibrio general de Leontief y su aplicación a Italia" (S) (Leontief's General Equilibrium Model and its Application to the Italian Economy), ANALES DE ECONOMÍA, Vol. 16, No. 61, Apr., 1956, pp. 127-76.

A discussion of Leontief's general equilibrium model and a review of: THE STRUCTURE AND GROWTH OF THE ITALIAN ECONOMY (Mutual Security Agency), with a reprint of the Input-Output Table of Italy for 1950.

GASS, S.J., LINEAR PROGRAMMING. METHODS AND APPLICATIONS, McGraw-Hill, Inc. 1958, 223 pp.

(GASS Continued)

Interindustry (Input-Output) Analysis is discussed on pp. 8, 79, 164-70.

GHOSH, A., "Input-Output Approach in an Allocation System," *ECONOMICA*, Vol. 25, No. 97, Feb., 1958, pp. 58-64.

An investigation of the use of Input-Output methods in controlled economies with a high rate of investment, inadequacy of the supply of productive plants and materials and a rationing system in allocation, assuming given optimum allocation factors based on a national welfare function.

—, "Input-Output Analysis with Substantially Independent Groups in Industries," *ECONOMETRICA*, Vol. 28, No. 1, Jan., 1960, pp. 88-96.

". . . In the theoretical framework of Input-Output Analysis each sector depends on every other sector for the determination of its output. In actual practice it is often found that groups of sectors tend to form islands of interdependence. This paper attempts to treat them as self-contained systems for prediction purposes. . ."

GILBERT, M., -STONE, R., "Recent Developments in National Income and Social Accounting," *ACCOUNTING RESEARCH*, Vol. 5, No. 1, Jan., 1954, and also in: University of Cambridge, Department of Applied Economics, Reprint Series No. 80, 1954.

A survey of the trend of new research, describes recent developments in: standardized national accounts; inter-industry studies (Ch. III, pp. 8-12), intertemporal studies, international comparisons of income and product, etc..

GRASBERG, E., "Social Accounts and Input-Output Tables," *ACCOUNTING RESEARCH*, Vol. 6, No. 4, Oct., 1955.

The author outlines a system of accounts which combines Input-Output Tables with Social Accounts, and includes a numerical example.

HAAVELMO, T., "En Økonomisk Disputats, Kryssløpsanalysen som Teoretisk og som Økonomisk - Politisk Instrument" (N) (Input-Output Analysis as a Theoretical and as a Political-Economic Instrument; an Economic Dispute), *NATIONAL ØKONOMISK TIDSSKRIFT*, 1956, Vol. 3, pp. 105-14, (STUDIES IN INTERSECTORAL RELATIONS, RASMUSSEN, P.N.).

Harvard Economic Research Project, "Household Consumption: Theoretical and Empirical Analysis of Consumption within the Input-Output System" (A.L. Danière), Report on Research for 1956-1957 (Dec., 1957), pp. 135-66.

—, "Factor Proportions and the Structure of American Trade: Further Theoretical and Empirical Analysis" (W. Leontief), REPORT ON RESEARCH FOR 1955, pp. 105-129.

—, "Natural Resources" (J.M. Henderson), REPORT ON RESEARCH FOR 1954 (Feb., 1955), pp. 1-27, and for 1956-1957 (Dec., 1957), pp. 1-21.

HATANAKA, M., "Testing the Workability of Input-Output Analysis," Princeton University, Economic Research Project, Technical Report, mimeographed, 79pp. and Addenda, Apr. 22, 1957.

Contains a statistical analysis of errors in estimates of total outputs and indirect demands in Input-Output analysis--based on the U.S.A. Input-Output Table for 1947--with the purpose of indicating some of the directions towards which the present form of Input-Output analysis should be oriented to improve its workability.

HELMSTAEDTER, E., "Produktionsstruktur und Wachstum" (G) (Structure of Production and Growth), JAHRBUCHER FUER NATIONAL OEKONOMIE UND STATISTIK, Vol. 169, No. 3 & 4, Oct., 1957, pp. 173-212, and Vol. 169, No. 6, March, 1958, pp. 427-49.

In the first article the author develops a theory and a mathematical method for obtaining a 'linear production structure' from Input-Output Tables by rearranging the sectors and then measuring the degree of linearity. Input-Output Tables of the U.S.A. for 1919, 1929, and 1939, and of Italy for 1953 are used for an empirical demonstration of the method. In the second article the time sequence in which production and investment of each sector should be increased in order to maintain equilibrium conditions in the economy is discussed.

HENDERSON, J.M., "Natural Resources," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1954, Feb., 1955, pp. 1-27, and for 1956-1957, Dec., 1957, pp. 1-21.

-----, -QUANDT, R.E., "Walras, Leontief and the Interdependence of Economic Activities" (Comment), QUARTERLY JOURNAL OF ECONOMICS, Vol. 69, No. 4, Nov., 1955, pp. 626-31.

-----, -QUANDT, R.E., MICROECONOMIC THEORY -- A MATHEMATICAL APPROACH (Input-Output System, see pp. 157-163), McGraw-Hill, New York, 1958, 291 pp..

HENDERSON, P.D., "El método del factor-producto: una aplicación del mismo a la economía italiana" (S) (The Input-Output Method: An Application to the Economy of Italy), MONEDA Y CREDITO, Vol. 54, Sept., 1955, pp. 3-25.

A discussion of the theory of Input-Output Analysis and a review of: THE STRUCTURE AND GROWTH OF THE ITALIAN ECONOMY, Mutual Security Agency.

Hitotsubashi University, "On a Measurement of a Leontief System" (Yamada, I.), (J) w. (E) sum., THE ECONOMIC REVIEW, Hitotsubashi University, Tokyo, Vol. 5, No. 1, Jan., 1954.

-----, "The Leontief System and Production Function" (Yamada, I.), (J) w. (E) sum., THE ECONOMIC REVIEW, Hitotsubashi University, Tokyo, Vol. 3, No. 3, July, 1952.

-----, "A Note on Professor I. Yamada's article: The Leontief System and Production Function" (Iemoto, H.) (J), THE ECONOMIC REVIEW, Vol. 3, No. 3, July, 1952.

(Hitotsubashi University Continued)

Hitotsubashi University (Continued)

-----, "Input-Output Analysis and Demand and Supply Function" (Yamada, I.), (J) w. (E) sum., THE ECONOMIC REVIEW, Hitotsubashi University, Tokyo, Vol. 9, No. 3, July, 1958.

HÖGLUND, B., "Input-Output och den strukturella interdependensen" (Sw) (Input-Output and the Structural Interdependences), INDUSTRIENS UTREDNINGAINSTITUTET (IUI), Stockholm, 1958.

-----, "Jämviktsanalys, aktivitetsanalys och input-output" (Sw) (Equilibrium and Activity Analysis and Input-Output), EKONOMISK TIDSSKRIFT, Vol. 61, No. 2, June, 1959, pp. 82-113.

HSING, M.H., "The Construction of Social Accounting Models," WELTWIRTSCHAFTLICHES ARCHIV, Vol. 83, No. 1, 1959, pp. 15-31.

Based on the framework of social accounting and a set of simplifying assumptions and postulates, the author discusses the possibility of constructing inpayment-outpayment models with various degrees of completeness. One of these models, the Leontief-Keynesian Model, combines Inter-Industry Relations Analysis with consumption-investment and liquidity flows, --assuming unchanged relative prices over the period studied. In another --more general model-- prices are treated as variable. Also discussed is the possibility of constructing a "complete" inpayment-outpayment model in which Input-Output relations, distribution-disposition relations and investment-financing relations would be linked with the stock accounts in a social accounting framework.

HURWICZ, L., "Input-Output Analysis and Economic Structure," AMERICAN ECONOMIC REVIEW, Vol. 45, Sept., 1955, pp. 626-36.

The article contains a detailed discussion of: LEONTIEF, W., and Others, STUDIES IN THE STRUCTURE OF THE AMERICAN ECONOMY, Oxford Press, 1953.

ICHIMURA, S., "Input-Output Analysis" (A Discussion of Input-Output Analysis) (J), in ENCYCLOPEDIA OF ECONOMICS (Keizaigaku Daijiten), Tokyo, Toyo Keizai Shimpousha, 1955.

-----, INQUIRY INTO INTER-INDUSTRIAL RELATIONS, (J), Yuhikaku, Tokyo, 1957.

-----, (ed.), INTERINDUSTRY RELATIONS AND ECONOMIC FLUCTUATIONS, (J), Yuhikaku, Tokyo, 1958.

IEMOTO, H., "A Note to Professor I. Yamada's article: The Leontief System and Production Function," THE ECONOMIC REVIEW, Vol. 3, No. 3, July, 1952.

INPUT-OUTPUT ANALYSIS: AN APPRAISAL, National Bureau of Economic Research, Studies in Income and Wealth, Vol. 18, Princeton University Press, 1955, 367 pp. (*).

(INPUT-OUTPUT ANALYSIS: AN APPRAISAL Continued)

(*) For reviews see Section 11.

INPUT-OUTPUT ANALYSIS: AN APPRAISAL (Continued)

This volume contains the revised versions of several papers on Input-Output Analysis presented at the Conference on Research in Income and Wealth, New York, 1952. The authors as well as the titles of the respective studies are listed in: RILEY, V., -ALLEN, R.L., INTER-INDUSTRY ECONOMIC STUDIES. Operations Research Office, Johns Hopkins University, May, 1955, p. 29.

KENESSEY, Z., -NEMENY, V., -SZAKOLCZAY, G., "A ráfordítás-kibocsátás (Input-Output) rendszer vázlatos ismertetése" (H) w. (E) and (R) sum. (Outline of the Input-Output System), STATISZTIKAI SZEMLE, Jan. - Feb., 1957, pp. 23-48.

The article discusses Leontief's Input-Output analysis and the possibility of its use for improving planning techniques in a socialist economy.

KHANDKER, R.K., "National Accounting Technique and Input-Output Analysis," PAKISTAN ECONOMIC JOURNAL, Vol. 7, No. 2, 1957.

KLAMECKER, A., "Bemerkungen zur Einsatz - Ausstoss Analyse und ihre Anwendung in Oesterreich" (G) (Observations Regarding Input-Output Analysis and its Application to the Austrian Economy), ZEITSCHRIFT FUER NATIONALOEKONOMIE, Vienna, July, 1957.

KLEIN, L.R., "The Interpretation of Leontief's System - A Reply," THE REVIEW OF ECONOMIC STUDIES, Cambridge, England, Vol. 24 (1), No. 63, 1956-57.

KOENIG, H., -ULRICH, H., "Grundlagen und Bedeutung der Input-Output Analyse" (G) (Basis and Significance of Input-Output Analysis), SCHWEIZERISCHE ZEITSCHRIFT FUER VOLKSWIRTSCHAFT UND STATISTIK, Berne, Vol. 93, No. 1, 1957, pp. 77-91.

A discussion of the present state of Input-Output analysis as of 1957 and the relationship between Input-Output analysis and social accounting.

KOLMS, H., "Volkswirtschaftliche Gesamtrechnung, Nationalbudgets und oekonomische Gesamtmodelle" (G) (National Accounting; National Budgets and Economic Models), WELTWIRTSCHAFTLICHES ARCHIV, Kiel, 1953, Vol. 71, No. 2.

Leontief's Input-Output Analysis is discussed on p. 217.

KOOPMANS, T.C., THREE ESSAYS ON THE STATE OF ECONOMIC SCIENCE, McGraw-Hill, Inc., New York, 1957, (Input-Output Analysis is discussed on pp. 101-104 and on pp. 38, 72, 187-197, 203, 212).

KUERBS, F., "Volkswirtschaftliche Gesamtrechnung fuer Berlin" (G) (Social Accounts Applied to the Berlin Area), Statistisches Landesamt Berlin, MONATSSCHRIFT BERLINER STATISTIK, Vol. 82, Feb., 1954, pp. 33-40.

The feasibility of the conversion of social accounts into Input-Output accounts is discussed.

KURABAYASHI, Y., -ARA, K., -YAMADA, I., "Input-Output Analysis" (This article is included in the Volume, "Analysis of the Post-War Economy of Japan"), (J) w. (E) sum., KEIZAI KENKYU, Tokyo, Vol. 6, No. 4, Oct., 1955.

LAGINHA, J.J., "A resolução do sistema de Leontief" (Por) (An Analysis of the Leontief System), COLECTÂNEA DE ESTUDOS, No. 4, 1958, pp. 111-24. Instituto de Alta Cultura, Centro de Estudos de Estatística Economica, Lisbon.

A discussion of the Input-Output matrix, its mathematical basis and its properties.

LANGE, O., "Some Observations on Input-Output Analysis," SANKHYA, Vol. 17, Part 4, Feb., 1957, pp. 305-36.

A reprint was published in: STUDIES RELATING TO PLANNING FOR NATIONAL DEVELOPMENT, ESSAYS ON ECONOMIC PLANNING, INDIAN STATISTICAL INSTITUTE, 1958, pp. 40-72.

A Polish translation appeared in: PRZEGLAD STATYSTYCZNY, Warsaw, Vol. 2, No. 5, 1958, pp. 171-207; a Russian translation, "Balans zatrat i vpuska produktsii" in: AKAD. NAUK SSR, SOVET PO IZUCHENIIU PROISVODITEL'NYKH SIL I SIBIRSKII INSTITUT EKONOMIKI I STATISTIKI, Vypusk I, Moscow-Novosibirsk, 1958, 64pp., (with an introduction by NEMCHINOV, V.S.), and in NEMCHINOV, V.S., (ed.), PRIMENENIE MATEMATIKI V EKONOMICHESKIE ISSLEDOVANIYAKH.

——, "Études sur la Planification Économique dans les Démocraties Populaires et dans les Pays Sous-Développés" (I. Les fondements de la planification économique, II. Quelques problèmes de planification économique dans les pays sous-développés, III. Quelques observations sur l'analyse Input-Output) CAHIERS DE L'INSTITUT DE SCIENCE ÉCONOMIQUE APPLIQUÉE, Serie G. 2, No. 49, 1957, 62 p. (F) (Studies Regarding Economic Planning in Peoples' Democracies and in Underdeveloped Countries: The Bases of Economic Planning, II. Some Problems of Economic Planning in Underdeveloped Countries, III. Some Observations Regarding Input-Output Analysis) A Spanish translation: "Tres ensayos sobre planeación económica" (Three Essays on Economic Planning) appeared in EL TRIMESTRE ECONÓMICO, Mexico, Vol. 26 (4), No. 104, Oct. - Dec., 1959, pp. 588-670.

——, WSTEP DO ECONOMETRII, Panstwowe Wydawnictwo Naukowe, Warsaw, 1958, 367 pp. (Introduction to Econometrics), (P) w. (E) sum..

In Chapter III, "The Theory of Programming" (pp. 210-308), the author discusses Leontief's Input-Output Analysis and the application of Input-Output models in economic planning to the relationships between the rate of accumulation, the rate of economic growth and the goal of full employment. The book contains an Input-Output Table of Poland for 1956 (7 x 7 Intermediate plus Final Demand Sectors), Input-Output Tables of Great Britain for 1935, and the USA for 1947, both having 10 x 10 Intermediate Sectors.

——, INTRODUCTION TO ECONOMETRICS, Pergamon Press, 1960, 384 pp.

(LANGE, INTRODUCTION TO ECONOMETRICS Continued)

This is a revised and enlarged version of the Polish edition of this book. In addition to the Input-Output Tables included in the Polish original, an Input-Output Table of Poland for 1957 (20 x 20 intermediate sectors) is presented.

- , "Model wzrostu gospodarczego" (P) w. (E) sum. (The Model of Economic Growth), EKONOMISTA, 1959, No. 3, pp. 523-52.

"...the author deduces the equilibrium equation on the basis of 'inter-branch flow (Input-Output) Tables'..."

LATIN AMERICA, Economic Commission for; see UNITED NATIONS.

- LEONTIEF, W.W., "Une Nouvelle Analyse des Faits Économiques, la Méthode de l'Entrée-Sortie" (F) (Translation of "Input-Output Economics," Scientific American, Oct., 1951), LA BANQUE, Paris, Apr. 1952.

- , "Les Tableaux d'entrée-sortie," (F) Reprint of the above article in: Documents Économiques ("Thémis"), Presses Universitaires de France, Paris, 1958, Vol. 1.

- , "Input-Output Analysis and the General Equilibrium Theory," Paper presented at the International Conference on Input-Output Analysis, Varenna, 1954, contained in BARNA, T., (ed.), THE STRUCTURAL INTERDEPENDENCE OF THE ECONOMY, Wiley & Sons, Inc., New York, -A. Giuffrè, Milano, 1956, pp. 39-50.

- , "Factor Proportions and the Structure of American Trade: Further Theoretical and Empirical Analysis," REVIEW OF ECONOMICS AND STATISTICS, Vol. 38, No. 4, Nov., 1956, pp. 386-407; see prelim. version of this article in: Harvard Economic Research Project, REPORT ON RESEARCH FOR 1955, March, 1956.

This is the second report concerning the analysis of the factor proportions of the trade relationships between the USA and the rest of the world, in the author's attempt to test the Heckscher-Ohlin theorem. On the basis of the empirical data presented in the article, the author arrives at the conclusion that the USA is a relatively capital poor and labor abundant country. A discussion of the theory, the method of computation and the sources of the empirical data is included.

- , Reply to the Comments of Valavanis, S.; Robinson, R.; Elliott, G.A.; Vaccara, B.N.; with regard to "Factor Proportions and the Structure of American Trade," THE REVIEW OF ECONOMICS AND STATISTICS, Vol. 40, Feb., 1958, Supplement No. 1, Part 2, pp. 119-22.
- , "Die Analyse der Volkswirtschaftlichen Struktur" (G) (Analysis of the Economic Structure), ARBEITSGEMEINSCHAFT FÜR RATIONALISIERUNG DES LANDES NORDRHEIN - WESTFALEN, Heft 36, 1958, pp. 13-18.
- , "Einsatz-Ausstoss Analyse" (G) (Input-Output Analysis), HANDWOERTERBUCH DER SOZIAL-WISSENSCHAFTEN, G. Fischer, J.C.B. Mohr, Vandenhoeck & Ruprecht, 1960, pp. 83-91.

(LEONTIEF, "Einsatz-Ausstoss Analyse" Continued)

LEONTIEF, W.W., "Einsatz-Ausstoss Analyse" (continued)

A short discussion of the theory of Input-Output Analysis, the static and dynamic models, Input-Coefficients, the problems of aggregation, the empirical application of the method; also, a short bibliography of Input-Output studies.

-----, Translations of: THE STRUCTURE OF THE AMERICAN ECONOMY, 1919-1939:

LA ESTRUCTURA DE LA ECONOMÍA AMERICA, 1919-1939 (by Estapé, F.),
José M. Bosch, Barcelona, 1957.

LA STRUCTURE DE L'ÉCONOMIE AMÉRICAINNE, 1919-1939 (by Marantz, M.),
Editions Génin, Paris, 1958.

Japanese Translation by Yamada, I.; and Iemoto, H., Publisher:
Toyo Keizai Shimposha, Tokyo, 1959.

-----, and Others, STUDIES IN THE STRUCTURE OF THE AMERICAN ECONOMY, Russian translation by Ignatieva, A.S., edited by Koniusa, A.A.: ISSLEDOVANIA STRUKTURII AMERIKANSKI EKONOMIKI: TEORETICHESKI I EMPIRICHESKI ANALIS PO SCHEME ZATRAT - VIPUSK. GOSSTATISDAT, Moscow, 1958, 640 pp.

McKENZIE, L., "An Elementary Analysis of the Leontief System," *ECONOMETRICA*, Vol. 25, No. 3, July, 1957 (Also Cowles Foundation Discussion Paper No. 15, July, 1956).

The standard theorems of the Leontief System are proved in a new and elementary way. These concern the existence of a unique non-negative solution, duality properties, efficiency and profitability, and the generalization to allow substitution of the inputs to an industry.

McMANUS, M., "Self-Contradiction in Leontief's Dynamic Model," *YORKSHIRE BULLETIN OF ECONOMIC AND SOCIAL RESEARCH*, Vol. 9, No. 1, May, 1957.

MAILLET, P., "L'analyse des Flux Physiques entre Secteurs" (F) (Analysis of Physical Flows between Sectors), *CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE, CAHIERS DE SÉMINAIRE D'ÉCONOMETRIE*, No. 3, 1955, pp. 39-71.

-----, "Circuits financiers et tableau économique" (F) (Money Flows and the 'tableau économique.''), *REVUE DE SCIENCE ET DE LÉGISLATION FINANCIÈRE*, Jan. - March, 1958 (W. Leontief's and Evans-Hoffenberg's Input-Output studies are frequently referred to).

MALINVAUD, E., *MODELES LINÉAIRES DES ÉCONOMIES À SECTEURS MULTIPLES* (F) (Linear Models of Multiple Sector Economies), *COLECTÂNEA DE ESTUDOS*, No. 6, 1959, 90pp., Instituto de Alta Cultura, Centro de Estudos de Estatística Económica, Lisbon.

The text of the author's lectures held at Lisbon in December, 1958, presenting an exposition of the theoretical background and the mathematics of the closed, open and dynamic Leontief models and a brief discussion of their applications to actual economic problems of a country, including economic development planning.

MANGOLD, G., "Die Strukturanalyse des wirtschaftlichen Kreislaufs" (G) (Structural Analysis of the Circular Flows in the Economy), SCHMOLLER'S JAHRBUCH FUER GESETZGEBUNG, VERWALTUNG UND VOLKSWIRTSCHAFT, Vol. 73, No. 2, 1953, pp. 33-66.

Input-Output Analysis is discussed in Part 6, pp. 38-47.

MARANTZ, M., "Le Tableau économique de W. Leontief" (F), LES CAHIERS DE LA REPUBLIQUE, No. 26, July-Aug., 1960, pp. 58-69.

Contains a description of the Leontief Input-Output Table, and a discussion of the construction, applications and limitations of the model.

MARQUES DA SILVA, F., "Algumas notas sobre a análise das relações interindustriais" (Por) (Some Notes on the Analysis of Interindustry Relations), REVISTA DE ECONOMIA, Lisbon, Vol. 12, Nos. 1-2, March-June, 1959, pp. 36-41.

Contains a short elementary discussion of the theory and mathematics of Input-Output Analysis based on a synthetic three-sector model.

MERING, O.V., "Input-Output Analyse" (G), STAATSLERIKON, Recht-Wirtschaft-Gesellschaft, 6th ed., pp. 319-323, Herder, Freiburg.

A short discussion of the basic theory of Input-Output Analysis, its mathematical basis, the open and closed model and Interregional Input-Output Analysis, in the dictionary of jurisprudence, economy, sociology.

MIERNYK, W.H., A PRIMER OF INPUT-OUTPUT ECONOMICS, Northeastern University, Bureau of Business and Economic Research, Business and Economics Education Series No. 2, 1957, 33 pp.

A presentation of the basic elements of Input-Output Analysis geared to beginning students of economics and those taking no more than an elementary course in this field. Included are reprints of Input-Output Flow, Input Coefficients and Inverse Matrices of the USA for 1947.

MIYAZAWA, K., -IWASAKI, H., "Interindustrial Repercussions and the Multiplier" (J), IKKYO RONSO, Vol. 41, No. 5 (Theoretical discussion).

MORISHIMA, M., "Prices, Interest, and Profits in a Dynamic Leontief System," ECONOMETRICA, Vol. 26, No. 3, July, 1958.

A discussion of the "substitution" theorem for a dynamic Leontief system, comparative statics analysis of price changes and the effect of price changes upon the rate of the balanced growth of outputs.

——, "A Comment on Dr. Klein's Interpretation of Leontief's System," THE REVIEW OF ECONOMIC STUDIES, Cambridge, England, Vol. 24 (1), No. 63, 1956-1957.

——, "Dr. Klein's Interpretation of Leontief's System," - A Rejoinder, THE REVIEW OF ECONOMIC STUDIES, Cambridge, England, Vol. 25 (1), No. 66, Oct., 1957, pp. 59-61.

(MORISHIMA Continued)

- al MORISHIMA, M. (Continued)
66. ———, "Mrs. Robinson's New Book and Professor Leontief's Dynamic System," The Institute of Social and Economic Research, Osaka University, Toyonaka, Osaka, Japan, Discussion Paper No. 3, Feb., 1958.
- QUE, ———, "Stability Condition of the Leontief System" (J), Encyclopedia of Economics (Keizaigaku Daijiten), Tokyo, Toyo Keizai Shimposha, 1955.
- on ———, "Some Properties of a Dynamic Leontief System with a Spectrum of Techniques," *ECONOMETRICA*, Vol. 27, No. 4, Oct., 1959, pp. 626-37.
- " . . . This paper was written independently of R. Solow's 'Competitive Valuation in a Dynamic Input-Output System' (*ECONOMETRICA*, 27/1, Jan., 1959) but is closely related to it. Under some plausible assumptions the author discusses various stability properties of a dynamic Input-Output system with a spectrum of techniques. . . This study is based on the author's earlier draft 'Mrs. Robinson's New Book and Prof. Leontief's Dynamic System' (Osaka University Discussion Paper No. 3) which points out similarities between Mrs. Robinson's model of the golden age and Leontief's dynamic model. . ."
- MURTEIRA, B., "Nota introdutória aos modelos de Leontief" (Por) (Introductory Note to Leontief Models), Centro de Estudos de Estatística Económica, ANAIS DO INSTITUTO SUPERIOR DE CIÊNCIAS ECONÓMICAS E FINANCEIRAS, Lisbon, 1952, Vol. 20.
- au NATAF, A., "Quelques propriétés des systèmes de Leontief et des systèmes s'y rattachant" (F) (Some Properties of the Leontief System and other Related Systems), S.E.E.F., Paris, 1958.
- ry NEMCHINOV, V.S., "The Balance Sheet Method in Economic Statistics" (With four tables: (1) Model of the Balance Sheet Table of the National Economy of the USSR in relative numbers, (2) Interindustry transactions, USA, 1947 (millions of dollars), (3) Interindustry Transactions, United Kingdom, 1950 (millions of £), (4) Tableau économique d'ensemble de l'année 1954, France, (milliards of francs). Reports Made by the Soviet Scientists to the 30th Session of the International Statistical Institute, Stockholm, 59 pp., Academy of Science of the USSR, Moscow, 1957.
-) "New Facts on U.S. Economy," *MODERN INDUSTRY*, July 15, 1951, pp. 55-58.
- "New Tools for Economic Studies," *CHEMICAL ENGINEERING*, Nov., 1953.
- W NIITAMA, O.E., -PAUNIO, J.J., "Panos- tuotos menetelmä taloudellisen tutkimuksen pohjana" (Input-Output Method - Basic Economic Research) (Fi), *SUOMEN YHTEISKUNTATILASTO JA SEN KEHITTÄMINEN*, Helsinki, 1956, pp. 314-19.
- OHLSSON, I., *ON NATIONAL ACCOUNTING*, Konjunkturinstitutet Stockholm, 1953.
- The Leontief Input-Output System is discussed on pp. 70-72.

Organisation for European Economic Co-operation, National Accounts Studies, Netherlands, with technical annex including 26 interindustry sectors Input-Output Tables for 1938, 1946-48, (*).

ORLANDO, G., "Osservazioni sull' equilibrio economico di settore" (I) w. (E) sum. (Comments Regarding the Economic Equilibrium of the Various Sectors), RIVISTA DI ECONOMIA AGRARIA, Vol. 9, No. 4, Dec., 1954, pp. 503-26.

Utilizing Italy's Input-Output Table for 1950 the author examines the particular problem presented by the study of partial economic equilibrium -- an equilibrium which in the different sectors of consumption establishes itself between final total supply and demand, with particular regard to its application in the agricultural food sector.

Osaka University, "Mrs. Robinson's New Book and Professor Leontief's Dynamic System" by Morishima, M., Institute of Social and Economic Research, Discussion Paper No. 3, Feb., 1958.

OTT, A.E., "Bemerkungen zu E. Helmstaedter: 'Produktionsstruktur und Wachstum'" (G) (Observations to Helmstaedter's 'Structure of Production and Growth'), JAHRBUECHER FUER NATIONAL OEKONOMIE UND STATISTIK, Vol. 171, No. 1-2, Jan., 1959, pp. 13-24.

PLATT, H., INPUT-OUTPUT ANALYSE (G) (Input-Output Analysis), Schriften zur Wirtschaftswissenschaftlichen Forschung, Band 6, Verlag Anton Hain KG., Meisenheim a/Glan, Germany, 1957.

Discusses the theoretical basis of Input-Output Analysis, the possibilities and limitations of the practical application of Input-Output analysis to actual problems.

POLAND, Polish Planning Commission, Studies of the Economic Research Center, Warsaw, (Komisja Planowania przy Radzie Ministrow, Prace i materialy zakladu badan ekonomicznych, No. 11) (P), Apr., 1958.

Input-Output Tables of the Polish Economy, 1956, with theoretical discussion of Input-Output Analysis are included in the study.

POWELSON, J.P., ECONOMIC ACCOUNTING, McGraw-Hill, Inc., New York, 1955. (Chapter 24, "Input-Output Tables," pp. 425-51).

PREDETTI, A., "Talune considerazioni sul modello Leontieviano e sulla contabilit sociale," (I) (Some Considerations Regarding the Leontief Model and Social Accounting), L'INDUSTRIA, RIVISTA DI ECONOMIA POLITICA, Milano, 1954, No. 3, pp. 387-404.

Princeton University, Economic Research Project, Technical Report, Mimeographed, Apr. 22, 1957, "Testing the Workability of Input-Output Analysis" (by Hatanaka, M.).

(Princeton University, Economic Research Project, Technical Report Continued)

(*) See Section 8, NETHERLANDS

Contains a statistical analysis of errors in estimates of total outputs and indirect demands in Input-Output analysis--based on the U.S.A. Input-Output Table for 1947--with the purpose of indicating some of the directions towards which the present form of Input-Output analysis should be oriented to improve its workability.

QUANDT, R.E., "Probabilistic Errors in the Leontief System," U.S. NAVAL RESEARCH LOGISTICS QUARTERLY (Office of Naval Research), Vol. 5, No. 2, June, 1958.

-----, "Stochastic Elements in Economic Theory and Statistical Inference in Input-Output Analysis," Ph.D. Thesis, Harvard University, 1957.

-----, HENDERSON, J.M., MICROECONOMIC THEORY - A MATHEMATICAL APPROACH (For a discussion of the Input-Output System, see pp. 157-63), McGraw-Hill, Inc., New York, 1958, 291 pp.

-----, HENDERSON, J.M., "Walras, Leontief and the Interdependence of Economic Activities: Comment," QUARTERLY JOURNAL OF ECONOMICS, Vol. 59, No. 4, Nov., 1955, pp. 626-31.

RASMUSSEN, P.N., "On Changes in Inter-Sectoral Terms of Trade," Paper presented at the International Conference on Input-Output Analysis, Varenna, 1954, contained in: BARNA, T., (ed.), THE STRUCTURAL INTERDEPENDENCE OF THE ECONOMY, JY Wiley & Sons, -A. Giuffrè, 1956, pp. 357-75.

-----, STUDIES IN INTERSECTORAL RELATIONS, North-Holland Publishing Company, Amsterdam-Einar Harcks Forlag, København, 1956, 217 pp. (*).

Theoretical Discussion of Inter-Industry Analysis and presentation of empirical results of Input-Output Studies for Denmark: 21 sectors Inter-Industry Flow Tables, Coefficients and Inverse Matrices for 1947 and 1949 and analysis of Denmark's Foreign Trade sector.

-----, "Om Input-Output Analysen" (D) (On Input-Output Analysis).

-----, "Input-Output Modellens Avendelsesmuligheder" (D) (The Potential Uses of Input-Output Models).

-----, "Nogle udvidelser af input-output modellen" (D) (Extensions of the Input-Output Model).

NATIONALØKONOMISK TIDSSKRIFT, Vol. 92, 1954, Nos. 1-2, 3-4, 5-6, respectively.

Three articles dealing with the development of Input-Output Analysis: the first discusses the open static model; an Input-Output Table of the United Kingdom for 1948 (8 x 8 sectors) is used as an example; the second explores the potential uses of the method and the interpretation of possible deviations between forecasts based on Input-Output data and actual facts; the third deals with the original closed model, the pos-

(RASMUSSEN "Nogle udvidelser af input-output modellen" Continued)

(*) For reviews see Section 11.

sibilities of closing the open model, the open dynamic Leontief model (1953) and the interregional models of Leontief and Isard.

- , "Om indkonstfordelingen og handelen mellem sektorerne" (D) (On the Distribution of Income and Trade Between the Sectors), HANDELSVIDENSKABELIGT TIDSSKRIFT (Denmark), hefte 89-90.

To obtain a balance of payment for each sector as compared to the other sectors, Input-Output tables can be used. If such tables are available for a number of years, changes in the intersectoral trades can be analysed.

- , -BJERKE, K., -MILHØJ, P., "Input-Output Work in Denmark," Papers presented at the Fourth Conference of the International Association for Research in Income and Wealth, Hindsgavl, Denmark, Sept., 1955.

RENYI, A., -BRODY, A., "Az árrendezés problémája" (H) (The Problem of Price Determination), MTA Pamphlet, Budapest, March, 1956.

ROBINSON, R., "Comments on W. Leontief's Factor Proportions and the Structure of American Trade," THE REVIEW OF ECONOMICS AND STATISTICS, Vol. 40, Supplement, Feb., 1958, No. 1, Part 2, pp. 113-16.

- , "Factor Proportions and Comparative Advantages," Parts I and II, THE QUARTERLY JOURNAL OF ECONOMICS, Vol. 70, No. 2, May, 1956, and No. 3, Aug., 1956.

ROMAN, Z., "A ráfordítási-kibocsátási tábla összeállításának vállalati feladatai" (H) (Institutional Problems of the Composition of the Input-Output Table) IPARI ÉS ÉPÍTŐIPARI STATISZTIKAI ÉRTESÍTŐ, May, 1958, pp. 141-55 and June, 1958, pp. 181-87.

- , "Tervezés, statisztikai és az ágazati kaécsplatok mérlege" (H) (Interconnection Between Planning and Statistics and Input-Output Balancing), KOEZGAZDASAGI SZEMLE, Vol. 5, 1958, pp. 1135-1148.

RUGGLES, R., and N.D., NATIONAL INCOME ACCOUNTS AND INCOME ANALYSIS, McGraw-Hill, Inc., New York, 1956.

W. Leontief's Input-Output Analysis is discussed on pp. 187-197 and an U.S.A. Input-Output Flow Table for 1947 is included.

RYABUSHKIN, T., "Balansovye postroeniia v burzhuaznoi statistike" (R) ("Balance Models in Bourgeois Statistics"), VESTNIK STATISTIKI, No. 6, 1956, pp. 50-59, Gosstatizdat, Moscow.

Contains a detailed report on static Input-Output Analysis as developed in the USA and a reprint of an aggregated Input-Output Table of the USA for 1947.

SAGOROFF, S. WIRTSCHAFTSSTATISTIK. THEORIE DER INTERPRETATION, I. QUANTITATIVE
ERFORSCHUNG DES GESAMTEN WIRTSCHAFTLICHEN PROZESSES (G) (Economic
Statistics, The Theory of Interpretation, I. Quantitative Analysis of the
Total Economic Process), A. Francke A.G. Verlag, Bern, 1950.

In Ch. 4, "Mathematische Darstellung des Wirtschaftskreislaufs" (Mathe-
matical Representation of Circular Flows in the Economy), paragr. 15,
entitled "Die Einsatz-Ausstoss Analyse und ihr mathematischer Ausbau"
(Input-Output Analysis and Its Mathematical Basis), Input-Output Analysis
is discussed and a 21 sectors flow table of the U.S.A. for 1939 included.

SAMUELSON, P.A., ECONOMICS. AN INTRODUCTORY ANALYSIS, 4th Edition, McGraw-Hill, Inc.,
New York, 1958.

Input-Output analysis is discussed on pp. 783-84.

———, "A Modern Treatment of the Riccardian Economy: I. The Pricing of Goods and
of Labor and Land Services," QUARTERLY JOURNAL OF ECONOMICS, Vol. 73, No. 1,
Feb., 1959.

W. Leontief's Input-Output Analysis is quoted repeatedly in the article;
see also the section, "The Leontief-Ricardo Tableau," pp. 15-16.

SANDEE, J., "Input-Output Accounts," Paper presented at the International Con-
ference on Input-Output Analysis, Varenna, 1954, contained in BARNA, T.,
(ed.), THE STRUCTURAL INTERDEPENDENCE OF THE ECONOMY, J. Wiley & Sons,
-A. Giuffrè, 1956, pp. 219-29.

SARDA, J., "Las Tablas de Interdependencia Estructural y sus Aplicaciones," (S),
Banco Central de Venezuela, 8 pp.

SASTRY, N.S.R., "Input-Output Analysis," THE ASIAN ECONOMIC REVIEW, Hyderabad,
Vol. 1, No. 1, Nov., 1958.

A summary of a course consisting of three lectures given by the author
at the Indian Institute of Economics, Hyderabad.

SCHNEIDER, E., EINFUEHRUNG IN DIE WIRTSCHAFTSTHEORIE, 1. Teil, Theorie des
Wirtschaftskreislaufs (G) (Introduction to the Theory of Economics, Part 1,
Circular Flow Theory of Economics), J.C.N. Mohr, Tuebingen, 1955,
(5. Auflage).

See pp. 85-111 for discussion of the Input-Output Table.

SCHOUTEN, D.B.J., EXACTE ECONOMIE, H.E. Stenfert Kroese, 1957, 226 p., plus 18 pp.
Appendix (Du).

The Leontief Matrix and its inversions are discussed.

SCHWARTZMANN, D., "The Leontief Input-Output System," Dominion Bureau of Statistics,
Ottawa, 1952, mimeographed.

SEVALDSON, P., "Input-Output Analysis and Economic Theory, An Exercise in Aggregation," 18 p. paper presented at the Fourth Conference of the International Association for Research in Income and Wealth. Hindsø, Denmark, Sept., 1955.

SIROTKOVIĆ, J., "Metode ekonomske analize i ekonomska politika" (SC)w. (E) sum. (Methods of Economic Analysis and Economic Policy), EKONOMSKI PREGLED, Vol. 7, No. 4, 1956, pp. 221-62.

The author discusses Marx' analysis of reproduction processes, Keynes' theories, Social Accounting, Input-Output Analysis and the application of the latter in various countries and the advantages of these methods.

SOLOW, R.M., "Competitive Valuation in a Dynamic Input-Output System," ECONOMETRICA, Vol. 27, No. 1, Jan., 1959, pp. 30-53.

This paper is a complement to M. Morishima's "Prices, Interest and Profits in a Dynamic Leontief System," see ECONOMETRICA, Vol. 26, No. 3, 1958. The author generalizes both the usual dynamic Leontief model by removing the restrictions that all stocks of capital goods be fully utilized and the usual price theory of such models by allowing prices to change and to be expected to change.

STOEWE, H., OEKONOMETRIE UND MAKROOEKONOMISCHE THEORIE. Stochastische Wirtschaftsforschung als notwendige Ergaenzung der Theorie. (G) (Econometric and Macroeconomic Theory. Stochastic Economic Analysis as a Necessary Supplement to the Theory.), OEKONOMETRISCHE STUDIEN, No. 3, G. Fischer, Stuttgart, 1959, 190 pp.

The paper contains a discussion of Input-Output Analysis and its significance as a theoretical and econometric tool of economic research (pp. 147-158).

STONE, R., "Model Building and the Social Accounts: A Survey," University of Cambridge, England, Department of Applied Economics, 1956, Reprint Series No. 106. Also published in INCOME AND WEALTH, Series IV (1955), Bowes & Bowes, Ltd., London.

An outline survey of developments in the construction of models of the economic process with emphasis on the empirical testing of relationships. Sections XII, XIII, XIV, entitled "A Simple Interindustry Model," "Information for Inter-Industry Models," "Dynamic Inter-Industry Models," respectively, describe the static Input-Output model, some of the existing Input-Output Tables of various countries, inversion of matrices of production coefficients, and briefly, dynamic Inter-Industry models.

—, "Input-Output and the Social Accounts," University of Cambridge, England, Department of Applied Economics, 1956, Reprint Series No. 102.

This is a reprint of the paper presented at the International Conference on Input-Output Analysis, Varenna, 1954, and included in BARNA, T., (ed.), THE STRUCTURAL INTERDEPENDENCE OF THE ECONOMY, J. Wiley & Sons, -A Giuffrè, 1956, pp. 409-29.

(STONE Continued)

STONE, R. (Continued)

-----, CROFT-MURRAY, G., SOCIAL ACCOUNTING AND ECONOMIC MODELS, Bowes & Bowes, 1959, 88 pp.

The objective of the book is "...to present a brief description of social accounting, including the Input-Output Table, together with an introduction to economic model building. ..." Social Accounting, economic models, Input-Output matrices, Input-Output models and the latter's uses and limitations are reviewed.

SULMICKI, P., "Tabela przepływów międzygałęziowych" (P) (Input-Output Analysis), GOSPODARKA PLANOWA, Warsaw, July-Aug., 1957.

-----, PRZEPŁYWY MIĘDZYGAŁĘZIOWYCH (P) (Interindustrial Flows), Polskie Wydawnictwa Gospodarcze, 1959, 299 pp.

The book contains a discussion of the theoretical and mathematical background of W. Leontief's Input-Output Analysis and of Regional Analysis, as well as the theoretical, statistical and computational problems encountered in its application. Empirical examples of the application of the method to the analysis of the economics of Great Britain, the U.S.A., Yugoslavia, are included; further, the application to planning in a socialist economy like that of Poland is discussed and Input-Output Tables of that country for 1956 and 1957 are reprinted.

TUSENIUS, R.R., DIE THEORIE EN PRAKTYK VAN DIE INTERINDUSTRIEVLOEI-TEGNIEN (A) (The Theory and Application of the Interindustry Flow Method), South-African Scientific and Industrial Research Council, Industry Economics, Division, Pretoria, 1957, mimeographed, 342 pp.

Includes a discussion of the theory of Input-Output Analysis, the possibilities of its application, the actual application in the past in various countries, two 14 sectors Interindustry Flow Tables for 1951-52 of the Union of South Africa; reprints of the Input-Output Tables of the Netherlands (1948), United Kingdom (1935, 1950), Italy (1950), Israel (1950), U.S.A. (1919), further, an appraisal of the Input-Output method of economic analysis.

UNITED NATIONS, Research and Planning Division, Economic Commission for Europe, Economic Bulletin for Europe, Vol. 8, No. 1, May, 1956, "Input-Output Tables; Recent Experience in Western Europe."

This article is based on a paper prepared with the assistance of O. Aukrust and discusses recent developments in Input-Output analysis; it also surveys the theories and practices applied by several Western European countries--Denmark, Italy, Netherlands, Norway, United Kingdom, and France--in the construction of Input-Output Tables.

-----, Economic Commission for Latin America, Economic Bulletin for Latin America, Vol. 1, No. 2, September, 1956, "The Input-Output Model."

(UNITED NATIONS, Economic Commission for Latin America Continued)

UNITED NATIONS, Economic Commission for Latin America (Continued)

General Characteristics and Applicability to the Case of a Latin American Country (Columbia, 1953). The article is based on lectures delivered during the ECLA/TAA Economic Development Training Program by Vuskovic, P., with the assistance of Ochsenius, V., and presents a general description of an input-output model and a discussion of its applicability to the economy of a Latin American country (Colombia); also, the problem of integrating the external sector with the intermediate transactions, the valuation problems and the practical possibilities for the construction and utilization of a model are analyzed.

- , Statistical Office, Economic Commission for Latin America, United Nations Seminar on National Accounts for Latin America, June 11-26, 1959, Rio de Janeiro, Brazil (ST/STAT/CONF.7/L.1 March 2, 1959), INPUT-OUTPUT TABLES AND ANALYSIS, 35 pp.

The publication discusses Input-Output Tables and Analysis as a system of national economic accounting, the problems encountered, methods of procedure, applications, the limitations of the input-output model in under-developed countries, and a survey of practices in constructing Input-Output Tables in various countries: Algeria, Argentina, Australia, Canada, Colombia, Denmark, Italy, Japan, Netherlands, New Zealand, Norway, Peru, Tanganyika, United Kingdom, U.S.A..

- , Economic and Social Council, Statistical Commission (E/CN.3/266, Jan., 1960) INPUT-OUTPUT TABLES AND ANALYSIS. (Memorandum by the Secretary General), Mimeographed, 37pp. plus Appendix, 7 pp.

This is a slightly revised version of the UN publication St/Stat/Conf.7/L above; it contains, in addition, an appendix on Linear Programming.

- U.S.S.R., "Balanz zatrat i vipustka produktsii" (R) (Balance of Outlays and Production - Input-Output), ACADEMY OF SCIENCE OF THE USSR, Council for the Study of Productive Resources, and Siberian Institute of Economics and Statistics, Scientific Information in the Area of Economics and Statistics, Vol. 1, Moscow, 1958, 64 pp.

- VAHABZADEH, A.A., "Conceptual Problems in the Interindustry Analysis and Linear Projection Techniques as a Tool of National Planning in Underdeveloped Countries," Ph.D. Thesis, University of Southern California, 1956.

- VIELROSE, E., "Uwagi o schematach input-output" (P) (Some Remarks on the Input-Output Table), EKONOMISTA, 1959, No. 2, pp. 283-96.

- VIMOT, C., "Interindustriels," Dictionnaire des Sciences Economiques (J. Romeuf) (F), Tome 1, pp. 621-24. Presses Universitaires de France, Paris, 1956.

A discussion of W. Leontief's Inter-Industry Analysis in the Dictionary of Economic Sciences.

- VIRENQUE, P., "De Input-Output Analyse" (Fl), ECONOMISCH EN SOCIAL TIJDSCHRIFT, Antwerpen (Belgium), 12th Vol., No. 2, Apr., 1958, 20 pp.

WAGENFUEHR, R., "Die Volkswirtschaftliche Bilanz" (G) (The Balance of Social Accounts), MITTEILUNGEN DES WIRTSCHAFTSWISSENSCHAFTLICHEN INSTITUTS DER GEWERKSCHAFTEN, Koeln a/Rh., Vol. 5, No. 2, Feb., 1952, pp. 39-45.

Includes a discussion of W. Leontief's Input-Output Table and the reprint of an Input-Output Table for the U.S.A..

WATANABE, Tsunehiko, "The Treatment of Competitive Imports in Input-Output Analysis," Stanford University, Department of Economics, Stanford Project for Quantitative Research in Economic Development, Memorandum No. C-1, 12 p., hectographed.

Western Europe, "Input-Output Tables: Recent Experience in Western Europe," see United Nations, Research and Planning Division, Economic Commission for Europe, ECONOMIC BULLETIN FOR EUROPE, Vol. 8, No. 1, May, 1956.

WONNACOTT, R.J., "An Input-Output Analysis of the Interrelationship of the Canadian and United States Economies," Ph.D. Thesis, Harvard University, 1958.

-----, A preliminary version of the above, and "Introduction of Capacity Restraints into an Input-Output Trade Model," Harvard Economic Research Project, Memorandum, Aug., 1958, hectographed.

-----, "A Foreign Trade Input-Output System for Canada and the U.S.," Paper presented at the Cambridge Meeting of the Econometric Society, Aug., 1958. Abstract of the paper: ECONOMETRICA, Vol. 27, No. 2, Apr., 1959, p. 284.

YAMADA, I., "Leontief's System and Production Function" (J) w. (E) sum., THE ECONOMIC REVIEW, Economic Institute, Hitotsubashi University, Tokyo, Vol. 3, No. 3, July, 1952.

-----, "On a Measurement of a Leontief System" (J) w. (E) sum., THE ECONOMIC REVIEW (J), Economic Institute, Hitotsubashi University, Tokyo, Vol. 5, No. 1, Jan., 1954.

-----, "Input-Output Analysis and Demand and Supply Functions" (J) w. (E) sum., THE ECONOMIC REVIEW (J), Economic Institute, Hitotsubashi University, Tokyo, Vol. 9, No. 3, July, 1958.

ZARNOWITZ, V., "Technology and Price Structure in General Interdependence Systems," THE REVIEW OF ECONOMIC STUDIES, 1955-56, Vol. 23 (2), No. 61.

The article discusses the various approaches which may be used to relax the rigidity of certain linear models in general equilibrium analysis. In Part I "Production Functions and Profit Maximization in General Equilibrium Analysis," W. Leontief's system is discussed.

SECTION NO. 2

MATHEMATICAL AND COMPUTATIONAL TECHNIQUES

AERTS, L., "Input-Output en linear programming in het kader van de economische Wetenschap" (Fl) (Input-Output and Linear Programming in the Framework of Economic Science), ECONOMICA DOCUMENTATIE, Leuven (Belgium), No. 4, 1954.

ALLEN, R.G.D., MATHEMATICAL ECONOMICS, St. Martin's Press, New York, Macmillan, London, 1956. Ch. 11, "Interindustry Relations - Leontief Input-Output Analysis," see also pp. 483-5, 487-8, 489-91, 566, 571-7, 620, 677.

AMATO, V., "Un metodo pratico per la inversione della matrice di Leontief" (I) w. (E) sum. (A Practical Method for the Inversion of Leontief's Matrix), L'INDUSTRIA, No. 3, July-Sept., 1959, pp. 297-313.

———, "Inversione della matrice leontievisiana col metodo di riduzione alla matrice-elemento" (I) (Inversion of Leontief's Matrix by Reduction to the Elementary Matrix), RIVISTA DI POLITICA ECONOMICA, Vol. 50/III, No. 2, Feb., 1960, pp. 250-75.

———, "'Matrici di posizione' e loro impiego nell' analisi delle interdipendenze strutturali dei sistemi economici" (I) w. (E) sum. ('Position Matrices' and their Use in the Analysis of the Structural Interdependence of Economic Systems), L'INDUSTRIA, No. 2, 1960, pp. 212-32.

The author defines the term "position matrices," illustrates their properties and points out their usefulness for approximated inversions of Leontief matrices.

ANDO, A., -SIMON, H.A., "Aggregation of Variables in Dynamic Systems," Paper presented to the Meeting of the Econometric Society, Cleveland, Dec., 1956.

ARA, K., "Some Repercussion Effects Obtained from Input-Output Tables" (J) w. (E) sum., THE ECONOMIC REVIEW, Vol. 6, No. 4, Oct., 1955, Hitotsubashi University, Institute of Economic Research, Tokyo.

ARNAIZ VELLANDO, G., -IASUÉN, J.R., "Significado económico de los coeficientes en el análisis Input-Output" (S) w. (E) sum. (Economic Significance of Coefficients in Input-Output Analysis), ESTADÍSTICA ESPAÑOLA, Núm. 5, Oct. - Dic., 1959, pp. 27-33.

". . . The purpose of the study is to give an economic significance to the process of inverting the technological Leontief matrix. In the process of inverting an Input-Output matrix the economic meaning of every step taken is normally obscured. Clearer understanding of the economic meaning attached to and supporting every algebraic transformation is a requirement for further improvement in theoretical research and application of Input-Output analysis. . ."

AUKRUST, O., "Theoretical Models and their Application in Economic Thought,"
STATSKONOMISK TIDSSKRIFT, Oct., 1955, 26 p. (*).

BELKIN, V., "O primeneni elektronnykh vychislitel'nykh mashin v planirovanii i statistike narodnogo khoziaistva" (R) (On the Application of Electronic Computers to Economic Planning and Statistics), VOPROSY EKONOMIKI, 1957, No. 12, (E) transl.: PROBLEMS OF ECONOMICS, June, 1958, pp. 67-71.

954. -----, "Primenenie elektronnykh vychislitel'nykh mashin v planirovanii narodnogo khoziaistva" (R) (The Application of Electronic Computers to Planning in the National Economy), contained in the collection, TEZISI DOKLADOV SOVESHCHANIIA PO VYCHISLITEL'NOI MATEMATIKI I PRIMENENIIU SREDSTV VYCHISLITEL'NOI TEKHNIKI, Akademia Nauk Azerbaidzhanskoi SSR, Baku, 1958.

Abstract of a paper presented at a conference held at the Academy of Sciences of Azerbaidzhan, 1958, on computer mathematics and the use of electronic computer techniques. The content is similar to that of the article reprinted in VOPROSY EKONOMIKI. The work in progress regarding the application of Input-Output techniques to Soviet economics is listed and discussed.

BERGER, W.J., -SAIBEL, E., "Power Series Inversion of the Leontief Matrix," ECONOMETRICA, Vol. 25, No. 1, Jan., 1957.

The authors indicate several power series conversions of the Leontief Matrix each of which converge more rapidly than the series proposed by Waugh in ECONOMETRICA, Vol. 18, 1950.

-----, Rejoinder to EVANS', W.D., letter to the Editor of ECONOMETRICA, Vol. 26, No. 1, Jan., 1958, concerning the above article.

BOIARSKII, A.I., "Ob 'ekonometrike' i primeneni matematiki v ekonomicheskom analize" (R) (Econometrics and the Use of Mathematics in Economic Analysis), PLANOVOE KHOZIAISTVO, 1959, No. 7, (E) transl. in: PROBLEMS OF ECONOMICS, Vol. 2, No. 7, Nov., 1959.

The author discusses Input-Output Analysis among other methods of mathematical economic analysis.

BOZUFFI, R., -REVIGLIO, G., "Il procedimento d'inversione della matrice delle interdipendenza strutturali dell' economia italiana per il 1950" (I) w. (E) sum. (The Method Used for Inverting the Input-Output Table of the Italian Economy for 1950), L'INDUSTRIA, rivista di economia politica, 1955, No. 2, pp. 252-60.

BRIGGS, F.E.A., "On Problems of Estimation in Leontief Models," ECONOMETRICA, Vol. 25, No. 3, July, 1957, pp. 444-55.

When in Input-Output analysis technical coefficients are not precisely known and are obtained from a series of observations, their estimates will be subject to a probability distribution. The efficient estimation of the technical coefficients is discussed. National Accounts data for the United Kingdom are used in the examples.

(*) See Section 1, p. 2.

CANSADO, S., "Sobre la inversión de matrices de Leontief" (S) (On the Inversion of Leontief Matrices), TRABAJOS DE ESTADÍSTICA, Vol. 9, Part 3, 1958, pp. 203-264. This study was presented as a paper at the ECONOMETRICS-Society Meeting, Bilbao, Spain, Sept., 1958. For a short summary of this Paper, see ECONOMETRICA, Vol. 27, No. 4, Oct., 1959, pp. 709-10.

CHAKRAVARTY, S., "The Matrix Extension of the Multiplier," INDIAN ECONOMIC REVIEW, Feb., 1957.

CHENERY, H.B., "Tests of Inter-Industry Models of Growth," Stanford University, Department of Economics, Stanford Project for Quantitative Research in Economic Development, Memorandum No. D-1, July, 1957, 12pp., hectographed.

——, —CLARK, P.G., INTERINDUSTRY ECONOMICS, J. Wiley & Sons, Inc., 1959, 345 p. (*).

CHERUBINO, S., "I prezzi nella teoria dell' equilibrio generale dinamico secondo Leontief - Goodwin" (I) (Prices in the General Dynamic Equilibrium Theory According to Leontief - Goodwin), RIVISTA DI POLITICA ECONOMICA, Vol. 42, III. Series, Fasc. IX, Sept., 1952.

——, "Sui fondamenti matematici della teoria dell' equilibrio generale economico" (I) w. (E) sum. (On the Mathematical Foundation of the General Equilibrium Theory), L'INDUSTRIA, Rivista di economia politica, 1956, No. 3, pp. 302-336.

——, "Sulle matrici leontieviane e su un problema di programmazione lineare" (I) w. (E) sum. (On Leontief Matrices and on a Problem in Linear Programming), L'INDUSTRIA, Rivista di economia politica, 1959, No. 2, pp. 156-164.

CHIPMAN, J.S., "A Note on Stability, Workability, and Duality in Linear Economic Models," METROECONOMICA, Vol. 6/1, Apr., 1954, pp. 1-10.

The paper deals with the multi-sector multiplier model and, among others, the static and dynamic Leontief models, and the conditions that give rise to a positive bill of goods or a positive rate of growth in Leontief models.

CSEPINSZKY, A., "Hibameghatározás az ágazatok kapcsolatának elemzésénél" (H) w. (E) and (R) sum. (Error Determination in Input-Output Analysis), STATISZTIKAI SZEMLE, Vol. 38, No. 1, Jan., 1960, pp. 6-29.

The author analyses the sources of possible errors in Input-Output Analysis: inaccuracy of basic data, aggregation, application of approximate methods (estimates), rounding off of figures.

DIEULEFAIT, C.E., "El modelo de insumo-producto y el problema de inversión" (S) (The Input-Output Model and the Problem of Inversion), REVISTA DE CIENCIAS ECONOMICAS, Vol. 46/IV/3, July-Sept., 1958, pp. 267-276.

EVANS, W.D., Rebuttal to BERGER, W.G., —SAIBEL, E., "Power Series Inversion of the Leontief Matrix," ECONOMETRICA, Vol. 26, No. 1, Jan., 1958.

(EVANS Continued)

(*) See Section 1, p. 5.

EVANS, W.D. (Continued)

-----, "Input-Output Computations," Paper presented at the International Conference on Input-Output Analysis, Varenna, 1954, reprinted in BARNA, T., (ed.), THE STRUCTURAL INTERDEPENDENCE OF THE ECONOMY, J. Wiley & Sons, Inc., New York, -A. Giuffrè, Milano, 1956, pp. 51-102.

A discussion of the mathematical and computational aspects of Input-Output systems.

FABBRINI, L., "La generalizzazione del moltiplicatore e degli schemi macroeconomici" (I) (Generalization of the Multiplier and the Macroeconomic Schemes), RIVISTA INTERNAZIONALE DI SCIENZE SOCIALI (Università Cattolica del Sacro Cuore, Milano), Vol. 60-IV, Aug., 1952, pp. 311-34.

W. Leontief's Input-Output Analysis is discussed on pp. 332-34.

FAIVELEY, G., "La dynamisation du modèle de Leontief et le problème de l'équipement optimum" (F) (The Dynamization of the Leontief Model and the Problem of Optimum Equipment), CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE. CAHIERS DU SEMINAIR D'ÉCONOMÉTRIE, No. 4, 1956.

FEI, J.C.H., "An Alternative Exposition of the Generalized Simplex Method for the Maximization of the Linear Function of Nonnegative Variables Subject to Linear Equalities," Memorandum; hectographed, Harvard Economic Research Project, Oct., 1954.

-----, -DEL PUNTA, V., "L'uso della 'programmazione linear' per lo studio della pianificazione della sviluppo industriale con riferimento al problema del Mezzogiorno italiano" (I) (The Use of Linear Programming for the Planning of Industrial Development with Reference to the Problem of Southern Italy), RIVISTA DI POLITICA ECONOMICA, Vol. 45, III Series, Fasc. XI, Nov., 1955.

Included in this bibliography ex officio since this article was written while both authors worked at the Harvard Economic Research Project.

FIGUEROA, E. de., "El sistema de Leontief y el principio de máximo" (S) (The Leontief System and the System of Maximum), RIVISTA DE CIENCIA APLICADA, Vol. 9, No. 43, Mar. - Apr., 1955, pp. 112-21.

FUERST, E., "The Matrix as a Tool in Macro-Accounting," REVIEW OF ECONOMICS AND STATISTICS, Vol. 37, No. 1, Feb., 1955.

The author analyses the formal structure of the matrix as an accounting tool, reviews actual Input-Output matrices under the aspect of their formal structure and presents an income-product matrix.

GHOSH, A., "A Note on the Leontief Model with Non-Homogeneous Production Functions," METROECONOMICA, Vol. 12, No. 1, April, 1960, pp. 14-21.

HEADY, E.O., -CANDLER, W., LINEAR PROGRAMMING METHODS, The Iowa State College Press, Ames, Iowa, 1958, 597 pp. (see Chapter 14, pp. 474-98, "Input-Output Analysis").

- HELMSTAEDTER, E., "Produktionsstruktur und Wachstum" (G) (Structure of Production and Growth), JAHRBUCHER FUER NATIONAL OEKONOMIE UND STATISTIK, Vol. 169, No. 3, 4, Oct., 1957, pp. 173-212, and Vol. 169, No. 6, Mar., 1958, pp. 427-449, (*).
- HENDERSON, J.M., -QUANDT, R.E., MICROECONOMIC THEORY -- A MATHEMATICAL APPROACH (Input-Output System, see pp. 157-163), McGraw-Hill, Inc., New York, 1958, 291 pp. (*).
- Hitotsubashi University, Institute of Economic Research, THE ANNALS OF HITOTSUBASHI ACADEMY, Vol. 5, No. 1, Oct., 1954, pp. 50-59, "Maximizing Principle and Method of Consistent Determination of Input Coefficients in a Leontief System" (Yamada, I.).
- HUBBEL, C.H., "Sociometry and Leontief Matrices," University of Michigan, Ann Arbor, Seminar on the Application of Mathematics to the Social Sciences, March, 1953, mimeographed, 21 pp.
- IEMOTO, H., "Note on Input-Output Analysis: Differences between the Repercussion Effects in Physical Terms and in Value Terms," Kobe University, Faculty of Economics, Aug., 1959, 9 pp., mimeographed.
- JAKSCH, H.J., "A Regular Input-Output Model with Decreasing Marginal Returns," REVIEW OF ECONOMIC STUDIES, Vol. 27 (2), No. 73, Feb., 1960, pp. 135-38.
- JORGENSON, D.W., "Stability of the Dynamic Input-Output System," Working Paper No. 1, Bureau of Business and Economic Research, Committee on Econometrics and Mathematical Economics, University of California, Berkeley, Oct. 29, 1959, 27 pp., mimeographed.
- , "On a Dual Stability Theorem," Working Paper No. 3, Bureau of Business and Economic Research, Committee on Econometrics and Mathematical Economics, University of California, Berkeley, Nov. 15, 1959, 11 pp., mimeographed.
- KANTOROVICH, V.L., "Matematicheskie metodi organizatsii i planirovaniya proizvodstva" (R) (Mathematical Methods in Organization and in Planning of Production), Leningrad State University, Leningrad, 1939, 68 pp.
- KARLIN, S., METHODS AND THEORY IN GAMES, PROGRAMMING, AND MATHEMATICAL ECONOMICS, Vol. 1, Addison-Wesley, 1959.
- The mathematics of Input-Output Analysis is discussed in Chapter 8, Sect. 1, "Open and Closed Linear Leontief Models" (pp. 244-46), Sect. 5, "Efficient Points of a Leontief-Type Model" (pp. 261-65. Chapter 9, Sect. 10, "A General Model of Balanced Growth - the Leontief Dynamic Model" (pp. 338-43).
- KIMURA, H., "An Approximation Method in Numerical Computations of the Leontief Open Input-Output Model," ANNALS OF THE INSTITUTE OF STATISTICAL MATHEMATICS (Japan), Vol. 7, 1956, No. 2.

(KIMURA Continued)

(*) See Section 1, p. 10.

KIMURA, H. (Continued)

- , "A Remark on Price Analysis in Leontief's Open Input-Output Model," ANNALS OF THE INSTITUTE OF STATISTICAL MATHEMATICS (Japan), Vol. 9, 1958, No. 3.
- , "On the Errors in Output Due to Errors in Technical Coefficients in Leontief's Open Input-Output Models," ANNALS OF THE INSTITUTE OF STATISTICAL MATHEMATICS (Japan), Vol. 7, 1956, No. 3.

KRELLE, W., "Sviluppo d'equilibrio in una economia multi-settore" (I) (Development of the Equilibrium Point in a Multi-Sector Economy), RIVISTA INTERNAZIONALE DI SCIENZE ECONOMICHE E COMMERCIALI, Padova, 1955, No. 3.

Leontief's dynamic model is discussed on pp. 3-8.

LAGINHA, J.J., "A resolução do sistema de Leontief" (Por) (An Analysis of the Leontief System), COLECTÂNEA DE ESTUDOS, No. 4, 1958, pp. 111-124, Centro de Estudos de Estatística Económica, Lisbon.

A discussion of the Input-Output matrix, its mathematical basis, and its properties is included in this study.

LANG, O., "Produkcyjno-techniczne podstawy efektywnosci inwestycji" (P) w. (E) sum. (The Technical Roots of the Effectiveness of Investment), EKONOMISTA, 1959, No. 6, pp. 1159-1189.

-----, "The Output-Investment Ratio and Input-Output Analysis," ECONOMETRICA, Vol. 28, No. 2, April, 1960, pp. 310-324.

"...The paper shows that the output-investment ratio as well as the income-investment ratio is determined by the technological conditions of increasing production. The relation between sectorial allocation and physical composition of investment is shown. The question of maximising the rate of increase of national product or of national income, respectively, is discussed subject to the condition that minimal consumption requirements be satisfied. . ."

Although the title of the English article differs from that of the Polish study, the content of the two publications is, in general, similar. The English version is slightly abbreviated.

LEONTIEF, W.W., "La matematica in economia" (Italian translation of "Mathematics In Economics," Bulletin of the American Mathematical Society, May, 1954), L'INDUSTRIA, Rivista di economia politica, 1955, No. 2.

-----, "Einsatz-Ausstoss Analyse" (G) (Input-Output Analysis), HANDWOERTERBUCH DER SOZIAL-WISSENSCHAFTEN, G. Fischer, J.C.B. Mohr, Vandenhoeck & Ruprecht, 1960, pp. 83-91, (*).

McMANUS, M., "Self-Contradiction in Leontief's Dynamic Model," YORKSHIRE BULLETIN OF ECONOMIC AND SOCIAL RESEARCH, Vol. 9, No. 1, May, 1957.

(*) See Section 1, p. 14.

MALINVAUD, E., *MODELES LINEAIRES DES ECONOMIES A SECTEURS MULTIPLES*, (F) (Linear Models of Multiple Sector Economies), *COLECTÂNEA DE ESTUDOS*, No. 6, 1959, 90 p., Centro de Estudos de Estatística Económica, Instituto de Alta Cultura, Lisbon, (*).

MARKOWITZ, H., "Industry-wide, Multi-Industry and Economy-wide Process Analysis," Paper presented at the International Conference on Input-Output Analysis, Varenna, 1954, contained in *BARNA, T., (ed.), THE STRUCTURAL INTERDEPENDENCE OF THE ECONOMY*, J. Wiley & Sons, -A. Giuffrè, 1956, pp. 119-50.

MARQUES DA SILVA, F., "Algumas notas sobre a análise das relações interindustriais" (Por) (Some Notes on the Analysis of Interindustry Relations), *REVISTA DE ECONOMIA*, Lisbon, Vol. 12, Nos. 1-2, Mar.-June, 1959, pp. 36-41, (*).

MASSON, D., "Méthode de triangulation du tableau européen des échanges inter-industriels" (F) (A Method of Triangulating the Input-Output Table of the OEEC Member Countries), *REVUE ÉCONOMIQUE*, Vol. 11, No. 2, Mar., 1960, pp. 239-65.

This article represents an attempt to apply the method of triangulating a matrix as used by H. Aujac in: "La hiérarchie des industries dans un tableau des échanges industriels" to the Input-Output Table of the OEEC Member Countries for 1953.

MORTON, G., "Dynamic Programming," Paper presented at the International Conference on Input-Output Analysis, Varenna, 1954, contained in *BARNA, T., (ed.), THE STRUCTURAL INTERDEPENDENCE OF THE ECONOMY*, J. Wiley & Sons, -A. Giuffrè, 1956, pp. 103-17.

MOSES, L.N., "An Input-Output, Linear Programming Approach to Interregional Analysis," Harvard Economic Research Project, *REPORT ON RESEARCH FOR 1956-57*, Dec., 1957, pp. 22-50.

——, "Interregional Analysis," Harvard Economic Research Project, *REPORT ON RESEARCH FOR 1954*, Feb. 1955, pp. 163-226.

MURTEIRA, B., "Nota introdutória aos modelos de Leontief" (Por) (Introductory Note to Leontief Models), Centro de Estudos de Estatística Económica, *ANAIIS DO INSTITUTO SUPERIOR DE CIÊNCIAS ECONÓMICAS E FINANCEIRAS*, Lisbon, 1952, Vol. 20, (*).

NEMCHINOV, V.S., (ed.), *PRIMENENIE MATEMATIKI V EKONOMICHESKIKH ISSLEDOVANIYAKH*, Moscow, 1959, (R) (The Use of Mathematics in Economic Analysis), (A collection of articles on Input-Output Analysis and Linear Programming and the use of mathematical methods in economic analysis).

NIKITIN, S., "Ekonometrika v sovremennoi burzhuaznoi ekonomicheskoi nauke" (R) (Econometrics in Contemporary Bourgeois Economic Science), *NAUCHNYE DOKLADY VYSSHEI SHKOLY, EKONOMICHESKIE NAUKI*, 1958, No. 2, pp. 103-15.

(*) See Section 1, p. 15, p. 16.

NOBLE, S.B., "Measures of the Structure of Some Static Linear Models," George Washington University, Logistics Research Project, Serial T-90/58, Aug., 1958. 18 pp.

The author uses graph analysis to study the decomposability and the structure of the static Leontief model and some mathematically similar static multi-sector multiplier models.

OTT, A.E., "Bemerkungen zu E. Helmstaedter: 'Produktionsstruktur und Wachstum'" (G) (Observations to Helmstaedter's 'Structure of Production and Growth') JAHRBUCHER FUER NATIONAL OEKONOMIE UND STATISTIK, Vol. 171, Nos. 1-2, Jan., 1959, pp. 13-24.

PAJESTKA, J., "Z zagadnien zastosowania matematyki w badaniach ekonomicznych" (P) w. (E) sum. (Some Problems in the Application of Mathematics in Economic Research.) EKONOMISTA, 1959, No. 3, pp. 560-73.

". . .The analysis of the economic premises of the Input-Output model leads to the conclusion that it is possible to construct the model and apply it in such a way that no more simplifying assumptions will be needed. . ."

POWELSON, J.P., ECONOMIC ACCOUNTING, McGraw-Hill, New York, 1955. Chapter 24, "Input-Output Tables," pp. 425-51.

QUANDT, R.E., "Probabilistic Errors in the Leontief System," U.S. NAVAL RESEARCH LOGISTICS QUARTERLY (Office of Naval Research), Vol. 5, No. 2, June, 1958.

-----, "Stochastic Elements in Economic Theory and Statistical Inference in Input-Output Analysis," Ph.D. Thesis, Harvard University, 1957.

-----, HENDERSON, J.M., MICROECONOMIC THEORY - A MATHEMATICAL APPROACH (For a discussion of the Input-Output System, see pp. 157-63), McGraw-Hill, New York, 1958, 291 pp.

-----, HENDERSON, J.M., "Walras, Leontief, and the Interdependence of Economic Activities: Comment," QUARTERLY JOURNAL OF ECONOMICS, Vol. 69, No. 4, Nov., 1955, pp. 626-31.

ROSENBLATT, D., "On Linear Models and the Graphs of Minkowski-Leontief Matrices," ECONOMETRICA, Vol. 25, No. 2, April, 1957.

The general properties of Input-Output matrices are derived from a graph-theoretical approach. Also, the author refers to the comparability of these matrices with stochastic matrices and relates the approach to results in the theory of finite-dimensional Markov chains.

SAMUELSON, P.A., "An Extension of the LeChatelier Principle," ECONOMETRICA, Vol. 28, No. 2, April, 1960, pp. 368-79.

". . .The present paper shows that the LeChatelier principle can also be extended to Leontief-Metzler-Mosak systems by virtue of the special properties of their off-diagonal elements. . .Hence, the principle may be applicable to analysis of input-output. . ."

SARGAN, J.D., "The Instability of the Leontief Dynamic Model," *ECONOMETRICA*, Vol. 26, No. 3, July, 1958, pp. 381-92.

On the basis of three simple cases considered in this study the author concludes that Leontief's dynamic equilibrium is unstable, and the dynamic model not adapted to explaining the actual movements of the economic system. The Leontief system should be regarded strictly as a planning system.

SCHOUTEN, D.B.J., *EXACTE ECONOMIE*, (Du), H.E. Stenfert Kroese, 1957, 226 pp. plus 18 p. Appendix.

The Leontief matrix and its inversion are discussed.

SULLIVAN, McC.M., "Computation of Eigenvalues of Nonsymmetric Matrices on UNIVAC I Harvard Economic Research Project, REPORT ON RESEARCH FOR 1958-59, July, 1960, pp. 116-18.

SULMICKI, P., *PRZEPŁYWY MIĘDZYGAŁĘZIOWE* (P) (Interindustry Flows), Polskie Wydawnictwa Gospodarcze, 1959, 299 pp. (*)₁.

THEIL, H., "Linear Aggregation in Input-Output Analysis," *ECONOMETRICA*, Vol. 25, No. 1, Jan., 1957, pp. 111-22.

This paper explores the nature of the forecasting error to be ascribed to sector aggregations if predictions of total output of certain industries are derived by means of an aggregated Input-Output Table.

TINTNER, G., "Game Theory, Linear Programming, and Input-Output Analysis," *ZEITSCHRIFT FUER NATIONALOEKONOMIE*, Vienna, Vol. 17/1, 1957. Reprinted in: REPRINT SERIES No. 43, Statistical Laboratory, Iowa State College, Ames, Iowa. (I) transl.: "La teoria dei giochi, la programmazione lineare e l'analisi delle interdipendenze strutturali," *L'INDUSTRIA*, Rivista di economia politica, 1957, No. 4. (F) transl. of an abbreviated version of this paper: "Jeux stratégiques, programmes linéaires et analyse des Input-Output," *CAHIERS DE L'INSTITUT DE SCIENCE ÉCONOMIQUE APPLIQUÉE*, No. 98, Feb., 1960 (Série N, No. 3), pp. 91-99.

The author discusses Input-Output Analysis ("...a special but very important case of linear programming..."), the static closed and open models, the economic interpretation of the Leontief system, and the dynamic model. The empirical application of the theories is illustrated by a Leontief model based on USA data for 1949, originally constructed by PETERSON, G.A., -HEADY, E.O., in "Application of Input-Output Analysis to a Simple Model Emphasizing Agriculture."

———, "Makroökonomische Modelle fuer die oesterreichische Wirtschaft" (G) (Macro-economic models of the Austrian economy), *ZEITSCHRIFT FUER NATIONALOEKONOMIE*, Vienna, Vol. 17/2, 1957., (*)₂.

(TINTNER Continued)

(*)₁ See Section 1, p. 23.

(*)₂ See Section 8, AUSTRIA, p. 70.

TINTNER, G. (Continued)

-----, "The Use of Mathematical Methods in Econometrics and Economic Statistics" (W. Leontief's Input-Output analysis is discussed on p. 4), INTERNATIONAL SOCIAL SCIENCE BULLETIN, Vol. VI, No. 4, 1954, 12 pp.

UNITED NATIONS, Research and Planning Division, Economic Commission for Europe, Economic Bulletin for Europe, Vol. 8, No. 1, May, 1956, "Input-Output Tables; Recent Experiences in Western Europe," (*).

-----, Economic Commission for Latin America, Economic Bulletin for Latin America, Vol. 1, No. 2, Sept., 1956, "The Input-Output Model," (*).

U.S.S.R., "Balanz zatrat i vipustka produktsii" (R) (Balance of Outlays and Production - Input-Output), ACADEMY OF SCIENCE OF THE USSR, Council for the Study of Productive Resources, and Siberian Institute of Economics and Statistics, Scientific Information in the Area of Economics and Statistics, Vol. 1, Moscow, 1958, 64 pp.

VERDOORN, P.J., "Complementarity and Long-Range Projections," ECONOMETRICA, Vol. 24, No. 4, Oct., 1956, pp. 429-50.

"... This article studies the implications of complementarity on the problem of the long-term forecast. The conditions for maintaining long-run equilibrium between factor demand and factor supply are derived and illustrated by a three factor model and the particular problem of foreign trade is brought out. Equilibrium for all of the three factors appears possible only if the parameters of the system satisfy a set of specific relations or certain policy variables are introduced. Finally, the complete system as used by the Central Planning Bureau of the Netherlands for projections covering the period 1950-1970 is presented, together with the numerical values chosen for the parameters. . ." The study utilizes the material contained in the paper by VAN DEN BELD, C.A., "Input-Output Analysis as a Tool for Long Term Projections," presented at the Varenna Conference, 1954.

WAGNER, H.M., "A Linear Programming Solution to Dynamic Leontief-Type Models," MANAGEMENT SCIENCE, Vol. 3, No. 3, pp. 234-54, Apr., 1957.

WENKE, K., "On the Analysis of Structural Properties of Large Scale Microeconomic Input-Output Models," Paper presented at the 6th Annual International Meeting of the Institute of Management Sciences, Sept., 1959, to be published, (Preprint: Pergamon Press, 17 pp.).

WONG, Y.K., "An Elementary Treatment of an Input-Output System," NAVAL RESEARCH LOGISTICS QUARTERLY, Vol. 1, 1954, pp. 321-26.

A mathematical study of an Input-Output System in which outputs dominate inputs. A revised version of this article translated into Italian, "Un procedimento elementare per un sistema di interdipendenze strutturali," was published in L'INDUSTRIA, Rivista di economia politica, 1956, No. 1, pp. 33-40, (E) sum., p. 112.

(WONG Continued)

(*) See Section 1, p. 23, p. 24.

WONG, Y.K. (Continued)

-----, -MORGENSTERN, O., "A Study of Linear Economic Systems," WELTWIRTSCHAFTLICHES ARCHIV, Vol. 79, No. 2, 1957.

WONNACOTT, R.J., "Introduction of Capacity Restraints into an Input-Output Trade Model," Harvard Economic Research Project, Memorandum, Aug., 1958, hectographed, 35 p..

WURTELE, Z.S., "Some Properties of Leontief's Dynamic Models," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1956-57, Dec., 1957, pp. 110-15.

-----, "A Problem Encountered in the Comparison of Technical Coefficients," THE REVIEW OF ECONOMIC STUDIES, Vol. 26 (2), No. 70, Feb., 1959, pp. 148-52.

-----, "A Note on Some Stability Properties of Leontief's Dynamic Models," ECONOMETRICA, Vol. 27, No. 4, Oct., 1959, pp. 672-75.

YAMADA, I., "Maximizing Principle and a Method of Consistent Determination of Input-Coefficients in a Leontief System" (J), THE ANNALS OF THE HITOTSUBASHI ACADEMY, Tokyo, Vol. 5, No. 1, Oct., 1954, pp. 50-59.

SECTION NO. 3

CLASSIFICATION SYSTEMS AND AGGREGATION PROBLEMS

ANDO, A., -SIMON, H.A., "Aggregation of Variables in Dynamic Systems," Paper presented to the Econometric Society, Cleveland, Dec., 1956, For a summary see ECONOMETRICA, Vol. 25, No. 4, Oct., 1957, p. 602.

ARA, K., "Aggregation Problem in Input-Output Analysis," ECONOMETRICA, Vol. 27, No. 2, April, 1959, pp. 257-62.

The paper presents a necessary and sufficient condition for the aggregation of industrial sectors acceptable for Input-Output Analysis and examines a correspondence between the aggregation of sectors and the stability of a dynamic Input-Output model. (H) summary by Csepinsky, A., in STATISZTIKAI SZEMLE, Vol. 38, No. 7, July, 1960, pp. 747-48.

BARNA, T., "Classification and Aggregation in Input-Output Analysis," Paper presented at the International Conference on Input-Output Analysis, Varenna, 1954, contained in BARNA, T., (ed.), THE STRUCTURAL INTERDEPENDENCE OF THE ECONOMY, J. Wiley & Sons, Inc., -A. Giuffrè, 1956, pp. 173-86.

BISWAS, A.K., "Schemes of Sector Classification in Input-Output Analysis," INDIAN ECONOMIC REVIEW, Vol. 2, No. 4, Aug., 1955, pp. 13-22.

". . .The purpose of this study is to explore how different sectors of an economy marshalled for a static Input-Output Analysis can be conveniently arranged with regard to ease of computation and use of incomplete data. . ."

CASTIGLIONI, P., "L'aggregazione nella tavola delle interdipendenze strutturali" (I) (Aggregation in Tables of Structural Interdependences), GIORNALE DEGLI ECONOMISTI E ANNALI DI ECONOMIA, Vol. 16, No. 9-10, Sept. - Oct., 1957, pp. 576-83.

CHENERY, H.B., -CLARK, P.G., INTERINDUSTRY ECONOMICS, J. Wiley & Sons, Inc., 1959 (*).

FEI, J.C.H., "A Fundamental Theorem for the Aggregation Problem of Input-Output Analysis," Harvard Economic Research Project, Memorandum, hectographed, July, 1955, and ECONOMETRICA, Vol. 24, No. 4, Oct., 1956, pp. 400-12.

FISHER, W., "Criteria for Aggregation in Input-Output Analysis," THE REVIEW OF ECONOMICS AND STATISTICS, Vol. 40, No. 3, Aug., 1958, pp. 250-60.

The author suggests specific criteria and procedures for "good" aggregation of a given Input-Output Table and illustrates these by presenting numerical experiments involving a number of aggregations of an 18 x 18 matrix into 8 x 8 matrices.

(*) See Section 1, p. 5.

- McCARTHY, J., "Aggregation in the Leontief Model," Paper presented at the Cleveland Meeting of the Econometric Society, Dec., 1956, For a summary see *ECONOMETRICA*, Vol. 25, No. 4, Oct., 1957, p. 602.
- McMANUS, M., "General Consistent Aggregation in Leontief Models," *YORKSHIRE BULLETIN OF ECONOMIC AND SOCIAL RESEARCH*, Vol. 8, No. 1, June, 1956.
- , "On Hatanaka's Note on Consolidation," *ECONOMETRICA*, Vol. 24, No. 4, Oct., 1956, pp. 482-87, (Hatanaka's Note: *ECONOMETRICA*, April, 1952).
- MALINVAUD, E., "Aggregation Problems in Input-Output Models," Paper presented at the International Conference on Input-Output Analysis, Varenna, 1954, Contained in BARNA, T., (ed.), *THE STRUCTURAL INTERDEPENDENCE OF THE ECONOMY*, J. Wiley & Sons, Inc., A. Giuffrè, 1956, pp. 187-202.
- , "L'Aggrégation dans les Modèles Économiques" (F) (Aggregation in Economic Models), *CAHIERS SEMINAIRE D'ÉCONOMÉTRIE*, No. 4, 1956, pp. 69-146.
- NOBLE, S.B., "Control of Aggregation Error in the Leontief Model," George Washington University, Logistics Research Project, Logistics Papers, Issue No. 15, Vol. 1, Dec., 1957, 33 pp.
- ". . . This paper is a study of the problem of aggregation in the open, static Leontief model. In order to limit the problem, the assumptions of the Leontief model are accepted throughout. The analysis of aggregation, however, is also applicable to a wider range of models that generalize some of the more limiting aspects of the Leontief model. . ."
- , "Structure and Classification in Resource Flow Models," George Washington University, Logistics Research Project, Office of Naval Research, May, 1959, mimeographed, 36 pp.
- This is the revised version of the paper entitled, "Statistical Design of Resource Flow Models," presented at the Meeting of the American Academy for the Advancement of Science, Dec. 30, 1958, Washington, D.C..
- SEVALDSON, P., "Input-Output Analysis and Economic Theory. An Exercise in Aggregation," 18 p. Paper, presented at the 4th Conference of The International Association for Research in Income and Wealth, Hindsgavl, Denmark, Sept., 1955.
- TASKIER, C.E., "Household Consumption; Input-Output Classification Problems; Consumer Survey Data," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1956-57, Dec., 1957, pp. 167-69.
- THEIL, H., "Linear Aggregation in Input-Output Analysis," *ECONOMETRICA*, Vol. 25, No. 1, Jan., 1957, pp. 111-22 (*).
- WATANABE, Tsunehiko, "Consolidation of Input-Output Tables for International Comparisons," Stanford University, Department of Economics, Stanford Project for Quantitative Research in Economic Development, Memorandum No. C-2, Oct., 1956, hectographed, 11 pp.

(*) See Section 2, p. 34.

THE UNITED STATES NATIONAL STRUCTURE

ARROW, K.J., -HOFFENBERG, M., with the Assistance of MARKOVITZ, H., SHEPARD, R.,
A TIME SERIES ANALYSIS OF INTERINDUSTRY DEMANDS, North-Holland Publishing
Company, 1959, 289 pp.

" . . . The principal aim of this study is to cast some light on the demand by different industries for each other's products. The point of departure is the classical fixed coefficients model, in the sense that the authors have studied the variations of observed industry outputs in the U.S. from those that would have prevailed had coefficients been fixed. The time period is 1929-1950, and the coefficients assumed to be fixed are those for the year 1947. Direct estimates were made of the annual output of each of the 66 purchasing industries, and estimates of annual final demand for each of 18 producing industries. For a selected set of four of these industries indirect estimates of annual output were made by adding to final demand estimates of interindustry demand obtained by the application of the 1947 coefficients to the outputs of the consuming industries. The major finding is that the differences between the direct and indirect estimates of output are almost perfectly explained by a set of predetermined variables chosen for their presumed influence on the economic system. . . ."

BERMAN, B., "The Structure of Consumption; Part II: Cross-Section Analysis and Consumption; Part III: An Intensive Cross-Section Study: Family Clothing Expenditure, 1935-36," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1955, March, 1956, pp. 59-93.

-----, "Time-to-Time Comparisons of Income Expenditure Patterns," Memorandum, hectographed, Harvard Economic Research Project, Dec., 1955.

BROMBERGER, N., "Structural Relations Between Consumer Expenditure and Income: Part III. Household Input Coefficients for Budget Data," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1954, Feb., 1955, pp. 160-62.

CARTER, H.O., -HEADY, E.O., AN INPUT-OUTPUT ANALYSIS EMPHASIZING REGIONAL AND COMMODITY SECTORS OF AGRICULTURE, Iowa State University, RESEARCH BULLETIN, No. 469, Sept., 1959, 35 pp. plus 4 supplementary Input-Output Tables.

" . . . The purpose of this study is to quantify the interrelationships and the degree of interdependence among the various regional and commodity sectors of agriculture as well as between these sectors and industrial sectors of the USA economy. . . ."

CHENERY, H.B., -CLARK, P.G., INTERINDUSTRY ECONOMICS, J. Wiley & Sons, Inc., 1959, (*)

(*) See Section 1, p. 5.

CONRAD, A.H., "Multiplier Effects of Redistributed Public Budgets," REVIEW OF ECONOMICS AND STATISTICS, Vol. 37, No. 2, May, 1955, pp. 160-73.

"...The author applies matrix multiplier methods to the computation of the leverage and distributional effects of public expenditure and taxation in the US. . ."

DANIERE, A.L., "Household Consumption, Part II. Theoretical and Empirical Analysis of Consumption within the Input-Output System," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1956-57, Dec., 1957, pp. 135-66.

——, "An Empirical Consumption Structure for Clothing," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1958-59, July, 1960, pp. 152-200.

——, -GILBOY, E.W., "A Multivariate Analysis of Selected Items of Consumer Expenditure," Paper presented at the Conference on Consumption and Saving, Wharton School of Finance and Commerce, March, 1959 (to be published).

DAVIS, J.H., -GOLDBERG, R.A., A CONCEPT OF AGRIBUSINESS, Graduate School of Business Administration, Division of Research, Harvard University, 1957, 136 pp. plus 3 Input-Output Tables of the USA for 1947.

The purpose of the study is to present a concept of "Agribusiness"—defined as agriculture and the manufacturing sectors closely related to agriculture—and to survey domestic food and fiber operations as means to improving government policies relating to the supply and distribution of these commodities. The economic activity, both within and outside the boundaries of agribusiness, is analyzed through the use of Input-Output Tables of the USA for 1947.

ECKSTEIN, O., "An Interindustry Approach to Fiscal Policy," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1956-57, Dec., 1957, pp. 51-56.

——, -FROMM, G., STEEL AND THE POSTWAR INFLATION, Study Paper No. 2, Materials Prepared in Connection with the "Study of Employment, Growth and Price Levels" for Consideration by the Joint Economic Committee, Congress of the United States (86th Congress, 1st Session), Nov., 1959, U.S. Government Printing Office, 1959, 38 pp. (*).

EVANS, W.D., -HOFFENBERG, M., "Estudio de las Relaciones Interindustriales para 1947" (S) ESTADÍSTICA, Journal of the Inter-American Statistical Institute, Vol. 16, No. 61, Dec., 1958, pp. 505-31, and Vol. 17, No. 62, March, 1959, pp. 76-126. A translation of "The Interindustry Relations Study for 1947," REVIEW OF ECONOMICS AND STATISTICS, Vol. 34, No. 2, May, 1952.

GILBOY, E.W., "Structural Relations Between Consumer Expenditure and Income, Part I. Status of Research," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1954, Feb., 1955, pp. 136-45.

——, "The Structure of Consumption, Part I. Analytical Problems," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1955, March, 1956, pp. 53-58.

(GILBOY Continued)

(*) See Section 1, p. 7.

GILBOY, E.W. (Continued)

- , "Household Consumption, Part I. The Status of Consumption Research," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1956-57, Dec., 1957, pp. 129-34.
- , "Household Consumption: Introduction," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1958-59, July, 1960, pp. 150-51.
- , "Consumption and Input-Output Analysis," Paper presented at the International Conference on Input-Output Analysis, Varenna, 1954, contained in BARNÀ, T., (ed.), THE STRUCTURAL INTERDEPENDENCE OF THE ECONOMY, J. Wiley & Sons, Inc., -A. Giuffrè, 1956, pp. 393-408.
- , "Elasticity, Consumption and Economic Growth," Papers and Proceedings of the 68th Annual Meeting of the American Economic Association, New York, Dec., 1955, AMERICAN ECONOMIC REVIEW, Vol. 46, No. 2, May, 1956, pp. 119-33.
- , -DANIÈRE, A.L., see DANIÈRE, A.L., -GILBOY, E.W.
- HEADY, E.O., -SCHNITTKER, J.A., "Application of Input-Output Models to Agriculture," JOURNAL OF FARM ECONOMICS, Vol. 39, No. 3, Aug., 1957, pp. 745-58.
- "...The purpose of this paper is to outline the simple logic and computational steps of input-output analysis..." The authors discuss the application of the method as a tool for describing interrelationships between the agricultural sector and other sectors of the economy and review briefly the limitations and restrictions of the method. The application of the method is illustrated by a table, based on 1949 data, "Interdependence Coefficients Between the Final Bill of Goods and Net Output for 1949"; the U.S.A. is divided into six regions, twelve Agricultural, six Industrial and two Final Demand Sectors.
- JAWORSKI, D.A., "Inter-Industry Relationship of the Air Transportation Industry," CANADIAN AERONAUTICAL JOURNAL, Vol. 2, No. 9, Nov., 1956, Canadian Aeronautical Institute, Ottawa, Canada.
- The income and expenditure structure of the U.S.A. Air Transportation industry is analysed on the basis of the U.S.A. 200 sectors Input-Output Table for 1947.
- LEONTIEF, W.W., Translations of: THE STRUCTURE OF THE AMERICAN ECONOMY, 1919-1939:
- LA ESTRUCTURA DE LA ECONOMÍA AMERICANA, 1919-1939 (by Estapé, F.), José M. Bosch, Barcelona, 1957
- LA STRUCTURE DE L'ÉCONOMIE AMÉRICAINNE, 1919-1939 (by Marantz, M.), Editions Génin, Paris, 1958.
- Japanese translation by Yamada, I., -Iemoto, H., Publisher: Toyo Keizai Shimpousha, Tokyo, 1959.
- , and Others, ISSLEDOVANIA STRUKTURII AMERIKANSKOI EKONOMISKI: TEORETICHESKI I EMPIRICHESKI ANALIS PO SCHEME ZATRAT - VIPUSK, (R)translation of: STUDIES IN THE STRUCTURE OF THE AMERICAN ECONOMY, THEORETICAL AND EMPIRICAL APPLICATIONS OF INPUT-OUTPUT ANALYSIS, GOSSTATISDAT, Moscow, 1958, 640 p..
- , -TASKIER, C.E., "Estimated Direct and Indirect Requirements of Energy by Final Demand in the Year 1947," Harvard Economic Research Project, Memorandum, hectographed, April, 1958, 60 pp.

LIPPITT, V., "The Isolation of the Income Effect: An Analysis of Budget Study Data on Family Expenditures for Food," Harvard Economic Research Project, Memorandum, hectographed, June, 1955.

——, "Structural Relations Between Consumer Expenditure and Income: Part II. Household Input Coefficients for a 20 Industry Model as Derived from Time Series," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1954, Feb., 1955, pp. 146-59.

MASUCCI, R.H., DOLLAR VOLUME OF AGRICULTURE'S TRANSACTIONS WITH INDUSTRY, U.S. Department of Agriculture, Agricultural Marketing Service, Marketing Research Report No. 375, Dec., 1959, 38 pp. plus Explanatory Notes and Working Papers.

"... This report presents basic statistics on the dollar volume of transactions occurring between and among the agricultural and nonagricultural segments of the U.S. economy in 1955. The data given are based on detailed study and analysis of information obtained from the 1954 Censuses of Agriculture and of Manufactures and from the 'Survey of Farmers' Expenditures in 1955. The conceptual and classification framework of the 1947 Interindustry Relations Study of the U.S.A. is used. The study contains the following tables: 'Flow of Goods and Services into and out of Agricultural Sectors, by Industry of Origin and Destination, 1955' and 'Agricultural Sector Transactions, 1955: Direct Purchases per Million Dollars of Output, 1955.'..."

PETERSON, G.A., -HEADY, E.O., APPLICATION OF INPUT-OUTPUT ANALYSIS TO A SIMPLE MODEL EMPHASIZING AGRICULTURE (A Study of the Interdependence of Agriculture and Other Sectors of the National Economy), Agricultural Experiment Station, Iowa State College, Research Bulletin 427, April, 1955, pp. 402-19.

"... Input-Output analysis is applied to a model of five economic sectors where emphasis is on interdependence of (a) primary with secondary agriculture, (b) agricultural sectors with the industrial sectors of the U.S. economy. Detailed analysis is made of input coefficients and interdependence coefficients for the year 1949; similar analysis is made for the years 1949, 1939, 1929 to allow prediction of change in the coefficients in agriculture. ..."

TASKIER, C.E., "Household Consumption: Input-Output Classification Problems: Consumer Survey Data," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1956-57, Dec., 1957, pp. 167-69.

——, -LEONTIEF, W.W., see LEONTIEF, W.W., -TASKIER, C.E.

THE NATIONAL ECONOMIC ACCOUNTS OF THE UNITED STATES, Hearings Before the Subcommittee on Economic Statistics of the Joint Economic Committee, Congress of the United States, 85th Congress, 1st Session, Oct. 29-30, 1957, Government Printing Office, 1957, 302 pp.

Contains the Report to the Office of Statistical Standards, Bureau of the Budget, prepared by the National Accounts Review Committee of the

(THE NATIONAL ECONOMIC ACCOUNTS OF THE UNITED STATES Continued)

THE NATIONAL ECONOMIC ACCOUNTS OF THE UNITED STATES (Continued)

National Bureau of Economic Research, June, 1957: "The National Economic Accounts of the United States; Review, Appraisal, and Recommendations" (pp. 102-302). In chapter 13 of this report (pp. 242-48), 'Input-Output Tables,' the nature, possible applications, etc., of these tables are discussed. For statements regarding Interindustry Analysis and the desirability of their resumption in the U.S. made in the course of the Hearings see pp. 57-63, 88-92, 97-99, 124, 132.

University of Maryland, Bureau of Business and Economic Research, Studies in Business and Economics, Vol. 11, No. 2, Sept., 1957, 12 pp., U.S. CONSUMPTION AND OUTPUT PATTERNS, A METHODOLOGICAL STUDY.

-----, Vol. 12, No. 1, June, 1958, 21 p., SOME RELATIONSHIPS BETWEEN U.S. CONSUMPTION AND NATURAL RESOURCES, 1899, 1947, 1954.

These two publications are part of a research program concerned with investigating the problem of changing demand patterns in the U.S. economy and their resulting impact upon the natural resources sectors of the economy. Interindustry analysis forms the conceptual basis of the investigation. The empirical data contained in the U.S. Input-Output Table for 1947 and the techniques used in constructing this table are applied to the problems under investigation. The first study presents the changing consumption patterns for the years 1899, 1947 and 1954, the basic tables for Final Demand for 1899 and 1954 and a discussion of the methods employed as well as an evaluation of the problems encountered in estimating Final Demand and Output for 1899 and 1954. The second report represents an additional step in the analysis and attempts to measure through Input-Output analysis the impact of changing consumption patterns for end-products upon the natural resources sectors of the economy for 1899, 1947 and 1954. Results of the third and final phase of the study--determinants of natural resource requirements--were reported to be in manuscript form by the end of 1958.

WEXLER, I., "The Structure of Consumption: The Derivation of Preliminary Household Input Coefficients for Selected Industries, 1935-36," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1955, March, 1956, pp. 94-104.

WOOD, M.K., -NORTON, J.D., OUTLINE OF A PROCEDURE FOR POST-ATTACK RESOURCE MANAGEMENT, A Report to the Office of Civil and Defense Mobilization by the National Planning Association, Aug., 1959, 85 pp., mimeographed.

". . .the economic information used for implementing the Post-Attack Resource Management Procedure is drawn from the Interindustry Economic Research Program, largely sponsored by the Air Force in behalf of the Department of Defense during the years 1949-1954, which, in turn, is based on the 1947 Interindustry Transactions Table (200 order and 450 order) and the so-called Interindustry Mobilization Model. The Input factors of the latter represent a series of adjustments and improvements of the 1947 data which partially up-dates this model to 1951. . ."

SECTION NO. 5

MANPOWER STUDIES

CONRAD, A.H., "Labor Coefficients and Income Generation," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1954, Feb., 1955, pp. 122-35.

-----, "Labor Utilization and Income Generation," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1955, March, 1956, pp. 33-52.

-----, "Labor—Effect of Changes in the Occupation-Industry Structure, 1939-1949," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1956-57, Dec., 1957, pp. 116-28.

-----, "Structural Change, Labor Utilization, and the Inequality of Wage Incomes," ECONOMETRICA, Vol. 24, No. 3, July, 1956.

Abstract of a study of changes in technical labor input coefficients by occupational class within the 70-sector matrix of the U.S. for 1939 and 1947.

-----, "Labor and Income Generation," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1958-59, July, 1960, pp. 119-49.

-----, "The Share of Wages and Salaries in Manufacturing Incomes, 1947-56," Study Paper No. 9, Materials Prepared in Connection with the "Study of Employment, Growth, and Price Levels," for Consideration by the Joint Economic Committee, Congress of the United States (86th Congress, 1st Session), Nov. 26, 1959, U.S. Government Printing Office, 1959, pp. 139-53.

International Labour Organisation, Metal Trades Committee, "Regularisation of Production and Employment at a High Level in the Metal Trades," International Labour Office, Geneva, 1954 .

Includes: Input-Output Table of the "Percentage Distribution of the Skills of Workers in Selected Metal Trades, U.S. 1940," derived from the U.S. Population Census, 1940; Input-Output Table showing the dollar flows of products of Metal-Trade Industries to 50 consuming sectors of the U.S.A. in 1947, derived from the U.S.A. 1947 Input-Output Table; Input-Output Table of the flow of shipments in millions of dollars between the various Metal Trade Industries, adapted from the 192 order U.S. Input-Output Table for 1947; Input-Output Table of the flow of products of the Metal Trade Industries to consuming sectors of Italy, 1950, in millions of lire. This report was prepared by the International Labour Office, Geneva, as background material for the discussion of the regularisation of production and employment at a high level in the metal trades.

STROUT, A.M., "Primary Employment Effects of Alternative Spending Programs," REVIEW OF ECONOMICS AND STATISTICS, Vol. 40, No. 4, Nov., 1958.

(STROUT Continued)

STROUT, A.M. (Continued)

"...The author derives and compares direct and indirect employment effects and materials requirements for thirty types of construction, governmental non-construction, and household spending programs, using the 1947 190-sector technical matrix and wage coefficients for the U.S. economy. . ."

SECTION NO. 6

DYNAMIC ANALYSIS

BARRERE, A., "L'analyse des relations entre le capital et la production" (F), (Analysis of the Relations between Capital and Production), REVUE D'ECONOMIE POLITIQUE, No. 3, May, 1955.

The author discusses—among other relationships between capital and production—the capital coefficients in Input-Output Analysis and in inter-industry relations.

BOURQUE, P.J., "The Derivation of Capital Coefficients for Input-Output Analysis: A Study of the Machine Tool Accessories Industry," Ph.D. Thesis, University of Pennsylvania, 1956.

CARTER, A.P., "Technological Change: Status of Research. New Plant Coefficients-Introduction. Electric Public Utilities," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1954, Feb., 1955, pp. 28-49, 102-09.

-----, "Analysis of Technological Change," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1955, March, 1956, pp. 1-13.

-----, "The Analysis of Technological Change," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1956-57, Dec., 1957, pp. 57-69.

-----, "Technological Change—Investment, Capacity Utilization, and Changes in Input Structure in the Tin Can Industry," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1958-59, July, 1960, pp. 1-28.

-----, "Investment, Capacity Utilization and Changes in Input Structure in the Tin Can Industry," THE REVIEW OF ECONOMICS AND STATISTICS, Vol. 42, No. 3, Part 1, Aug., 1960, pp. 283-91.

"...To what extent is it possible to explain changes in the distribution of individual plants' input coefficients in terms of their respective equipment expenditure patterns and a common 'incremental' or 'best practice production' function? A formal model is set up and implemental for answering this question for labor and electricity inputs of just under 100 tin can plants, 1951-54, using Census of Manufactures materials. The relations of the cross sectional findings to analysis of industry-wide aggregates is discussed. . ."

CHENERY, H.B., "Tests of Inter-Industry Models of Growth" (*).

-----, -CLARK, P.G., INTERINDUSTRY ECONOMICS, J. Wiley & Sons, Inc., 1959, 345 pp. (see section 'Dynamic Models of Capital Formation,' pp. 71-80).

(*) See Section 1, p. 5.

CLARK, V., "Technological Change: New Plant Coefficients--Aluminum," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1954, Feb., 1955, pp. 64-80.

-----, "Preliminary Estimates of 1947 Capacity" and "A Study of the Input Coefficients in the Motor Vehicle Industry," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1955, March, 1956, pp. 14-27.

DANTZIG, G.B., "Optimal Solution of a Dynamic Leontief Model with Substitution," ECONOMETRICA, Vol. 23, No. 3, July, 1955, pp. 295-302.

This is a reprint of the Rand Corporation Paper (RM-1281) listed in Riley, V., -Allen, R.L., INTERINDUSTRY ECONOMIC STUDIES, p. 149).

DESAI, B.C., -BRAHMANANDA, P.R., "Notes. The Structure of Capital in the Indian Economy." INDIAN ECONOMIC JOURNAL, Bombay, Oct., 1954, pp. 197-204.

DHAR, P.N., "Some Aspects of Technical Progress in Small Scale Industries," THE INDIAN ECONOMIC REVIEW, Delhi, Feb., 1956, Vol. 3, No. 1, pp. 6-76.

Evaluates the usefulness of capital/output ratios as investment criteria based on empirical data of small industries.

FAIVELEY, G., "La dynamisation du modèle de Léontief et le problème de l'équipement optimum" (F) (The Dynamization of the Leontief Model and the Problem of Optimum Equipment), CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE. CAHIERS DU SEMINAIR D'ECONOMETRIE, No. 4, 1956.

FUKUOKA, M., "Efficient Paths of Dynamic Input-Output Processes" (J), THE ECONOMIC REVIEW, Vol. 6, No. 3, July, 1955, Institute of Economic Research, Hitotsubashi University, Tokyo.

FURUYA, H., "Intertemporal Efficiency in the Process of Capital Accumulation" (J) (Dynamic Input-Output Analysis), THE ECONOMIC REVIEW, Economic Institute, Hitotsubashi University, Tokyo, Vol. 6, No. 3, July, 1955.

-----, -INADA, K., "Efficient Path and Path for Balanced Growth in Capital Accumulation" (J) (The article combines activity analysis and Dynamic Input-Output Analysis), RIRON KEIZAIGAKU (Economic Studies Quarterly), Tokyo, Toyo-Keizai Publisher, Vol. 8, No. 1, 2, May, 1957.

JAPAN, "The Capital Structure of the Japanese Economy," Council for Industry Planning, Tokyo, 1958, 34 pp., (Sangyo Keikaku Kaigi Publication Series No. 2).

Contains for 1950-1955, Input-Output Tables of Fixed Capital Stocks, 5 x 32 sectors at purchasers' prices in 1951 and 1955 prices, and for 1955, a 32 x 32 sectors table in producers' prices, at 1955 prices.

-----, "Technological Progress and the Industrial Structure of the Japanese Economy, Years 1951, 1955, 1967," based on Input-Output computations, Central Research Institute of Electric Public Utilities, Tokyo, Committee for Modernization of Public Utilities, Study of Estimated Energy Requirements, Tokyo, Aug., 1958, mimeographed, 407 pp. plus 88 p. Appendix.

(JAPAN, "Technological Progress. . ." Continued)

JAPAN, "Technological Progress. . ." (Continued)

Contains 3 Input Coefficients matrices for the years 1951, 1955, 1967, with 55 x 55 endogenous sectors: 1951 based on actual data, 1955 based partly on actual figures, partly on 1951 data, adjusted for estimated changes in technology between the four years, 1967 figures are based on 1951 data, adjusted for 6.5 per cent annual rate of growth of GNP. Further, 3 estimated Inter-Industry flow tables for 1967, with 55 x 55 endogenous sectors, obtained by applying three different sets of Final Demand requirements considering 4 per cent, 6.5 per cent and 8.0 per cent annual rate of growth of GNP, respectively.

JOHANSEN, L., A MULTI-SECTORAL STUDY OF ECONOMIC GROWTH, North-Holland Publishing Company, 1960, 177 pp. plus folding Table.

". . .the study analyses the changing positions of the different branches of the economy during the growth process and such problems as differences in the rate of growth of individual sectors, allocation and reallocation of the labor force during the growth process, the allocation of investment to different sectors, the effect of technical progress in a particular sector on production and employment in the same sector and in other sectors. . .The analysis employs Input-Output methods but departs from the assumptions of the customary Input-Output models by allowing for substitution between capital and labor in production, decreasing returns to scale in some sectors, and the assumption that relative prices influence consumers' demand. . .The theory is illustrated by an application to the post world war growth process in Norway, using the country's Input-Output Table for 1950 (22 sectors). . ."

JORGENSEN, D.W., "Duality and Stability in Dynamic Input-Output Analysis," Ph.D. Thesis, Harvard University, 1959.

——, "Stability of the Dynamic Input-Output System," Working Paper No. 1, Bureau of Business and Economic Research, Committee on Econometrics and Mathematical Economics, University of California, Berkeley, Oct. 29, 1959, 27 pp., mimeographed.

——, "On a Dual Stability Theorem," Working Paper No. 3, Bureau of Business and Economic Research, Committee on Econometrics and Mathematical Economics, University of California, Berkeley, Nov. 15, 1959, 11 pp., mimeographed.

——, "Growth and Fluctuations: A Causal Interpretation," QUARTERLY JOURNAL OF ECONOMICS, Vol. 74, No. 3, Aug., 1960, pp. 416-36.

The study deals essentially with the problem of macro-economic instability and its consequences and an examination of the possibility of completing the dynamic Input-Output system by means of an explicit disequilibrium theory. Two separate disequilibrium mechanisms are discussed, one based on the alteration of investment policy, the other on adjustments through output.

KLEIN, L.R., "Some Theoretical Issues in the Measurement of Capacity," ECONOMETRICA, Vol. 28, No. 2, April, 1960, pp. 272-86.

(KLEIN, "Some Theoretical Issues in the Measurement of Capacity" Continued)

KLEIN, L.R., "Some Theoretical Issues in the Measurement of Capacity" (Continued)

". . . A method of aggregating individual capacities, taking into account the interdependence of an Input-Output model, is outlined. Capacity measures, so obtained, are useful as descriptive statistics of economic efficiency and as explanatory variables in modern theories of investment behavior. . ."

KOMIYA, R., "Covariance Analysis Applied to Technological Progress," Harvard Economic Research Project, Memorandum, hectographed, Jan., 1959.

—, "Technological Progress and the Production Function in the United States Steam Power Industry," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1958-59, July, 1960, pp. 41-69.

—, "Technological Progress and the Prediction of Input Coefficients in the United States Steam Power Industry," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1958-59, July, 1960, pp. 70-93.

KURABAYASHI, Y., "Analysis of Labor Productivity by Input-Output Tables," THE ECONOMIC REVIEW, Vol. 6, No. 4, Oct., 1955, Hitotsubashi University, (J) w. (E) sum..

McMANUS, M., "Self-Contradiction in Leontief's Dynamic Model," YORKSHIRE BULLETIN OF ECONOMIC AND SOCIAL RESEARCH, Vol 9, No. 1, May, 1957.

MORISHIMA, M., "A Dynamic Analysis of Structural Change in a Leontief System," ECONOMICA, Vol. 25, No. 98, May, 1958.

The analysis is based on structural changes due to technological invention on the assumption that the period of production of each good is one unit of time.

—, "Prices, Interest and Profits in a Dynamic Leontief System," ECONOMETRICA, Vol. 26, No. 3, July, 1958 (*).

—, "Mrs. Robinson's New Book and Professor Leontief's Dynamic System," The Institute of Social and Economic Research, Osaka University, Discussion Paper No. 3, Feb., 1958.

—, "Some Properties of a Dynamic Leontief System with a Spectrum of Techniques," ECONOMETRICA, Vol. 27, No. 4, Oct., 1959, pp. 626-37 (*).

PHILLIPS, A., "The Variation of Technical Coefficients in the Antifriction Bearing Industry," ECONOMETRICA, Vol. 23, No. 4, Oct., 1955, pp. 432-41.

The temporal variations in a few input-output coefficients for the anti-friction bearing industry are noted. These variations appear to be due to cyclical phenomena rather than to price changes, technological change, or variations in product mix.

(*) See Section 1, p. 17.

ROSEN, G., "Capital Output Ratios in Indian Industry," ECONOMIC WEEKLY, Bombay, March 3, 1956, Vol. 8, No. 9.

Capital/Output ratios for the Cement, Paper, and Iron and Steel industries in India are discussed.

SHEN, T.Y., "Technological Change, (III) Technological Change and Efficiency in the Textile Industry," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1956-57, Dec., 1957, pp. 98-109.

SMITH, V., "Technological Change. New Plant Coefficients: (2) Synthetic Rubber, (4) Trucking," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1954, Feb., 1955, pp. 50-63 and 81-101 respectively.

——, "On the Use of Engineering Data and Direct Statistical Techniques in the Analysis of Production and Technological Change," Harvard Economic Research Project, Memorandum, hectographed, Nov., 1955.

——, "Engineering Data and Statistical Techniques in the Analysis of Production and Technological Change: Fuel Requirements of the Trucking Industry," ECONOMETRICA, Vol. 25, No. 2, Apr., 1957.

——, "Economic Equipment Policies: An Evaluation," Harvard Economic Research Project, Memorandum, hectographed, July, 1955.

SOLOW, R.M., "Competitive Valuation in a Dynamic Input-Output System," ECONOMETRICA, Vol. 27, No. 1, Jan., 1959, pp. 30-53 (*).

STROUT, A.M., "Technological Change, (II) The Aluminum Industry," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1956-1957, Dec., 1957, pp. 70-97.

——, "Flow Matrix Comparison, 1939-47" and

——, "Revised 10 Sector Input-Output Matrices for Dynamic Computations," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1958-1959, July, 1960, pp. 29-40 and 94-115 respectively.

SULLIVAN, M. McC., "Computation of Eigenvalues of Nonsymmetric Matrices on UNIVAC I," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1958-1959, July, 1960, pp. 116-18.

TASKIER, C.E., "Price Index Research, 1939-1947," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1954, Feb., 1955, pp. 110-21.

——, "Technological Change: Revision of the 1939 Matrix," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1955, March, 1956, pp. 28-32.

UZAWA, H., "Note on Leontief's Dynamic Input-Output System," PROCEEDINGS OF THE JAPAN ACADEMY, Vol. 32, No. 2, Feb., 1956, pp. 79-82.

(UZAWA Continued)

(*) See Section 1, p. 22.

UZAWA, H. (Continued)

——, "On the Efficiency of Leontief's Dynamic Input-Output System," PROCEEDINGS OF THE JAPAN ACADEMY, Vol. 32, No. 3, March, 1956, pp. 157-60.

WATANABE, Tsunehiko, "Tests of Inter-Industry Models of Growth Data for the 22 Sector Model," Stanford University, Department of Economics, Stanford Project for Quantitative Research in Economic Development, Memorandum No. D-2, Oct., 1957, 21pp.

WURTELE, Z.S., "Some Properties of Leontief's Dynamic Models," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1956-57, Dec., 1957, pp. 110-15.

——, "A Problem Encountered in the Comparison of Technical Coefficients," THE REVIEW OF ECONOMIC STUDIES, Vol. 26 (2), No. 70, Feb., 1959, pp. 148-52.

——, "A Note on Some Stability Properties of Leontief's Dynamic Models," ECONOMETRICA, Vol. 27, No. 4, Oct., 1959, pp. 672-75.

"...W. Leontief's model is frequently criticized for its lack of stability. The question is raised and answered as to whether difference or differential equations provide a better representation of a Leontief type system. . ."

SECTION NO. 7

REGIONAL AND INTERREGIONAL ANALYSIS

a. In the United States

CALIFORNIA, see MOORE, F.T.

CARTER, H.O., "Regional Input-Output Analysis of Agriculture and Industry," Ph. D. Thesis, University of Iowa, 1958.

-----, -HEADY, E.O., AN INPUT-OUTPUT ANALYSIS EMPHASIZING REGIONAL AND COMMODITY SECTORS OF AGRICULTURE, Iowa State University, Research Bulletin No. 469, Sept., 1959, 35 pp.plus 4 supplementary Input-Output Tables.

"...The purpose of this study is to quantify the interrelationships and the degree of interdependence among the various regional and commodity sectors of agriculture as well as between these sectors and industrial sectors of the U.S. economy. . ." On the basis of derived physical and value flows of trade patterns among agricultural regions and between agriculture and industry for the year 1954, the following Input-Output Tables were developed: Table A: Flows of Goods and Services by Sectors of Origin and Destination for 1954 (103 Intermediate sectors consisting of a 90 order sub-matrix representing agriculture--10 farming regions and 9 product groups in each region--and 13 industrial sectors aggregated nationally, plus Final Demand Sectors). Table B: Input-Output Coefficients Matrix for 1954. Table C: Interdependence Coefficients Matrix (Inverse Matrix) for 1954. Table D: Change in Gross Output Needed to Meet Projected Deliveries to Final Demand for Processing Industries in 1960 and 1975.

CHAPIN, F.S., Jr., "Employment Forecasts for City Planning," JOURNAL OF THE AMERICAN INSTITUTE OF PLANNERS, Vol. 20, No. 2, 1954, pp. 60-73.

The study discusses the use of Input-Output Analysis in economic base analysis and derives employment estimates from Input-Output Tables.

CHENERY, H.B., "Inter-Regional and International Input-Output Analysis," Paper presented at the International Conference on Input-Output Analysis, Varenna, 1954, contained in BARNA, T., (ed.), THE STRUCTURAL INTERDEPENDENCE OF THE ECONOMY, J. Wiley & Sons, Inc., -A Giuffrè, 1956, pp. 339-56.

-----, -CLARK, P.G., INTERINDUSTRY ECONOMICS, J. Wiley & Sons, Inc., 1959, 345 pp.

See Chapter 12, "Interregional Analysis," pp. 308-32.

CHICAGO, see HOCH, I., Also, LONGINI, A.

EDWARDS, B.E., "An Empirical Estimate of Some Regional and Interregional Input-Output Matrices," Ph.D. Thesis, University of Michigan, 1956.

GOTTLIEB, A., "Planning Elements of an Inter-Industry Analysis. A Metropolitan Area Approach," JOURNAL OF THE AMERICAN INSTITUTE OF PLANNERS, Vol. 4, Fall, 1956, pp. 230-36.

The effective regional or area planning for industrial location and for the future requirements of labor and economic facilities can be accomplished only with a framework of Input-Output relations of the respective area.

HEADY, E.O., -CARTER, H.O., "Input-Output Models as Techniques of Analysis for Interregional Competition," JOURNAL OF FARM ECONOMICS, Vol. 41, No. 5, Dec., 1959, pp. 978-96 (See also Giannini Foundation Paper No. 184 and Iowa Agricultural and Home Economics Experiment Station, Journal Paper J3757).

In this study, originally presented at the Meeting of the American Farm Economic Association, Aug., 1959, the author outlines the features and limitations of Input-Output Analysis as a technique for studying interregional competition in agriculture. Included are a review of the general and the regional Input-Output Models, their mathematical bases; also a summary of the important relationships derived from basic 103 sector matrices of the U.S. and from matrices aggregated from the basic matrix (10 Regions, 3 Industry-Sectors; the empirical data is derived from: CARTER, H.A., -HEADY, E.O., "An Input-Output Analysis Emphasizing Regional and Commodity Sectors of Agriculture").

-----, -SCHNITTKER, J.A., "Application of Input-Output Models to Agriculture," JOURNAL OF FARM ECONOMICS, Vol. 39, No. 3, Aug., 1957, pp. 745-58.

". . .The purpose of this paper is to outline the simple logic and computational steps of input-output analysis. . ." The authors discuss the application of the method as a tool for describing interrelationships between the agricultural sector and other sectors of the U.S. economy and review briefly the limitations and restrictions. The application of the method is illustrated by a table, based on 1949 data, "Interdependence Coefficients Between the Final Bill of Goods and Net Output for 1949"; the U.S.A. is divided into six regions, twelve Agricultural, six Industrial and two Final Demand Sectors.

HENDERSON, J.M., "The Utilization of Agricultural Land: A Regional Approach," Paper presented at the Cleveland Meeting of the Econometric Society, Dec., 1956, Harvard Economic Research Project, Memorandum, hectographed, Dec., 1956.

-----, THE UPPER MIDWEST ECONOMIC STUDY: A RESEARCH PROSPECTUS, Study Paper No. 1, March, 1960, Upper Midwest Economic Study, a joint undertaking by the Upper Midwest Research and Development Council and the University of Minnesota, Minneapolis, 37 pp.

". . .This paper contains an advance description of a proposed study of the Upper Midwest Economy, using Input-Output Analysis and related techniques..."

HIRSCH, W.Z., "An Application of Area Input-Output Analysis," Paper presented at the Meeting of the Regional Science Association, Chicago, Dec., 1958, and included in: PAPERS AND PROCEEDINGS, Vol. 5, 1959, The Regional Science Association, pp. 79-92.

(HIRSCH, "An Application of Area Input-Output Analysis," Continued)

The paper demonstrates the use of Area Input-Output Analysis as a tool in guiding planners of industrial development schemes. Information obtained in the St. Louis Metropolitan Area Input-Output Study for 1955 is used (as an example) to estimate the impact of different types of industrial development on income and employment in the area. Tables, showing the estimated direct and indirect changes in (a) Income, (b) Employment in Man-Years, (c) Income per Man-Year, in each of 16 manufacturing industries of the area, resulting from an increase of one million dollars in final demand, are included.

- , "Interindustry Relations of a Metropolitan Area," THE REVIEW OF ECONOMICS AND STATISTICS, Vol. 41, No. 4, Nov., 1959, pp. 360-69 plus Appendix (Folding Table).

The author considers the interindustry relations study of the St. Louis Metropolitan Area as an attempt to develop a method for better understanding the structural relationships of the area's economy in 1955, and as a means of assessing the impact of changes in Final Demand upon local income and employment. The basic Interindustry Relations Model of the area underlying the study--an open, non-dynamic equilibrium model--is empirically implemented by data obtained from local companies for the year 1955. Input Coefficients and Inverse Matrices (29 x 29 sectors) derived from the Input-Output Table are included in the Appendix, and the computed direct and indirect changes in income and in employment man-years in the area caused by changes of one million dollars in Final Demand for each of 27 industrial sectors, as well as the corresponding income and employment multipliers, are tabulated.

- HOCH, I., "Forecasting Economic Activity for the Chicago Region," HIGHWAY RESEARCH BOARD PROCEEDINGS, Vol. 38, 1959, pp. 9-25 (Chicago Area Transportation Study).

". . .The above. . .forecast was one of a sequence of forecasts to be used in developing transportation plans for the Chicago area. The primary goal was development of employment forecasts to 1980; the secondary goals included an attempt to predict future automobile registration and to gain some insight into the effects of an expanded highway program on the economy. . ." A 50 sector Input-Output model of the Chicago Region was employed, based on the 1947 BLS 200 sector U.S.A. Input-Output Table. The factors taken into account in developing predictions were population increase, growth in real income per consumer unit, changes in consumer expenditure with rising real income per consumer unit, changes in Chicago area's trade with the outside economy, and differential growth in productivity between industries. The advantages of using Input-Output Analysis as compared with an alternative forecasting device--simple trend analysis--are discussed.

- , "A Comparison of Alternative Inter-Industry Forecasts for the Chicago Region," Paper presented at the Meetings of the Regional Science Associations, Chicago, Dec., 1958, and included in: PAPERS AND PROCEEDINGS, Vol. 5, 1959, pp. 217-35.

- , FORECASTING ECONOMIC ACTIVITY: REGIONAL INPUT-OUTPUT ANALYSIS, Chicago Area Transportation Study, Chicago, Sponsored by State of Illinois, Cook County and City of Chicago, in Cooperation with the U.S. Bureau of Public Roads, Dec. 1, 1958, 71 pp.

(HOCH, FORECASTING ECONOMIC. . ., Continued)

This is one of a series of preliminary technical reports on the Input-Output Model of the Chicago Region developed to forecast outputs and employment in that area. The theory of Input-Output Analysis and its application to regional analysis is discussed. Some empirical results of the study, consisting of estimates of the area's outputs and its trade with the outside economy, are presented.

- , FORECASTING ECONOMIC ACTIVITY FOR THE CHICAGO REGION. FINAL REPORT, Chicago Area Transportation Study, Chicago, Sponsored by the State of Illinois, Cook County, and the City of Chicago, in Cooperation with the U.S. Bureau of Public Roads, May, 1959, 116 pp.

This report summarizes and revises the material contained in the following series of preliminary technical reports issued previously: (1) Employment Data, (2) Income and Taxes, (3) The Income-Consumption Relation, (4) Consumer Expenditures Forecast, (5) Regional Input-Output Analysis, (6) Production and Employment Forecast, (7) Increases in Productivity, (8) Alternative Employment Forecast. The primary goal of the study is the development of individual industry employment forecasts by 5-year increments to 1980, based on a 50 sector Input-Output Model of the Chicago Area. These employment forecasts, in connection with the results of the other research studies, were used in drawing up plans and recommendations for highway developments in the area and in an attempt to predict future automobile registrations.

- HOCHWALD, W., "Conceptual Issues of Regional Income Estimation," National Bureau of Economic Research, New York, 1957, Conference on Research in Income and Wealth, June, 1955, Regional Income, Studies in Income and Wealth, Vol. XXI.

Inter-Industry Relations and Regional Input-Output Matrices are discussed repeatedly.

- ISARD, W., -CUMBERLAND, J.H., "Regional Input-Output Analysis," Paper presented at the 30th Session of the International Statistical Institute, Stockholm, 1957, An abridged version of this paper appeared in ISI BULLETIN, Vol. 36, Part 4, pp. 160-80, with (F) sum., A more fully developed statement is to be published by Resources for the Future, Inc..

- , -SCHOOLER, E.W., -VIETORISZ, T., INDUSTRIAL COMPLEX ANALYSIS AND REGIONAL DEVELOPMENT, A Case Study of Refinery-Petrochemical-Synthetic Fiber Complexes and Puerto Rico, The Technology Press of the Massachusetts Institute of Technology and J. Wiley & Sons, Inc., 1959, 294 pp.

". . .the book develops the industrial complex approach to analysis, a new approach which aims to complement and cultivate the area lying between Input-Output and linear programming methods on the one hand, and individual industry comparative-cost study on the other. This approach is fully developed in the form of a case study involving Puerto Rico as the primary region, and oil refining, petrochemical, synthetic fiber, and fertilizer processes as the chief production activities. . ." (See the section, "The Regional Input-Output Approach," pp. 12-25).

(ISARD Continued)

ISARD, W. (Continued)

- , -in Association with: BRAMHALL, D.F., CARROTHERS, G.A.P., CUMBERLAND, J.H., MOSES, L.N., PRICE, D.O., SCHOOLER, E.W., METHODS OF REGIONAL ANALYSIS, The Technology Press of the Massachusetts Institute of Technology and J. Wiley & Sons, Inc., 1960, 784 pp.

For discussions of applications of Input-Output Analysis see: Chapter 8, "Inter-Regional and Regional Input-Output Techniques, pp. 309-74; Chapter 9, "Industrial Complex Analysis;" and Chapter 10, "Interregional Linear Programming." These chapters attempt to introduce into an Inter-Industry system the flexibility that can allow for changes in factor proportions, and a part of optimizing behavior characterizing reality.

KALAMAZOO COUNTY, see SMITH, H.T.

- KAVESH, R.A., -JONES, J.B., "Differential Regional Impacts of Federal Expenditures: An Application of the Input-Output Matrix to Federal Fiscal Policy," Paper presented at the Meeting of the Regional Science Association, Dec., 1955, and included in: PAPERS AND PROCEEDINGS, Vol. 2, 1956, pp. 152-72.

KIRKSEY, C.D., "An Inter-Industry Study of the Sabine-Neches Area of Texas," Ph.D. Thesis, University of Texas, 1957.

- , AN INTER-INDUSTRY STUDY OF THE SABINE-NECHES AREA OF TEXAS, Bureau of Business Research, University of Texas, 1959, 140 pp.

"...the general purpose of this study is to measure the Input-Output relationships of the Sabine-Neches area of Texas, with special emphasis on the interdependence of the area economy with the national economy, and to examine the structural input relationships for the various industries of the area..." Included are: an Inter-Industry Flow Table (13 Intermediate, 4 Final Demand Sectors) of the area for 1955, an Input Coefficients Matrix (13 Intermediate Sectors and 4 rows Final Demand), an Inverse Matrix (13 x 13 Sectors), and a table showing estimates of 1975 Area Output of the 13 production sectors, based on projected Final Demands for Chemical and Synthetic Rubber, Petroleum Refining, and Fabricated Metal and Machinery.

- KUENNE, R.E., A Rejoinder to MOSES, L.N., "Location Theory, Input-Output and Economic Development--An Appraisal," THE REVIEW OF ECONOMICS AND STATISTICS, Vol. 37, No. 3, Aug., 1955.

LANSING TRI-COUNTY AREA. ECONOMIC AND POPULATION BASE STUDY, An Interindustry Relations Analysis, Sponsored by the Tri-County Regional Planning Commission, Bureau of Business and Economic Research, College of Business and Public Service, Michigan State University, East Lansing, Michigan, 1960, 319 pp.

Chapter 11, "Inter-Industry Flow of Goods and Services in Clinton, Eaton, and Ingham Counties, 1958," describes the rationale behind the Inter-Industry Relations Table as well as the methodology used in this study. The Inter-Industry Flows are constructed partly from data obtained directly by questionnaire from business firms, governmental agencies, etc., with large-scale operations in the Tri-County Area, and partly from secondary sources of published and unpublished information. The data on which the matrix is based are, necessarily, of uneven quality; however, the authors believe that in

(LANSING TRI-COUNTY AREA. . . Continued)

LANSING TRI-COUNTY AREA. . . (Continued)

the aggregate, the tables present a reasonable reflection of the general interrelationships among the region's sectors for 1958. No means are available at present for estimating the range or probability of error. Included are various tables: Inter-Industry Flow--Table for 1958, 24 x 24 Intermediate plus 8 Final Demand Sectors; Coefficient Matrix, 24 x 24 Intermediate Sectors plus 6 rows Final Demand; Inverse Matrix, 24 x 24 Sectors. Based on certain assumptions about future economic changes outside the Tri-County Area, the structural coefficients for 1958 were used for estimated projections for 1965, 1970 and 1980 of the area's Final Demand (from 24 Intermediate Sectors), Gross Output, and Income, Employment and Population (Dollar figures represent constant 1958 dollars).

LONGINI, A., CHICAGO - CHICAGO HEIGHTS INDUSTRIAL ECONOMIC BLUEPRINT. Chicago & Eastern Illinois Railroad, 1957, 346 p., plus Directory of Establishments Served Directly by Railroads in the Chicago Rate Base Area, 247 pp.

". . .the principal purpose of the volume is to highlight manufacturing opportunities. . .Because interindustrial dependence is of paramount importance in the study of Chicago's industrial complex. . .it was essential to bring the Inter-Industry Relations Study of the USA for 1947 up-to-date. . . A new set of Inter-Industry Relations appropriate for 1954 or early 1955 were obtained for the total USA and applied to Chicago's industry (for 144 manufacturing groups). . .The methods utilized are described. The industries of the Chicago Rate Base Area are discussed in some detail: particular stress is given to interindustry economics in manufacturing and retail markets. . ."

MAY, F.B., "An Inter-Industry Relations Analysis of the Texas Economy for 1947," Ph.D. Thesis, University of Texas, 1957.

MILLER, R.E., "The Impact of the Aluminum Industry on the Pacific Northwest: A Regional Input-Output Analysis," REVIEW OF ECONOMICS AND STATISTICS, Vol. 39, No. 2, May, 1957, pp. 200-09.

". . .This paper attempts to measure the impact on the Pacific Northwest made by the primary aluminum facilities and the one rolling mill which moved into the area between 1939 and 1947. The demands of this capacity throughout all other economic activity in the area at that time are traced by means of an Input-Output Table with appropriate regional coefficients. . . A brief discussion of the theory, application and qualifications of Regional Input-Output Analysis is included.

MOORE, F.T., "Regional Economic Reaction Paths," AMERICAN ECONOMIC REVIEW, Vol. 45, No. 2, May, 1955, pp. 133-48, Papers and Proceedings of the 67th Annual Meeting of the American Economic Association, Detroit, Dec., 1954.

The paper discusses the static Input-Output models and their relevance for regional problems; Input-Output models of Utah and California for 1947 are used to examine changes in income and employment in these states resulting from changes in "external" demand for products of individual industries. Income and employment multipliers are presented, also, estimates of accelerator coefficients for California. Further, from the California Input-Output model, a dynamic model of growth over the period 1954-60 is derived.

(MOORE Continued)

MOORE, F.T. (Continued)

- , -PETERSEN, J.W., "Regional Analysis: An Interindustry Model of Utah, 1947," REVIEW OF ECONOMICS AND STATISTICS, Vol. 37, No. 4, Nov., 1955.

Inter-Industry Flow Table of Utah, 1947, 24 columns and 26 rows, plus 7 columns and 3 rows Final Demand.

- MOSES, L.N., "Discussion of F.T. Moore's Paper: 'Regional Reaction Paths'," presented at the Meeting of the American Economic Association, Detroit, December, 1954, AMERICAN ECONOMIC REVIEW, Vol. 45, No. 2, May, 1955, pp. 150-53.

- , "Interregional Analysis," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1954, Feb., 1955, pp. 163-226.

- , "Location Theory, Input-Output and Economic Development: An Appraisal," THE REVIEW OF ECONOMICS AND STATISTICS, Vol. 37, No. 3, Aug., 1955, pp. 308-12. A Note to ISARD, W., and KUENNE, R.E., "The Impact of the Steel Industry upon the Greater New York-Philadelphia Region," THE REVIEW OF ECONOMICS AND STATISTICS, Vol. 35, Nov., 1953.

- , "The Stability of Interregional Trading Patterns and Input-Output Analysis" (Appendix by Fei, J.C.H., -Moses, L.N.), THE AMERICAN ECONOMIC REVIEW, Vol. 45, No. 5, Dec., 1955, pp. 803-32.

The author discusses (1) the structure and theory of an Input-Output model developed for an interregional system, and (2) presents the statistical implementation of the model and an empirical enquiry into its assumption of fixed trade coefficients. For the empirical implementation of the study, economic activities in the U.S. in 1947 are classified into three geographic regions and eleven industries. Regional balances of trade in the base period (1947) are examined and their response to hypothetical change of ten per cent in Final Demand in one region are reviewed. The Appendix contains ". . . a rigorous demonstration of the interregional model discussed and illustrated in the main body of the paper and an extension of the model to the field of dynamic relationships. . . ."

- , "An Input-Output, Linear Programming Approach to Interregional Analysis," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1956-57, Dec., 1957, pp. 22-50.

- , "Location and the Theory of Production," QUARTERLY JOURNAL OF ECONOMICS, Vol. 23, No. 2, May, 1958.

". . . A theoretical demonstration of the fact that only if the production function of the firm is characterized by fixity of technical coefficients or if the production function is homogeneous of the first degree can there be a single optimum location. . . ."

- , "A General Equilibrium Model of Production, Interregional Trade, and Location of Industry," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1958-59, July, 1960, pp. 201-44. Also presented as a paper at the Meeting of the Econometric Society, Washington, D.C., Dec., 1959. For summary of the paper, see ECONOMETRICA, Vol. 28, No. 3, July, 1960, p. 701.

MOYERMAN, S., -HARRIS, B., "The Economics of the Base Study," JOURNAL OF THE AMERICAN INSTITUTE OF PLANNERS, Vol. 21, No. 23, Spring-Summer, 1955, pp. 88-93.

The application of Regional Input-Output Analysis to planning is discussed on pp. 90-91.

NORTH CAROLINA, Northern Tidewater Area, see RAM, P.

PACIFIC NORTHWEST REGION, see MILLER, R.E.

RAM, P., "An Input-Output Analysis of a Small Homogeneous Agricultural Area," JOURNAL OF FARM ECONOMICS, Vol. 40, No. 5, Dec., 1958, pp. 1909-20, Proceedings of the Joint Annual Meeting of the American Farm Economic Association and the Canadian Agricultural Economic Society, Winnipeg, Aug., 1958.

An Input-Output Flow Table, 5 x 5 sectors plus 2 columns and 3 rows Final Demand (Labor-Wages and Man-Hours, Land in acres), 5 x 5 Sectors Coefficient and Inverse Matrices of eight counties of the Northern Tidewater Area of North Carolina.

ST. LOUIS METROPOLITAN AREA, see HIRSCH, W.Z.

SCHNITTKER, J.A., "Application of Input-Output Analysis to a Regional Model Stressing Agriculture," Ph.D. Thesis, University of Iowa, 1956.

—, -HEADY, E.O., "Application of Input-Output Analysis to a Regional Model Stressing Agriculture," Iowa State College, Agricultural and Home Economics Experiment Station, Iowa, RESEARCH BULLETIN 454, Dec., 1957, pp. 152-72.

". . . This study is an application of Input-Output analysis to a 21 sector model of the United States economy in 1949. . . Agriculture has been divided into six regional crop-producing and the same number of livestock producing sectors, Industry into sectors representing processing, transportation and trade of: food crops, non-food crops, livestock products, machinery and fuel, miscellaneous supplies and all other services and products. . . " Included are an Input-Output Flow Matrix, and Input-Coefficient Matrix and the respective Inverse Matrix.

SMITH, H.T., THE KALAMAZOO COUNTY ECONOMY, As Reflected in the Kalamazoo County Current Accounts Table for 1954, W.E. Upjohn Institute for Employment Research, Kalamazoo, Michigan, Apr., 1960, 219 pp.

The data for the 34 sector Current Accounts Table are based on a sample survey of local residents and businesses. The flows of goods and services within Kalamazoo County, from the County to the rest of the U.S.A., and from the rest of the U.S.A. to Kalamazoo, are shown in three 34 sector Input-Output Tables, designated "County Current Accounts Tables." The Inverse Coefficients Table "expresses in cents the sales made by each sector which were created by one dollar of nonlocal sales made by each sector." Two additional matrices show "Sales and Incomes Created for each Local Industry by each Local Industry's Nonlocal Sales," and "The Responsibility of Nonlocal Industries for Total Local Sales and Incomes." In an Appendix, the essential facts pertaining to each Kalamazoo County industry have been drawn together into individual industry tables, accompanied by brief text.

SONNENBLUM, S., "Regional Economic Analysis and Social Accounts: An Interindustry Application," Ph.D. Thesis, Columbia University, 1959.

SPIEGELGLAS, S., "Input-Output Relations in the Shoe Industry 1947: A Regional Analysis," Ph.D. Thesis, University of Wisconsin, 1954.

STEVENS, B.H., "A Review of the Literature of Linear Methods and Models for Spatial Analysis," JOURNAL OF THE AMERICAN INSTITUTE OF PLANNERS, Vol. 26, No. 3, Aug., 1960, pp. 253-59.

The article includes a discussion of the basic Leontief Model and the national, regional and interregional Input-Output models.

TEXAS, -SABINE-NECHES AREA, see KIRKSEY, C.D.

———, see MAY, F.B.

———, -LOUISIANA GULF COAST, see WALKER, F.V.

TIEBOUT, C.M. "Regional and Interregional Models: An Appraisal," SOUTHERN ECONOMIC JOURNAL, Oct., 1957.

The author reviews the various operational uses of regional Input-Output Analysis and attempts to describe its current status and its possibilities and limitations.

———, "Input-Output and Foreign Trade Multiplier Models in Urban Research," JOURNAL OF THE AMERICAN INSTITUTE OF PLANNERS, Vol. 23, No. 3, 1957, pp. 126-30.

This paper is concerned with the exposition of technical relations between two types of models of the urban economy (Input-Output Models and foreign trade multiplier models). The relative merits of these two approaches used in urban research are discussed.

UTAH, see MOORE, F.T., -PETERSEN, J.W.

———, -CALIFORNIA, see MOORE, F.T.

WALKER, F.V., "Projection of the Gulf Coast Regional Output," Paper presented at the Meeting of the Regional Science Association, Cleveland, Ohio, Dec., 1956, and included in: PAPERS AND PROCEEDINGS of the Regional Science Association, Vol. 3, 1957, pp. 266-84.

This paper constitutes a summary of the author's doctoral thesis. Location- and Inter-Industry analysis is applied to the problem of estimating levels of primary, secondary and tertiary output as well as income for the new manufacturing region along the Gulf Coast of Texas and Louisiana in 1975.

———, "An Estimated Growth in the Texas-Louisiana Gulf Coast Area," Ph.D. Thesis, Harvard University, June, 1957.

SECTION NO. 7

REGIONAL AND INTERREGIONAL ANALYSIS

b. In Countries Other Than the U. S. A.

BELGIUM

DERWA, L., "Une Nouvelle Méthode d'Analyse de la Structure Économique" (F) (A New Method of Analyzing the Economic Structure), REVUE DU CONSEIL ÉCONOMIQUE WALLON, Liège, Belgium, No. 28, Sept. - Oct., 1957, pp. 16-42.

The author analyses the economic structure of the region of Liège, 1953. The characteristics of the Leontief model, and the methods applied in constructing the Input-Output Tables are discussed. Inter-Industry Flow and Coefficient Tables (25 x 25 sectors) and an Inverse Matrix (23 x 23 sectors) for 1953 are included.

-----, "Technique d'input-output et programmation linéaire" (F) (Input-Output Technique and Linear Programming), REVUE DU CONSEIL ÉCONOMIQUE WALLON, Liège, Belgium, No. 34, Sept. - Oct., 1958, pp. 35-58.

The author maintains that Input-Output Analysis and Linear Programming complement each other. Three Input-Output Tables and three Input-Coefficient Matrices of the Region of Liège for the years 1953, 1954, 1955 are included.

According to information received from R. de FALLEUR, the following Regional Input-Output studies were in progress as of Dec., 1959:

ANTWERP, District of, (Institut Supérieur de Commerce St. Ignace)

VERVIERS, Region of, Regional Input-Output Tables for each of the years 1953-1958 (Le Conseil Économique de Wallon).

BRAZIL

RELAÇÕES INTERINDUSTRIAIS NO ESTADO DE MINAS GERAIS - 1953, (Por) (Inter-Industry Relations in the State of Minas Gerais - 1953), Instituto de Pesquisas Econômicas de Minas Gerais, Faculdade de Ciências Econômicas da Universidade de Minas Gerais, Belo Horizonte, Minas Gerais, 1957, 26 pp. plus 4 Tables.

The publication contains a short discussion of the Leontief model and Input-Output Flow and Coefficient Matrices for 1953, (a) 27 columns x 34 rows Intermediate Sectors, plus 4 rows Final Demand; (b) 20 columns x 28 rows Intermediate Sectors, plus 4 rows Final Demand.

BRAZIL (Continued)

DE OLIVEIRA, A.B., -ARCHER, M., "Inter-relações do Sistema Industrial Brasileiro" (Por) (Interrelations of Brazil's Industrial System), *ECONÔMICA BRASILEIRA*, Vol. 1, No. 4, 1955, pp. 197-211.

This article contains a discussion of the Leontief Input-Output model and Input-Output table of the Federal District of Brazil for 1952 (20 sectors).

BOUDEVILLE, J.R., *CONTRIBUTION À L'ÉTUDE DES PÔLES DE CROISSANCE BRÉSILIENS: UNE INDUSTRIE MOTRICE - LA SIDÉRURGIE DU MINAS GERAIS*, (F) (Contribution to the Study of Brazil's Economic Growth - The Iron and Steel Industry of Minas Gerais), *CAHIERS DE L'INSTITUT DE SCIENCE ÉCONOMIQUE APPLIQUÉE*, Paris, Série F, No. 10, June, 1957, 71 pp.

The author maintains that economic growth and development of a country or area radiates from certain economic nuclei which influence the surrounding areas. Thus, the development of the State of Minas Gerais is assumed to be centered around the complex of its iron and steel industries. The author uses a partial multiplier model and computes the expected direct and indirect minimum effects of the planned production expansion in Minas Gerais' key industries--the complex of mining, metallurgy, and agricultural, electrical and transportation machinery--on the region's economy and on household incomes, by three iterations of a partial Input-Output Matrix for the year 1953.

—, *L'ESPACE OPÉRATIONNEL MACROÉCONOMIQUE. LA RÉGION PLAN*, (F), *CAHIERS DE L'INSTITUT DE SCIENCE ÉCONOMIQUE APPLIQUÉE*, Paris, Série L, Économies Régionales, No. 6, Jan., 1960, 88 pp.

The author discusses the application of regional and interregional Input-Output Analysis to economic planning and refers to the regional models developed by W. Hirsch, N. Rasmussen, and to the author's study, "La sidérurgie du Minas Gerais," (above) - Section III, "Programme inter-regional model which divides France into two regions (North and South) to form a closed seven sector interregional system.

CANADA

According to information received from J.A. SAWYER, the following Regional Input-Output Studies were in progress as of Dec., 1959:

BRITISH COLUMBIA, Province of, for 1955 (Department of Economics, University of British Columbia).

QUEBEC, Province of, for 1949 (Department of Trade and Commerce of the Province of Quebec).

CONGO (Formerly Belgian Congo)

CARBONNELLE, C., -KIRSCHEN, E.S., "Structure de l'Économie de Haut et Bas Uele en 1957" (CARBONNELLE, -KIRSCHEN, "Structure de l'Économie. . ." Continued)

CONGO (Continued)

CARBONNELLE, C., -KIRSCHEN, E.S., "Structure de l'Économie. . ." (Continued)

(F) (The Structure of the Economy of High and Low Uele in 1957), mimeographed, May, 1960 (Limited Distribution).

This is an "Inter-Disciplinary Study" of the above region which includes and Input-Output Table for 1957, with 14 Intermediate Sectors, 6 columns and 7 rows Final Demand, plus Capital Formation and Fixed Capital rows.

FRANCE

BAUCHET, P., LES TABLEAUX ÉCONOMIQUES: ANALYSE DE LA RÉGION LORRAINE, (F), Éditions Génin, Librairie de Médecis, 1955, 182 pp.

A 21 x 21 sector Input-Output Table of Lorraine for 1952, constructed by the author, serves as a framework for presenting the area's fundamental economic data and for analysing the structural interrelationships of the sectors. The application of Input-Output analysis as a method for providing guidance in formulating development policies is suggested.

BOUDEVILLE, J.R., L'ESPACE OPÉRATIONNEL MACROÉCONOMIQUE. LA RÉGION PLAN, see BRAZIL.

ITALY

CHENERY, H.B., "Il compito dell' industrializzazione nello sviluppo dell' Italia meridionale" (I) w. (E) sum. (The Role of Industrialization in the Development of Southern Italy), L'INDUSTRIA, Rivista di economia politica, 1955, No. 3, pp. 378-402.

-----, -CLARK, P.G., INTERINDUSTRY ECONOMICS, J. Wiley & Sons, Inc., 1959.

Regional Models of Italy (North and South) are discussed in Chapters 11 and 12.

-----, -KRETSCHMER, K.S., "Resource Allocation for Economic Development," ECONOMETRICA, Vol. 24, No. 4, Oct., 1956, pp. 365-99, (S) translation "Distribución de recursos para el desarrollo económico," PRODUCTIVIDAD, Madrid, April - June, 1959, (*).

DEL PUNTA, V., "Sull'applicazione dell' input-output analysis e della programmazione lineare al problema dello sviluppo economico" (I) (The Application of Input-Output Analysis and Linear Programming to the Problem of Economic Development), RIVISTA DI POLITICA ECONOMICA, March, 1956, pp. 161-92

(DEL PUNTA, "Sull' applicazione dell'. . ." Continued)

(*) See Section 1, p. 6.

ITALY (Continued)

DELL PUNTA, V., "Sull' applicazione dell'. . ." (Continued)

The author discusses L. Moses' Interregional Model and Chenery's Regional Input-Output Model and their application to the study of Southern Italy's economic development problems. Also, the use of a linear programming model for this purpose is explored; the differences between the two methods and their respective merits are evaluated.

———, "Input-Output Regionale: Problemi delle differenze regionali nei prezzi e nelle tecniche di produzione" (I) (Regional Input-Output Analysis: Problems of Regional Differences in Prices and Techniques of Production), RIVISTA DI POLITICA ECONOMICA, Jan. - Feb., 1957, pp. 87-106.

FEI, J.C.H., -DEL PUNTA, V., "L'uso della 'programmazione lineare' per lo studio della pianificazione dello sviluppo industriale con riferimento al problema del Mezzogiorno italiano" (I) (The Use of Linear Programming for the Study of Industrial Development Planning with Special Reference to the Problem of Southern Italy), (ex officio - this article was written while both authors worked at the Harvard Economic Research Project), RIVISTA DI POLITICA ECONOMICA, Vol. 45, III Series, Fasc. XI, Nov., 1955.

LE INTERDIPENDENZE STRUTTURALI DELL'ECONOMIA SICILIANA NEL 1958, (I) (The Structural Interdependence of Sicily's Economy in 1958), Osservatorio Economico del Banco di Sicilia, Fondazione per l'Incremento Economico, Culturale e Turistico della Sicilia, "Ignazio Mormino," Palermo, 1960, 74 pp. plus 1 Input-Output Table.

The study contains a discussion of the methods and procedures applied in constructing the Input-Output Table and an Appendix listing the close to 200 products included in the table. The Input-Output (Flow) Table consists of 30 x 30 Intermediate, and 6 columns and 5 rows Final Demand Sectors, which were aggregated from a working matrix of larger dimensions. The flow of interregional trade (exports and imports) between Sicily and the rest of Italy on the one hand and foreign countries on the other, is tabulated separately in the matrix. A table showing the per cent distribution of outputs (row-distribution) among the 30 intermediate sectors is included. The study was conducted by a group of economists and statisticians under the direction of Cao-Pinna, V., and Mirabella, G..

JAPAN

REGIONAL INTERINDUSTRY TABLE OF THE ECONOMY OF HOKKAIDO, Hokkaido Interindustry Research Project, Council for Industry Planning, Tokyo, 1959, 50 pp., (Sangyo Keikaku Kaigi Publication Series No. 3).

Contains a discussion of some of the characteristics of the Hokkaido Interindustry Table, its relation to the national table, sector-classification, the compilation from the basic data, an evaluation of the merits and drawbacks of the table, and plans for continuation of the study. Included are: a Preliminary Interindustry Table of Hokkaido for 1955 (208 Intermediate,

(REGIONAL INTERINDUSTRY TABLE OF THE ECONOMY OF HOKKAIDO, Continued)

JAPAN (Continued)

REGIONAL INTERINDUSTRY TABLE OF THE ECONOMY OF HOKKAIDO (Continued)

9 Final Demand sectors), a Capital Formation Table, and Interindustry Flow, Input-Coefficients and Inverse-Matrices, aggregated to 30 sectors.

INPUT-OUTPUT ANALYSIS OF THE KINKI (KANSAI) REGION, YEARS 1951 AND 1954, (J), Kansai Economic Federation, Kitaku, Osaka, 1958, directed by ICHIMURA, S.

This study contains: Input-Output Table, 1951 (200 x 200 sectors); Input-Output Table, 1951 (31 x 31 sectors aggregated from the above 200 sectors); Coefficient Matrix, 1951 (31 x 31 sectors); Input-Output Table, 1954 (31 x 31 sectors); Coefficient Matrix, 1954 (31 x 31 sectors). In the above, each matrix cell contains four entries showing the following inter-industry flows: (1) within the Kinki Region, (2) from Kinki to the rest of Japan, (3) from the rest of Japan to Kinki, (4) within the rest of Japan. This study is based on the National Input-Output Study for 1951 and 1954 by the Ministry of International Trade and Industry (MITI), Tokyo.

According to information received from S. ICHIMURA, the following Regional Input-Output Studies were in the process of completion as of Dec., 1959:

AICHI PREFECTURE, for 1951.

TOHOKU AND KYUSHU REGIONS, for 1955.

POLAND

PORWIT, K., "Powiązania międzygałęziowe w ujęciu regionalnym" (P) (Regional Interdependence Analysis), GOSPODARKA PLANOWA, Warsaw, Nov., 1958, and PRACE I MATERIAŁY ZAKŁADU BADAŃ ECONOMICZNYCH No. 14, 1958, pp. 44-88.

SPAIN

TRÍAS-FARGAS, R., "La balanza de comercio de la provincia de Barcelona y la tabla de 'inputs' industriales de la misma" (S) (The Balance of Trade of the Province of Barcelona and the Input-Output Table of Industries in this Region), MONEDA Y CREDITO, No. 69, June, 1959, pp. 41-56.

The author attempts to determine the trade balance of the province for 1955 using the indirect method of Input-Output Analysis and to set up a structural table of industrial requirements of the region. Included is a matrix containing 28 x 28 intermediate sectors and 3 columns Final Demand.

SWEDEN

ARTLE, R., SAMPELET MELLAN EKONOMISKA SEKTORER I STOR-STOCKHOLM, (Sw) (The Interaction between Economic Sectors in the Greater Stockholm Area), Business Research Institute, Stockholm School of Economics, 1957, Part II of: "The Economic Structure of Greater Stockholm," pp. 265-317.

(ARTLE, SAMPELET MELLAN EKONOMISKA. . . , Continued)

SWEDEN (Continued)

ARTLE, R., SAMSPELET MELLAN EKONOMISKA. . . (Continued)

". . .Contains two regional Input-Output Tables for the Stockholm area, years 1950 and 1955, 64 Intermediate and 14 Final Demand Sectors, the latter include 7 columns and 12 rows showing the sector flows between the Stockholm area and the rest of Sweden as well as foreign countries. The main purpose of the study is to provide a basis for projecting the needs of manpower and of building capacity (floor space) in the Stockholm area, under various assumptions. . ."

-----, STUDIES IN THE STRUCTURE OF THE STOCKHOLM ECONOMY. TOWARDS A FRAMEWORK FOR PROJECTING METROPOLITAN COMMUNITY DEVELOPMENT, Business Research Institute, Stockholm School of Economics, 1959, 197 pp.plus appendix.

". . .Examines 1) the assumptions implicit in Input-Output Analysis, and 2) the applicability of Input-Output techniques to local areas; presents an Input-Output Table of the Stockholm area for 1950, with 62 Intermediate and 16 Final Demand Sectors and its Inverse (62 x 62 sectors); analyses the data by means of various matrix-algebraic operations; explores to what extent the results of the study can be linked with findings that refer to the locational patterns of economic activities within the Stockholm area..."

WALLANDER, J., "Input-Output analysen och samhällsplaneringen," (Sw) w. (E) sum., (Input-Output Analysis as a Tool of Town and Country Planning), PLAN Tidskrift för planering av landsbygd och tätorter, Stockholm Vol. 13, No. 4, 1959, pp. 117-23.

A discussion of ARTLE, R., "Studies in the Structure of the Stockholm Economy."

UNITED KINGDOM

PEACOCK, A.T., -DOSSER, D.G.M., "Regional Input-Output Analysis and Government Spending," SCOTTISH JOURNAL OF POLITICAL ECONOMY, Vol. 6, No. 3, Nov., 1959, pp. 229-36, also, University of Edinburgh, Department of Political Economy, Reprint Series No. 11.

The study discusses the differential effects (particularly on income, employment and the assumed spending behavior of households) on regions of a common institutional spender, the government, which is largely concerned with decision-making on a national, rather than a regional, basis. The paper combines the Leontief approach with that of R.M. Goodwin, discussed in the latter's "The Multiplier and the Matrix."

-----, -----, "The New Attack on Localized Unemployment," LLOYDS BANK REVIEW, No. 55, Jan., 1960, pp. 1-12, also, University of Edinburgh, Department of Political Economy, Reprint Series No. 13.

". . .the article contains a simple scheme showing how an Input-Output Table can be used to analyse the problem of local unemployment. . ."

SECTION NO. 8

NATIONAL STUDIES OTHER THAN THE UNITED STATES

ALGERIA

PERSPECTIVES DÉCENNALES DE DÉVELOPPEMENT ÉCONOMIQUE DE L'ALGÉRIE, (F) (Perspectives of a Ten Year Economic Development Plan of Algeria), Ministère de l'Algérie, March, 1958, 455 pp.

The publication contains: Tableau économique pour l'année 1954, 27 columns and 79 rows Intermediate products, plus 9 columns and 79 rows Final Demand (Final products), further 7 rows and 27 columns 'Value Added' - Money Flows; Tableau économique pour l'année 1967, in 1954 prices, same dimensions as the table for 1954 above, representing a forecast of the economic situation expected at the end of the planning period. These tables are not strictly Leontief Input-Output Tables since money flows are incorporated in the matrices.

ANTIGUA, see BRITISH WEST INDIES

ARGENTINA

BALBOA, M., "La utilización del modelo de insumo-producto en las proyecciones de la economía argentina" (S) (The Utilization of an Input-Output Model in Planning for Argentina's Economy), REVISTA DE DESARROLLO ECONÓMICO (Buenos Aires), Vol. 1, Núm. 1, Oct. - Dec., 1958, pp. 41-86.

-----, ALGUNAS APLICACIONES DEL MODELO DE INSUMO-PRODUCTO EN EL ANÁLISIS Y EN LAS PROYECCIONES DE LA ECONOMÍA ARGENTINA, (S) w. (E) sum. (Some Applications of the Input-Output Model to the Analysis and Projections of the Economy of Argentina), United Nations, Economic Commission for Latin America, Santiago, Chile, May, 1959, 75 pp. plus Statistical Appendix (38 Tables), mimeographed.

This study contains, among other statistical tables, the following Input-Output Tables for 1950, which were aggregated from a 200 sector working matrix: Input-Output Tables and Input-Coefficient Matrices, 23 x 23 and 12 x 12 Intermediate Sectors, respectively, plus 4 columns and 2 rows of Final Demand, (a) Imports included in the sector flows, total Imports tabulated as a negative column, (b) Imports excluded from sector flows and tabulated as Import row; Inverse Matrices, Domestic Production, 23 x 23 sectors and 12 x 12 sectors, respectively; Input-Output Tables, Input-Coefficient matrices, and Inverse Matrices of Imports, 23 x 23 and 12 x 12 sectors, respectively; in addition, Projected Flow Tables of estimated Import-Requirements of the Intermediate Sectors (23 columns x 18 rows) for the years 1962 and 1967, and Projected Final Demand from 12 Intermediate Sectors, plus 2 rows Final Demand, for the same years as above, in 1950 prices, assuming no substitution of imports.

ANÁLISIS Y PROYECCIONES DEL DESARROLLO ECONÓMICO. V. EL DESARROLLO ECONÓMICO DE LA ARGENTINA, Parte 1, Los problemas y perspectivas del crecimiento económico (ANÁLISIS Y PROYECCIONES. . . Continued)

ARGENTINA (Continued)

ANALISIS Y PROYECCIONES. . . (Continued)

argentino, (S) (Analysis and Projections of Economic Development. V. The Economic Development of Argentina. The Problems and Prospects of Argentina's Economic Growth), United Nations, Department of Economic and Social Affairs, Secretariat of the Economic Commission for Latin America, Mexico, 1959, 129pp.

The section entitled, "La utilización del modelo de insumo-producto en las proyecciones de la economía argentina" (The Utilization of the Input-Output Model for Projections of Argentina's Economy), pp. 89-129, contains a discussion of Input-Output Analysis and an Input-Output Table of Argentina for 1950, 23 x 23 Intermediate plus 4 Final Demand Sectors (aggregated from an unpublished, approximately 200 sectors Input-Output Table), further, numerous complementary statistical tables, showing for 1962 and 1967 projections of the estimated values of domestic production, capital requirements, final demand, and imports (in 1950 prices), based on Input-Output studies.

"Some Applications of the Input-Output Model to the Argentine Economy," United Nations, Economic Commission for Latin America, ECONOMIC BULLETIN FOR LATIN AMERICA, Vol. 5, No. 1, March, 1960, pp. 62-89.

This study, prepared by M. Balboa, was originally presented at the Conference of the International Association for Research in Income and Wealth, Rio de Janeiro, June, 1959. The article describes the statistical sources (Economic Commission for Latin America Study on the Economic Development of Argentina) and the methods used in the compilation of a table of intersectoral transactions in the Argentine economy during 1950, the preparation of an Input-Output Model and the application of the latter in the analysis of certain structural aspects of the Argentine economy. An account is given of the application of the model for formulating production and import projections for 1962 - 1967. Included are a 23 sector table of "Inter-Sectoral Transactions in Domestically Produced and Imported Goods, 1950" and tables showing domestic production and imports in 1950 - 1955, as well as projections for 1962 - 1967, both with and without import substitution.

AUSTRALIA

CAMERON, B., "The Compilation of the Australian Transaction Tables, 1947, Progress Report on an Investigation into the Structure of Australian Industry 1946-1947," Paper read to the Australian and New Zealand Association for the Advancement of Science, Canberra, A.C.T., Aug., 1955, mimeographed.

-----, THE AUSTRALIAN TRANSACTION TABLE, 1946-1947, University College, Canberra, A.C.T., Sept., 1956, 25 pp., mimeographed, with appendices and tables.

This study contains: Rectangular Input-Output Table, partly in quantities, partly in values, consisting of 106 columns, 266 rows, and rows and columns of Final Demand; Rectangular Input-Output Table of Commercial and Transportation charges and Taxes, 10 columns, 266 rows; Rectangular Coefficient Matrix "Market Structure of Australia," 106 columns, 266 rows. Also, some preliminary estimates of transactions for the years 1953-1954 to 1955-1956 are included.

(CAMERON Continued)

AUSTRALIA (Continued)

CAMERON, B. (Continued)

- , THE AUSTRALIAN TRANSACTION TABLE FOR 1946-1947, University College, Canberra, A.C.T., ECONOMIC RECORD, Vol. 33, No. 66, Dec., 1957.

This study contains a rectangular Input-Output Table, partly in quantities, partly in values, consisting of 79 columns, 150 rows Intermediate Sectors, and rows and columns of Final Demand.

- , THE TRANSACTION TABLE: AUSTRALIA for 1953-1954, University College, Canberra, A.C.T., June, 1958, mimeographed.

The study contains: Input-Output Table, 20 x 20 Intermediate Sectors and rows and columns of Final Demand Sectors; Coefficient Matrix, 20 x 20 Sectors; Inverse Matrix, 20 x 20 Sectors.

- , "The Study of Imports in the Canberra Inter-Industry Project," Research Seminar on Australian Imports, University College, Canberra, A.C.T., 1958, mimeographed, Paper No. 1.

- , "The Factor Content of Final Demand," Canberra University College, Department of Economics, Canberra, A.C.T., 1958, mimeographed.

The study contains: Input-Output Table, Coefficient and Inverse Matrices for 1953-1954 (20 x 20 sectors); Input-Output Table of the Factor Content of Aggregated Exports, Investment, Consumption, Input-Output Table of Average Factor Content of Supplies of 20 commodity groups, Table showing the Final Market for Coal, all three of which are for 1946-1947; Table of Factor Content of Consumption, Exports, Investment, for 1953-1954.

- , "New Aspects of Australia's Industrial Structure," ECONOMIC RECORD, Vol. 34, No. 69, Dec., 1958, pp. 362-74.

Included in the study are a Coefficient Matrix for 1953-1954, 40 x 40 sectors, bordered by 2 rows Employment in thousands of Man-Years and 5 columns Final Demand in absolute values, and an Inverse-Matrix, 40 x 40 sectors.

- , "The Australian Economy - 1965," ECONOMIC RECORD, Vol. 35, No. 71, Aug., 1959, pp. 159-69

The study presents a projection of the structure of the Australian economy, particularly its prospects for internal and external balance in 1965, based on the 40 sector Input-Output Table for 1953-1954. The method used parallels the Evans-Cornfield-Hoffenberg study, "Full Employment Patterns 1950."

- , "Inter-Sector Accounts, 1955-1956," ECONOMIC RECORD, Vol. 36, No. 74, Apr., 1960, pp. 269-71, plus Input-Output Table.

This study contains a 20 sector Inter-Industry Flow Table of Australia for 1955-1956 (Purchaser's Value), also, a table showing the components of aggregated Final Demand in terms of their estimated factor content.

AUSTRIA

"Die erste Bestandaufnahme der Oesterreichischen Wirtschaft. Zweck, Organisation und Methode der nichtlandwirtschaftlichen Betriebszaehlung, 1954" (G) (The First Census of the Austrian Economy. Purpose, Organization and Method of the Census of Non-Agricultural Enterprise in 1954), OESTERREICHISCHES ZENTRALAMT UND OESTERREICHISCHES INSTITUT FUER WIRTSCHAFTSFORSCHUNG, Vienna, 1956.

Input-Output analysis and the possibilities of its application are discussed on pp. 22-25.

KLAMECKER, A., "Bemerkungen zur Einsatz-Ausstoss Analyse und ihre Anwendung in Oesterreich" (G) (Comments Regarding Input-Output Analysis and its Application to the Austrian Economy), ZEITSCHRIFT FUER NATIONALOEKONOMIE, Vienna, July, 1957.

The author outlines a method for constructing simple matrices based on the available or forthcoming data for Austria's economy. The most common types of Input-Output models and the aims and advantages of such models are discussed.

STEINDL, J., "Wie wirkt die Ausgabe einer zusaetzlichen Milliarde Schilling?" (G) (The Effects of an Additional Expenditure of One Billion Austrian Shillings), OESTERREICHISCHES INSTITUT FUER VOLKSWIRTSCHAFTSFORSCHUNG, Vienna, Sonderheft, No. 9, 1956, p. 20.

The article presents estimated primary and secondary employment effects of the additional spending of one billion Austrian shillings on the 4 major sectors of the Austrian economy, assuming that the level of full employment and full use of capacity has not been reached.

TINTNER, G., "Makro-oekonomische Modelle fuer die oesterreichische Wirtschaft" (G) (Macro-economic Models of the Austrian Economy), ZEITSCHRIFT FUER NATIONALOEKONOMIE, Vol. 17, No. 2, 1957.

The author discusses Inter-Industry Analysis and presents Input-Output Table, Coefficient and Inverse Matrices for 1955, 4 x 4 sectors each. The effects of changes in final demand as well as the influence of changes in wages upon the prices in the various sectors are investigated.

BELGIUM

DE FALLEUR, R., -KIRSCHEN, E.S., ANALYSE INPUT-OUTPUT DE L'ECONOMIE BELGE EN 1953, (F), (Input-Output Analysis of Belgium's Economy, 1953), Département d'Economie Appliquée de l'Université de Bruxelles (DULBEA), 1958, 65 pp.

(DE FALLEUR, -KIRSCHEN, ANALYSE INPUT-OUTPUT... Continued)

BELGIUM (Continued)

DE FALLEUR, R., -KIRSCHEN, E.S., ANALYSE INPUT-OUTPUT. . . (Continued)

The study contains: Input-Output Table, 51 x 51 Intermediate and 5 Final Demand Sectors; Coefficient and Inverse Matrices, 51 x 51 sectors; Input-Output Table, 7 x 7 sectors, aggregated from 51 sectors. Also published in CAHIERS ÉCONOMIQUES DE BRUXELLES, No. 1, Oct., 1958, under the title, "Le Tableau Input-Output de la Belge en 1953."

DERWA, L., "Une Nouvelle Méthode de l'Analyse de la Structure Économique" (F) (A New Method of Analysing the Economic Structure: An Input-Output Study of the Region of Liège, 1953), REVUE DU CONSEIL ÉCONOMIQUE WALLON, Liège, Belgium, No. 28, Sept. - Oct., 1957 (See Section 7, p. 61).

----, "Technique d'input-output et programmation linéaire" (F) (Input-Output Technique and Linear Programming), REVUE DU CONSEIL ÉCONOMIQUE WALLON, Liège, Belgium, No. 34, Sept. - Oct., 1958, pp. 35-58 (See Section 7, p. 61).

According to information received from R. DE FALLEUR, the following Input-Output studies were in progress as of November, 1959:

A revision of some of the important sectors of the Belgian Input-Output Table for 1953,

Regional Input-Output Tables for the region of Verviers, for each of the years from 1953 to 1958, by Le Conseil Économique de Wallon,

Input-Output Table for the District of Antwerp, by the Institut Supérieur de Commerce Saint-Ignace.

BRAZIL

RELAÇÕES INTERINDUSTRIAIS NO ESTADO DE MINAS GERAIS - 1953, (Por) (Inter-Industry Relations in the State of Minas Gerais - 1953), Instituto de Pesquisas Econômicas de Minas Gerais, Belo Horizonte, Minas Gerais, 1957, 26 p. plus 4 Tables (See Section 7, p. 61).

DE OLIVEIRA, A.B., -ARCHERS, M., "Inter-relações do Sistema Industrial Brasileiro" (Por) (Interrelations of Brazil's Industrial System), ECONOMICA BRASILEIRA, Vol. 1, No. 4, 1955, pp. 197-211 (See Section 7, p. 62).

BOUDEVILLE, J.R., CONTRIBUTION À L'ÉTUDE DES PÔLES DE CROISSANCE BRÉSILIENS: UNE INDUSTRIE MOTRICE - LA SIDÉRURGIE DU MINAS GERAIS, (F) (Contribution to the Study of Brazil's Economic Growth - The Iron and Steel Industry of Minas Gerais), Cahiers de l'Institut de Science Économique Appliquée, Paris, Serie F, No. 10, June, 1957, 71 pp. (See Section 7, p. 62).

BRITISH GUIANA

O'LOUGHLIN, C., "The Economy of British Guiana, 1952-1956, A National Accounts Study," SOCIAL AND ECONOMIC STUDIES, University College of the West Indies, Jamaica, B.W.I., Vol. 8, No. 1, March, 1959.

This study contains a 13 x 13 sector transaction matrix of British Guiana for 1956.

THE BRITISH WEST INDIES, Federation of

O'LOUGHLIN, C., "The Economy of Montserrat," SOCIAL AND ECONOMIC STUDIES, University College of the West Indies, Jamaica, B.W.I., Vol. 8, No. 2, June, 1959, pp. 147-78.

This study contains a 6 sector matrix for 1955.

-----, "The Economy of Antigua," SOCIAL AND ECONOMIC STUDIES, Vol. 8, No. 3, Sept., 1959, pp. 229-64.

This study contains a 6 sector matrix for 1956.

-----, "The Economy of St. Kitts - Nevis - Anguilla," SOCIAL AND ECONOMIC STUDIES, Vol. 8, No. 4, Dec., 1959, pp. 377-402.

This study contains a 6 sector matrix for 1956.

CANADA

THE INTER-INDUSTRY FLOW OF GOODS AND SERVICES, CANADA, 1949, Dominion Bureau of Statistics, Research and Development Division, Special Project Section, Reference Paper No. 72, 1956, 52 pp. and 3 Input-Output Tables.

The study discusses the conceptual framework of Input-Output tables, their relationship to gross domestic product and expenditure accounts, uses of the tables, the quality of estimates and detailed descriptions of sources and methods. Contained in the study are: Input-Output Table, 1949, 43 x 44 Intermediate Sectors, plus 5 columns and 6 rows Final Demand; Coefficient Matrix, 1949, 50 x 51 sectors; and a Table, "Disposition of Output of each Industry per Dollar of Output of the Industry, 1949," 50 x 51 sectors.

SUPPLEMENT TO THE INTER-INDUSTRY FLOW OF GOOD AND SERVICES, CANADA, 1949 (Supplement to Reference Paper No. 72), Dominion Bureau of Statistics, Publication 13-513, Ottawa, Queen's Printer, Jan., 1960, 49 pp. plus 3 Input-Output Tables.

(SUPPLEMENT TO THE INTER-INDUSTRY FLOW. . . Continued)

SUPPLEMENT TO THE INTER-INDUSTRY FLOW. . . (Continued)

". . .The publication of the revised NATIONAL ACCOUNTS, INCOME AND EXPENDITURE, 1926-1956 in 1958 changed some of the figures in THE INTERINDUSTRY FLOW OF GOODS AND SERVICES, CANADA, 1949 (Reference Paper No. 72). This Supplement incorporates these revisions...and repeats all the relevant explanations of concept, sources and methods contained in the earlier publication. . ." In addition to the revised Input-Output and Coefficient Tables (in producers' prices), the Supplement includes an Inverse Matrix ("Total Output of Each Industry and Total Primary Input Resulting from the Production of a Dollar's Worth of Final Output of an Industry").

CAVES, R.E., "The Inter-Industry Structure of the Canadian Economy," THE CANADIAN JOURNAL OF ECONOMICS AND POLITICAL SCIENCE, Aug., 1957, Vol. 23, No. 3, pp. 313-30.

On the basis of the Inter-Industry Flow Table of Canada for 1949 (Dominion Bureau of Statistics Reference Paper No. 72, above), the author sets forth some basic properties of the internal structure of Canada's economy in 1949. Some of the relations between the domestic economy and Canada's international trade and balance of payments are surveyed, especially the possible effects of changes in demand for Canadian exports in the U.K. and in the U.S., as well as shifts in Final Demand between purchasing sectors on Canada's total outputs. Included is a 17 x 17 sectors Inverse Matrix derived from an aggregation of the Inter-Industry Flow Tables in Reference Paper No. 72.

-----, -HOLTON, R.H., THE CANADIAN ECONOMY. PROSPECT AND RETROSPECT, Harvard University Press, 1959, 676 pp.

The authors develop an integrated set of economic forecasts for Canada's economy for 1970, based on Input-Output methods. These projections are summarized in an Inter-Industry Flow Table for 1970 (in 1955 dollars, 16 industrial sectors), derived from the Canadian Input-Output Study for 1949. The application of Inter-Industry methodology is expressly discussed on pp. 68-72, 120-29, 353-55, 408-09, 412-31.

SAWYER, J.A., "The Measurement of Inter-Industry Relationships in Canada, THE CANADIAN JOURNAL OF ECONOMICS AND POLITICAL SCIENCE, Nov., 1955, Vol. 21, No. 4, pp. 480-97.

This is a preliminary report on the characteristics of the Input-Output Table of Canada for 1949, the sources of the data used and their reliability.

-----, "Interindustry Relations of the Chemicals and Allied Product Industries," CHEMISTRY IN CANADA, June, 1957, pp. 64-67.

". . .Input-Output tables make it possible to relate the production and imports of industrial materials to the markets for the final products of Canadian industry. . ." In a simplified example the technique is applied to the Chemicals and Allied Products Industry, on the basis of Canada's Input-Output Table for 1949.

CANADA (Continued)

SCHWARTZMANN, D., "The Leontief Input-Output System," Dominion Bureau of Statistics, Ottawa, Canada, 1952, mimeographed.

STEINTHORSON, D.H., "Notes on Inter-Industry Studies," THE CANADIAN JOURNAL OF ECONOMICS AND POLITICAL SCIENCE, Vol. 2, No. 4, Nov., 1955, pp. 533-34.

Referring to J.A. SAWYER's article, "The Measurement of Inter-Industry Relationships in Canada," the author makes brief comments on the relationship of Input-Output to the National Accounts, treatment of competitive imports and secondary products, trade margins, transportation costs and constancy of input coefficients.

According to J.A. SAWYER the following Input-Output Studies were in progress as of Nov., 1959:

QUEBEC, Province of, for 1949, by the Department of Trade and Commerce of the Province of Quebec, with the assistance of Prof. A. Raynauld, University of Montreal.

BRITISH COLUMBIA, for 1955, 12 sectors, by members of the Department of Economics, University of British Columbia.

CANADA - U.S.A.

WONNACOTT, R.J., "An Input-Output Analysis of the Relationship of the Canadian and the United States Economies, 1949," Ph.D. Thesis, Harvard University, 1958.

-----, "An Input-Output Analysis of the Relationship of the Canadian and U.S. Economies" and "Introduction of Capacity Restraints into an Input-Output Trade Model," Harvard Economic Research Project, two Memoranda, Aug., 1958, hctographed.

-----, "A Foreign Trade Input-Output System for Canada and the U.S.," Paper presented at the Cambridge Meeting of the Econometric Society, Aug., 1958. Abstract of the paper: ECONOMETRICA, Vol. 27, No. 2, April, 1959, p. 284.

COLOMBIA

ANALYSIS AND PROJECTIONS OF ECONOMIC DEVELOPMENT. III. THE ECONOMIC DEVELOPMENT OF COLOMBIA, United Nations; Department of Economic and Social Affairs, Secretariat of the Economic Commission for Latin America, Geneva, 1957, 454 pp.

This volume constitutes the first experiment in utilizing input-output analysis in the study of a Latin American country's economy. Chapter III, "Analysis of the Industrial Sector," pp. 240-340 includes: Input-Output Table, "Composition of Input and Output of the Manufacturing Sector and Availability of Manufactured Goods, 1953," 17 x 17 Intermediate, plus Final Demand Sectors; Input-Coefficient Matrices, 17 x 17 sectors which

(ANALYSIS AND PROJECTIONS OF ECONOMIC DEVELOPMENT. . . Continued)

COLOMBIA (Continued)

ANALYSIS AND PROJECTIONS OF ECONOMIC DEVELOPMENT. . . (Continued)

include (a) total inputs, (b) inputs of domestic products, and (c) inputs of imports, all three of which are calculated per unit of gross production in Industry, 1953; Inverse Matrix, 17 x 17 sectors, covering domestic products and domestically produced goods; Inter-Industry Flow Tables, 17 x 17 sectors, representing projections of inter-industrial transactions for 1960, based on two hypothetical levels of output, assuming cumulative annual rates of growth of (a) 4 per cent in per capita real income and in per capita consumption, and (b) 2.2 per cent per capita real income and 2 per cent in per capita consumption for the period 1953-1960.

ANÁLISIS Y PROYECCIONES DEL DESARROLLO ECONÓMICO. III. EL DESARROLLO ECONÓMICO DE COLOMBIA. ANEXO ESTADÍSTICO, (S) (Analysis and Projections of Economic Development. III. The Economic Development of Colombia. Statistical Appendix) United Nations, Department of Economic and Social Affairs, Economic Commission for Latin America, Santiago, Chile, Sept. 15, 1957 (Doc. GENERAL E/CN.12/365/Add. 1/Rev. 1.), 159 pp., mimeographed.

"The Input-Output Model. General Characteristics and Applicability to the Case of a Latin American Country," ECONOMIC BULLETIN FOR LATIN AMERICA, United Nations, Vol. 1, No. 2, Sept., 1956, pp. 16-28 (The text of the article is based on lectures delivered by P. Vuskovic; V. Ochsenius assisted in the drafting of the paper).

The article contains a brief outline of the general characteristics of an Input-Output model and a summary of certain aspects of the experience acquired by the Economic Commission for Latin America in applying the model as a tool for analyzing the economy of a Latin American country, specifically, the study of the economic development of Colombia.

CONGO (Formerly Belgian Congo)

CARBONNELLE, C., -KIRSCHEN, E.S., "Structure de l'Économie de Haut et Bas Uéle en 1957" (F) (The Structure of the Economy of Higher and Lower Uele in 1957), mimeographed, May, 1960.

An "Inter-disciplinary study" of the above region which includes an Input-Output Table for 1957, 14 Intermediate Sectors, 6 columns and 7 rows Final Demand, plus Capital Formation and Fixed Capital rows.

CYPRUS

VASSILIOU, S., INPUT-OUTPUT ANALYSIS OF THE ECONOMY OF CYPRUS, Produced under the auspices of the Center for International Affairs and the Center for Middle Eastern Studies, Harvard University, 1958-59, 113 pp. plus 55 p. Appendix, mimeographed.

". . .the study constitutes an attempt to present a simple Input-Output model illustrating the interindustry relations of the Cyprus economy. . ."

(VASSILIOU, INPUT-OUTPUT ANALYSIS. . .Continued)

CYPRUS (Continued)

VASSILIOU, S., INPUT-OUTPUT ANALYSIS. . . (Continued)

to illustrate the application of this method to the analysis of practical economic problems, such as the effect on the various sectors of the economy of an increase in final demand, and thus assist economic planners and others responsible for the direction of new investment. . ." Included are Input-Output Tables for the years 1954 and 1957 (19 x 19 sectors, and a more aggregated matrix of 9 x 9 sectors for each year, and Input-Coefficient matrices, 9 x 9 sectors, for each of the two periods).

CZECHOSLOVAKIA

ČERVENÝ, A., -VÁCHA, J., "Přípravy pro sledování meziodvětvových a mezioborových vztahů" (Cz) w. (E) and (R) sum. (Preparations for the Investigation of Interbranch and Intersector Relations), STATISTICKÝ OBZOR, Vol. 39, No. 8, 1959, pp. 337-42.

KADLEC, V., "Použití šachovnicových tabulek a matematicového počtu v zahraničním obchodu" (Cz) (The Use of Matrices in Foreign Trade Calculations), PLÁNOVANÉ HOSPODÁŘSTVÍ, 1959, No. 10, pp. 775-79.

The author demonstrates the use of matrices in foreign trade computations by flow and coefficient tables of six sectors.

TLUSTÝ, Z., -SKOLKA, J., "Oekonometrickém směrn v buržoasní politické ekonomii" (Cz) (On the Econometric Model in the Bourgeois Political Economy), POLITICKÁ EKONOMIE, Vol. 7, No. 7, 1959, pp. 639-50.

The study contains a discussion of the Leontief Input-Output Model.

TOMASZEWSKI, W., -KORDA, B., "Zkoumání meziodvětvových vztahů na základě matematických modelů" (Investigation of Interbranch Relationships Based on Mathematical Models) (Cz) w. (E) and (R) sum., STATISTICKÝ OBZOR, Vol. 38, No. 6, June, 1958, pp. 250-60.

The article deals with the possibility of applying "Leontief's method of interbranch relationships" to national planning; several applications of Leontief's open model to the solution of the task of planning are discussed.

TUREK, O., "Otázky využití bilance národního hospodářství ČSR při plánování" (Cz) w. (E) and (R) sum. (Questions Concerning the Utilization of the Balance of the National Economy in Czechoslovakia for Planning Purposes), POLITICKÁ EKONOMIE, Vol. 7, No. 10, 1959, pp. 873-87.

". . .In the second part of this article the author formulates some suggestions as to how to develop the scheme of the balance of the national economy and suggests the elaborations of the intersectoral balance of the Input-Output material relationship. . .which would substantially expand the coverage area of the analyzed relations between production and consumption. . ."

DENMARK

NATIONALPRODUKTET OG NATIONALINDKOMSTEN, 1930-1946, (D) (National Product and National Income, 1930-1946), Statistiske Meddelelser, Copenhagen, 1947, Table headings also in (E) and (F).

This study contains: Input-Output Tables for 1930-1946, one for each year, 14 x 14 Intermediate Sectors, plus rows for value added and imports, and columns for Final Demand and exports.

NATIONALPRODUKTET OG NATIONALINDKOMSTEN, 1946-1949, (D) (National Product and National Income, 1946-1949), Statistiske Meddelelser, Copenhagen, 1951, Table headings also in (E) and (F).

This study contains: Input-Output Table for 1946, "Composition of Total Domestic Use at Market Prices, 1946," 16 columns x 34 rows. This Input-Output Table was also published in: NATIONAL ACCOUNTS STUDIES, DENMARK, Organization for European Economic Cooperation, National Accounts Research Unit, 1951, pp. 66-67.

NATIONALINDKOMSTEN 1938 og 1947-1954, (D) (National Income 1938 and 1947-1954), Statistiske Meddelelser, Copenhagen, 1955, Appendix I-II, Tables 45-49, Table headings also in (E).

The study contains: Input-Output Tables for 1947 and 1949; Input-Output Table for 1947 in 1949 prices. Both of these included tables consist of 28 x 28 Intermediate Sectors plus rows and columns Final Demand. Also included are Input-Output Tables for 1947 and 1949, 20 x 20 Intermediate Sectors (Intra-sector transfers are included).

BJERKE, K., -MILHØJ, P., -RASMUSSEN, P.N., "Input-Output Work in Denmark," Paper presented at the Fourth Conference of the International Association for Research in Income and Wealth, Helsingør, Denmark, Sept., 1955, 8 pp. plus appendix.

This paper contains a brief survey of Input-Output research in progress in Denmark as of the above date.

———, ———, ———, "National Experiences with Input-Output Analysis: Denmark," Paper presented at the International Conference on Input-Output Analysis, Varese, 1954, contained in: BARNA, T., (ed.), THE STRUCTURAL INTERDEPENDENCE OF THE ECONOMY, J. Wiley & Sons, Inc., -A. Giuffrè, 1956, pp. 233-258.

RASMUSSEN, P.N., "Om indkomstfordelingen og handelen mellem sektorerne" (D) (On the Distribution of Income and Trade Between the Sectors), HANDELSVIDENSKABELIGT TIDSSKRIFT, hefte 89-90.

The use of Input-Output Tables for obtaining a balance of payment for each sector as compared to the other sectors is discussed. If Input-Output Tables are available for a number of years, changes in the inter-sectoral trades can be analysed. An example is calculated on the basis of Danish national income figures.

(RASMUSSEN Continued)

DENMARK (Continued)

RASMUSSEN, P.N. (Continued)

——, STUDIES IN INTER-SECTORAL RELATIONS, (E) w. (D) sum., North-Holland Publishing Company, Amsterdam, 1956, 217 pp.

The author presents an analysis of inter-sectoral flows, using the static open Leontief model. The principles of inter-sectoral accounting and the theory of the static open Input-Output model are discussed. Changes in prices of output following certain given changes in the prices of primary factors of production, as well as changes in the distribution of national income, resulting from changes in the system of relative prices, are analyzed. In addition, the measurement of structural changes and of the income effect of changes in the terms of trade are examined. The theoretical arguments are illustrated by empirical data for Denmark. Included in the study are: Input-Output Tables, Technical Coefficient and Inverse Matrices for 1947 and for 1949 in current market prices; Input-Output Table, Technical Coefficient and Inverse Matrices for 1947 in 1949 market prices; each matrix contains 21 x 21 Intermediate Sectors, 4 columns Final Demand, 1 row Imports.

"Input-Output Tables: Recent Experience in Western Europe," United Nations, ECONOMIC BULLETIN FOR EUROPE, Vol. 8, No. 1, Geneva, May, 1956, pp. 36-54.

The study contains a list of Input-Output Tables constructed in Denmark.

An Input-Output Table for the year 1953 (21 Intermediate Sectors) was in the process of construction by the Department of Statistics, Denmark, as of Dec., 1959.

EGYPT

Input-Output Tables for the Southern Region of the United Arab Republic for the years 1954 and 1959 have been constructed in the National Planning Committee, Cairo. These are available for research workers in Egypt, and they probably will be available for others later on. The dimensions of the 1954 Input-Output Tables are 83 x 83 Sectors, aggregated to 33 x 33 Sectors, and for 1959, 33 x 33 Sectors (as of Sept., 1960).

FINLAND

FORSSELL, G., -GRÖNLUND, P., "Panos-Tuotos-Menetelmä" (Fi) w. (E) sum. (The Input-Output Method), KANSAN-TALOUDELLINEN AIKAKANSKIRJA, Helsinki, 1960, No. 1, pp. 67-99, (E) sum. p. 144.

". . .The authors discuss Input-Output Analysis as an analytical tool for the study of the national economy. Especially, the relationship between an Input-Output Table in the standardized system of national accounts is studied from the point of view of classification. The applicability of the Input-Output method is explored. Input-Output Analysis is applied to a study of the economic structure of Finland, and the first Input-Output

(FORSSELL, -GRÖNLUND, "Panos-Tuotos-Menetelmä" Continued)

FINLAND (Continued)

FORSSELL, G., -GRÖNLUND, P., "Panos-Tuotos-Menetelmä" (Continued)

Table of Finland is presented. . . The study as well as the Input-Output Tables are based on existing annual statistics of Finland and are, therefore, uncertain to some extent. . . Included are: Input-Output Table (Flow Table), Coefficient and Inverse Matrices of Finland for 1956, 16 Intermediate and 5 Final Demand Sectors, aggregated from the original 40 sectors

FRANCE

TABEAU ÉCONOMIQUE DE L'ANNÉE 1951, (F), Ministère des Affaires Économiques et Financières, Imprimerie Nationale, Paris, 1957, 476 pp.

This study contains: Tableau des Achats des Secteurs en 1951 and Tableau des Ventes des Secteurs en 1951, both consisting of 37 columns x 65 rows, plus Final Demand sectors and money flows (Table of Sales and Table of Purchases for 1951). These tables are not strictly Leontief Input-Output Tables since money flows are incorporated in the tables.

"Input-Output Tables: Recent Experience in Western Europe," United Nations, ECONOMIC BULLETIN FOR EUROPE, Vol. 8, No. 1, Geneva, May, 1956, pp. 36-54.

The study contains a discussion of the Table of Sales and Table of Purchases of France for 1951.

BULLETIN DU CONSEIL ÉCONOMIQUE, (F), Paris, No. 8, Apr. 22, 1959, Section 10 (pp. 173-77) entitled, "Étude des tableaux d'échanges intersecteurs."

The following is a summary of the translated (F) text:

". . . On behalf of the Committee set up by the Conseil Économique to investigate the merits of Input-Output Analysis and the desirability of applying this method to France's economy, Mr. Sauvy reports the results of the Committee's investigation regarding the practical application of Input-Output Analysis in various countries as follows: Input-Output Analysis enables the study of the interdependence between economic sectors, provides detailed descriptions of the activities of the divers branches of the economy and facilitates economic planning and forecasting. On the basis of this report Mr. Savary recommends the application of the Input-Output method to the analysis of France's economy. However, he points out the country's present lack of the necessary basic statistical data for such an analysis and the need for improvements in the method of collecting statistics. The recommendations are accepted by the Meeting. . ."

AUJAC, H., "La hiérarchie des industries dans un tableau des échanges industriels et ses conséquences sur la mise-en-oeuvre d'un plan national décentralisé" (F) (The Hierarchy of Industries in an Inter-Industry Relations Table and its Effect on the Introduction of a Decentralized National Plan), REVUE ÉCONOMIQUE, Vol. 11, No. 2, March, 1960, pp. 169-238.

(AUJAC, "La hiérarchie des industries. . ." Continued)

FRANCE (Continued)

AUJAC, H., "La hiérarchie des industries. . ." (Continued)

This study is based on the Tableau Économique of France for 1956, aggregated into 15 industrial sectors. The matrix is triangulated for the purpose of computing the objectives of production of the "Third Plan for Modernization and Equipment." Several hypotheses, as to the volume of final demand, are considered.

BAUCHET, P., LES TABLEAUX ÉCONOMIQUES: ANALYSE DE LA RÉGION LORRAINE, 1952, (F) Editions Génin, Librairie de Médicis, Paris, 1955, 182 pp. (See Section 7, p. 63).

BLANC, L.P., "National Experiences with Input-Output Analysis: France," Paper presented at the International Conference on Input-Output Analysis, Varenna, 1954, contained in: BARNA, T., (ed.), THE STRUCTURAL INTERDEPENDENCE OF THE ECONOMY, J. Wiley & Sons, -A. Giuffrè, 1956, pp. 259-70.

BOUDEVILLE, J.R., L'ESPACE OPÉRATIONNEL MACROÉCONOMIQUE. LA RÉGION PLAN, (F), Cahiers de l'Institut de Science Économique Appliquée, Série L, Économies Régionales, No. 6, Jan., 1960, 88 pp. (See Section 7, p. 62).

MAILLET, P., LA STRUCTURE ÉCONOMIQUE DE LA FRANCE, (F), Presses Universitaires de France, Paris, 1958, 126 pp.

-----, "L'Economie Française vue à travers le Tableau Économique. Essai d'Analyse et de Mesure des Interdépendances" (F) (The French Economy Reviewed on the Basis of a Tableau Économique. An Attempt to Analyze and measure the Interdependences), REVUE D'ÉCONOMIE POLITIQUE, Paris, No. 3, 1957, pp. 342-77.

-----, "La Place de l'Énergie dans l'Économie Nationale" (F) (The Place of Energy in the National Economy), LA REVUE FRANÇAISE DE L'ÉNERGIE, Paris, No. 89, Sept., 1957.

On the basis of the data contained in the "Tableau Économique, France, 1951," the author explores the importance of the various types of energy (solid mineral fuels, oils, electricity and gas) as purchasers of raw materials and providers of energy in the economy, as well as the cost of energy relative to the total costs of the most important commodities.

THIONET, M.P., "Le tableau français des achats et ventes des secteurs de production" (F) (The Table of Purchases and Sales of France's Production Sectors), ÉTUDES ET CONJONCTURE, Vol. 2, No. 4, Apr., 1957, pp. 451-76.

The author uses the "Table of Sales and Purchases" of France for 1951 for a short-term projection.

VENTURA, E., "Illustration sur le cas particulier des combustibles minéraux solides, des principes d'établissement d'un tableau économique de la nation" (F) (The Principles Involved in Setting up an Input-Output Table for France, Illustrated by an Application of this Method to the Special Case of Solid Mineral Fuels), ANNALES DES MINES, Paris, Apr. - May, 1954, pp. 7-92.

FRANCE (Continued)

According to information received from C. GRUSON, preliminary studies for constructing an Input-Output Table of France for 1956 were in progress at the Ministère des Finances, Service des Études Economiques et Financières, as of Dec., 1959.

GERMANY (Federal Republic)

KRELLE, W., VOLKSWIRTSCHAFTLICHE GESAMTRECHNUNG EINSCHLIESSLICH INPUT-OUTPUT ANALYSE MIT ZAHLEN FUER DIE BUNDESREPUBLIK DEUTSCHLAND, (G) (National Accounting Including Input-Output Analysis with Numerical Data for West Germany), Duncker and Humblot, 1959, 159 pp. plus one Folding Table.

Chapter 4 deals especially with Input-Output Analysis. Included is an Input-Output Table of West Germany for 1953, 46 Intermediate, 8 Final Demand Sectors and an Investment Matrix. Both matrices are partly based on estimates.

-----, und Andere, EINZELBERECHNUNGEN ZUR VOLKSWIRTSCHAFTLICHEN GESAMTRECHNUNG FUER DIE BUNDESREPUBLIK DEUTSCHLAND, (G) (Methods of Computing and Estimating National Accounts Sectors for West Germany), Duncker and Humblot, 1960.

This publication is a supplement to KRELLE's book above and contains the details of the methods used in computing and estimating the national accounts sectors and Input-Output Sectors of the Input-Output Table of West Germany for 1953.

GOLD COAST (Africa)

"Financial and Physical Problems of Development in the Gold Coast, 1952," ROSS, C.R., -SEERS, D., SOCIAL AND ECONOMIC STUDIES, Jamaica, B.W.I., Vol. 4, No. 4, Supplement.

The authors discuss the empirical evidence of lack of interdependence among economic sectors in an underdeveloped country on the basis of their study of the Gold Coast's economy.

GREAT BRITAIN - see UNITED KINGDOM

GREECE

LAZAR, A.A., THE LEONTIEF SYSTEM, (Gr), Ekdotes: Argures Papazeses, Athens, 1957, 47 pp.

Ministry of Coordination, National Accounts Division, Athens, Memorandum on the Practice of Input-Output Technique, mimeographed, 1955.

HUNGARY

AZ ÁGAZATI KAPCSOLATOK MÉRLEGE 1957, (H) (The Balance of Inter-Industrial Relations 1957), Központi Statisztikai Hivatal, Budapest, 1959, 56 pp.

The study includes a discussion of the methods used in constructing the 18 Input-Output Tables of Hungary listed below and several supplementary statistical tables. A description of the tables follows: 6 Input-Output (Flow) Tables for 1957, (a) 31 Intermediate, 12 Final Demand Sectors, (b) 18 Intermediate, 12 Final Demand Sectors, (c) 7 Intermediate, 4 Final Demand Sectors--each table in Gross and Net Values respectively (Net Value = Intra-sector transactions are excluded); 6 Input-Coefficient Tables for 1957, (a) 41 rows, 38 columns, (b) 28 rows, 23 columns, (c) 9 rows, 8 columns--each table in Gross and Net Values respectively; 6 Matrices containing per cent distribution of output among sector rows, (a) 41 rows, 44 columns, (b) 28 rows, 32 columns, (c) 7 rows, 11 columns--each table in Gross and Net Values respectively (each row total = 100). The above publication also appeared in a (R) translation: BALANZ MEZHOTRASLEVIKH SVIAZEI 1957 g, 56 pp.

ACS, M., "A népgazdasági mérlegrendszer szerepe a tervezésben (H) (The National Economic Balance Sheet System in Planning), KOEZGAZDASAGI SZEMLE, Vol. 3, No. 5, May, 1956, pp. 533-44.

The paper discusses the social accounting system used in Hungarian planning, including the "chess-board balance" sheet (Input-Output Table).

AUSCH, S., "A népgazdasági mérlegrendszer néhány főbb problémája" (H) w. (E) and (R) sum. (Some Important Problems Connected with the Peoples' Economic Balancing System), KOEZGAZDASAGI SZEMLE, Vol. 5, June, 1958, pp. 561-74.

BRODY, A., "A nehézipar néhány fajlagos mutatójának alakulása" (H) (Development of Some Special Indicators of the Heavy Industry. Experimental Application of the Input-Output Method) A MTA Közgazdaságtudományi Intézete Évkönyve, 1957 (Yearbook of the MTA [Hungarian Academy of Science] Economic Research Institute), Budapest, 1957, pp. 134-55.

-----, "Input-Output. Módszer a nemzetgazdasági folyamatok elemzésére" (H) w. (E) and (R) sum. (Input-Output. A Method of Analysing Economic Flows), KÖZGAZDASAGI SZEMLE (Economic Review), Budapest, 1957, No. 2, pp. 145-65.

-----, "Az ipar ágazati termékmérlegei" (H) (Product Balance of the Industrial Sector), A MTA Közgazdaságtudományi Intézet Évkönyve, 1957, 115 pp. plus 7 Tables.

-----, "Az ágazati kapcsolatok mérlegének elméletéhez" (H) w. (E) and (R) sum. (On the Theory of Input-Output Balancing of Sectors), KOEZGAZDASAGI SZEMLE, July - Aug., 1958, pp. 823-35.

-----, "Az ágazati kapcsolatok mérlege és a közvetett bernházások" (H) w. (E) and (R) sum. (The Balance of Connections Between Sectors of the Economy and Indirect Investment), KOEZGAZDASAGI SZEMLE, Vol. 7, No. 5, May, 1960, pp. 561-80.

(BRODY, "Az ágazati kapcsolatok mérlege. . ." Continued)

HUNGARY (Continued)

BRODY, A., "Az ágazati kapcsolatok mérlege. . ." (Continued)

"...the Input-Output Matrix and the Inverse are used to analyze the waves of ordering aroused by investments. . .the experimental computations are based on 1957 figures for five sectors of the complex of Hungarian engineering industries and show that the indirect investment requirements of these sectors are very great and considerably modify the order of precedence set up on the basis of their direct investment requirements. . ."

HAVAS, P., "Az ágazati kapcsolatok mérlegének felhasználása exportgazdaságossági számításokhoz" (H) w. (E) and (R) sum. (Utilization of Input-Output Analysis for Computing the Profitability of Exports), In two parts: STATISZTIKAI SZEMLE, Vol. 38, No. 3, March, 1960, pp. 235-51, and No. 4, April, 1960, pp. 352-63 respectively.

"...Utilizing the experience gathered in connection with the compilation of Hungary's Input-Output Table for 1957 as well as the possibilities of Input-Output Analysis the author suggests a practical method for computing the profitability of exports. . ."

KENESSEY, Z., "A társadalmi termék részletes sakktáblaszerd mérlegének" (H) w. (E) and (R) sum. (Report on a Conference Discussing the Problems Connected with the Compilation of the Chess-Board Balances of the Social Product), STATISZTIKAI SZEMLE, Vol. 36, No. 2, Feb., 1958, pp. 139-43.

-----, "A szovjet népgazdaság 1923-1924. évi mérlege." (H) (Balance of the Soviet Peoples' Economy for the Year 1923-1924), STATISZTIKAI SZEMLE, Vol. 36, No. 4, April, 1958, pp. 315-22.

-----, "Az olasz Központi Statisztikai Hivatal Munkájáról" (H) w. (E) and (R) sum. (The Activities of the Italian Central Statistical Office), STATISZTIKAI SZEMLE, Vol. 37, No. 10, Oct., 1959, pp. 1010-013.

The article discusses the work in progress at the Central Statistical Office of Italy relating to elaborations of Italian Input-Output Tables. A reprint of Italy's Input-Output Table for 1953, 33 sectors, is included.

-----, "A magyar népgazdaság ágazati kapcsolatainak mérlege" (H) w. (E) and (R) sum. (The Input-Output Table of the Hungarian Economy), STATISZTIKAI SZEMLE, Vol. 37, No. 12, Dec., 1959, pp. 1174-190.

The author discusses the theoretical preparation of the statistical work and the organizational framework for compiling Hungary's 47 sector Input-Output Table for 1957, and also the principal differences between the structure of the Hungarian table and those of capitalist countries. Included are reprints of the 47 sector Input-Output Table for 1957, and of a 6 sector "Chessboard-Pattern Table of the Social Product" (actually an Input-Output Table) compiled on the basis of the 1951, 1952 and 1953 average interdependences.

(KENESSEY Continued)

HUNGARY (Continued)

KENESSEY, Z. (Continued)

- , -NEMENY, V., -SZAKOLCZAY, G., "A ráfordítás-kibocsátás (Input-Output) rendszer vázlatos ismertetése" (H) w. (E) and (R) sum. (An Outline of the Input-Output System), STATISZTIKAI SZEMLE, Vol. 35, No. 1-2, Jan. - Feb., 1957, pp. 23-48, and No. 3, March, 1957, pp. 186-212 respectively.

The paper is the first result of work on Input-Output problems in the Hungarian Central Statistical Office in 1956. It contains an exposition of the theory of Input-Output analysis, the construction of the mathematical model, the problems of price and quantity analysis, practical uses of the closed model and problems encountered in using the open model. Experiences with the application of the method in the U.S. and some results achieved in Denmark, the Netherlands, Norway, England, Italy, France are dealt with. The paper also contains reprints of an aggregated Input-Output Table of the U.S.A. for 1947 and the Coefficient Matrix for 1929. The application of Input-Output analysis for improving economic planning in Hungary is suggested.

- LENDVAI, B., -MANYI, S.I., "A közlekedési szektor problémái az 1957. évi ágazati kapcsolatok mérlegeben" (H) w. (E) and (R) sum. (The Problems of the Transportation Sector in the 1957 Input-Output Table), STATISZTIKAI SZEMLE, Vol. 37, No. 8 & 9, Aug.-Sept., 1959, pp. 887-91.

- LUKACS, O., "Az ágazati kapcsolatok mérlege összeállításának és felhasználhatóságának tapasztalatai Norvégiában" (H) (Norwegian Experience with Input-Output Tables), STATISZTIKAI SZEMLE, Vol. 36, No. 10, Oct., 1958, pp. 963-70.

The article reviews Input-Output Studies conducted in Norway and includes a reprint of a 30 sector Input-Output Table of Norway.

- NYITRAI, F., "Az 1957. évi ágazati kapcsolatok mérlege" (H) w. (E) and (R) sum. (Experiences in the Compilation of the 1957 Input-Output Table), STATISZTIKAI SZEMLE, Vol. 37, No. 2, Feb., 1959, pp. 179-97.

- , "Külkereskedelmi kapcsolataink vizsgálata az ágazati kapcsolatok mérlege alapján" (H) w. (E) and (R) sum. (Examination of Hungary's Foreign Trade Relations on the Basis of the Input-Output Table), STATISZTIKAI SZEMLE, Vol. 38, No. 6, June, 1960, pp. 588-603.

The paper discusses the applicability of Hungary's Input-Output Table for 1957 to the analysis of the country's foreign trade structure--the weight of foreign trade in relation to domestic production of the various sectors, which sectors' increase in output demand small and which large increases in imports, import needs of investments and innovations, etc..

- PAPP, I., -RECZEY, G., "Az energiagázdalkodás elemzése" (H) w. (E) and (R) sum. (Analysis of Power Management Based on Input-Output Table), STATISZTIKAI SZEMLE, Vol. 36, No. 12, Dec., 1958.

(PAPP, -RECZEY, "Az energiagázdalkodás elemzése" Continued)

HUNGARY (Continued)

PAPP, I., -RECZEY, G., "Az energiagázdalkodás elemzése" (Continued)

The author maintains that the Input-Output Table of Hungary for 1957 which is under preparation will assist in elucidating a series of problems connected with power-management and long-range planning.

RENYI, A., -BRODY, A., "Az árrendezés problémája" (H) (The Problem of Price Determination), MTA Pamphlet, March, 1956.

ROMAN, Z., "A ráfordítási-kibocsátási tábla összeállításának vállalati feladatai" (H) (Institutional Problems of the Composition of the Input-Output Table), IPARI ÉS ÉPÍTŐIPARI STATISZTIKAI ÉRTESÍTŐ (Bulletin of Industrial and Construction Statistics), May, 1958, pp. 141-55, June, 1958, pp. 181-87.

-----, "Tervezés, statisztika és az ágazati kaécsplatok mérlege" (H) w. (E) and (R) sum. (Interconnection between Planning and Statistics and Input-Output Balancing), KOEZGAZDASAGI SZEMLE, Vol. 5, 1958, pp. 1135-148.

INDIA *

INDIAN STATISTICAL INSTITUTE, Planning Division, Interindustry Unit, Calcutta.

Working Paper Series:

Empirical Studies:

DUTTA, U., "A Preliminary Study of Inter-Industry Relations in India," Dec., 1954. Contains an Input-Output Table for 1949-1950, 15 sectors.

"Transaction Matrices for the Indian Union, 1950-1951," Jan., 1955 (Research Group under the guidance of CHOUDHURY, T.P., -GOODWIN, R.M.). Contains a Transaction Matrix for 1950-1951, 12 sectors.

"Inter-Industry Transactions of the Indian Economy, 1951-1952, at Market Prices" (Computed by a research group headed by CHAKRAVERTI, A.K., -SENGUPTA, S.S.), To be published in the first volume of papers presented at the Indian Conference on Research in National Income. Contains a 36 sector Transaction Matrix for that fiscal year.

"Inter-Industry Relations of the Indian Economy, 1953-1954, at Market Prices," Feb., 1958. Contains a 36 sector Transaction Matrix for that fiscal year.

Theoretical Studies:

FRISCH, R., "Planning for India; Selected Explorations in Methodology," April, 1959.

CHAKRAVERTI, A.K., -SENGUPTA, S.S., "Planning and the Problem of Aggregation," March, 1955.

(INDIAN STATISTICAL INSTITUTE. . . Continued)

* This list of the Working Paper Series and of the Input-Output Studies published in India was received from A.K. BISWAS, Oct., 1959.

INDIA (Continued)

INDIAN STATISTICAL INSTITUTE. . . (Continued)

Theoretical Studies: (Continued)

BISWAS, A.G., "Input-Output Analysis and General Equilibrium," Jan., 1958.

-----, "Inter-Industry Transactions and National Income," May, 1958.

Applications:

CHOUDHURI, T., "Consumption Levels in India," June, 1954.

FRISCH, R., "Preliminary Results of Experimental Plan Frame No. 1."

-----, "Experimental Plan Frame No. 1: Structure of the Set-Up and Numerical Results," Feb. - Mar., 1955.

SENGUPTA, S.S., -BOSE, D.K., "A Study in Maximizing Employment," Sept., 1955.

CHAKRAVERTI, A.K., -AGRAWAL, V.K., "A Note on Forecasting Net Product of 1953-1954," July, 1956.

SENGUPTA, S.S., -CHAKRAVERTI, A.K., -AGRAWAL, V.K., "On Applications of Inter-Industry Relations 1951-1952," Feb., 1958.

CHAKRAVERTI, A.K., -SENGUPTA, S.S., "On Some Simple Illustrative Dynamic Inter-Industry Models," Mar., 1958.

CHAKRAVERTI, A.K., "Role of Imports in the Economy - Estimation of Technological Import Requirements," Oct., 1958.

QUARTERLY ECONOMIC REPORT, Indian Institute of Public Opinion, Oct., 1954, "The Structure of the Indian Economy." Contains an Inter-Industry Transaction Table for 1952-1953, 19 sectors.

"Input-Output Analysis in India, I and II," EASTERN ECONOMIST, New Delhi, Vol. 23, Nos. 20 & 21, Nov. 12, 1954, pp. 784-85, and Nov. 19, 1954, pp. 823-25.

The articles discuss the methods used and the assumptions made in the construction of the Input-Output Table for India for 1952-1953, as computed by the Indian Institute of Public Opinion.

BISWAS, A.K., "Input-Output Relationships Among Selected Indian Industries," Paper, mimeographed, Massachusetts Institute of Technology, Center for International Studies, India Project, July, 1954.

-----, "Schemes of Sector Classification in Input-Output Analysis," INDIAN ECONOMIC REVIEW, Aug., 1955, Vol. 2, No. 4, pp. 13-22.

-----, "Demand for Imports under Planning: Some Theoretical Considerations," THE ECONOMIC WEEKLY, Bombay, Vol. 10, No. 19, May 10, 1958, pp. 640-43.

(BISWAS Continued)

INDIA (Continued)

BISWAS, A.K. (Continued)

——, "Input-Output Analysis, National Income Accounting and Planning," ARTHANITI, Nov., 1959, pp. 56-75.

CHAKRAVARTY, S., "The Matrix Extension of the Multiplier," INDIAN ECONOMIC REVIEW, Feb., 1957.

CHAND, M., "Models for Planning in a Socialist Economy with Reference to India's Second Five Year Plan," INDIAN JOURNAL OF ECONOMICS, Vol. 39, No. 152, July, 1958.

DESAI, B.C., -BRAHMANANDA, P.R., "Notes. The Structure of Capital in the Indian Economy," INDIAN ECONOMIC JOURNAL, Oct., 1954, pp. 197-204.

DHAR, P.N., "Some Aspects of Technical Progress in Small Scale Industries," INDIAN ECONOMIC REVIEW, Feb., 1956, Vol. 3, No. 1, pp. 67-76.

FRISCH, R., PLANNING FOR INDIA: SELECTED EXPLORATIONS IN METHODOLOGY, Studies Relating to Planning for National Development, Indian Statistical Institute, Calcutta, 1960, 88 pp.

The author discusses various aspects of planning in an underdeveloped economy--the theoretical model, organization of empirical data, the mathematical method used in programming work; Experimental Plan-Frame No. 1 is presented and discussed. Included are: a 26 x 26 sectors Current Account Interflow Table of Coefficients, 1950-51, a 25 x 25 sectors Inverse Matrix and a 24 x 26 sectors Investment Coefficient Matrix.

MALENBAUM, W., "India's Domestic Product, 1951-52, 1953-54," INDIAN ECONOMIC JOURNAL, Vol. 2, No. 3, Jan., 1955.

ROSEN, G., "Capital-Output Ratios in Indian Industry," ECONOMIC WEEKLY, Bombay, Mar. 3, 1956, Vol. 8, No. 9, pp. 279-90.

The author discusses capital/output ratios of the Cement, Paper, and the Iron and Steel Industries in India.

SANDEE, J., A DEMONSTRATION PLANNING MODEL FOR INDIA, Indian Statistical Institute, Studies Relating to Planning for National Development, No. 4, Calcutta, 1960, 59 pp.

"...This report presents a model designed to demonstrate the possibilities of planning models in India. . .The model is based on an assumed economic situation in 1960, and analyzes the Indian economy in 1970. . .Most of the input coefficients of the model have been derived from an unpublished provisional Input-Output Table for the fiscal year 1953-54. . ." The study includes a discussion of the principles of Inter-Industry Analysis, the mathematical basis of the procedure applied to obtain the projections, and a short summary of the basic principles of Linear Programming techniques used. Among

(SANDEE, A DEMONSTRATION PLANNING MODEL FOR INDIA Continued)

INDIA (Continued)

SANDEE, J., A DEMONSTRATION PLANNING MODEL FOR INDIA (Continued)

others, the following tables are presented: a Condensed Input-Output Table for 1953-54, a Condensed Input-Output Coefficients Table, a Capital-Output and Stock Ratios Table, Output and Investment Tables for 1960 and 1970, derived from the 1953-54 table by means of projections available in the Second Five Year Plan, an "Inverse of Coefficient Matrix, and Constants in the Optimum."

ISRAEL

GAATHON, A.L. (Gruenbaum, A.L.), FOUR YEAR DEVELOPMENT PLAN OF ISRAEL, 1950-1953, The Prime Minister's Office, Jerusalem, Central Bureau of Statistics and Economic Research, Tel-Aviv, 1951, (He) and (E).

The study contains an Input-Output Table for 1950, 9 x 9 Intermediate Sectors, plus 2 rows and columns Final Demand.

-----, "Food Supply for Consumption, 1951," YEDIOTH STATISTIOTH, Vol. III, No. 5, 1953, (He) and (E).

The paper attempts to analyse domestic food supply in Israel in 1951, using Input-Output data as a basis.

-----, SURVEY OF ISRAEL'S ECONOMY 1951, Central Bureau of Statistics, Technical Paper No. 1, Jerusalem, Feb., 1959, 389 pp.

GOVERNMENT YEARBOOK, 1953, (He) and (E), Israel Government Printer, Jerusalem, 1953.

The study includes an Input-Output Table for 1951, 12 x 12 sectors.

As of Oct., 1959, an Input-Output Table of Israel for 1958 was under construction by the Bank of Israel, Research Department, and was expected to be completed in 1960.

ITALY

RELAZIONE GENERALE SULLA SITUAZIONE ECONOMICA DEL PAESE, PRESENTATO AL PARLAMENTO DAL MINISTRO DEL BILANCIO E DAL MINISTRO DEL TESORO, 1954, (I) (General Report on the Economic Situation of the Country, Presented to Parliament by the Ministers of the Budget and the Treasury), Istituto Nazionale per lo Studio della Congiuntura, Roma, Istituto Poligrafico dello Stato, Roma, 1955.

The study contains an Input-Output Table for 1953, 25 x 25 Intermediate Sectors, plus 5 columns and 4 rows Final Demand, derived from an unpublished rectangular matrix with 300 rows and 25 columns

ITALY (Continued)

RELAZIONE GENERALE SULLA SITUAZIONE ECONOMICA DEL PAESE NELL' ANNO 1955 PRESENTATO AL PARLAMENTO DAL MINISTRO DEL BILANCIO E DAL MINISTRO DEL TESORO, 1956.

Annex 2 contains a discussion of the relationship between the Final Demand Structure and the Import Requirements of the Italian Economy, based on Italy's Input-Output Tables.

ANNUARIO DELL' AGRICOLTURA ITALIANA, Vol. VIII, Istituto Nazionale di Economia Agraria, Rome, 1955.

This publication contains a discussion of the interrelationship between the agricultural and food processing sectors and the rest of the economy and an Input-Output Table, "Flusso dei prodotti agricoli e alimentari nell' economia italiana nel 1953" (Flow of Agricultural Products and Processed Foods in the Italian Economy in 1953), derived from the Input-Output Table of Italy for 1953.

"Input-Output Tables: Recent Experience in Western Europe," United Nations, ECONOMIC BULLETIN FOR EUROPE, Vol. 8, No. 1, Geneva, May, 1956, pp. 36-54.

This study contains a discussion of the Input-Output Tables constructed in Italy.

CAO-PINNA, V., "National Experiences with Input-Output Analysis: Italy," Paper presented at the International Conference on Input-Output Analysis, Varenna, 1954, contained in BARNA, T., (ed.), THE STRUCTURAL INTERDEPENDENCE OF THE ECONOMY, J. Wiley & Sons, Inc., -A. Giuffrè, 1956, pp. 271-86.

-----, "Applicazioni ed esperienze del metodo Input-Output in vari paesi" (I) (Application of and Experience with Input-Output Analysis in Various Countries), ECONOMIA INTERNAZIONALE, Genova, Vol. 1, 1955, pp. 97-143.

This article contains summaries of papers dealing with the application of Input-Output Analysis in various countries by: Van den Beld, C.A., Rasmussen, P.N., Chenery, H.B., Evans, W.D., Cao-Pinna, V., Ichimura, S., Berman, L.S., Sandee, J., Aukrust, O., Sevaldson, P., Bjerke, K., Blanc, L.P., presented at the International Conference on Input-Output Analysis, Varenna, 1954.

-----, "Relationships between Import Requirements and Final Demand in Italy, 1953-54. Methodology and Results of a Study Based on the 1953 Italian Input-Output Table," ISTITUTO NAZIONALE PER LO STUDIO DELLA CONGIUNTURA, Interindustry Relations Service, Rome, 1956, Memorandum, 26 pp., mimeographed.

According to the author, the detailed results of the study have been published in the GENERAL REPORT ON THE ECONOMIC SITUATION IN ITALY IN 1955. The purpose of the memorandum is to contribute to the available information on examples of applications of the Input-Output method to the analysis of economic problems arising from limitations in national resources.

(CAO-PINNA Continued)

ITALY (Continued)

CAO-PINNA, V. (Continued)

- , "Le relazioni di interdipendenza tra il settore dei Trasporti ed il sistema produttivo italiano" (I) (The Interdependence between the Transportation Sector and the Production System in Italy), Atti VI Congresso Italiani Trasporti, A.C.I., Roma, 1956 (Proceedings of the VIth Congress of Italian Transportation, Rome, 1956).
- , LE RELAZIONI DI INTERDIPENDENZA DELLE INDUSTRIE TESSILI NEL QUADRO DELL'ECONOMIA ITALIANA. Con una nota metodologica di C. Righi sui fondamenti matematici dell'analisi, (I) (The Relations of Interdependence of the Textile Industries in the Italian Input-Output Table. With an Appendix Containing a Discussion of the Mathematical Basis of Input-Output Analysis by C. Righi), COMITATO NAZIONALE PER LA PRODUTTIVITÀ, Rome, 1957, 94 pp.
- , "Effetti sul sistema produttivo nazionale e sul fabbisogno d'importazione del carico di lavoro dei cantieri navali italiani" (I) (The Effects of the Level of Activity in Italian Shipyards on National Production and on Import Requirements), ISTITUTO NAZIONALE PER LO STUDIO DELLA CONGIUNTURA, Rome, Jan., 1958, 20 pp., Research Study.
- , ANALISI DELLE INTERDIPENDENZE SETTORIALI DI UN SISTEMA ECONOMICO, (I) (Analysis of Sectoral Interdependences in an Economic System), Edizioni Scientifiche Einaudi, Serie di Statistica, 1958, Torino, 94 pp.

The study contains a discussion of the theory of Input-Output analysis, the mathematical foundation and the method of computing an inverse matrix; also, an Input-Output Table of Italy for 1953, 25 x 25 Intermediate plus 4 sectors Final Demand is included.

- , "Possibili applicazioni del modello di contabilità 'Input-Output' al livello aziendale" (I) (Possible Applications of Input-Output Analysis to Business Management), RIVISTA TECNICA ED ORGANIZZAZIONE (TO), 1958, No. 39, pp. 3-11, C. Olivetti & Co., Ivrea, Italy, For (S) translation see Section 9, p. 141.
- , "Rapport sur l'état des recherches sur les relations inter-industrielles en Italie" (F) (Progress Report on Input-Output Research in Italy), COLLOQUE FRANCO-ITALIEN SUR LES TECHNIQUES SCIENTIFIQUE DE DIRECTION DE L'ECONOMIE ET DES ENTREPRISES, Milan-Rome, Oct., 1958, 5 pp., mimeographed.

CHENERY, H.B., "The Role of Industrialization in Development Programs," AMERICAN ECONOMIC REVIEW, Vol. 45, No. 2, May, 1955, pp. 40-56, Papers and Proceedings of the 67th Annual Meeting of the American Economic Association, Detroit, Michigan, Dec., 1954.

"...The paper investigates the influences of structural disequilibrium and external economies on the optimum amount and composition of industrial investment in a development program. Such an analysis can only be made in the context of a general equilibrium model because intersectoral relations are the essence of the problem. . ." An Inter-Industry relations model of the

(CHENERY, "The Role of Industrialization..." Continued)

ITALY (Continued)

CHENERY, H.B., "The Role of Industrialization. . ." (Continued)

Italian economy is used as empirical background to show the effect on industrial investment of labor supply, the availability of foreign exchange, and the rate of growth. Included is an Input-Coefficient Matrix of Italy, 14 x 14 sectors.

DEL PUNTA, V., "Sull' applicazione dell' input-output analysis e della programmazione lineare al problema dello sviluppo economico" (I) (The Application of Input-Output Analysis and Linear Programming to the Problem of Economic Development) RIVISTA DI POLITICA ECONOMICA, March, 1956, pp. 161-92 (See Section 7, p. 63).

GARCÍA BARBANCHO, A., "El modelo del equilibrio general de Leontief y su aplicación a Italia" (S) (Leontief's General Equilibrium Model and its Application to the Italian Economy), ANALES DE ECONOMÍA, Vol. 16, No. 61, Apr., 1956, pp. 127-76.

A discussion of Leontief's general equilibrium model and a review of: THE STRUCTURE AND GROWTH OF THE ITALIAN ECONOMY (Mutual Security Agency), with a reprint of the Input-Output Table of Italy for 1950.

HENDERSON, P.D., "El método del factor-producto: una aplicación del mismo a la economía italiana" (S) (The Input-Output Method: An Application to Italy's Economy), MONEDA Y CREDITO, Vol. 54, Sept., 1955, pp. 3-25.

The study contains a discussion of the problems and perspectives of Italy's economy and a review of: THE STRUCTURE AND GROWTH OF THE ITALIAN ECONOMY (Mutual Security Agency).

KENESSEY, Z., "Az olasz Központi Statisztikai Hivatal Munkájáról" (H) w. (E) and (R) sum. (The Activities of the Italian Central Statistical Office), STATISZTIKAI SZEMLE, Vol. 37, No. 10, Oct., 1959, pp. 1010-013.

The author discusses the work in progress at the Central Statistical Office of Italy, relating to the elaborations of Italian Input-Output Tables. A reprint of Italy's Input-Output Table for 1953, 33 sectors, is included.

PARETTI, V., -CAO-PINNA, V., -CUGIA, L., -RIGHI, C., STRUTTURA E PROSPECTIVE DELL'ECONOMIA ENERGETICA ITALIANA, (I) (The Structure and Prospectives of Italy's Energy Economy), Edizioni Scientifiche Einaudi, 1960, 275 pp. plus 10 pp. Graphs and 15 Folding Tables.

The purpose of this study, sponsored by Ente Nazionale Idrocarburi, is to contribute to the knowledge of Italy's present structure of energy economy and to survey the prospects of expanding the existing energy system consistent with the objectives of national development plans for 1965. The book is divided into four parts: (1) Examination of the balance of energy in the period 1953-57, in quantitative terms, (2) Analysis of the structure of Italy's energy system, (3) and (4) Prospects for expanding Italy's economy, and forecast of the corresponding energy requirements. The direct

(PARETTI. . ., STRUTTURA E PROSPECTIVE. . . Continued)

ITALY (Continued)

PARETTI, V., . . . , STRUTTURA E PROSPECTIVE. . . (Continued)

and indirect interdependences among the energy producing sectors on the one hand, and the direct and indirect relationships between the 15 energy producing sectors and 30 energy consuming sectors in the rest of the economy, on the other, are analyzed. The analysis is based on the Input-Output Table of Italy for 1953, which was adjusted and brought up to date by a detailed analysis of energy requirements and particularly the demand for fuel oil. The resulting new and more detailed matrix reflects in monetary terms the structure of Italy's economy in 1956 in 1953 prices and consists of 30 columns and 600 rows.

ŽIVADINOVIČ, V., "Italijansko iskustvo sa input-output tablicam" (SC) w. (E) sum. (Italian Experience with Input-Output Tables), STATISTICKA REVIJA, Vol. 7, No. 3, 1957, pp. 321-31.

The author presents a brief historic background of Italy's Input-Output Tables, the sources and methods used in setting up the tables. The application of the Input-Output Tables to economic analysis and to forecasting is illustrated and the results of the application to Italy's economy from 1953 to 1956 are discussed. The reprint of an aggregated Input-Output Table for 1953 (26 Intermediate Sectors) is included.

A Coefficient Matrix of Italy for 1950, 29 x 29 sectors, is included in CHENERY, H.B., -WATANABE, T., "International Comparisons of the Structure of Production," ECONOMETRICA, Vol. 26, No. 4, Oct., 1958, and in CHENERY, H.B., -CLARK, P.G., INTERINDUSTRY ECONOMICS, J. Wiley & Sons, Inc., 1959, pp. 218-19. The latter publication also includes an Inverse Matrix for 1951, 29 x 29 sectors, pp. 226-27.

LE INTERDIPENDENZE STRUTTURALI DELL' ECONOMIA SICILIANA NEL 1958, (I) (The Structural Interdependence of Sicily's Economy in 1958), Osservatorio Economico del Banco di Sicilia, Palermo, 1960 (See Section 7, p. 64).

JAPAN *

INTER-INDUSTRY ANALYSIS OF THE JAPANESE ECONOMY, YEARS 1951 AND 1954, (J) w. (E) sum. Ministry of International Trade and Industry (MITI) and the Council for Industry Planning, Tokyo, 1958, 708 pp. plus 9 Tables and (E) sum. (47 pp.).

Included in the publication are: Japan Input-Output Table for 1951, 182 x 182 Intermediate Sectors (aggregated from a working matrix having 527 rows and 182 columns); Input-Output Table, Coefficient and Inverse Matrices for 1951, 36 x 36 sectors each (aggregated from the 182 sectors table); Input-Output Table, Coefficient and Inverse Matrices for 1954, in 1951 prices, 36 x 36 sectors each; Quantitative Input-Output Table, 1951, 345

(INTER-INDUSTRY ANALYSIS. . . Continued)

* The list of Input-Output Studies published in Japanese is based on information received from visiting Japanese scholars.

JAPAN (Continued)

INTER-INDUSTRY ANALYSIS. . . (Continued)

rows, 182 columns, supplementing the 182 sector Input-Output Table above. An (E) sum. of the Quantitative Input-Output Table is included. (For the methods and detailed explanations of the above Input-Output Tables, (J), see also THE ORIENTAL ECONOMIST, Tokyo, 1957).

INTER-INDUSTRY ANALYSIS OF THE JAPANESE ECONOMY, Ministry of International Trade and Industry (MITI), Tokyo, 1958 (J).

The study contains: Input-Output Table of Japan for 1955, 36 x 36 sectors and 32 x 32 sectors; and, Input Coefficient and Inverse Matrices of the same dimensions.

THE PRESENT STATE OF JAPANESE INDUSTRY, (J), Ministry of International Trade and Industry (MITI), Tokyo, 1959, 291 pp.

This publication contains an analysis of the structural characteristics of the Japanese economy.

REPORT ON SOURCES AND METHODS USED IN COMPILING THE 1951 INPUT-OUTPUT TABLE FOR JAPAN, (J), Economic Planning Agency, Economic Research Institute, Tokyo, Oct., 1956, 327 pp.

The study contains an Input-Output Table, and Coefficient and Inverse Matrices, all for 1951, 9 x 9 sectors. An appendix includes reprints of Input-Output Tables of the following countries: U.S.A., 1947, 50 sectors; United Kingdom, 1950; Italy, 1950; Netherlands, 1950; Denmark, 1949; and Israel, 1953. (The Input-Output Study of the Economic Planning Agency was made independently from that of the Ministry of International Trade and Industry. The results of the two studies are not strictly comparable).

TECHNOLOGICAL PROGRESS AND THE INDUSTRIAL STRUCTURE OF THE JAPANESE ECONOMY, Central Research Institute of Electric Public Utilities, Tokyo, Committee for Modernization of Public Utilities, Study of Estimated Energy Requirements, Tokyo, Aug., 1958, 407 pp. plus 88 pp. appendix, mimeographed.

The study contains 3 Input Coefficients Matrices for the years 1951, 1955, 1967, with 55 x 55 endogenous sectors: 1951 based on actual data, 1955 based partly on actual figures, partly on 1951 data, adjusted for estimated changes in technology between the four years, 1967 figures are based on 1951 data, adjusted for 6.5 per cent annual rate of growth of GNP. Further, 3 estimated Inter-Industry Flow Tables for 1967, with 55 x 55 endogenous sectors, obtained by applying three different sets of Final Demand requirements considering 4 per cent, 6.5 per cent and 8.0 per cent annual rate of growth of GNP, respectively.

Ministry of Agriculture and Forestry, Tokyo, 1957, (J), Under the Direction of FUJIMAKI, Y., Tables of the Agricultural Sectors, 1951.

These consist of Output Table (15 rows x 61 columns, domestic products only) and Input Table (61 rows x 15 columns, in purchasers' prices).

JAPAN (Continued)

Ministry of Agriculture and Forestry, Tokyo, INPUT-OUTPUT TABLE OF THE JAPANESE ECONOMY FOR 1953, (J), 80 x 80 sectors.

THE CAPITAL STRUCTURE OF THE JAPANESE ECONOMY, Council for Industry Planning, Tokyo, 1958, 34 pp. (Sangyo Keikaku Kaigi Publication, Series No. 2).

The study contains for 1950-1955, Input-Output Tables of Fixed Capital Stocks 5 x 32 sectors at purchasers' prices in 1951 and 1955 prices, and for 1955, a 32 x 32 sectors table in producers' prices, at 1955 prices.

"Analysis of the Post-War Economy of Japan, Inter-Industrial Analysis," (J) w. (E) sum., THE ECONOMIC REVIEW, Vol. 6, No. 4, Oct., 1955, The Institute of Economic Research, Hitotsubashi University, Tokyo.

The study, based on the Input-Output Study of Japan for 1951, consists of the following articles: YAMADA, I., "Ecocirc Graph and the Structure of Input-Output"; KURABAYASHI, Y., "Analysis of Labor Productivity by Input-Output Table"; ARA, K., "Some Repercussion Effects Obtained from Input-Output Table."

HASEGAWA, K., "On the Rate of Import Inducement of Consumption, Investment and Exports," Ministry of International Trade and Industry (MITI), Tokyo, mimeographed.

". . . This study attempts to determine the effects of increases in consumption, exports, investment in fixed capital and inventories on imports, utilizing Input-Output data. . ." (Ichimura, S.).

-----, "The Demand Structure of Energy Products and the Input-Output Table," (J), THE ECONOMIST, Tokyo, 1959.

ICHIMURA, S., INPUT-OUTPUT ANALYSIS, (J), Kankeiren Sosho, Tokyo, 1956.

-----, THE STRUCTURE OF THE JAPANESE ECONOMY, (J), Sobunsha, Tokyo, 1957.

The author discusses the basic problems of the Japanese economy, Input-Output Analysis, and applies the latter to projections of the economic structure in 1960.

-----, INQUIRY INTO INTER-INDUSTRIAL RELATIONS, (J), Yuhikaku, Tokyo, 1957.

-----, "From Trade Dependency Analysis to Linear Programming," (J), KEIZAI KENKYU (Economic Research), Vol. 5, No. 2, 1954.

-----, "Input-Output Theory and Economic Policy," (J), TUSHO SANGYO KENKYU (Trade and Industry Research), Vol. 3, No. 10, 1955.

-----, (ed.), APPLICATIONS OF INTER-INDUSTRY ANALYSIS, (J), Vol. 1, University of Osaka, Department of Economics, Social-Economic Research Division, 105 pp., 1958.

(ICHIMURA, (ed.), APPLICATIONS OF INTER-INDUSTRY ANALYSIS Continued)

JAPAN (Continued)

ICHIMURA, S., (ed.), APPLICATIONS OF INTER-INDUSTRY ANALYSIS (Continued)

Included are a series of articles, written by several authors, on the application of Input-Output Analysis to Regional Analysis and market research. Also, an extensive bibliography of Inter-Industry Studies published in Japan and other parts of the Globe is included (The bibliography of Input-Output studies published in Japanese, the titles translated into English, is listed in the following pages).

——, (ed.), INTERINDUSTRY RELATIONS AND ECONOMIC FLUCTUATIONS, (J), Yuhikaku, Tokyo, 1958.

MORISHIMA, M., "Stability Condition of the Leontief System," (J), KEIZAIGAKU DAIJITEN (Encyclopedia of Economics), Toyo Keizai Shimpsha, Tokyo, 1955.

NISHIKAWA, S., "Income Ratios of Various Industries Classified by Scales," (J), KEIO-MITA GAKKAI ZASSHI, Vol. 52, No. 5.

Contains an analysis of some of the structural characteristics of the Japanese economy.

OHAMA, K., "Estimating the Demand for Steel Using Input-Output Tables," (J), TSUSAN TOKEI GEPPPO, Jan., 1958.

OKISHIO, N., "Measurement of Total Employment and Import Coefficients," (J), KOKUMIN KEIZAI ZASSHI, Vol. 99, No. 6.

SHISHIDO, S., "Recent Input-Output Studies in Japan, Particularly by Government Agencies," Stanford University, Department of Economics, Stanford Project for Quantitative Research in Economic Development, Staff Memorandum No. C-6, Oct., 1957, 32 pp., hectographed.

SUZUKI, T., "A Few Points Regarding Import Coefficients," (J), SHOKO-TOKEI KENKYU, Sept., 1958.

——, "On the 36 Sector Table for 1955," (J), SHOKO-TOKEI KENKYU, Nov., 1958.

——, "Interindustrial Relations and Linear Programming," (J), KEIZAI BUNSEKI, March, 1959.

". . .An experimental model was constructed and computed to find the industrial structure which minimizes the investment requirements under a number of restrictive conditions. . ." (Ichimura, S.).

——, "GNP and Manufacturing and Mining Production in 1958," Ministry of International Trade and Industry (MITI), Tokyo, mimeographed.

——, OHAMA, K., "On the Newly Aggregated Input-Output Tables for 1951 and 1955," (J), SHOKO-TOKEI KENKYU, Jan., 1959.

JAPAN (Continued)

TATEMOTO, M., "The Leontief Paradox and the Structure of Japanese Trade," (J) w. (E) sum., THE ECONOMIC REVIEW, The Institute of Economic Research, Hitotsubashi University, Tokyo, Vol. 9, No. 1, Jan., 1958.

-----, -ICHIMURA, S., "Factor Proportions and Foreign Trade: The Case of Japan," Osaka University, The Institute of Social and Economic Research, Osaka, Discussion Paper No. 8, Aug., 1958, 8 pp., mimeographed. Also published in: THE REVIEW OF ECONOMICS AND STATISTICS, Vol. 41, No. 4, Nov., 1959, pp. 442-46.

TERANISHI, T., "Interindustrial Analysis of Economic Conditions," (J), SHOKO-TOKEI KENKYU, May, 1958.

WATANABE, Tsunehiko, "A Note on the Japanese Capital/Output Ratio," Stanford University, Department of Economics, Stanford Project for Quantitative Research in Economic Development, Memorandum No. C-4, July, 1957, 10 pp. hectographed.

YASUNAGA, T., -NODA, T., -ARAI, M., "Consumption and its Degree of Dependence on Imports in Postwar Japan," ECONOMIC RESEARCH INSTITUTE, ECONOMIC PLANNING AGENCY, JAPANESE GOVERNMENT, Economic Bulletin No. 3, Oct., 1959.

In Part II, "The Measurement of the Degree of Dependency of Consumption on Imports, the application of Input-Output Analysis for understanding the repercussions of consumption on imports is discussed.

YOSHIUE, S., "Inter-Industrial Analysis of the New Long-Range Economic Plan of Japan," (J) w. (E) sum., THE ECONOMIC REVIEW, The Institute of Economic Research, Hitotsubashi University, Tokyo, Vol. 10, No. 3, July, 1959.

Economic Planning Agency, with the collaboration of other Government Agencies (Tokyo):

Input-Output Tables of Japan for the year 1955 (about 300 sectors) were under preparation as of December, 1959, and are expected to be published in 1960.

A Coefficient Matrix of Japan for 1951, 29 x 29 sectors, is included in CHENERY, H.B., -WATANABE, T., "International Comparisons of the Structure of Production," ECONOMETRICA, Vol. 26, No. 4, Oct., 1958, and in CHENERY, H.B., -CLARK, P.G., INTERINDUSTRY ECONOMICS, J. Wiley & Sons, Inc., 1959, pp. 216-17. The latter publication also includes an Inverse Matrix for 1951, 29 x 29 sectors, pp. 224-25.

INPUT-OUTPUT ANALYSIS OF THE KINKI (KANSAI) REGION, YEARS 1951 AND 1954, (J), Kansai Economic Federation, Kitaku, Osaka, 1958, directed by ICHIMURA, S. (See Section 7, p. 65).

REGIONAL INTERINDUSTRY TABLE OF THE ECONOMY OF HOKKAIDO, Hokkaido Interindustry Research Project, Council for Industry Planning, Tokyo, 1959, 50 pp. (See Section 7, p. 64).

BIBLIOGRAPHY OF INPUT-OUTPUT STUDIES PUBLISHED IN JAPAN (In Japanese)

Listed in: ICHIMURA, S., (ed.), APPLICATIONS OF INTERINDUSTRY ANALYSIS, Vol. I, University of Osaka, Department of Economics, 1958 (Translation by: NAKAUCHI, T.).

- ADACHI, Kazuhisa, "Social Character of Linear Programming," Kokumin Keizai Zasshi (National Economic Magazine), Vol. 91, No. 6, June, 1955.
- ARA, Kenjiro, "An Inquiry into the Theory of Interindustrial Relations," Hitotsubashironso, Vol. 32, No. 1, Hitotsubashi University, March, 1954.
- , "Homogeneity of Production Function and Integration of Industrial Sectors," Hitotsubashironso, Vol. 32, No. 6, Hitotsubashi University, Dec., 1954.
- , "The Relation Between Input-Output Analysis and Social Accounting," Keizai-gakusetsu Zenshu (Economic Doctrine Series) 14, Part II, Chapter 2, 1955.
- , "Some Repercussion Effects Obtained from Input-Output Table," Keizai Kenkyu (Economic Research), Vol. 6, No. 4, Hitotsubashi Institute of Economic Research, June, 1955.
- , "Integration of Industrial Sectors and Dynamic Stability Conditions," Hitotsubashironso, Hitotsubashi University, Vol. 33, No. 6, June, 1955.
- , "Leontief's Dynamic System," Kikan Rironkeizaigaku (Quarterly Theoretical Economics), Vol. 3, No. 3,4, Dec., 1952.
- , "Consumption, Investment and Economic Growth in Leontief System," Kikan Rironkeizaigaku (Quarterly Theoretical Economics), Vol. 6, No. 1,2, Dec., 1955.
- ARAI, Shoichi, "Significance of Interindustrial Relations in Economic Policy," Ringyo Keizai (Forest Economy), No. 96, Oct., 1956.
- ARIMIZU, Kyo, "On Activity Analysis," Ringyo Keiza (Forest Economy), No. 101, March, 1957.
- CHIGUSA, Yoshito and OKUMA, Ichiro, "On Input-Output Model," Mita Gakkai Zasshi, Vol. 47, No. 11, Nov., 1954.
- CHUGOKU District Research Institute, "Chugoku District Interindustrial Table," (First Computation), Aug., 1957.
- FUKUOKA, Masao, "Input-Output Analysis 1, 2, 3," Mita Gakkai Zasshi, Vol. 48, Nos. 6, 7, 8, June, July, Aug., 1955.
- , "Input-Output Model and Market Mechanism," Kikan Riron Keizaigaku, Vol. 6, No. 1, 2, Dec., 1955.
- , "Efficient Paths of Dymanic Input-Output Processes," Keizai Kenkyu (Economic Research), Hitotsubashi University, Vol. 6, No. 3, May, 1955.

(FUKUOKA Continued)

BIBLIOGRAPHY OF INPUT-OUTPUT STUDIES PUBLISHED IN JAPAN (In Japanese) (Continued)

FUKUOKA, Masao (Continued)

- , "Fundamental Theory of Input-Output Analysis," Keizaihyoron (Economic Review), Vol. 5, No. 5, May, 1956.
- FUJII, Eiichi, "Technique of Linear Programming and Policy-model of Tinbergen," Research-note sponsored by 1954 Research Fund, No. 14.
- FUJINO, Shozaburo, "Production Function—as a Basis for Growth and Accumulation Analysis," Subcommittee for Input-Output Research Series (II).
- , "Substitution, Complementation and Leontief System," Chapter 3 in "Input-Output Analysis and Japanese Economy," edited by KIMURA, Takeyasu.
- FURUYA, Hiroshi, "Modern Economics," Book published by Kobundo, 1957.
- , "A Consideration on Leontief-Model," Kinyu Keizai (Financial Economy), No. 30, Feb., 1955.
- , "Efficient Condition of Capital Accumulation Path—Towards Dynamic Programming," Keizaikenkyu (Economic Research), Vol. 6, No. 3, July, 1955.
- , "Future Prospect of Input-Output Analysis," Kikan Riron Keizaigaku, Vol. 6, No. 1, 2, Dec., 1955.
- , "Fundamental Theory of Input-Output Analysis," Chapter 1 in "Input-Output Analysis and Japanese Economy," edited by KIMURA, Takeyasu, 1955.
- , "On the Attempt in Dealing International Economic Problems by Leontief-Model," Study-note No. 1, by 1954 Research Funds.
- , "Dynamic Input-Output model and its Balanced Growth," Keizaigaku Ronshu (Economic Theories), Aug., 1956, Vol. 24, No. 3, 4, "Balanced Growth Path and Efficient Path of Capital Accumulation," (with INADA, Kenichi), Kikan Riron Keizaigaku (Quarterly Theoretical Economics), Vol. 8, No. 1, 2, May, 1957.
- , "Effect of Income Redistribution in Multi-sectoral Analysis—Analysis on the Effect of Transfer of Fiscal Expenditure," Keizai Kagaku (Economic Science), Vol. 2, No. 4, Nov., 1953.
- GOBI, Tetsuya, "A Few Theorems on Linear Programming," Economic Department of Osaka University, March, 1954.
- GOTO, Yukio, "On the Application of Linear Programming—Application to Wool Spinning Industry," Survey and Materials, No. 8, Dec., 1955.
- HATANAKA, Michio, "Integration Method and Production Coefficient," Tohoku University Economic Research Annal, Keizaigaku, No. 22, Oct., 1951.
- ICHIMURA, Shinichi, "The Structure of Japanese Economy," Sobunsha, Tokyo, 1957.
(ICHIMURA Continued)

BIBLIOGRAPHY OF INPUT-OUTPUT STUDIES PUBLISHED IN JAPAN (In Japanese) (Continued)

ICHIMURA, Shinichi (Continued)

——, "Interindustrial Analysis," Book, Kansai, Keizai Rengo Kai (Kansai District Economic Association), 1956.

——, "Some Computation Results Concerning Interindustrial Analysis of Japanese Economy," Tokei Kenkyu Kai (Statistics Study Association), March, 1956.

——, "Three Memorandums on Interindustrial Analysis," (Written with SUGIURA, Ippei), Kikan Riron Keizaigaku, Vol. 6, No. 1,2, Dec., 1955.

——, "Interindustrial Relations and Regional Analysis," Chapter 1 of "Applications of Interindustrial Relations," (by the same author), Osaka University, Economic Department, 1958.

IDEISHI, Kuniyasu, "Measurement of Input-Output Relations and Concept of Productivity," Doshisha Shogaku, Vol. 8, No. 4, Oct., 1956, Doshisha University.

IEMOTO, Hidetaro, "On the Correction of Leontief System by Professor Yamada," Keizai Kenkyu (Economic Research), Vol. 3, No. 3, Oct., 1952, Hitotsubashi Institute of Economic Research.

——, "Input-Output Analysis of Interindustrial Relations," Keizai Kenkyu, Vol. 5, No. 1, Jan., 1954, Hitotsubashi Institute of Economic Research.

——, "A Few Problems of Leontief Analysis," Kikan Rironkeizaigaku, Vol. 6, No. 1,2, Dec., 1955.

——, "Static Interindustrial Relations of Leontief," Kokumin Keizai Zasshi, Vol. 79, No. 1, Jan., 1958.

IMAGAWA, Masashi, "Linear Programming and Technical Compliments," Keizai Ronso (Economic Doctrines), Vol. 78, No. 3, Sept., 1956.

INADA, Kenichi, "The Theory and Application of Linear Programming," Book, Diamond Shya, 1957.

——, "Equilibrium Problem of Leontief System—Stability of Production Coefficient," Kikan Riron Keizaigaku, Vol. 6, No. 1,2, Dec., 1955.

——, "The Development of Activity Analysis and Its Significance," Keizai Hyoron (Economic Review), Vol. 6, No. 5, May, 1957.

ITO, Masanori, "Quantitative Planning Model and Effect Judgement," Keizai Ronsyn, Vol. 6, No. 6, June, 1954.

IZUMI, Mitsuyoshi, "Japanese Industrial Structure," Book, Nippon Hyoron Shinsha, 1952.

——, "Characteristics of Japanese Economy From a Point of View of Industrial Structure," in THE STUDY OF JAPANESE ECONOMIC STRUCTURE, edited by Tokei Kenkyu Kai (Statistics Study Association), mimeographed, March, 1954.

BIBLIOGRAPHY OF INPUT-OUTPUT STUDIES PUBLISHED IN JAPAN (In Japanese) (Continued)

- KAJI, Mоторо, "Input-Output Analysis and International Trade," Shakaikagaku Kiyo (Social Science Bulletin), No. 4, 1954.
- KANEKO, Keisei, "Multisectoral Multiplier Theory," Rokkodai Ronso, Vol. 3, No. 4, Dec., 1956.
- KANEKO, Seiji, "Optimal Conditions of Production," Keizaigaku Ronkyu, Vol. 7, No. 2, July, 1953.
- KATAOKA, Shinji, "Effect of Errors in Linear Computation--Leontief Matrices and Errors," Hitotsubashi Ronso, Vol. 35, No. 3, March, 1956.
- KATO, Jiro, -SUGANAMI, Saburo, "Linear Programming for Practical Men," Seishin Shobo, 1956.
- KEIZAIKIKAKUCHO (Economic Planning Agency), "On Input-Output Analysis" (Summary of Professors I. Yamada and H. Iemoto), March, 1953.
- , "On the Measurement of Capital Accumulation from Physical Aspect" (Introduction Flow Approach by Kuznetz), April, 1953.
- , "Computation on Capital Accumulation and Investment," May, 1953.
- , "Bulletin of Basic Survey on Industrial Relations" (Based on U.S. Labor Statistics Illustration of 1947 Input-Output Table), Sept., 1953.
- , "Note on Computation of Sectoral Economic Table of Major Industry" (Based on "Inter Industry Transaction 1948" of British Central Statistics Bureau), Oct., 1953.
- , "Outline of Input-Output Table Study by Economic Planning Agency," Oct., 1953.
- , "Notes on Industrial Relation Survey," Nov., 1953.
- , "Process of Computation of 1951, Input-Output Table," Jan., 1954.
- , "Some Problems of Computation of Input-Output Tables," Feb., 1954.
- , "Memo on the Nature of Interindustrial Relations Table," March, 1954.
- , "On the Unit Price of Input-Output Table" (Study on the basis on which unit prices should be computed), March, 1954.
- , "Utilization and Method of Interindustrial Relation Materials," "Study on Interindustrial Relations and National Income Theory," "Final Demand Section," "Merchandise Demand Table for Input-Output Analysis," "Agricultural Sector," "Mineral Fuel and Power Sector," "Construction Sector," "Manufacture Sector," "Transportation Sector," "Commerce," "Service and Finance," "Government," (Translation based on the illustration by the staff of the research section of the U.S. Labor Statistics Bureau), March, 1954.

(KEIZAIKIKAKUCHO Continued)

BIBLIOGRAPHY OF INPUT-OUTPUT STUDIES PUBLISHED IN JAPAN (In Japanese) (Continued)

KEIZAIKIKAKUCHO (Continued)

- , "On the Aggregate of Industrial Sector in Input-Output Table," April, 1954.
- , "On Italian Input-Output Table," May, 1954.
- , "On the Problem of Replacement in Input-Output Analysis," July - Dec., 1954.
- , "National Income Analysis and Interindustrial Relations," Sept., 1954.
- , "Statistical Survey Needed for Input-Output Table," Oct., 1954.
- , "The Relation Between Input-Output Analysis and National Accounting," (Translation of Dutch material), Dec., 1954.
- , "Regional Analysis of Interindustrial Relations" (Translation of: LEONTIEF, W., "Interregional Theory," Chapter 4, STUDIES IN THE STRUCTURE OF THE AMERICAN ECONOMY), Jan., 1955.
- , "The Role of Demand in Economic Structure" (Translation of: DUESENBERY, J.S., and KISTIN, H., "Consumption and Final Demand" in STUDIES IN THE STRUCTURE OF THE AMERICAN ECONOMY).
- , "Brief Summary of the Leontief Input-Output System" (Translation of Samuelson's article under the same title), Feb., 1955.
- , EVANS, W.D. -HOFFENBERG, M., "Input-Output Study of 1947" (Translation of article in "Review of Economics and Statistics," May, 1952), May, 1955.
- , "National Income Combination of Input-Output Table" (Study of relations between Input-Output Table and National Income), June, 1955.
- , "A Consideration on How to Look and Use Input-Output Table" (Static treatment of general equilibrium equation of Input-Output analysis and consideration of the possibility and limitation of the utilization), April, 1955.
- , "Outline of 1951 Input-Output Table" (Illustration of computation method used for the published Table by Economic Planning Agency), June, 1955.
- , "On 1951 Input-Output Table," "National Income Monthly Bulletin," "Notes on the Published Table by Economic Planning Agency," June, 1955.
- , "Economic Planning Material," No. 1, March, 1957.
- FIFUJI, Masanori, "A Microeconomic Dynamic Theory," Yamaguchi Keizaigaku Zasshi, Vol. 4, No. 1, July, 1953.
- KITAGAWA, Yutaka, "Present Situation of Interindustrial Study in England," in INPUT-OUTPUT ANALYSIS AND JAPANESE ECONOMY, Chapter 12, edited by KIMURA, Takeyasu, mimeographed.

BIBLIOGRAPHY OF INPUT-OUTPUT STUDIES PUBLISHED IN JAPAN (In Japanese) (Continued)

- KITAMURA, Yoshiyuki, "The Structure of Production Function," Seikei Ronso, Vol. 4, No. 4, March, 1955.
- KOMIYA, Ryutaro, "Theory and Application of Input-Output Model" (with WATANABE, Tsunehiko), Keizai Gakusetsu Zenshyu (Economic Doctrine Series), 14, Part II, Chapter 4, Kawade Publishing Company, Feb., 1955.
- , "Employment and Labor Productivity of Japanese Industry, 1948-1953" (with WATANABE, Tsunehiko), "Input-Output Analysis and Japanese Economy," Chapter 7.
- , "Input-Output Analysis--Structure and Circulation of National Economy," Zenkoku Chiho Ginko Kyokai (National Local Bank Association).
- , "Activity Analysis and Theories of International Trade," Theory and Statistics (on the 61st birthday of Professor ARISAWA), Keizaigaku Ron Syu (Series of Economic Theories), 1957.
- , "General Equilibrium Theory and Input-Output Analysis," Keizaigaku Ronshyu (Series of Economic Theories).
- KURABAYASHI, Yoshimasa, "The Problem of the Market Structure in the Leontief System," Keizai Kenkyu, Vol. 5, No. 3, April, 1954.
- , "Analysis of Labor Productivity by Interindustrial Relation Table," Keizai Kenkyu, Vol. 6, No. 4, June, 1955.
- , "Social Accounting and Capital Formation," in "Input-Output Analysis and Japanese Economy," Chapter 10, edited by KIMURA, Takeyasu, mimeographed.
- , "On Double Gradient Method in Linear Programming," Study Series of Subcommittee on Input-Output Analysis, Denryoku Chuo Kenkyusho, Oct., 1955, mimeographed.
- MITI, "Interindustrial Analysis of Japanese Economy," Book, Toyokeizai Shinpo Sha (Oriental Economist), 1957.
- , "The Structure and the Growth of the Italian Economy," Feb., 1954.
- , "The Third Report on the Computation of Interindustrial Tables," Feb., 1955.
- , "Primary Work of Control Total," Dec., 1953.
- , "Primary Result on the Computation of Input" (Mining and Industry Sector), Dec., 1953.
- , "Secondary Work of Control Total," Jan., 1954.
- , "The Table of Sectoral Electricity Consumption and Unit Prices," March, 1954.
- , "Sectoral Consumption of Coal, Cokes," March, 1954.

(MITI Continued)

BIBLIOGRAPHY OF INPUT-OUTPUT STUDIES PUBLISHED IN JAPAN (In Japanese) (Continued)

MITI (Continued)

- , "The Third Control Totals " (Agriculture and Fishing), Aug., 1954.
- , "Household Input and Retail," Dec., 1954.
- , "Production Table by Sector and Commodity," April, 1955.
- , "Input by Commodity of Construction Sector," April, 1955.
- , "Input by Commodity of Household Sector," May, 1955.
- , "Input by Commodity of Private Capital Formation Sector," July, 1955.
- , "Sectoral Report on 1951 Input-Output Table" (Government Sector), Oct., 1955.
- , "Comparison of Agricultural Input," Feb., 1956.
- , "Employment and Payments" (tentative), 200 x 200, March, 1956.
- , "Control Totals for Test," March, 1956.

Ministry of Agriculture, Statistics and Research Section, "Input-Output Table for 1951."

MORISHIMA, Michio, "Interindustrial Relation and Economic Fluctuation," Book, Yuhikaku, 1955.

- , "Input-Output Analysis and General Equilibrium of Production," Kikan Riron Keizaigaku, Vol. 6, No. 1, 2, Dec., 1955.
- , "On Klein's Interpretation of Leontief System" Osaka Daigaku Keizaigaku (Osaka University Economics), Vol. 5, No. 3 - 4, March, 1956.

MURATA, Yasuo, "Interindustrial Table and Marx's Reproduction Table—The Necessity of Two Sector Division in the Latter," Rokkodai Ronshu, Vol. 2, No. 4, March, 1956.

- , "A Study on Input-Output Analysis," Rokkodai Ronshu, Vol. 1, No. 3, Aug., 1955.
- , "Interindustrial Expression of National Economic Balance," Rokkodai Ronshu, Vol. 3, No. 3, Oct., 1956.

NAGAO, Yoshizo, "Introduction of Money in Input-Output Analysis," Doshisha Shogaku, Vol. 7, No. 6, 1955.

NAGASE, Sadaetsu, "Interindustrial Table and Economic Policy," Sen-i Geppo (Textile Monthly), Nov., 1954.

NAKAMURA, Takahide, "Some Considerations on Japanese Capital Coefficients," mimeographed.

BIBLIOGRAPHY OF INPUT-OUTPUT STUDIES PUBLISHED IN JAPAN (In Japanese) (Continued)

- NAMIKI, Nobuyoshi, "Input-Output Analysis and its Application 1, 2," Sekitan Hyoron, April-May, 1954.
- , "Composition of Input-Output Table," Chapter 11 of "Input-Output Analysis and Japanese Economy," edited by KIMURA, Takeyasu, mimeographed.
- , "Five Year Economic Planning and Interindustrial Analysis," Tushosangyokenkyu, Vol. 5, No. 2, Feb., 1957.
- OGASAWARA, A., "Generalization of Equilibrium Point in Non-Cooperative Game," (E), Keizai Kagaku (Economic Science), Vol. 3, No. 4.
- OKAMOTO, Tetsuji, "A Note on Economic Dynamic Analysis," Study Note No. 11, Prepared by 1954 Research Fund, mimeographed.
- OKUDA, Koichi, "On the Assumptions of Linear Programming," Shodai Ronso, No. 7, Oct., 1956.
- OKUMA, Ichiro, "Interindustrial Relation Table and Social Accounting," Mita Gakkai Zasshi, Vol. 49, No. 5, May, 1956.
- OSAWA, Yutaka, "On Simplex Tableau," Osaka University Economics Department, Vol. 3, No. 3, Jan., 1954.
- , "On the Change in Conditions in Linear Programming," Keiei Kagaku (Managerial Science), I, March, 1956.
- , "On Dual Method—Its Composition and Application," Kikan Riron Keizaigaku, Vol. 7, No. 12, Oct., 1956.
- OZAKI, Iwao, "Analysis of Firm Production Function—From the Point of View of Linear Programming," Mita Gakkai Zasshi, Vol. 46, No. 4, 1953.
- , "Matrix in Leontief System" (with TERA0, Takuma), Kikan Riron Keizaigaku, Vol. 6, No. 1, 2, Dec., 1955.
- SAITO, Kinzo, "Some Memoranda on Dynamization of Leontief System," Kikan Riron Keizaigaku (Quarterly Theoretical Economics), May, 1956, Vol. 6, No. 3, 4.
- , "On Dynamic Multi-Sectoral Analysis," Shyogakuronshyu (Commercial Theory Series), Vol. 24, No. 2, Sept., 1955.
- SAKURAI, Hiroshi, "Input-Output Analysis and Economic Planning—On the Lecture of Dr. Chenery," Tokei (Statistics), Vol. 7, No. 10, Oct., 1956.
- SHIKANO, Tatsutoshi, "Where is the Characteristics of Interindustrial Analysis?" Keieisha, Vol. 9, No. 12, Dec., 1955.
- SHISHIDO, Shyuntaro, "Interindustrial Analysis and Social Accounting," Chapter 9 in "Input-Output Analysis and Japanese Economy," edited by KIMURA, Takeyasu, mimeographed.

(SHISHIDO Continued)

BIBLIOGRAPHY OF INPUT-OUTPUT STUDIES PUBLISHED IN JAPAN (In Japanese) (Continued)

SHISHIDO, Shyuntaro (Continued)

-----, "Problems in Making Interindustrial Relations Table," Tsusho Sangyo Kenkyu, Vol. 3, No. 10, Oct., 1955.

-----, "Problems in Measurement and Meaning of Industrial Capital Coefficients," Shokotokei Kenkyu I (I), Jan., 1957.

SUDO, Yoshimichi, "A Tentative Theory on Integration of Input-Output Analysis and Elasticity Tendency (1) Re-examination of Assumption of Electricity Demand and Linear Programming Method," Chosashiryo, No. 15, April, 1957.

SUGANAMI, Saburo, "On Linear Programming," Nihon Jyukogyo, Published by Tekko to Kinzokusha, Vol. 6, No. 11, Dec., 1949.

SUGIURA, Ippei, "Three Memoranda on Interindustrial Analysis" (with ICHIMURA, Shinichi), Kikan Riron Keizaigaku, Vol. 6, No. 1, 2, Dec., 1955.

-----, "Computation in Interindustrial Relations," Chapters 3, 4 of "Application of Interindustrial Study," edited by ICHIMURA, Shinichi.

SUZUKI, Mitsuo, "On Convex Cone," Kikan Riron Keizaigaku, Vol. 7, No. 1, 2, Oct., 1956.

SUZUKI, Ryoichi, "Problems of Aggregation and Distribution," Mita Gakkai Zasshi (Mita Academic Association Magazine), Vol. 49, No. 5, May, 1956.

TACHI, Ryuichiro, "Dynamic Leontief System and Price and Interest" (61st birthday of Professor ARISAWA), Keizaigaku Ronshu, Vol. 24, No. 3, 4, Aug., 1956.

TADOKORO, Kensaku, "Japanese Industrial Structure," Sanwa Bank, 1957.

TANAKA, Jyoji, "Parity Price and Leontief Analysis," Nogyo Keizai Kenkyu (Research in Agricultural Economy), Vol. 27, No. 1, March, 1955.

TERAO, Takuma, "Matrices in Leontief System," Kikan Rironkeizaigaku, Dec., 1955.

TOKEI KENKYUKAI (Statistics Research Association), "Interindustrial Study and National Income Theory."

TONOKI, Yoshizo, "Measurement of Change in Foreign Exchange Rate," Aug., 1955, mimeographed.

TSUKAMOTO, Toshio, "Present Situation and Survey of Interindustrial Study," Tsusho Sangyo Kenkyu, Vol. 5, No. 2, Feb., 1957.

UCHIDA, Tadao, "An Inquiry Into the Imputations of Industrial Activity Level by Input-Output Analysis," Shakaikagaku Kiyo, No. 4, 1954.

-----, "A Consideration on Computation Error in Interindustrial Relations," Chapter 6 of "Input-Output Analysis and Japanese Economy," edited by KIMURA, Takeyasu, mimeographed.

(UCHIDA Continued)

BIBLIOGRAPHY OF INPUT-OUTPUT STUDIES PUBLISHED IN JAPAN (In Japanese) (Continued)

UCHIDA, Tadao (Continued)

- , "Experiences of Input-Output Analysis in Major Countries," Keizai Gakusetsu Zenshyu, 14, Part II, Chapter 3, Book, Kawade Shobo, 1955.
- , "On the Relations Between Final Demand and Sectoral Output and Import in 1951 Japan," Input-Output Subcommittee, Series IV, Denryokeizai Kenkyusho, 1956, mimeographed.
- , "Optimum Economic Planning--With Main Reference to the Applications of Input-Output Analysis," Tusan Kenkyu, Vol. 5, No. 2, Feb., 1957.
- UCHINO, Hiroo, "Planning Economics and the Basis of Input-Output Analysis--With Appendix on the Treatment of Government Finance in Input-Output Analysis," Risho Kenkyu Hokoku, No. 7, Jan., 1956.
- WATANABE, Fukutaro, "International Trade and Input-Output Analysis," Shogaku Ronshu, Vol. 26, No. 1, June, 1957.
- WATANABE, Tsunehiko, "Theory and Application of Input-Output Model," (with KOMIYA, Ryutaro), Part II, Chapter 4 of "Keizai Gakusetsu Zenshyu 14," Feb., 1955.
- , "Employment and Labor Productivity of Japanese Industry, 1948-1953," (with KOMIYA, Ryutaro), Chapter 7 of "Input-Output Analysis and Japanese Economy," edited by KIMURA, Takeyasu, mimeographed.
- , "A Consideration of Error in Leontief System."
- YAMADA, Isamu, "Leontief System and Production Function," Keizai Kenkyu (Economic Research), Vol. 3, No. 3, July, 1952.
- , "Answer to Professor Iemoto's Critique on my 'Leontief System and Production Function'," Keizai Kenkyu, Vol. 3, No. 4, Jan., 1952.
- , "On the Measurement of Leontief System," Keizai Kenkyu, Vol. 5, No. 1, Jan., 1954.
- , "Leontief System and Maximum Principle," Keizai Kenkyu, Vol. 5, No. 2, Feb., 1954.
- , "Introduction to Interindustrial Analysis," Part II, Chapter 1, Keizai Gakusetsu Zenshu (Economic Doctrine Series), 14, 1956.
- , "On the Economic Meaning of Aggregation in Interindustrial Analysis," Keizai Kenkyu, Vol. 7, No. 2, April, 1956.
- YAMADA, Yuzo, "Consideration of Japanese Economy from a Planning Point of View," Toyo Keizai Shinpo Sha (Oriental Economist), 1955.
- , "Problems in Economic Planning in Japan," Chapter 1 of "Economic Planning of Japan," edited by YAMADA and HISATAKE, 1957.

BIBLIOGRAPHY OF INPUT-OUTPUT STUDIES PUBLISHED IN JAPAN (In Japanese) (Continued)

YOKOYAMA, Tamotsu, "Business Administration and Linear Programming," Book, Yuhikaku, 1957.

-----, "Linear Programming in Production," Osaka Daigaku Keizaigaku (Osaka University Economics), Vol. 3, No. 3, Jan., 1954.

YASUI, Takuma, "Walrasian System and Input-Output Theory," Keizai Hyoron (Economic Review), Vol. 6, No. 5, March, 1957.

BIBLIOGRAPHY OF INPUT-OUTPUT STUDIES PUBLISHED IN JAPAN (In Japanese)

Listed in: INPUT-OUTPUT ANALYSIS OF THE JAPANESE ECONOMY, MITI, Statistics Research Section, TOYO KEIZAI (Oriental Economist), March, 1957 (Translation by: NAKAUCHI, T.).

FUKUOKA, M., "Input-Output Analysis," Aug., 1955, Mita Gakkai Zasshi, Vol. 48, No. 6, 7, 8, (periodicals published by Keio University).

ICHIMURA, S., "Input-Output Analysis," 1956, Book, Kankeiren Sosho (series).

-----, "The Structure of Japanese Economy," Book, 1957, Sobunsha, Tokyo, 1957.

-----, "From Trade Dependency Analysis to Linear Programming," Keizai Kenkyu (Economic Research), Vol. 5, No. 2, 1954.

-----, "Input-Output Theory and Economic Policy," Tusho Sangyo Kenku (Trade and Industry Research), Vol. 3, No. 10, 1955.

IEMOTO, H., "Leontief System," Riron Keizaizaku, Vol. 6, No. 1, 2, 1955.

KIMURA, T., "Input-Output Analysis and Japanese Economy," 1955, mimeographed.

KOMIYA, R., "Input-Output Analysis," Book, Ginko Sosho, 48 (Pamphlet, Bank Series No. 48), 1956.

MORISHIMA, M., "Input-Output and Economic Fluctuation," Book, Yuhikaku, 1955.

-----, "Introduction to Input-Output Analysis," Book, Sobunsha, Tokyo, 1956.

NAMIKI, N., "Significance and Problems of Japanese Input-Output Table Computation," Analyst, Vol. 1, No. 1, 1955.

SHIKANO, T., "What is an Input-Output Table?" Tusho Sangyo Kenkyu, Vol. 3, No. 10, 1955.

SHISHIDO, S., "Problem of Japanese Input-Output Table Computation," Tusho Sangyo Kenkyu, Vol. 3, No. 10, 1955.

UCHIDA, T., "Effect of Steel Price Fluctuation," Analyst, Vol. 3, No. 1, 1956.

YAMADA, I., "Input-Output Theory," Keyai Gakusetsu Zenshu, Vol. 14, 1955.

MÉXICO

LAS CUENTAS NACIONALES DE MÉXICO, (S) (The National Accounts of Mexico), Departamento de Estudios Económicos, Banco de México, United Nations Statistical Office, Economic Commission for Latin America, United Nations Seminar on National Accounts for Latin America, Rio de Janeiro, Brazil, June, 1959, 23 pp., mimeographed.

This publication contains a "Summary Matrix for 1950" consisting of the Final Demand Quadrant of the original Input-Output Table, with the endogenous sectors aggregated into one sector (one row and one column). The original Input-Output Table for 1950 is reported to contain 32 endogenous sectors, classified according to the I.S.I.C. as far as feasible; Final Demand consists of 6 columns and 14 rows. The original Input-Output Table has not been published as of Aug., 1960.

LA ESTRUCTURA INDUSTRIAL DE MÉXICO EN 1950, Banco de México, Oficina de Planeación Industrial, 1957 (Not published as of Aug., 1960).

According to information received, this publication is expected to contain a matrix of the industrial sectors of Mexico.

THE NETHERLANDS

DE NATIONALE JAARREKENINGEN: DOELEINDEN, PROBLEMEN, RESULTATEN, (Du) (National Accounts: Purposes, Problems, Results), Central Bureau of Statistics, Den Hague, 1950.

Includes Input-Output Tables for 1947 and 1948, 27 x 27 Intermediate Sectors plus 2 dummy sectors, and 22 rows and 10 columns Final Demand.

NATIONAL ACCOUNTS OF THE NETHERLANDS, 1948-1949, The Netherlands Central Bureau of Statistics, Division of Research and Coordination, The Hague, July, 1952, 124 pp.

Contains "Input-Output Tables of the National Accounts of the Netherlands, 1948 and 1949," pp. 85-93 (28 x 28 Intermediate plus Final Demand Sectors for both years).

STATISTISCHE EN ECONOMETRISCHE ONDERZOEKINGEN, 2nd Quarter, 1951, (Du) (Statistical and Econometrical Investigations), Central Bureau of Statistics.

Contains Input-Output Table for 1950 and for each Quarter of 1950, also preliminary figures for the first three quarters of 1951, having the same dimensions as those included in DE NATIONALE JAARREKENINGEN.

STATISTISCHE EN ECONOMETRISCHE ONDERZOEKINGEN, 1st Quarter, 1951 (Du) (Statistical and Econometrical Investigations), The Netherlands Central Bureau of Statistics, 1951, 48 pp.

Contains on pp. 42-43 an Input-Output Table of the Netherlands for 1948 (28 x 28 Intermediate plus Final Demand Sectors) identical with the Input-

(STATISTISCHE EN ECONOMETRISCHE ONDERZOEKINGEN. . . Continued)

THE NETHERLANDS (Continued)

STATISTISCHE EN ECONOMETRISCHE ONDERZOEKINGEN, 1st Quarter, 1951 (Continued)

Output Table for 1948 included in the publication, NATIONAL ACCOUNTS OF THE NETHERLANDS, 1948-1949.

STATISTISCHE EN ECONOMETRISCHE ONDERZOEKINGEN, 3rd Quarter, 1951, (Du), The Netherlands Central Bureau of Statistics, 1951.

Contains Input-Output Table, preliminary figures, 1st and 2nd Quarters, 1951 (27 x 27 Intermediate plus Final Demand Sectors).

STATISTISCHE EN ECONOMETRISCHE ONDERZOEKINGEN, 1st Quarter, 1952, (Du), The Netherlands Central Bureau of Statistics, 1952, 52 pp.

Contains an Input-Output Table, preliminary figures, 3rd Quarter, 1951 (27 x 27 Intermediate plus Final Demand Sectors) and an Input-Output Table, year 1948, identical with the Input-Output Table, year 1948, included in the publication, NATIONAL ACCOUNTS OF THE NETHERLANDS, 1948-1949.

EEN VERKENNING DER ECONOMISCHE TOEKOMST-MOGELIJKHEDEN VAN NEDERLAND, 1950-1970, (Du) (An Investigation of the Economic Possibilities of the Future for the Netherlands, 1950-1970), Centraal Planbureau, 's Gravenhage, Nov., 1955, 144 pp.

Contains an Input-Output Table, 1950, 11 x 11 Intermediate Sectors, plus 5 columns and 2 rows Final Demand, and three Estimated Input-Output Tables, 1970, the same dimensions as the 1950 Table, based on three alternative levels of projections from the 1950 Input-Output Table. No Coefficient and no Inverse Matrices have been published as of Sept., 1960.

ORGANIZATION FOR EUROPEAN ECONOMIC COOPERATION, NATIONAL ACCOUNTS STUDIES, NETHERLANDS, 1951, 183 pp.

Contains Input-Output Tables for the years 1938, 1946, 1947, 1948, having the same dimensions as those included in DE NATIONALE JAARREKENINGEN.

DE PRODUKTIE-STRUCTUUR VAN DE NEDERLANDSE VOLKSHUISHOUDING. Deel I. "Input-Output Tabellen 1948-1956, (Du) (The Production Structure of the Netherlands' Economy. Part I. Input-Output Tables for 1948-1956), Centraal Bureau voor de Statistiek, Uitgevers Uitgeversmaatschappij W. de Haan - N.V. Zeist, 1960, 46 pp. plus 10 tables.

The method and procedure used in constructing the Input-Output tables are described in detail. Included are: Input-Output (Flow) Tables for the years 1948-1956 (one for each year plus an English version of the 1956 matrix), with 35 Intermediate Sectors, 6 columns Final Demand, 7 rows Imports and Factor Services; the 1956 matrix was also aggregated to 7 Intermediate and 6 Final Demand Sectors. The study was directed by: Oomens, C.A., and Bouthoorn, T.M.

THE NETHERLANDS (Continued)

BOUTHOORN, T.M., "De National Rekeningen en 'Input-Output' Tabellen" (Du) (National Accounts and Input-Output Tables), SIGMA, Vol. 1, No. 3, July, 1955.

BYLEVELD, J.P., "Planning hier en in de Verenigde Staten" (Du) (Planning Here and in the U.S.), ECONOMISCHE-STATISTISCHE BERICHTEN, Vol. 38, No. 1883, July 1, 1953.

The use of the Leontief Input-Output Table for planning in the Netherlands is discussed, as well as the differences in the methods of planning in the two countries.

MOL, J., -OOMENS, C.A., "Gecumuleerde Kostenquoten" (Du) (Aggregated Cost Components of the Major Items of National Expenditure), STATISTISCHE EN ECONOMETRISCHE ONDERZOEKINGEN, Vol. 7, No. 3, 1952.

Input-Output statistics of the Netherlands are used for computing the basic cost components (imports, income and indirect taxes) of the major totals of national expenditure for each of the stages of production.

OOMENS, C.A., "Die volkswirtschaftliche Gesamtrechnung in den Niederlanden. Einige Beispiele fuer ihre Anwendung" (G) (Social Accounts in the Netherlands. Some Examples of their Application), WELTWIRTSCHAFTLICHES ARCHIV, Kiel, Vol. 68, No. 1, 1952.

The use of the Netherlands' Input-Output Table, 1950, as a tool of economic analysis is discussed.

"Input-Output Tables: Recent Experience in Western Europe," United Nations, ECONOMIC BULLETIN FOR EUROPE, Vol. 8, No. 1, Geneva, May, 1956, pp. 36-54.

Contains a list of Input-Output Tables constructed in the Netherlands and a short discussion of their characteristics.

SANDEE, J., "National Experiences with Input-Output Analysis: Netherlands," Paper presented at the International Conference on Input-Output Analysis, Varenna, 1954, contained in BARNA, T., (ed.), THE STRUCTURAL INTERDEPENDENCE OF THE ECONOMY, J. Wiley & Sons, Inc., -A. Giuffre, 1956, pp. 289-93.

VERDOORN, P.J., "Complementarity and Long-Range Projections," ECONOMETRICA, Vol. 24, No. 4, Oct., 1956, pp. 429-50.

". . . This article studies the implications of complementarity on the problem of the long-term forecast. The conditions for maintaining long-run equilibrium between factor demand and factor supply are derived and illustrated by a three factor model and the particular problem of foreign trade is brought out. Equilibrium for all of the three factors appears possible only if the parameters of the system satisfy a set of specific relations or certain policy variables are introduced. Finally, the complete system as used by the Central Planning Bureau of the Netherlands for projections covering the period 1950-1970 is presented, together with the numerical

(VERDOORN, "Complementarity and Long-Range Projections" Continued)

THE NETHERLANDS (Continued)

VERDOORN, P.J., "Complementarity and Long-Range Projections" (Continued)

values chosen for the parameters. . ." The study utilizes the material contained in the paper by VAN DEN BELD, C.A., "Input-Output Analysis as a Tool for Long Term Projections," presented at the Varenna Conference, 1954.

NEW ZEALAND

REPORT ON THE INTER-INDUSTRY STUDY OF THE NEW ZEALAND ECONOMY IN 1952-53, Department of Statistics, Wellington, New Zealand, 1957, 27 pp., Special Supplement to MONTHLY ABSTRACT OF STATISTICS, Feb., 1957.

This report contains a discussion of Input-Output theory, the mathematics of matrix inversion, suggested applications of the Input-Output Tables in New Zealand and the sources of data used. The Input-Output Tables published in this report are derived from the amended table included in the "Report on the Official Estimates of National Income and Sector Accounts for the Year 1955-56." Included are three Input-Output Tables for 1952-53 showing (a) Flows of Transactions on Current Account, 12 x 12 Intermediate, plus 5 columns Final Demand and 5 rows Primary Inputs, (b) Flows of Transactions including Net Appreciation of Stocks, 12 x 12 Intermediate Sectors, plus 4 columns Final Demand, 4 rows Primary Inputs, (c) Capital Transactions Table (Inter-Industry Transactions Connected with Gross Domestic Capital Formation), 14 columns x 15 rows; and Coefficient and Inverse Matrices for 1952-53, 12 x 12 sectors.

REPORT ON THE INTER-INDUSTRY STUDY OF THE NEW ZEALAND ECONOMY FOR THE YEAR 1954-55, Department of Statistics, Wellington, New Zealand, 1959, 40 pp.

Included are the following Input-Output Tables for 1952-53 and for 1954-55: Inter-Industry Transactions, 12 x 12 Intermediate Sectors plus 5 columns Final Demand and 4 rows Primary Inputs; Inter-Industry Transactions, including Net Appreciation of Stocks, 12 x 12 Intermediate Sectors plus 5 columns Final Demand and 4 rows Primary Inputs; Inter-Industry Transactions Connected with Gross Domestic Capital Formation, 14 columns, 15 rows; Coefficient Matrices, 12 columns, 16 rows; Inverse Matrices, 12 x 12 sectors (Some of the sector entries for 1952-53 are revised).

REPORT ON THE OFFICIAL ESTIMATES OF NATIONAL INCOME AND SECTOR ACCOUNTS FOR THE YEAR 1955-56, Department of Statistics, Wellington, New Zealand, 1956, 63 pp.

Included are estimates of national income and expenditure from 1938/39 to March, 1956, and an Input-Output Table, year 1952-53, 12 productive and 5 sectors of "final consumption." Actually, the designation of this table as "Input-Output" is not quite correct since financial transactions are included; however, the latter are set out separately both in the rows and columns and can be segregated. The remaining real flows among the sectors show the interindustry relationships.

NEW ZEALAND (Continued)

REPORT ON THE OFFICIAL ESTIMATES OF NATIONAL INCOME AND SECTOR ACCOUNTS, 1956-57,
Department of Statistics, Wellington, 1957, 70 pp.

This publication contains, among other information, the above listed "Report
on the Inter-Industry Study of the New Zealand Economy in 1952-53."

NORWAY

NASJONALREGNSKAP 1930-1939 og 1946-1951, (N) w. (E) sum., (National Accounts, 1930-
1939 and 1946-1951), Statistisk Sentralbyrå, Oslo, 1952, 336 pp.

This study contains the following tables: Input-Output Table, 1948, 30 x 30
Intermediate Sectors, plus rows and columns of Final Demand, and an Inverse
Matrix, 1948, 30 x 30 sectors.

NASJONALREGNSKAP 1938 og 1948-1953, (N), text of tables also in (E), (National
Accounts, 1938 and 1948-1953), Statistisk Sentralbyrå, Oslo, 1954, 210 pp.

This study contains an Input-Output Table, 1950, 27 x 27 Intermediate Sectors,
plus rows and columns of Final Demand, derived from a 78 x 78 sector table.

KRYSSLØPSANALYSE AV PRODUKSJON OG INNSATS I NORSKE NAERINGER 1954, (N) w. (E) sum.,
(Input-Output Analysis of Norwegian Industries, 1954), Statistisk Sentralbyrå,
Oslo, 1960, Samfunnsøkonomiske Studier, Nr. 9, 614 pp.

This study, directed by SEVALDSON, P., presents an elementary introduction
to the theory and the mathematics of Input-Output Analysis and a survey of
applications of the method; also, an account of the sources of the statisti-
cal data and of the procedure applied in the derivation of the coefficients.
Included are detailed Input-Output data for each of 129 production sectors
for 1954, several tables showing the distribution to the Final Demand Sectors
from the 129 sectors; Input-Output and Input-Coefficients Tables for: 1954
(31 sectors), 1950 (29 sectors), 1948 and 1947 (31 sectors), Input Coeffi-
cients Matrix for 1947 in 1948 prices (31 sectors), and an Inverse Matrix
for 1948 (31 sectors). Instead of a full inversion of the 129 sector coeffi-
cient table for 1954, the direct plus indirect deliveries caused by propor-
tionate changes in all items within each of the categories of final deliv-
eries (except inventory changes) were computed.

BJERVE, P.J., "Krysslopforskning i statistisk centralbyrå" (N) (Input-Output Re-
search in the Norwegian Central Bureau of Statistics), STATISTISK TIDSSKRIFT,
Vol. 3, 1954.

-----, PLANNING IN NORWAY 1947-1956, North-Holland Publishing Company, 1959, 383 pp.

The book presents over a ten-year period a large number of annual and long-
term plans and projections together with ex-post facts. The deviations be-
tween plans and facts are reviewed. The author attempts to explain causes
of the deviations, analyses their policy implications and appraises the use-
fulness of plans and projections for economic policy. The application of a

(BJERVE, PLANNING IN NORWAY 1947-1956, Continued)

NORWAY (Continued)

BJERVE, P.J., PLANNING IN NORWAY 1947-1956 (Continued)

34 x 34 sector Input-Output model based on National Accounts, year 1948, to projections of Exports and Imports is discussed on pp. 167, 169 and 337.

FRISCH, R., "Main Features of the Oslo Median Model," Social Economic Institute, University of Oslo, Oct. 10, 1956, Memorandum, mimeographed, 37 pp.

The study contains an Input-Output Table of Norway for 1948, 45 x 45 Intermediate plus 12 Final Demand Sectors.

-----, "The Structure of the Norwegian Input-Output Work on 1954 Data," Social Economic Institute, University of Oslo, Aug., 1958, 5 pp., mimeographed.

A discussion of the methods of procedure in organizing empirical data with regard to the Input-Output Table for 1954 (Median Model and others) which is in the process of computation, is included.

HELI, H., DET STATISTISKE GRUNNLAG FOR KRYSSLØPSANALYSE MED SAMMENKNYTTING AV PRODUKSJONSSEKTORER OG FORBRUKERGRUPPER I NORGE, (N) w. (E) sum. (The Statistical Basis for Interflow Studies Between Production Sectors and Households in Norway), University of Oslo, Social-Economic Institute, Memorandum, Dec., 1955, 65 pp. plus 19 tables, mimeographed.

Based on the Input-Output Table for 1948 and National Accounts figures, the study consists of an attempt to formulate an economic model comprising production and consumption functions. The model is designated as "Median Model."

JOHANSEN, L., A MULTI-SECTORAL STUDY OF ECONOMIC GROWTH, North-Holland Publishing Company, 1960, 177 pp. plus folding table.

". . .the study analyses the changing positions of the different branches of the economy during the growth process and such problems as: differences in the rate of growth of individual sectors, allocation and reallocation of the labor force during the growth process, the allocation of investment to different sectors, the effect of technical progress in a particular sector on production and employment in the same sector and in other sectors. . . the analysis employs Input-Output methods but departs from the assumptions of the customary Input-Output models by allowing for substitution between capital and labor in production, decreasing returns to scale in some sectors, and the assumption that relative prices influence consumers' demand. . .The theory is illustrated by an application to the post world war growth process in Norway, using the country's Input-Output Table for 1950 (22 sectors). . ."

LUKACS, O., "Az ágazati kapcsolatok mérlege összeállításának es felhasználhatóságának kapcsoltban" (H) (Norwegian Experience with Input-Output Tables), STATISZTIKAI SZEMLE, Vol. 36, No. 10, Oct., 1958, pp. 963-70.

The author reviews the Input-Output Studies conducted in Norway; a reprint of a 30 sector Input-Output Table of Norway is included.

NORWAY (Continued)

SEVALDSON, P., "National Experiences with Input-Output Analysis: Norway," Paper presented at the International Conference on Input-Output Analysis, Varenna, 1954, contained in BARNA, T., (ed.), THE STRUCTURAL INTERDEPENDENCE OF THE ECONOMY, J. Wiley & Sons, Inc., -A. Giuffrè, 1956, pp. 295-311.

-----, "Teori for praktisk økonomisk politikk" (N) (Theory for Economic Policy), STATSKONOMISK TIDSSKRIFT, Vol. 69, No. 2-3, Oct., 1955, pp. 246-79.

The author describes the attempts made in Norway to expand the present Input-Output studies towards a complete decision model.

THONSTAD, T., PRODUKSJONSSTRUKTUR, IMPORT OG SYSSELSETTING. En kryssløpsstudie, (N) w. (E) sum., (Structure of Production, Imports and Employment. An Input-Output Study), SAMFUNNSØKONOMISKE STUDIER, No. 8, Central Bureau of Statistics, Oslo, 1959, 129 pp.

"...This volume presents an attempt to study the relationships between Norway's need for imports, the structure of production, and the distribution of employment among the different sectors of the economy, by the use of three different types of Input-Output techniques. . ." The numerical data is based on Norway's national accounts and Input-Output Tables for the years 1948 and 1950. Several tables are presented showing the results of the various computations, among others, the maximum and minimum import and employment (man-years) requirements per million kroner increase in final deliveries, as well as for certain sets of final deliveries in 1950. The author maintains that such computations may give important information regarding Norway's dependence on factor imports, and the possibilities of replacing imports with domestic production.

"Input-Output Tables: Recent Experience in Western Europe," United Nations, ECONOMIC BULLETIN FOR EUROPE, Vol. 8, No. 1, Geneva, May, 1956, pp. 36-54.

Contains a description of the Input-Output Tables for 1948 and 1950 of Norway.

A Coefficient Matrix of Norway for 1950, 29 x 29 sectors, is included in CHENERY, H.B., -WATANABE, T., "International Comparisons of the Structure of Production," ECONOMETRICA, Vol. 26, No. 4, Oct., 1958, and in CHENERY, H.B., -CLARK, P.G., INTERINDUSTRY ECONOMICS, J. Wiley & Sons, Inc., 1959, pp. 220-21, Chapter 8, "An International Comparison of the Structure of Production."

PERÚ

RENTA NACIONAL DEL PERÚ, 1942-1955, (S) (National Income of Perú, 1942-1955), Banco Central de Reserva del Perú, Lima, 1957, 164 pp.

The study includes a short technical exposition of Input-Output Analysis and the Input-Output Table of Perú for the year 1955, 8 x 8 Intermediate plus 5 columns and 13 rows Final Demand Sectors.

PERÚ (Continued)

RENTA NACIONAL DEL PERÚ, 1942-1956, (S) (National Income of Perú, 1942-1956), Banco Central de Reserva del Perú, Lima, 1958, 259 pp.

The study includes a discussion of the principles of Input-Output Analysis and the procedure used in setting up the Input-Output Tables of Perú, as well as Input-Output Tables for 1955 and 1956 (one for each year), 8 x 8 Intermediate plus 3 columns and 13 rows Final Demand, and an Input-Output Table for 1956, 25 x 25 Intermediate plus 3 columns and 13 rows Final Demand (The Industrial sector is disaggregated into 18 sectors).

RENTA NACIONAL DEL PERÚ, 1942-1957, (S) (National Income of Perú, 1942-1957), Banco Central de Reserva del Perú, Lima, 1959, 214 pp.

Included in the study are: Input-Output Tables for the years 1950 to 1957 (one for each year), and a Projected Input-Output Table for 1961, 8 x 8 Intermediate plus 3 columns and 13 rows Final Demand Sectors, all in 1950 prices. Further, several statistical tables analyzing the structural changes in the sector composition of: Gross National Product, Intermediate Demand, Final Demand (by sectors), 1950, 1957 and 1961 (as projected), and the per cent variations per year 1950/1957.

ANALYSIS AND PROJECTIONS OF ECONOMIC DEVELOPMENT. VI. THE INDUSTRIAL DEVELOPMENT OF PERU, United Nations, Economic Commission for Latin America, Department of Economic and Social Affairs, Mexico, D.F., Dec., 1959, 323 pp.

The volume contains an analysis of the characteristics and basic trends of the Peruvian economy, the relation of industry to the national economy as a whole and the problems of each of the main branches of industry in 1955, as well as the development possibilities of each of these industries projected for 1965. The sources and methods used are contained in the Annexes. Included are the following Input-Output Tables: "Estimate of Inter Industrial Transactions, 1955" (20 Intermediate Sectors plus 3 columns Final Demand; the domestic imported inputs are tabulated separately); "Technical Input Coefficients Derived from the Table of Inter-Industrial Transactions in 1955"; and a "Pivotal Matrix of Direct and Indirect Production Requirements per Unit of Final Demand for Domestically Produced Goods, 1955" (Inverse Matrix); further, two Input-Output Tables, "Projections of Inter-Industrial Transactions in 1965" (in 1955 prices, the same dimensions as for 1955), showing preliminary estimates of raw materials and intermediate products required in 1965, (a) assuming no changes in the proportions of raw materials used for each sector's production or in their break-down by domestic and foreign sources, and (b) incorporating in the table the findings of the detailed survey of development possibilities for each of the most important industries.

POLAND

ROCZNIK STATYSTYCZNY 1959, (P) (Statistical Yearbook, 1959), Główny Urząd Statystyczny, Warsaw, 1959, Vol. 19, 464 pp.

(ROCZNIK STATYSTYCZNY 1959, Continued)

This study contains: "Bilans wytwarzania i podziału produktu globalnego oraz dochodu narodowego w cenach bieżących w 1957 r." (Balance of Production and Distribution of the Gross Product as well as National Income 1957 in Current Prices [1957]). This is a 20 sector table combining Input-Output (Interindustry) flows with National Income figures for 1957, and an Input-Coefficients Matrix of the same dimensions.

KRZECZKOWSKA, E., -SZYBISZ, B., -ZIENKOWSKI, L., "Tablice przepływów międzydziałowych i międzygałęziowych w gospodarce narodowej Polski w 1956 r." (P) (The Input-Output Matrices and Inter-Industry Balances of Poland, Year 1956), WIADOMOSCI STATYSTYCZNE, Warsaw, No. 3, 1957, and in EKONOMISTA, Warsaw, No. 1, 1958, pp. 98-118.

The study contains: an Input-Output Table, 1956, 7 x 7 Intermediate plus Final Demand Sectors; a Coefficient Matrix, 1956, 7 x 7 sectors; and a Table, containing the per cent distribution of output of 7 sectors plus Imports to 16 sectors, 1956.

-----, -----, -----, "Tablice przepływów międzydziałowych i międzygałęziowych w gospodarce narodowej Polski" (P) w. (E) sum. (Tables of Interbranch Flows in the Polish Economy), EKONOMISTA, 1959, No. 3, pp. 553-59.

". . . This is a sequel to the article by the same authors published in EKONOMISTA, 1958, No. 1, and contains the practical results of the research conducted by the Chief Statistical Office. Included are a 20 sector Table combining Input-Output (Interindustry) flows with National Income figures for 1957, and an Input Coefficients Matrix of the same dimensions. . ."

LANGE, O., WSTEP DO ECONOMETRII, (P) w. (E) sum., (Introduction to Econometrics), Państwowe Wydawnictwo Naukowe, Warsaw, 1958, 367 pp.

In Chapter III, "The Theory of Programming" (pp. 210-308), W. Leontief's Input-Output Analysis is discussed and the application of Input-Output models in economic planning to the relationships between the rate of accumulation, the rate of economic growth, and the goal of full employment is explored. The book contains an Input-Output Table of Poland for 1956 (7 x 7 Intermediate plus Final Demand Sectors), and Input-Output Tables of Great Britain for 1935 and the USA for 1947, both having 10 x 10 Intermediate Sectors.

-----, INTRODUCTION TO ECONOMETRICS, Pergamon Press, 1960, 384 pp.

This is a revised and enlarged version of the Polish edition of this book. In addition to the Input-Output Tables included in the Polish original, an Input-Output Table of Poland for 1957 (20 x 20 Intermediate Sectors) is presented.

-----, "Model wzrostu gospodarczego" (P) w. (E) sum. (A Model of Economic Growth), EKONOMISTA, 1959, No. 3, pp. 523-52.

(LANGE, "Model wzrostu gospodarczego" Continued)

POLAND (Continued)

LANGE, O., "Model wzrostu gospodarczego" (Continued)

"...The author deduces the equilibrium equation on the basis of 'inter-branch flow tables' (Input-Output Tables)..."

PAJESTKA, J., "Z zagadnień zastosowania matematyki w badaniach ekonomicznych" (P) w. (E) sum. (Some Problems in the Application of Mathematics in Economic Research), EKONOMISTA, 1959, No. 3, pp. 560-73.

"...The analysis of the economic premises of the Input-Output model leads to the conclusion that it is possible to construct the model and apply it in such a way that no more simplifying assumptions will be needed..."

PORWIT, K., "Tablica gospodarki narodowej jako instrument koordynacji planu gospodarczego" (P) (Input-Output Tables as Instruments of Coordination in Economic Planning), GOSPODARKA PLANOWA, Dec., 1957.

-----, "Powiązania międzygałęziowe w ujęciu regionalnym" (P) (Regional Interdependence Analysis, GOSPODARKA PLANOWA, Warsaw, Nov., 1958, and in PRACE I MATERIAŁY ZAKŁADU BADAŃ EKONOMICZNYCH, No. 14, Komisja Planowania przy Radzie Ministrów, Nov., 1958 (Restricted Circulation).

-----, -ZURKOWSKI, J., "Zastosowanie współczynników powiązań międzygałęziowych w planowaniu" (P) (Some Special Examples of the Possibility of Applying Input-Output Coefficients to Economic Planning), PRACE I MATERIAŁY ZAKŁADU BADAŃ EKONOMICZNYCH, No. 14, Nov., 1958 (Restricted Circulation).

-----, -----, -SLAWIN, W., PRACE I MATERIAŁY ZAKŁADU BADAŃ EKONOMICZNYCH, No. 11, Komisja Planowania przy Radzie Ministrów, (P) (Studies of the Economic Research Center, No. 11, Polish Planning Commission), Warsaw, 1958, 244 pp. (Restricted Circulation).

The above studies contain discussions of the mathematics of economic models, the applicability of Input-Output analysis to economic planning by the Government, problems encountered in setting up Input-Output Tables in a socialized economy. Included are: an Input-Output Table, 1956, 7 x 7 Intermediate Sectors plus Final Demand, and Coefficient and Inverse Matrices, 1956, 7 x 7 sectors.

SULMICKI, P., "Tabela przepływów międzygałęziowych" (P) (Input-Output Analysis), GOSPODARKA PLANOWA, Warsaw, July-Aug., 1957.

The final balance of National Accounts is tabulated in matrix form; however, mathematical symbols are used instead of actual data.

-----, PRZEPŁYWY MIĘDZYGAŁĘZIOWE, (P) (Interindustrial Flows), Polskie Wydawnictwa Gospodarcze, 1959, 299 pp.

The publication contains a discussion of the theoretical and mathematical background of W. Leontief's Input-Output Analysis, the static and the dynamic model and of Inter-Regional Analysis as well as the theoretical, statistical,

(SULMICKI, PRZEPŁYWY MIĘDZYGAŁĘZIOWE, Continued)

POLAND (Continued)

SULMICKI, P., PRZEPŁYWY MIĘDZYGAŁĘZIOWE (Continued)

and computational problems encountered in the application of this method of economic analysis. As empirical examples of the application of Input-Output Analysis to the analysis of economic interrelationships of countries, the following condensed Input-Output Tables are included: Great Britain, Years 1935 and 1957; Yugoslavia, 1955; Poland, 1956; U.S.A. for 1939 (also Coefficient and Inverse Matrices); and "Balance Table" of the U.S.S.R., 1923-24.

WIERZBICKI, J., "Tablice Poljske Privrede" (SC) (A Polish Input-Output Table), EKONOMICKI PRZEGLED, 1959, No. 8-9, pp. 617-26.

A discussion of the Polish Input-Output Table for 1956 and a reprint of the Inter-Industry Flow Table (7 sectors) for that year are included in this study.

PORTUGAL

TINTNER, G., -MURTEIRA, B., "Um modelo 'Input-Output' simplificado para a economia portuguesa" (Por) (A Simplified Input-Output Model for the Portuguese Economy), COLECTÁNEA DE ESTUDOS, No. 8, 1959, pp. 43-54, Centro de Estudos de Estatística Económica, Instituto de Alta Cultura, Lisbon.

The study presents a simplified Input-Output Table of Portugal for 1957 with 4 sectors. The closed and open Leontief models are constructed and discussed; applications to the influence of wage changes on prices, and to the consequences of changes in Final Demand are demonstrated. This paper was also presented at the Meeting of the Econometric Society, Washington, D.C., Dec., 1959, see ECONOMETRICA, Vol. 28, No. 3, July, 1960, p. 700.

SOUTH AFRICA, Union of

TUSENIUS, R.R., DIE TEORIE EN PRAKTYK VAN DIE INTERINDUSTRIEVLOEI - TEGNIEK, (A) (The Theory and Practical Application of Inter-Industry Analysis), Suid-Afrikaanse Wetenskaplike en Nywerheidsnavorsingsraad (The South-African Scientific and Industrial Research Council), Pretoria, 1957, 342 pp.

"...A descriptive and analytical study with special reference to the economic statistics of the Union for the period 1951-52 and a comment in connection with the method of collecting the statistical data necessary for the empirical application of this technique in the future..." The study consists of the following chapters: (1) Theoretical survey of the method, possibility of use, and limitations of the interindustry flow technique, (2) General survey of the practical use of the interindustry flow technique abroad, (3) Application of the interindustry flow technique to the economic system of the Union. The study contains two Input-Output Tables of the Union of South Africa for 1951-52, (a) 14 x 14 Intermediate Sectors, row of Imports, plus 4 columns and 3 rows Final Demand, (b) 14 x 14 Intermediate Sectors, 4 columns and 1 row Final Demand; Imports are included in the flow of goods; further, reprints of the Input-Output Tables of the U.S.A., the Netherlands, United Kingdom, Italy, and Israel are also included.

SPAIN

ALCAIDE INCHAUSTI, A., -BEGUÉ CANTÓN, G., -FERNÁNDEZ CASTAÑEDA, J., -SANTOS BLANCO, A.,
LA ESTRUCTURA DE LA ECONOMÍA ESPAÑOLA. TABLA INPUT-OUTPUT, 1954, (S) (The
Structure of Spain's Economy. Input-Output Table, 1954), Instituto de
Estudios Políticos, Madrid, 1958, 184 pp. plus 6 Tables.

The study contains a discussion of the theory and the mathematical basis of
Input-Output Analysis, the methods of procedure, the sources of data, the
industry classification scheme used in constructing the Input-Output Tables
of Spain and an appraisal of the application of Input-Output Analysis as a
tool of economic analysis and economic planning. Included are 6 Input-Output
Tables of Spain, year 1954, as follows: (1) Input-Output Table, 28 x 28
Intermediate and 4 Final Demand Sectors, with intra-industry transfers in-
cluded; (2) "Net" Input-Output Table, 28 x 28 Intermediate plus 1 Final
Demand Sector, with intra-industry transfers excluded; (3) Rectangular
Input-Output Table, 28 Intermediate plus 4 Final Demand columns, 142 Inter-
mediate rows plus 4 rows Final Demand (28 industries and 200 product classes);
(4) Technical Coefficient Matrix, 28 x 28 sectors, derived from the above
"Net" Input-Output Table; (5) Inverse Matrix, 28 x 28 sectors; and (6) In-
put-Output Table, 7 x 7 Intermediate plus 4 Final Demand Sectors, an aggre-
gation of the 28 x 28 sector table.

ALCAIDE INCHAUSTI, A., "El Sector F.A.O. en la table 'Input-Output' de la economía
española" (S) (The F.A.O. Sector in the Input-Output Table of Spain),
REVISTA DE ESTUDIOS AGRO-SOCIALES (Ministerio de Hacienda), Oct. - Dec., 1958,
pp. 7-29.

This paper contains a discussion of Input-Output Analysis, its theory, mathe-
matical basis, and the feasibility of its application to the study of Spain's
agro-economic problems, illustrated by an aggregated Input-Output (Flow)
Table of Spain for 1954 (constructed by the Instituto de Estudios Agro-
Sociales) and the respective Input Coefficients and Inverse Matrices. A
Mathematical Appendix is included.

INFORMACIÓN COMERCIAL ESPAÑOLA. Revista del Servicio de Estudios del Ministerio de
Comercio, Madrid, No. 313, Sept., 1959, 135 pp. (S).

The special theme of this issue is "Leontief: La técnica Input-Output."
Included are the following articles:

"La técnica Input-Output" (pp. 7-9). This editorial on Input-Output Analy-
sis discusses the importance of this method as a new technique in economic
analysis and the method's practical application to the analysis of Spain's
economy as well as to comparisons of the economic structure of various coun-
tries.

"Una técnica al servicio de la política económica: La Tabla y el análisis
Input-Output" (pp. 11-23) (A Technique Serving Economic Policy: The Input-
Output Table and Input-Output Analysis). This article contains: an ele-
mentary discussion of the principles of Input-Output Analysis and a reprint
of Spain's Input-Output Table for 1954, aggregated into 12 Intermediate and
4 Final Demand Sectors; a short description of the method's practical appli-
cation to the study of three economic problems—the repercussion effect

(INFORMACION COMERCIAL ESPANOLA Continued)

SPAIN (Continued)

INFORMACIÓN COMERCIAL ESPAÑOLA (Continued)

of increases in railroad tariffs on the other sectors of the economy, the attempt to determine potential limitations and bottlenecks in Spain's structure of production possibly arising in the future due to planned expansion of production in order to satisfy increased Final Demand, and further, an analysis of the basic structural characteristics of the country's foreign trade.

"Las estructuras económicas de España y Europa occidental" (pp. 71-88) (The Economic Structures of Spain and Western Europe), and

"Relación entre la estructura del Comercio Exterior de España y la de los países de la O.E.C.E." (pp. 89-99) (Comparison between the Structure of Foreign Trade of Spain and the O.E.E.C. Countries).

Based on the respective Input-Output Tables, both articles analyse and compare some of the structural economic characteristics of the two areas. The first article describes the methods used for coordinating Spain's 28 sector Input-Output Table with the 27 sector Table of the O.E.E.C. countries and contains the resulting adjusted Input-Output Flow Table as well as the respective coefficient matrix. Utilizing these data, the same articles present the per cent distribution of the Value of Inputs and of Value Added among the 27 economic sectors of the two areas, while the second study deals with the per cent distribution of Imports and Exports among the matrix sectors in the Spanish and in the O.E.E.C. Input-Output Tables. Both articles discuss and analyse the differences in the patterns of distribution.

CELAYA, F., "La construcción naval y la estructura de la economía española" (S) (Naval Construction and the Structure of Spain's Economy), DE ECONOMIA, Revista de temas económicos, Vol. 13, No. 64, Apr. - June, 1960, pp. 401-18.

This study discusses the application of Input-Output Analysis to the structural analysis of an industry, for guidance in policy decisions and the determination of the direct and indirect effects of changes occurring in one sector on all other sectors, and consequently, on the national economy. As an illustration, the author analyses Spain's Naval Construction Industry. A 12 sector matrix of this industry is included.

COLEGIO NACIONAL DE DOCTORES Y LICENCIADOS EN CIENCIAS ECONÓMICAS Y COMERCIALES, Madrid, "Las estructuras de empleo y su aplicación macroeconómica" (S) (The Structure of Employment and its Application in Macroeconomics), BOLETÍN (of the above Colegio), 2nd Quarter, 1959.

The theoretical formation of these structures is based on Input-Output techniques and the Input-Output Table of Spain.

GARCÍA BARBANCHO, A., "El modelo de equilibrio general de Leontief y su aplicación a Italia" (S) (Leontief's General Equilibrium Model and its Application to the Italian Economy), ANALES DE ECONOMÍA, Vol. 16, No. 61, pp. 127-76 (See ITALY, p. 91).

SPAIN (Continued)

TORRES MARTÍNEZ, M. de, and Associates (ANDRÉS ALVAREZ, SAMPEDRO, FUENTES QUINTANA, ALCAIDE INCHAUSTI, FERNÁNDEZ CASTAÑEDA, SANTOS BLANCO), Vicesecretaría Nacional de Ordenación Económica de la Delegación Nacional de Sindicatos, Madrid, 1960.

The study contains "Tablas Input-Output de la economía Española, años 1954-1957" (Input-Output Tables of Spain, years 1954-1957), one for each year, 28 Intermediate plus 4 Final Demand Sectors. An Input-Output Table for 1958, with over 200 sectors, is in the process of construction by the same group of economists as of July, 1960.

TRÍAS-FARGAS, R., "La balanza de comercio de la provincia de Barcelona y la tabla de 'inputs' industriales de la misma" (S) (The Balance of Trade of the Province of Barcelona and the Input Table of Industries in this Region), MONEDA Y CREDITO, No. 69, June, 1959, pp. 41-56 (See Section 7, p. 65).

SUDAN

HARVIE, C.H., -KLEVE, J.G., THE NATIONAL INCOME OF SUDAN, 1955-56, Department of Statistics, Khartoum, Sudan, March, 1959, 116 pp.

Chapter 6, "Input-Output Table," pp. 73-77, contains a description of the general features of an Input-Output Table, and also an Input-Output Flow Table for Sudan, 1955-56 (14 Intermediate plus 5 columns Final Output and 4 rows Final Input Sectors), an Input Coefficients Table (8 x 8 sectors), and an Output Coefficients Table having the same dimensions as the latter. Chapter 7 discusses the interpretation and uses of an Input-Output Table for showing the relative importance of the different sectors of the economy. The lack of interdependence between the different sectors in Sudan's economy, as indicated in the table, is a common feature of all under-developed countries.

SWEDEN

DEN SVENSKA INPUT-OUTPUT-UNDERSOKNINGEN (Sw) (The Swedish Input-Output Study).

An Input-Output Table of Sweden, year 1957, approximately 60 Intermediate Sectors, is expected to be completed in 1961. The study is under the direction of Professor Bent HANSEN, carried out by Lars WERIN and Bengt HOGLUND, under the auspices of the University of Stockholm in cooperation with the Industrial Research Institute (IUI), the Business Cycle Research Institute, and the Kommerskollegium in Stockholm.

ARTLE, R., SAMPELET MELLAN EKONOMISKA SEKTORER I STOR-STOCKHOLM, (Sw) (The Interaction between Economic Sectors in the Greater Stockholm Area), Business Research Institute, Stockholm School of Economics, 1957, Part II of: "The Economic Structure of Greater Stockholm," pp. 265-317 (See Section 7, p. 65).

(ARTLE Continued)

SWEDEN (Continued)

ARTLE, R. (Continued)

- , STUDIES IN THE STRUCTURE OF THE STOCKHOLM ECONOMY. TOWARDS A FRAMEWORK FOR PROJECTING METROPOLITAN COMMUNITY DEVELOPMENT, Business Research Institute, Stockholm School of Economics, 1959, 197 pp. plus appendix (See Section 7, p. 66).

TANGANYIKA

PEACOCK, A.T., -DOSSER, D.G., THE NATIONAL INCOME OF TANGANYIKA, 1952-1954, Colonial Research Studies Series No. 26, H.M.S.O., London, 1958, 78 pp.

The study contains an Input-Output Table for 1954, 14 x 14 sectors.

- , -----, "Input-Output Analysis in an Underdeveloped Country: A Case Study," THE REVIEW OF ECONOMIC STUDIES, Vol. 25, No. 66, Oct., 1957, pp. 21-24.

The authors describe their attempt to construct an Input-Output Table for Tanganyika. They summarize their experience as follows: ". . . In view of the fact that considerable work is required for little result, underdeveloped countries with very limited statistical resources should not undertake input-output work before estimates are made of the national income, and possible simple social accounts. . ."

UNION OF SOUTH AFRICA, see SOUTH AFRICA, Union of

UNITED KINGDOM

NATIONAL INCOME AND EXPENDITURE, 1946-1951, H.M.S.O., London, 1952.

Includes an Input-Output Table for the United Kingdom, 1948, 8 x 8 Intermediate plus Final Demand Sectors.

NATIONAL INCOME AND EXPENDITURE, 1955, H.M.S.O., London, 1955.

Includes an Input-Output Table for the United Kingdom, 1950, 10 x 10 Intermediate Sectors, plus rows and columns of Final Demand. Intra-sector transactions are excluded. The matrix has been inverted; however, the Inverse Matrix has not been published.

NATIONAL INCOME BLUE BOOK FOR 1958, H.M.S.O., London, 1958.

Contains an Input-Output Table for the United Kingdom, 1954, 11 columns x 13 rows Intermediate Sectors, plus columns and rows of Final Demand, and an Inverse Matrix, 11 x 11 sectors.

The Input-Output Tables in the NATIONAL INCOME BLUE BOOK for 1958 were reprinted in: ECONOMIC TRENDS, No. 62, Dec., 1958, and NEW CONTRIBUTIONS TO ECONOMIC STATISTICS, Central Statistical Office, H.M.S.O., London, 1959.

UNITED KINGDOM (Continued)

ADAMS, A.A., -STEWART, I.G., "Input-Output Analysis: An Application," THE ECONOMIC JOURNAL, Royal Economic Society, Vol. 66, No. 263, Sept., 1956.

The Input-Output Table of the U.K. for 1935 (constructed by BARNA, T., below) is used for estimating outputs of industries for several inter-war years. The results thus obtained are compared with the actual Census of Production data for the respective years and the results of this experiment are evaluated.

"The Anatomy of Crisis," THE ECONOMIST, London, Sept. 13, 1952, pp. 641-43 (anon.).

A discussion and review of the publication, NATIONAL INCOME AND EXPENDITURE, 1946-51, H.M.S.O., 1952, with reprint of the United Kingdom's Input-Output Table for 1948 are included.

BARNA, T., "The Interdependence of the British Economy," JOURNAL OF THE ROYAL STATISTICAL SOCIETY, Series A. (General), Vol. 85, Part I, 1952, pp. 29-81.

Contains an Input-Output Table for the United Kingdom, 1935, 36 x 36 Intermediate plus Final Demand Sectors. Intra-sector transfers are included. The matrix has been inverted; however, the Inverse Matrix has not been published. Also included is an Input-Output Table, United Kingdom, for 1935, 10 x 10 Intermediate plus Final Demand Sectors, aggregated from the above 36 sector table.

BERMAN, L.S., "National Experiences with Input-Output Analysis: United Kingdom," Paper presented at the International Conference on Input-Output Analysis, Varenna, 1954, published in BARNA, T., (ed.), THE STRUCTURAL INTERDEPENDENCE OF THE ECONOMY, J. Wiley & Sons, Inc., -A. Giuffrè, 1956, pp. 313-38.

DOSSER, D.G.M., "The Formulation of Development Plans in the British Colonies," THE ECONOMIC JOURNAL, Vol. 69, No. 274, June, 1959, pp. 255-66.

The author suggests that "...plan formulation within a colony would benefit from fuller application of economic analysis; the sector plans could be more integrated (covering private investment as well), using Input-Output analysis, so that development planned in any one sector is feasible in terms of supplies (existent or planned) from other sectors, including labor, and realistic in terms of expected demand patterns. . .".

FUERST, E., "The Matrix as a Tool in Macro-Accounting," REVIEW OF ECONOMICS AND STATISTICS, Vol. 37, No. 1, Feb., 1955, pp. 35-47.

The author discusses the formal structure of the matrix as an accounting tool, reviews actual Input-Output Matrices under the aspect of their formal structure and constructs an Income-Product Matrix based on the Interindustry Relations Table of the U.K. for 1948.

PEACOCK, A.T., -STEWART, I.G., "Fiscal Policy and the Composition of Government Purchases," PUBLIC FINANCE, Haarlem, Vol. 13, No. 2, 1958, pp. 135-44, also, Reprint Series No. 7, Department of Political Economy, University of Edinburgh.

(PEACOCK, . . ., "Fiscal Policy and. . ." Continued)

UNITED KINGDOM (Continued)

PEACOCK, A.T., . . . , "Fiscal Policy and. . ." (Continued)

Section 3 of this article, entitled, "The Position of the Public Sector in the Input-Output Table" (pp. 38-142), contains a provisionally estimated Input-Output Table of the United Kingdom for 1956 and the respective Coefficients Matrix.

STEWART, I.G., "The Practical Uses of Input-Output Analysis," SCOTTISH JOURNAL OF POLITICAL ECONOMY, Vol. 5, No. 1, Feb., 1958, pp. 50-59.

The article contains a provisionally estimated Input-Output Table of the United Kingdom for 1956, 6 columns x 7 rows Intermediate Sectors plus 4 columns and 2 rows Final Demand, and a 6 x 6 sector Coefficient Matrix. The application of Input-Output Analysis to forecasting and analytical use is discussed.

-----, "Input-Output Table for the United Kingdom, 1948" University of Cambridge, Department of Applied Economics, 1958, Reprint Series No. 147, also published in LONDON AND CAMBRIDGE ECONOMIC BULLETIN, New Series, No. 28, Dec., 1958.

Based on the 1948 Census of Production, this Input-Output Table was constructed by members of the Department of Applied Economics at Cambridge, notably Messrs. NEALE, A.B., BRIGGS, F.E.A., and STEWART, J.G., together with members of the Statistics Division of the Board of Trade.

Included in the study is the Input-Output Table, 1948, 50 columns, 48 rows, plus 2 rows (wages and salaries, gross surplus) Intermediate Sectors. Intra-sector transfers are excluded. Also included is an Analysis of Final Output, 1948, which is actually a continuation of the afore mentioned Input-Output Table of Intermediate Sectors, consisting of 8 columns, 48 rows, plus 3 rows wages and salaries, gross surplus, taxes on expenditure, less subsidies. The above matrices are derived from tables with 450 sectors, subsequently reduced to 200 sectors, and finally aggregated to the above listed dimensions.

STONE, R., "Input-Output and the Social Accounts," and

-----, "Linear Expenditure Systems and Demand Analysis; An Application to British Demand," Both papers were presented at the International Conference on Input-Output Analysis, Varenna, 1954, and are contained in BARNA, T., (ed.), THE STRUCTURAL INTERDEPENDENCE OF THE ECONOMY, J. Wiley & Sons, Inc., -A Giuffrè, 1956, pp. 153-72 and 409-29, respectively

"Input-Output Tables: Recent Experience in Western Europe," United Nations, ECONOMIC BULLETIN FOR EUROPE, Vol. 8, No. 1, Geneva, May, 1956, pp. 36-54.

Contains a description of the Input-Output Tables of the United Kingdom, years 1935, 1948 and 1950.

The studies listed in this section actually are dealing with, or are based on, Input-Output Analysis and this method's application to problems of Soviet planning, although the term Input-Output Analysis frequently is not expressly stated.

AGANBEGIAN, A., "Kniga burzhuznykh ekonomistov o metode 'zatraty - vypusk'," (R) PLANOVOE KHOZIAISTVO, 1959, No. 8, pp. 90-96.

The author reviews and discusses the Russian translation of LEONTIEF, W., and Others, STUDIES IN THE STRUCTURE OF THE AMERICAN ECONOMY.

ALEKSANDROV, V., "Elektronnye matematicheskie mashiny" (R) (Electronic Computing Machines), PRAVDA, Aug. 1, 1958, p. 3 (popular newspaper article).

The possible use of Input-Output Tables for Planning in the U.S.S.R. is discussed.

BELKIN, V., "O primeneni elektronnykh vychislitel'nykh mashin v planirovanii i statistike narodnogo khoziaistva" (R) (On the Application of Electronic Computers to Economic Planning and Statistics), VOPROSY EKONOMIKI, 1957, No. 12, (E) translation: PROBLEMS OF ECONOMICS, June, 1958, pp. 67-71.

-----, "Primenenie elektronnykh vychislitel'nykh mashin v planirovanii narodnogo khoziaistva" (R) (The Application of Electronic Computers to Planning in the National Economy), Contained in the collection, TEZISI DOKLADOV SOVESHCHANIIA PO VYCHISLITEL'NOI MATEMATIKI I PRIMENENIIU SREDSTV VYCHISLITEL'NOI TEKHNIKI, Akademia Nauk Azerbaidzhanskoi SSR, Baku, 1958.

This is an abstract of a paper which was presented at a conference held at the Academy of Sciences of Azerbaidzhan, 1958, on computer mathematics and the use of electronic computer techniques. The content is similar to that of the article reprinted in VOPROSY EKONOMIKI. The work in progress regarding the application of Input-Output techniques to Soviet economics is listed and discussed.

-----, "Delo bol'shogo budushchego" (R) (A Method with a Great Future), IZVESTIA, July 30, 1958, p. 3 (popular newspaper article).

-----, "Ekonomicheskie raschety s pomoshch'iu elektronnykh vychislitel'nykh mashin" (R) (Economic Computations with the Aid of Electronic Machines), VOPROSY EKONOMIKI, 1959, No. 10, pp. 142-44.

The author presents information regarding the organizations using electronic computers in economic research (Gosplan, Academy of Science, etc.). According to the description of the methods used, some of the research is identical with Input-Output Analysis.

(BELKIN Continued)

* The assistance of Mr. Herbert S. LEVINE, Harvard University, Russian Research Center, and the University of Pennsylvania, in compiling the following list of publications is gratefully acknowledged.

BELKIN, V. (Continued)

- , -BIRMAN, I., "Kniga amerikanskikh ekonomistov o metode 'zatraty-vypusk' produktsii" (R) (Book by American Economists on the Input-Output Method) VOPROSI EKONOMIKI, 1959, No. 6, pp. 105-13, (E) translation in: PROBLEMS OF ECONOMICS, Vol. 2, No. 6, Oct., 1959, pp. 58-64.

The authors review and discuss the Russian translation of LEONTIEF, W., and Others, STUDIES IN THE STRUCTURE OF THE AMERICAN ECONOMY.

- BERRI, L., -EFIMOV, A.N., "Metody postroeniia mezhotraslevogo balansa" (R) (Methods of Constructing Interindustry Balances), VOPROSI EKONOMIKI, 1960, No. 5.

This is a paper on the use of mathematical methods in economic planning which was presented at a Conference held in Moscow, April, 1960.

- BLYUMIN, I., -SHLYAPENTOKH, V., "Ob ekonometricheskom napravlenii v burshuaznoi politicheskoe ekonomii" (R) (The Econometric Trend in Bourgeois Political Economy), VOPROSY EKONOMIKI, 1958, No. 11, (E) translation in: PROBLEMS OF ECONOMICS, Vol. 1, No. 11, March, 1959, pp. 45-52.

This article is a review of recent Western econometric writings including Input-Output Analysis.

- BOIARSKII, A.I., "Sebestoimost' i stoimost'," (R) (Cost and Value), VOPROSY EKONOMIKI, PLANIROVANIIA I STATISTIKI (K vos'midesiatiletiiu akademika S.G. Strumilina), Akademiia Nauk, SSSR, Moscow, 1957.

This is an article discussing the application of Input-Output techniques to price problems; it is included in a collection of articles published in a book honoring S.G. Strumilin.

- , "Ob 'ekonometrike' i primenenii matematiki v ekonomicheskom analize" (R) (On Econometrics and the Use of Mathematics in Economic Analysis), PLANOVOE KHOZIAISTVO, 1959, No. 7.

The author discusses Input-Output Analysis among other methods of mathematical analysis.

- EFIMOV, A.N., "Perestroika upravleniia promyshlennosti i stroitelstvom v USSR" (R) (Reorganization of the Administration of Industry and Construction in the USSR), GOSPOLITISDAT, Moscow, 1957 (Input-Output Analysis is discussed on pp. 108-14).

The author describes Input-Output Analysis and the advantages of its application as compared to the present Soviet planning method. Some Input-Output studies performed by GOSPLAN and the USSR Academy of Science are referred to.

- , "Mezhotraslevoi balans i ekonomicheskie proporsii" (R) (Intersectoral Balance and Economic Proportions), EKONOMICHESKAYA GAZETTA, June 5, 1960.

This paper presents an account of the work of GOSPLAN on the 17 sector Input-Output Table of the USSR for 1957.

EIDEL'MAN, M., "K voprosu o postroenii otchetnogo mezhotraslevogo balansa proizvodstva i raspredeleniia produktsii v narodnom khoziaistve SSSR" (R) (The Problem of Constructing Inter-Branch Balances of the Production and Distribution of Output in the Soviet National Economy), VESTNIK STATISTIKI, 1960, No. 1, pp. 55-69, (E) translation in: PROBLEMS OF ECONOMICS, Vol. 3, No. 2, June, 1960, pp. 3-10, (H) translation, "Az ágazati kapcsolatok mérlegének kidolgozása a Szovjetunióban," in: STATISZTIKAI SZEMLE, Vol. 38, No. 8-9, Aug. - Sept., 1960, pp. 864-73.

This is an official article discussing the principles considered and the problems encountered in compiling an Inter-Branch Balance (Input-Output Table) of the Soviet economy for the year 1959, as well as the organization of the work in the Central Statistical Office.

FEDOROVICH, M., "Ispol'zovanie matrichnogo uschisleniia v zavods kom planirovanii" (R) (The Application of Matrix Calculations in Planning the Works of a Plant), VOPROSI EKONOMIKI, 1958, No. 2, (E) translation in: PROBLEMS OF ECONOMICS, Vol. 1, No. 4, Aug., 1958.

GREBTSOV, G., "K voprosu o razrabotke svodnogo material'nogo balansa" (R) (Problems in the Construction of an Aggregated Materials Balance), PLANOVOE KHOZIAISTVO, No. 6, 1959, (E) translation in: PROBLEMS OF ECONOMICS, Vol. 11, No. 7, Nov., 1959.

The possible application of Input-Output Analysis (called "Composit Material Balance Sheet") to Soviet Planning is discussed on the basis of an experimental model of 15 sectors constructed by the Economic Research Institute of GOSPLAN for 1955. In addition to a discussion of the methodology, some actual data is provided. The Flow Table purports to contain only arbitrary data; however, there is also a combined "direct coefficient" and "total coefficient" table (in quantity terms) which, according to the title, reflect the relationships actually existing in the USSR economy in 1955. The coefficient tables cover nine sectors, all in quantitative units (electricity, fuels, rolled steel, timber, cement, soda ash, caustic soda, mineral fertilizers, textiles). Essentially the same article, slightly reworded and entitled, "Metodakh sostavleniia svodnogo material'nogo balansa," is included in: KALMYKH V.A., -KHOLIN, J.A., (eds.), MATERIAL'NYE BALANSY V NARODNO KHOZIAISTVENNOM PLANE, GOSPLANIZDAT, 1960, pp. 225-47.

KANTOROVICH, V.L., "Matematicheskie metodi organizatsii i planirovaniia proizvodstva" (R) (Mathematical Methods in Organization and in Planning of Production), Leningrad State University, Leningrad, 1939, 68 pp.

KENESSEY, Z., "A szovjet népgazdaság 1923-1924. évi mérlege" (H) (Balance of the Year 1923-1924 of the Soviet People's Economy), STATISZTIKAI SZEMLE, Vol. 37, Apr., 1958, pp. 315-22.

LANGE, O., "Balans zatrat i vypuska produktsii" (R) (Balance of Expenditure and Production [Input-Output]), Akademia Nauk SSSR, Soviet po izucheniiu proizvoditel'nykh sil i Sibirskii institut ekonomiki i statistiki. Nauchnaia

(LANGE, "Balans zatrat i vypuska produktsii" Continued)

LANGE, O., "Balns zatrat i vypuska produktsii" (Continued)

informatsiia po ekonomike istatistike, Vypusk I, Moscow-Novosibirsk, 1958, 64 pp.

The publication contains a translation of the author's article, "Some Observations on Input-Output Analysis," published in SANKHYA, Vol. 17, Part 4, Feb., 1957. In addition, the Russian publication includes an introduction by NEMCHINOV, V.S..

LEVINE, H., "The Centralized Planning of Supply in Soviet Industry," A paper discussing, among other items, the application of Input-Output Analysis and mathematical methods to Soviet planning in: COMPARISON OF THE UNITED STATES AND SOVIET ECONOMIES, Joint Economic Committee (86th Congress of the United States, 1st Session, Nov., 1959), Part I, Government Printing Office, Washington, D.C., 1959.

-----, "Input-Output Analysis and Linear Programming in Soviet Planning," Bulletin of the Association for the Study of Soviet Type Economies (ASTE), Feb., 1960.

NEMCHINOV, V.S., "The Balance Sheet Method in Economic Statistics," Paper presented at the 30th Session of the International Statistical Institute, Stockholm, 1957, and included in: REPORTS MADE BY THE SOVIET SCIENTISTS TO THE 30th SESSION OF THE INTERNATIONAL STATISTICAL INSTITUTE, STOCKHOLM, The Academy of Sciences of the USSR, Moscow, 1957, 59 pp.

The (E) translation contains the following Input-Output Tables: Model of the Balance Sheet Table of the National Economy of the USSR (in relative numbers, year not stated; Input-Output Table for 1947, USA (12 columns x 11 rows); Input-Output Table for 1950, U.K. (16 x 16 sectors); and Tableau économique d'ensemble de l'année 1954, France.

-----, "Some Aspects of the Balance Sheet Method as Applied in the Statistics of Interdependent Dynamic Economic Systems," Paper presented at the 31st Session of the International Statistical Institute, Bruxelles, 1958, and included in: REPORTS MADE BY THE SOVIET SCIENTISTS TO THE 31st SESSION OF THE INTERNATIONAL STATISTICAL INSTITUTE, BRUXELLES, The Academy of Sciences of the USSR, Moscow, 1958.

-----, Introduction to the (R) translation of: LANGE, O., "Some Observations on Input-Output Analysis," Akad. Nauk SSSR, Soviet po izucheniiu proizvoditel'nykh sil i Sibirskii institut ekonomiki i statistiki, Nauchnaia informatsiia po ekonomike i statistike, Vypusk I, BALANS ZATRAT I VYPUSKA PRODUKTSII, Moscow-Novosibirsk, 1958.

-----, "Balanz zatrat-vypuska produktsii SSSR dlya 1923-24" (R) (Input-Output Table of the USSR for 1923-24)

This table contains 23 x 23 Intermediate plus 4 Final Demand Sectors. The data was organized and tabulated according to the set-up used for the Input-

(NEMCHINOV, "Balanz zatrat-vypuska..." Continued)

NEMCHINOV, V.S., "Balanz zatrat-vypuska. . ."

Output Tables of the USA for 1919, 1929 and 1939 in LEONTIEF, W., THE STRUCTURE OF THE AMERICAN ECONOMY 1919-1939, Oxford University Press, 1951. This typewritten Input-Output Table of the USSR was presented to Professor W. Leontief by V.S. Nemchinov, Jan., 1959, in Moscow.

- , "O sootnosheniakh rasshirennogo vosproizvodstva" (R) (Relationships of Expanded Reproduction), VOPROSY EKONOMIKI, 1958, No. 10, pp. 20-31, (E) translation in: PROBLEMS OF ECONOMICS, Vol. 1, No. 10, Feb., 1959, pp. 11-17.

The article contains a short exposition of the Russian view regarding the origins of Input-Output Analysis, also, the application of Input-Output to Marxist-type growth theory.

- , (ed.), PRIMENENIE MATEMATIKI V EKONOMICHESSKIE ISSLEDOVANIYA, (R) (The Use of Mathematics in Economic Analysis), Moscow, 1959.

This publication is a collection of articles--some old, some new--on Input-Output Analysis and Linear Programming, a strong statement in support of the use of mathematical methods in economic analysis.

- , "Nekotorye teoreticheskie voprosy mezhotraslevogo i mezhraionnogo balansa proizvodstva i raspredeleniia produktsii" (R) (Some Theoretical Questions on the Interindustry and Interregional Balance of Production and Distribution of Output), VOPROSY EKONOMIKI, 1960, No. 5.

This is a paper on the use of mathematical methods in economic planning which was presented at a Conference held in Moscow, Apr., 1960.

- NIKITIN, S., "Ekonometrika v sovremennoi burzhuaiznoi ekonomicheskoi nauke" (R) (Econometrics in Contemporary Bourgeois Economic Science), NAUCHNYE DOKLADY VYSSHEI SHKOLY, EKONOMICHESSKIE NAUKI, 1958, No. 2, pp. 103-15.

- , "Ob odnom napravlenii v ekonometrike" (R) (Regarding One Tendency in Econometrics), MIROVAIA EKONOMIKA I MEZHDUNARODNYE OTNOSHENIYA, 1958, No. 11.

The article contains a discussion of Input-Output Analysis as applied in the West.

- , ISSLEDOVANIA STRUKTURII AMERIKANSKOI EKONOMIKI TEORETICHESKII I EMPIRICHESSKII ANALYS PO SKHEME ZATRATII - VIPUSK, VESTNIK STATISTIKI, GOSSTATISDAT, Moscow, 1959, No. 6, pp. 59-65.

The author discusses and reviews LEONTIEF, W., and Others, STUDIES IN THE STRUCTURE OF THE AMERICAN ECONOMY.

- RYABUSHKIN T., "Balansovye postroeniia v burzhuaiznoi statistike" (R) (Balance Models in Bourgeois Statistics), VESTNIK STATISTIKI, No. 6, 1956 pp. 50-59.

(RYABUSHKIN, "Balansovye postroeniia v burzhuaiznoi statistike" Continued)

RYABUSHKIN, T., "Balansovye postroeniia v burzhuaznoi statistike" (Continued)

This is the first Soviet-Russian publication on Input-Output Analysis. It presents a detailed report on the static Input-Output analysis as developed in the USA, and it contains a reprint of the Input-Output Table for 1947 of the USA (13 columns, 12 rows), as well as a table showing the per cent distribution of output (row-distribution) of each sector.

——, STATISTICHESKIE METODY IZUCHENIIA NARODNOGO KHOZIAISTVA, (R) (Statistical Methods of Studying the National Economy), Moscow, 1957.

The book contains a chapter discussing Input-Output Analysis and its possible application to Soviet economics.

——, "From the History of the Balance Sheet of the USSR National Economy," Included in the Reports Made by the Soviet Scientists to the 31st Session of the International Statistical Institute, Bruxelles, 1958, Academy of Sciences of the USSR, Moscow, 1958.

——, PROBLEMY EKONOMICHSKOI STATISTIKI, Analiz struktury narodnogo khoziaistva vzaimosviasi ego elementov, (R) (Problems in Economic Statistics, An Analysis of the Structure of the National Economy and the Interdependence of its Elements).

Contains a discussion of the use of Input-Output Analysis in the West, and of the Interindustry Balances in the USSR and the "Balance Table of the USSR Economy, 1923-1924" (Input-Output Table).

——, "Voprosy rasrabotki balansa narodnogo khoziaistva v sotsialisticheskikh stranakh" (R) (Problems in Constructing Balances of the National Economy in Socialist Countries), VOPROSY EKONOMIKI, 1960, No. 5.

The study contains a description of the proceedings of the International Conference on the problems of balances in a nation's economy and the use of the balance method in planning.

TOLKACHEV, A., "Elektronnye mashiny i voprosy planirovaniia" (R) (Electronic Computing Machines and Problems of Planning), PROMYSHLENNO-EKONOMICHSKAIA GAZETA, March 19, 1958.

The assistant director of GOSPLAN's Economic Research Institute discusses the possible use of Input-Output Analysis in Soviet Planning.

ZHELEZNIK, P., "Nauchnoe soveshchanie po primeneniiu matematicheskikh metodov v ekonomicheskikh issledovaniakh i planirovanii" (R) (The Scientific Conference on the Use of Mathematical Methods in Economic Analysis and Planning), VOPROSY EKONOMIKI, 1960, No. 5.

This article contains a short description of the papers presented at the Conference held in Moscow, Apr., 1960.

YUGOSLAVIA

MEDUSOBNI ODNOSI PRIVREDNIH DELATNOSTI JUGOSLAVIJE U 1955 GODINI, (SC) w. (E) sum. and (E) translation of Sector Titles, (Interindustry Relations of the Yugoslav Economy in 1955), Zvezni Zavod za Statistiku (Federal Statistical Institute), Beograd, July, 1957, 39 pp. plus 15 Tables.

". . .the textual part of this analysis comprises, in addition to the introduction relating to the general questions, the explanations of the methods applied, the survey of sources of statistical data, and the references for the existing data. . ." The latter includes a list of product-items included in each of the 29 Intermediate and 5 Final Demand Sectors, as well as a discussion of the procedure in calculating these data. Attached are: 3 Input-Output Tables and 3 Input-Coefficient Matrices for 1955, with (a) 29 x 29, (b) 16 x 16, (c) 9 x 9, Intermediate Sectors, plus 5 Final Demand Sectors each; 3 Input-Coefficient Matrices consisting of Intermediate Sectors only; 3 Tables showing the per cent distribution of output among the sector rows for each of the three Input-Output Tables; and 3 Tables, "Structure of Processing System Consumption" (Total Consumption = 100).

GRDJIĆ, G., "Na putu izgradnje našeg sistema društvenih računa" (SC) w. (E) sum. (Establishing the Social Accounts System for Yugoslavia), EKONOMIST, Vol. 10, No. 3-4, 1957, pp. 212-37.

In Chapter 2, "Medusobni odnosi privrednih delatnosti Jugoslavije" (pp. 217-22), the author discusses the system of Input-Output Tables of Yugoslavia for 1955 as part of a complete system of social accounting.

KITALJEVIĆ, B., "Izrada prve tabele ulaza-izlaza (Input-Output) u okviru naših privrednih bilansa" (SC) (The First Input-Output Tables in the Framework of Yugoslav Economic Balances), FINANSIJE, Vol. 12, No. 9, 1957, pp. 413-22.

The study contains a discussion of the methods used in constructing the first Yugoslavian Input-Output Table with a reprint of an aggregated Input-Output Table for 1955, 16 x 16 Intermediate Sectors.

ORTHABER, A., "Pitanje primene sistema tabela 'Ulaza-Izlaza' kod nas" (SC) w. (E) sum. (The Problem of Introducing Input-Output Tables in our Country), EKONOMIST, Beograd, Vol. 9, No. 2, 1956, pp. 191-221.

Contains a discussion of the fundamental theoretical assumptions on which Input-Output Tables are based, a comparison of the system of Input-Output Tables with the system of "balance of materials" (economic balance sheet) used in Yugoslavia during the first five-year plan, the problems encountered in constructing an Input-Output Table and a discussion of the possible use of such an Input-Output Table for the analysis of Yugoslavia's economy, policy formation and economic planning.

SIROTKOVIĆ, J., "Input-Output analize i privredno planiranje" (SC) (Input-Output Analysis and Economic Planning), Materijali sa Savetovanja o statističkim problemima narodno-privrednih bilansa i računa. Jugoslavensko statističko društvo, Beograd, 1959, pp. 24-42.

YUGOSLAVIA (Continued)

SKARE-VIDOJEVIC, L., "Nasi pokusaji u postavljanju sistema privrednih bilansa i tabela medusobnih odnosa privrednih delatnosti" (SC) w. (E) sum., (Our Attempts to Use Input-Output Tables [Tables of Mutual Relations of Economic Activities] to Analyse the Structure and Functioning of the Country's Economy), EKONOMSKI PREGLED, Zagreb, No. 3-4, 1958, pp. 222-38.

In order to eliminate the shortcomings resulting from applying the system of economic balance sheets to the analysis of Yugoslavia's economy, the author suggests that by using the results of the "Tables of Mutual Relations between Economic Activities of Yugoslavia in 1955" (Input-Output Tables) as a basis for economic planning and the formation of economic policies, numerous disproportions in economic development could be avoided and the requirements of economic equilibrium could be met. The article includes a reprint of the Input-Output Table of Yugoslavia for 1955, 29 x 29 Intermediate and 5 Final Demand Sectors, and an Input-Coefficient Matrix for 1955, 10 x 10 sectors.

An aggregated Input-Output Table of Yugoslavia for 1955, 9 x 9 Intermediate and 5 Final Demand Sectors (condensed from the original 29 x 29 Intermediate Sectors) was published in SULMICKI, P., PRZEPŁYWY MIĘDZYGAŁĘZIOWE (Interindustrial Flows), (P), Polskie Wydawnictwa Gospodarcze, Warsaw, 1959, 299 pp.

WIERZBICKI, J., "Tablice Poljske Privrede" (SC) (A Polish Input-Output Table), EKONOMSKI PREGLED, 1959, No. 8-9, pp. 617-26.

Contains a discussion of the Polish Input-Output Table for 1956 with a reprint of the Inter-Industry Flow Table (7 sectors) for that year.

ŽIVADINOVIĆ, V., "Italijansko iskustvo sa input-output tablicam" (SC) w. (E) sum. (Italian Experience with Input-Output Tables), STATISTICKA REVIJA, Vol. 7, No. 3, 1957, pp. 321-31.

The author presents a brief historic background of Italy's Input-Output Tables, the sources and methods used in setting up the tables. The application of the Input-Output Tables to economic analysis and to forecasting is illustrated and the results of the application from 1953 to 1956 are discussed. The reprint of an aggregated Input-Output Table for 1953 (26 Intermediate Sectors) is included.

COMPARATIVE ANALYSES OF THE ECONOMIC STRUCTURES OF VARIOUS COUNTRIES

JAPAN - ITALY - NORWAY - U.S.A.

CHENERY, H.B., -WATANABE, T., "International Comparisons of the Structure of Production," *ECONOMETRICA*, Vol. 26, No. 4, Oct., 1958, pp. 487-521.

Input-Coefficient Tables, 30 x 30 sectors, based on common sector classification, of Japan for 1951, Italy and Norway for 1950, and the U.S.A. for 1947, are used to compare the structures of production in these countries. The pattern of inter-industry flows and the extent of their similarity in each country are analysed. Differences in the cost structure and the use of each type of commodity are measured and some conclusions are drawn as to their origin.

-----, -CLARK, P.G., *INTERINDUSTRY ECONOMICS*, J. Wiley & Sons, Inc., 1959, Chapter 8, "An International Comparison of the Structure of Production," pp. 201-31.

In addition to the Input-Coefficient Tables of Japan, Italy, Norway, and the U.S.A., mentioned in the above article by CHENERY, H.B., -WATANABE, T., reprints of Inverse Matrices, 29 x 29 sectors of Japan for 1951, Italy for 1950, and the U.S.A. for 1947, are presented.

SPAIN - ITALY

CAO-PINNA, V., "Principali caratteristiche strutturali di due economie Mediterranee: Spagna a Italia" (I) (The Principal Structural Characteristics of Two Mediterranean Economies: Spain and Italy), *ECONOMIA INTERNAZIONALE*, Vol. 11, No. 1, Feb., 1958, (S) translation see: "Principales características estructurales de dos economías Mediterráneas: España y Italia," *REVISTA DE ECONOMÍA POLÍTICA*, Madrid, Jan. - Apr., 1958.

The study compares the structures of the Spanish and Italian economies by means of the Input-Output Tables of the two countries, Spain for 1954 and Italy for 1953.

SPAIN - O.E.E.C. MEMBER COUNTRIES

"Las estructuras económicas de España y Europa occidental" (S) (The Economic Structures of Spain and Western Europe), and

"Relación entre la estructura del Comercio Exterior de España y la de los países de la O.E.C.E." (S) (Comparison Between the Structure of Foreign Trade of Spain and the O.E.E.C. Countries).

("Las estructuras económicas. . ." and "Relación entre la estructura. . ." Continued)

SPAIN - O.E.E.C. MEMBER COUNTRIES (Continued)

"Las estructuras económicas. . ." and "Relación entre la estructura. . ." (Continued)

Both articles were published in: INFORMACIÓN COMERCIAL ESPAÑOLA, Revista del Servicio de Estudios del Ministerio de Comercio, Madrid, No. 313, Sept., 1959, pp. 71-88 and 89-99 respectively.

Based on the respective Input-Output Tables, both articles analyse and compare some of the structural economic characteristics of the two areas. The first article describes the methods used for coordinating Spain's 28 sector Input-Output Table with the 27 sector Input-Output Table of the O.E.E.C. countries and contains the resulting adjusted Input-Output Flow Table of Spain as well as the corresponding Coefficients Matrix. Utilizing these data, the same article presents the per cent distribution of the Value of Imports and of Value Added among the 27 economic sectors of each of the two areas, while the second study deals with the per cent distribution of Imports and Exports among the sectors in the Spanish and in the O.E.E.C. Input-Output Tables. Both articles discuss and analyze the differences in the patterns of distribution shown in the Input-Output Tables.

ARGENTINA - PERÚ

BALBOA, M., COMPARACIÓN DE LA ESTRUCTURA INTERSECTORIAL DE LA PRODUCCIÓN DE ARGENTINA Y DE PERÚ, (S) w. (E) sum. (Comparison of the Inter-Sectoral Structure of Production in Argentina and Peru), United Nations, Economic Commission for Latin America, Santiago, May, 1959, 37 pp. plus Statistical Appendix (10 Tables), mimeographed, (preliminary).

This comparative study of the intersectoral structure of production of the two countries is based on the Input-Output Tables of Argentina for 1950 and for Peru for 1955. It contains, among other statistical tables, Input-Coefficient Matrices, 17 columns x 20 rows, for the two countries, based on common sector classification, which are used for comparing the structures of production in these two countries.

CANADA - U.S.A.

WONNACOTT, R.J., "An Input-Output Analysis of the Relationship of the Canadian and the United States Economies, 1949," Ph.D. Thesis, Harvard University, 1958.

-----, "An Input-Output Analysis of the Relationship of the Canadian and U.S. Economies," and "Introduction of Capacity Restraints into an Input-Output Trade Model," Harvard Economic Research Project, two Memoranda, Aug., 1958, hectographed.

-----, "A Foreign Trade Input-Output System for Canada and the U.S." Paper presented at the Cambridge Meeting of the Econometric Society, Aug., 1958, Abstract in: ECONOMETRICA, Vol. 27, No. 2, April, 1959, p. 284.

INTERNATIONAL APPLICATIONS OF INPUT-OUTPUT ANALYSIS ACROSS NATIONAL BOUNDARIES

KIRSCHEN, E.S., and Associates, LA STRUCTURE DE L'ÉCONOMIE EUROPÉENNE EN 1953. ESSAI D'ÉTABLISSEMENT D'UN TABLEAU DES RELATIONS INTERINDUSTRIELLES DES PAYS MEMBRES DE L'O.E.C.E., THE STRUCTURE OF EUROPEAN ECONOMY IN 1953. TENTATIVE INPUT-OUTPUT TABLE FOR THE O.E.E.C. MEMBER COUNTRIES, (F) and (E), Organisation for European Economic Cooperation, Paris, July, 1958, 52 pp. plus 4 Input-Output Tables.

The purpose of this study is to provide insight into the inter-industry relations existing in the total economy of the Metropolitan Territory of the O.E.E.C. Member countries in 1953, irrespective of national boundaries. The economy of the area was subdivided into 27 sectors, the values were expressed in U.S. dollars at the official exchange rates used by O.E.E.C.. The usefulness of the Interindustry Tables for providing information on the economic structure of the area, for the solution of various economic problems, and for economic forecasting (see U.N. ECONOMIC SURVEY OF EUROPE IN 1957) are discussed, also, the limitations of the present study, mostly due to the lack of accuracy of some of the basic data. Included are a tentative Input-Output Table, Coefficient and Inverse Matrices for 1953 (27 x 27 sectors), a matrix showing the per cent distribution of output among sector rows, and Summary Tables (5 x 5 sectors), aggregated from the above 27 sector Tables.

For an abbreviated version of the above study in (S) ("La estructura de la economía europea en 1959"), see: DE ECONOMÍA, Revista de temas económicos, Madrid, Vol. 12, No. 59, May - June, 1959, pp. 545-66.

"Estructura de la economía Europea en 1959" (S) (The Structure of the European Economy in 1959), INFORMACIÓN COMERCIAL ESPAÑOLA, Revista del Servicio de Estudios del Ministerio de Comercio, Madrid, No. 313, Sept., 1959, pp. 41-50.

This article presents a discussion and description of the Input-Output Study of the O.E.E.C. countries for 1953 with reprints of the respective Input-Output Flow Table (27 Intermediate Sectors plus 5 columns and 3 rows Final Demand), the respective 27 sector Input-Coefficients and Inverse Matrices.

ECONOMIC SURVEY OF EUROPE IN 1957, United Nations Organization, Geneva, Department of Economic Affairs, Economic and Social Council, Economic Commission for Europe, 1958.

Chapter 3 (23 pp.), "Expenditure and Output in Western Europe" "...contains the results of an analysis of the impact of changes in the main categories of aggregate domestic expenditure and of exports in certain Western European countries on the level and pattern of their industrial output. . . The study shows the main results of the cost structure analysis of demand, carried out for seven Western European countries, and explains in some detail the methods employed and the sources used to arrive at these results. . . The chapter is intended principally to draw attention to certain differences in

(ECONOMIC SURVEY OF EUROPE IN 1957 Continued)

ECONOMIC SURVEY OF EUROPE IN 1957 (Continued)

the economic structures of several Western European countries which are relevant to the formulation of policies for maintaining equilibrium in their economies. . ."

"Input-Output Tables: Recent Experience in Western Europe," United Nations, Research and Planning Division, Economic Commission for Europe, ECONOMIC BULLETIN FOR EUROPE, Vol. 8, No. 1, May, 1956, pp. 36-54.

This article is based on a paper prepared with the assistance of O. AUKRUST, and it discusses recent developments in Input-Output analysis; it also surveys the theories and practices applied by several Western European countries --Denmark, Italy, The Netherlands, Norway, United Kingdom, and France--in the construction of Input-Output Tables.

MASSON, D., "Méthode de triangulation du tableau européen des échanges interindustriels" (F)(A Method of Triangulating the Input-Output Table of the O.E.E.C. Member Countries for 1953), REVUE ECONOMIQUE, Vol. 11, No. 2, March, 1960, pp. 239-65.

The author attempts to apply the method of triangulating a matrix as used by H. AUJAC in his study, "La hiérarchie des industries dans un tableau des échanges industriels," to the Input-Output Table of the O.E.E.C. Member Countries for 1953.

D'ALAURO, O., IL MERCATO COMUNE EUROPEO, (I) (The European Common Market), FUSI, Pavia, 1959, 167 pp.

The 4th part of this book contains a discussion of the theory and the application of the scheme of structural interdependence to an analysis of the interrelationships of the European Common Market Countries.

An Input-Output Study of the area of the ROME TREATY NATIONS under the auspices of the O.E.E.C. was reported to be in progress as of Oct., 1959.

INPUT-OUTPUT TABLES AND ANALYSIS, United Nations, Statistical Office, Commission for Latin America, United Nations Seminar on National Accounts for Latin America, June 11-26, 1959, Rio de Janeiro, Brazil (ST/STAT/CONF.7/L.1), 35 pp.

The publication discusses Input-Output Tables and Analysis as a system of national economic accounting, the problems encountered, methods of procedure, applications, the limitations of the Input-Output Model in underdeveloped countries, and a survey of practices in constructing Input-Output Tables in various countries such as: Algeria, Argentina, Australia, Canada, Colombia, Denmark, Italy, Japan, Netherlands, New Zealand, Norway, Peru, Tanganyika, United Kingdom, and U.S.A..

INPUT-OUTPUT TABLES AND ANALYSIS, Memorandum by the Secretary General, United Nations Economic and Social Council, Statistical Commission, 11th Session, Jan. 29, 1960 (E/CN.3/266), mimeographed, 37 pp. plus 7 p. Appendix.

(INPUT-OUTPUT TABLES AND ANALYSIS Continued)

INPUT-OUTPUT TABLES AND ANALYSIS (Continued)

This publication is a slightly revised version of the United Nations' publication, ST/STAT/CONF.7/L.1, March 2, 1959, above; it contains, in addition, an Appendix on Linear Programming.

HOW TO SELECT DYNAMIC INDUSTRIAL PROJECTS, International Cooperation Administration, Office of Industrial Resources, Washington, D.C., 1956, 129 pp. plus 96 p. Appendix, and Input-Output Table of Puerto Rico.

This manual deals with the problems of selecting dynamic industrial projects in underdeveloped countries and of identifying and evaluating industrial investment opportunities which contribute to sound economic growth of such countries. The use of Inter-Industry Analysis as an aid in this selection process is explained and illustrated by describing the actual construction of an Input-Output Table for Puerto Rico.

REGULARISATION OF PRODUCTION AND EMPLOYMENT AT A HIGH LEVEL IN THE METAL TRADES, International Labour Office, International Labour Organisation, Metal Trades Committee, Geneva, 1954, 110 pp.

This is one of a series of studies exploring the possibilities for a workable program to assure greater economic stability in the metal trades and to suggest several policies which may contribute to regularizing employment in the metal trades. Input-Output methods are used for analyzing the structure of the metal trades industries and for providing basic information for the suggested policies. Included are: an Input-Output Table of Italy for 1950 showing the flow of products from 7 Metal Trades Industries to Consuming Sectors; 2 Input-Output Tables of the U.S.A. for 1947, showing (a) the flow of products from 13 Metal Trades Industries to 50 Consuming Sectors, and (b) the flow of Metal Trades Goods-In-Process to other industries within the complex of the Metal Trades Industries.

SECTION NO. 9

APPLICATIONS AND USES

- ADAMS, A.A., -STEWART, I.G., "Input-Output Analysis: An Application," THE ECONOMIC JOURNAL, Royal Economic Society, Vol. 66, No. 263, Sept., 1956, pp. 442-54 (See Section 8, p. 123).
- AERTS, L., "Input-Output en linear programming in het kader van de economische Wetenschap" (Fl) (Input-Output and Linear Programming in the Framework of Economic Science), ECONOMICA DOCUMENTATIE, Leuven, Belgium, No. 4, 1954.
- ALCOCER CHILLÓN, F.J., "Aplicación de las matrices de Leontief a la contabilidad social y a la economía de la empresa" (S) (Application of Leontief Matrices to Social Accounting and to the Economy of the Firm), In two parts, REVISTA TECNICA ECONOMICA, No. 1, April, 1956, pp. 23-32, and No. 5, Aug., 1956, pp. 147-51 respectively.
- ALEKSANDROV, V., "Elektronnye matematicheskie mashiny" (R) (Electronic Computing Machines), PRAVDA, Aug. 1, 1958 (popular newspaper article) (See Section 8, p. 125).
- ALLEN, R.G.D., MATHEMATICAL ECONOMICS, St. Martin's Press, 1956, Chapter 11 (See Section 1, p. 1).
- AMEY, L.R., "Input-Output Analysis and Productivity Measurement," PRODUCTIVITY MEASUREMENT REVIEW, European Productivity Agency, O.E.E.C., No. 18, Aug., 1959, pp. 44-48.
- ARA, K., -YAMADA, I., -KURABAYASHI, Y., "Input-Output Analysis," KEIZAI KENKYU, Vol. 6, No. 4, Oct., 1955 (See Section 1, p. 1).
- ARROW, K.J., -HOFFENBERG, M., with the Assistance of MARKOVITZ, H., -SHEPARD, R., A TIME SERIES ANALYSIS OF INTERINDUSTRIE DEMANDS, North-Holland Publishing Company, 1959, 289 pp. (See Section 4, p. 39).
- ARTLE, R., STUDIES IN THE STRUCTURE OF THE STOCKHOLM ECONOMY. TOWARDS A FRAMEWORK FOR PROJECTING METROPOLITAN COMMUNITY DEVELOPMENT, Business Research Institute, Stockholm School of Economics, 1959, 197 pp. plus Appendix (See Section 7, p. 66).
- , SAMPELET MELLAN EKONOMISKA SEKTORER I STOR-STOCKHOLM, (Sw) (The Interaction of Economic Sectors in the Greater Stockholm Area), Part II of "The Economic Structure of Greater Stockholm," pp. 265-317, Stockholm School of Economics, Business Research Institute, 1957 (See Section 7, p. 65).
- AUKRUST, O., "Teoretiske modeller og deres bruk i økonomisk tenkning" (N) (Theoretical Models and Their Application in Economic Thought), STATSKONOMISK TIDSSKRIFT, Oct., 1955, 26 pp. (See Section 1, p. 2).

- BALOGH, T., "Factor Intensities of American Foreign Trade and Technical Progress," THE REVIEW OF ECONOMICS AND STATISTICS, Vol. 37, No. 4, Nov., 1955, pp. 425-27, A Note to W.W. LEONTIEF: "Domestic Production and Foreign Trade; The American Capital Position Re-examined," Proceedings of the American Philosophical Society, Sept., 1953.
- BARRACLOUGH, S., "The Interindustry Relations Study and its Application" U.S. Department of Agriculture, U.S. Forest Service Division of Forest Economics, Washington, D.C., 1953, 15 pp., mimeographed.
- BASSIE, V.L., ECONOMIC FORECASTING, McGraw-Hill, Inc., New York, 1958 (See Section 1, p. 3).
- BAUMOL, W.J., ECONOMIC DYNAMICS, 2nd Ed., Macmillan, 1959 (See Section 1, p. 4).
- , "Activity Analysis in One Lesson," AMERICAN ECONOMIC REVIEW, Vol. 48, No. 5, Dec., 1958, pp. 837-73. Input-Output Analysis is discussed on pp. 853-57.
- BILLETER, E., "Kreislaufstheoretische Modelle. Ihre Bedeutung und ihre Entwicklung in den U.S." (G) (Circular Flow Models, their Significance and their Development in the U.S.), SCHWEIZERISCHE ZEITSCHRIFT FUER VOLKSWIRTSCHAFT UND STATISTIK, Aug., 1951, Vol. 86, No. 4, pp. 335-41.
- BISHOP, R.A., "Input-Output Work as a Basis for Development Planning," MONTHLY BULLETIN OF AGRICULTURAL ECONOMICS AND STATISTICS, Rome, Vol. 5, No. 5, May, 1956, pp. 1-10, United Nations, Food and Agricultural Organization, Rome.
- This study contains a discussion of the main features of Input-Output analysis, the possible application of the method to agricultural programming as well as some arguments for and against the application of the method, however, without presenting a definite conclusion.
- BJERKE, K., "Betragninger om og ved en doktordisputats" (D) (Reflections on the Occasion of a Thesis), DET DANSKE MARKED, Vol. 15, No. 2, 1956.
- The study contains a review of: RASMUSSEN, P.N., STUDIES IN INTERSECTORAL RELATIONS, and a discussion of the uses of Input-Output models in advanced model building.
- BJERVE, P.J., "Kryssløpsforskning i statistisk sentralbyrå" (N) (Input-Output Research in the Norwegian Central Bureau of Statistics), STATISTISK TIDSSKRIFT, Vol. 3, 1954.
- , PLANNING IN NORWAY 1947-1956, North-Holland Publishing Company, 1959, 383 pp. (See Section 8, p. 112).
- BOIARSKI, A.I., "Sebestoimost' i stoimost'" (R) (Cost and Value), VOPROSY EKONOMIKI, PLANIROVANIIA I STATISTIKI (K vos'midesiatiletiiu akademika S.G. Strumilina), Akademiia Nauk, SSR, Moscow, 1957 (See Section 8, p. 126).
- BORCH, K., "Input-Output Analysis as a Basis for Productivity Measurement," PRODUCTIVITY MEASUREMENT REVIEW, No. 1, May, 1955, Organization for European Economic Cooperation, Economic Factors Division of the European Productivity Agency.

BOURQUE, P.J., "The Derivation of Capital Coefficients for Input-Output Analysis: A Study of the Machine Tool Accessories Industry," Ph.D. Thesis, University of Pennsylvania, 1956.

BOUTHOOEN, T.M., "De Nationale rekeningen en 'input-output' tabellen" (Du) (National Accounts and Input-Output Tables), SIGMA, Vol. 1, No. 3, 1955.

BRATT, E.C., BUSINESS FORECASTING, McGraw-Hill, Inc., 1958, 366 pp.

W. Leontief's Input-Output analysis and the practical application of this method to business forecasting is discussed on pp. 51-52, 189-90, 193; a condensed Input-Output Table of the U.S.A. for 1947 is included.

BREMS, H., "Input-Output Coefficients as Measures of Product Quality," THE AMERICAN ECONOMIC REVIEW, Vol. 47, No. 1, March, 1957, pp. 105-18.

In the theory of the firm, nonprice variables (some aspects of product quality and selling effort) are as important as the price variables. The author suggests that the dilemma encountered in the satisfactory quantitative treatment of these nonprice variables can be solved by the adoption of Leontief's Input-Output Coefficients as measures of product quality and selling effort, thus making the theory of nonprice competition as quantitative as the theory of production.

-----, "Employment and Money Wages under Balanced Foreign Trade," ECONOMETRICA, Vol. 25, No. 2, April, 1957, pp. 314-24.

The author attempts to relate the theory of wages, the theory of fiscal policy and the theory of international trade to one another. LEONTIEF's Input-Output notations and a five-sector Final Demand Quadrant of an Input-Output Table are used as "take-off" points.

-----, OUTPUT, EMPLOYMENT, CAPITAL AND GROWTH: A QUANTITATIVE ANALYSIS, Harper Brothers, 1959, 349 pp.

In sections 12 and 13, entitled "The Static Open Leontief Model" and "Closing the Open Leontief Model" respectively (pp. 124-47), the author discusses the arithmetic and algebra of Interindustry relations and the use of the Leontief model for the analysis of technological progress.

BRODY, A., "Input-Output. Módszer a nemzetgazdasági folyamatok elemzésére" (H) (Input-Output. A Method of Analysing Economic Flows), KOEZGAZDASAGI SZEMLE, 1957, No. 2, pp. 145-65.

-----, "A nehézipar néhány fajlagos mutatójának alakulása" (H) (Development of Some Special Indicators of the Heavy Industry. Experiment in the Application of the Input-Output Method), A MTA Közgazdaságtudományi Intézete Evkönyve, 1957 (Yearbook of the MTA Economic Research Institute), Budapest, 1957, pp. 134-55.

-----, "Az ipar ágazati termékmérlegei" (H) (Product Balance of the Industrial Sector), A MTA Közgazdaságtudományi Intézete, 1957, 115 pp. plus 7 Tables.

(BRODY Continued)

BRODY, A. (Continued)

-----, "Az ágazati kapcsolatok mérlege és a közvetett bernházások" (H) w. (E) and (R) sum. (The Balance of Connections between Sectors of the Economy and Indirect Investment), KOEZGAZDASAGI SZEMLE, Vol. 7, No. 5, May, 1960, pp. 561-80 (See Section 8, p. 82).

BROWN, A.I., "Professor Leontief and the Pattern of World Trade," YORKSHIRE BULLETIN OF ECONOMIC AND SOCIAL RESEARCH, Vol. 9, No. 2, Nov., 1957.

BUCHANAN, N.S., "Lines on the Leontief Paradox," ECONOMIA INTERNAZIONALE, Genova, Vol. 8, No. 4, Nov., 1955.

BYLEVELD, J.P., "Planning hier en in de Verenigde Staten" (Du) (Planning Here and in the United States), ECONOMISCH-STATISTISCHE BERICHTEN, Vol. 38, No. 1883, July, 1953 (See Section 8, p. 110).

CAO-PINNA, V., "Applicazioni ed esperienze del metodo Input-Output in Vari paesi" (I) (Application of and Experience with Input-Output Analysis in Various Countries), ECONOMIA INTERNAZIONALE, Vol. 1, 1955, pp. 97-143 (See Section 8, p. 89).

-----, "Notes introductives à l'étude et à l'application de la méthode Input-Output" (F) (Introduction to the Study and the Application of Input-Output Analysis), Institute Universitaire d'Études Européennes de Turin, 1955.

-----, "Possibili applicazioni del modello di contabilità 'input-output' al livello aziendale" (I) (Possible Applications of Input-Output Analysis to Business Management), RIVISTA TECNICA ED ORGANIZZAZIONE (TO), 1958, No. 39, pp. 3-11, (S) translation: "Posibles aplicaciones del modelo de contabilidad 'input-output' en el ámbito de la empresa," TECNICA ECONOMICA, May, 1959.

CARASSO, M., "The Real Pushbutton War," ARMY, Magazine of the U.S. Army, Oct., 1958.

The author discusses Input-Output Analysis as a tool for logistic war planning.

CAVES, R.E., TRADE AND ECONOMIC STRUCTURE, Models and Methods, Harvard University Press, 1960, 317 pp.

In the section, "Testing of the Heckscher-Ohlin Model" (pp. 273-81), the author discusses the hypotheses underlying W.W. Leontief's attempt to verify the Heckscher-Ohlin theorem empirically in the former's studies, "Domestic Production and Foreign Trade: The American Capital Position Re-examined" and "Factor Proportions and the Structure of American Trade: Further Theoretical and Empirical Analysis," and summarizes the essential points qualifying these findings as expressed in the numerous comments and rejoinders published by various authors.

-----, -HOLTON, R.H., THE CANADIAN ECONOMY. PROSPECT AND RETROSPECT, Harvard University Press, 1959, 676 pp.

(CAVES, -HOLTON, THE CANADIAN ECONOMY. . . Continued)

The authors develop an integrated set of economic forecasts for Canada's economy for 1970, based on Input-Output methods. These projections are summarized in an Inter-Industry Flow Table for 1970 (in 1955 dollars, 16 industrial sectors), derived from the Canadian Input-Output Study for 1949. The application of Inter-Industry methodology is expressly discussed on pp. 68-72, 120-29, 353-55, 408-09, 412-31.

CEDRAS, J., "Le paradoxe de Léontief et la théorie de la spécialisation internationale" (F) (The Leontief Paradox and the Theory of International Specialization), REVUE ECONOMIQUE, Paris, No. 4, July, 1958, pp. 577-611.

CELAYA, F., "La construcción naval y la estructura de la economía española" (S) (Naval Construction and the Structure of Spain's Economy), DE ECONOMIA, Revista de temas economicos, Vol. 13, No. 64, Apr. - June, 1960, pp. 401-18 (See Section 8, p. 120).

CHABERT, A., "L'analyse empirique des relations interindustrielles" (F) (Empirical Analysis of Inter-Industry Relations), LES COMPTABILITÉS NATIONALES DANS LE MONDE. COMPARAISON DES METHODES, Presses Universitaires de France, 1952, 256 pp. (Ministère des Finances et des Affaires Economiques, Institut National de la Statistique et des Études Économiques, Études et Conjoncture).

The author discusses the empirical analysis of Interindustry relations within a country, the application of Input-Output Tables to an analysis of its economic structure. Input-Output Tables of the U.S.A., year 1939 (21 x 21 and 43 x 43 sectors), are included (see pp. 239-53).

CHAKRAVARTY, S., THE LOGIC OF INVESTMENT PLANNING, North-Holland Publishing Company, 1959, 160 pp.

". . . The purpose of the book is to present a systematic analysis of the various logical issues involved in the problem of multisector investment planning. The discussion proceeds through constructing relatively simple models of growth processes to the more complicated ones in keeping with the principle of successive approximations. . ." Chapter III, "A Survey of Growth Models in Relation to Planning," contains a discussion of the Leontief Dynamic Model (pp. 49-53). Chapter V, "Generalized Dynamic Model," includes observations on Input-Output Analysis (pp. 81-82).

CHAND, M., "Models for Planning in a Social Economy with Reference to India's Second Five-Year Plan," THE INDIAN JOURNAL OF ECONOMICS, Vol 39, No. 152, July, 1958, pp. 105-22. The Input-Output Model is discussed on p. 108.

CHENERY, H.B., "The Role of Industrialization in Development Programs," AMERICAN ECONOMIC REVIEW, Vol. 45, No. 2, May, 1955, pp. 40-56, Papers and Proceedings of the 67th Annual Meeting of the American Economic Association, Detroit, Michigan, Dec., 1954 (See Section 8, p. 90).

-----, "Application of Interindustry Analysis to Problems of Economic Development," Paper presented at the International Conference on Input-Output Analysis at Varenna, 1954, contained in: BARNA, T., (ed.), THE STRUCTURAL INTERDEPENDENCE (CHENERY, "Application of Interindustry Analysis. . ." Continued)

CHENERY, H.B., "Application of Interindustry Analysis . . ." (Continued

OF THE ECONOMY, J. Wiley & Sons, Inc., -A. Giuffrè, 1956, pp. 377-92.

-----, -CLARK, P.G., INTERINDUSTRY ECONOMICS, J. Wiley & Sons, Inc., 1959, 345 pp.
(See Section 1, p. 5).

-----, -GOLDBERGER, A.S., "The Use of Models for Development Policy," Stanford Pro-
ject for Quantitative Research in Economic Development, Department of Economics,
Stanford University, April, 1959, mimeographed, 52 pp., Paper presented at the
Rio de Janeiro Conference of the International Association for Research in In-
come and Wealth, June, 1959.

-----, -KRETSCHMER, K.S., "Resource Allocation for Economic Development," ECONO-
METRICA, Vol. 24, No. 4, Oct., 1956, pp. 356-99, (S) translation,
"Distribución de recursos para el desarrollo económico," PRODUCTIVIDAD,
Madrid, April - June, 1959 (See Section 1, p. 6).

-----, -UZAWA, H., "Non-Linear Programming in Economic Development" (Resource Allo-
cation in Underdeveloped Countries), Study included in: ARROW, K.J.,
HURWICZ, L., UZAWA, H., STUDIES IN LINEAR AND NON-LINEAR PROGRAMMING, Stan-
ford University Press, 1958, 229 pp.

The authors discuss the solution to a problem of resource allocation formu-
lated with the aid of a generalized Input-Output model. This study actually
is a restatement of the problem and its solution presented before by
CHENERY, H.B., in: AMERICAN ECONOMIC REVIEW, Vol. 45, No. 2, May, 1955,
and by CHENERY, H.B., -KRETSCHMER, K.S., in: ECONOMETRICA, Vol. 24, No. 4,
Oct., 1956.

COLEGIO NACIONAL DE DOCTORES Y LICENCIADOS EN CIENCIAS ECONÓMICAS Y COMERCIALES,
Madrid, "Las estructuras de empleo y su aplicación macroeconómica" (S) (The
Structures of Employment and their Applications in Macroeconomics), BOLETIN
(of the above Institute), 2nd Quarter, 1959.

The theoretical formulation of the above mentioned structures is based on
Input-Output technique.

CONRAD, A.H., "Multiplier Effects of Redistributed Public Budgets," REVIEW OF ECON-
OMICS AND STATISTICS, Vol. 37, No. 2, May, 1955.

The author discusses an application of matrix multiplier methods to the com-
putation of the leverage and distributional effects of public expenditure
and taxation.

-----, "On the Calculation of Tax Burdens," ECONOMICA, Vol. 22, No. 88, Nov., 1955,
pp. 342-48.

The author refers to an article by PREST, A.R., "Statistical Calculations
of Tax Burdens," and maintains that "...the matrix multiplier procedure
developed from the Leontief Input-Output model makes it possible to isolate
the redistributive influence of government budgets. . .".

D'ALAURO, O., IL MERCATO COMUNE EUROPEO, (I) (The European Common Market), PAVIA, FUSI, 1959, 167 pp.

In the 4th part of the book, the author discusses the theory and the application of the scheme of structural interdependences to an analysis of the interrelationships of the European Common Market countries.

DANIÈRE, A.L., "American Trade Structure and Comparative Cost Theory," ECONOMIA INTERNAZIONALE, Genova, Vol. 9, No. 3, Aug., 1956, (E) w. (F), (G), (I), and (S) sum.

". . .A re-interpretation in terms of continuous production functions of the analysis offered by Leontief in 'Domestic Production and Foreign Trade: The American Capital Position Re-examined'. . ." is discussed in the study.
". . .Leontief's conclusions as to the effect of marginal changes in factor supplies on trade conditions are accepted. His explanation of the U.S. trade structure in terms of labor efficiency, however, is refuted in favor of a 'natural resource endowment' interpretation. . ."

DAVIS, J.H., -GOLDBERG, R.A., A CONCEPT OF AGRIBUSINESS, Graduate School of Business Administration, Division of Research, Harvard University, 1957, 136 pp. plus 3 Input-Output Tables of the U.S.A. for 1947 (See Section 4, p. 40).

DEL PUNTA, V., "Sull'applicazione dell' input-output analysis e della programmazione linear al problema dello sviluppo economico" (I) (The Application of Input-Output Analysis and Linear Programming to the Problem of Economic Development), RIVISTA DI POLITICA ECONOMICA, March, 1956, pp. 161-92 (See Section 7, p. 63).

-----, "La tesi di W. Leontief sul commercio con l'estero degli Stati Uniti" (I) (W. Leontief's Thesis Regarding United States' Foreign Trade), RIVISTA ECONOMICA, Rome, April, 1958, pp. 404-07.

-----, "Il paradosso di Leontief alla luce della teoria classica del commercio internazionale" (I) (The Leontief Paradox in the Light of the Classical Theory of International Trade), RIVISTA DI POLITICA ECONOMICA, Nov., 1958, pp. 1326-352).

DERWA, L., "Notes sur la méthode d'Input-Output" (F), Paper presented at the Conference of La Société Belge de Statistique, Jan. 12, 1958, published in: BULLETIN DE LA SOCIÉTÉ BELGE DE STATISTIQUE, 1958, pp. 11-30 (See Section 1, p. 6).

DIAB, M.A., THE UNITED STATES CAPITAL POSITION AND THE STRUCTURE OF ITS FOREIGN TRADE, Contributions to Economic Analysis, XI, North-Holland Publishing Company, Amsterdam, 1956, 67 pp.

The author discusses W. Leontief's article, "Domestic Production and Foreign Trade: The American Capital Position Re-examined," and concludes that the real scarcity in the U.S. is neither labor nor capital, but natural resources.

VIA, DIVOY, I., "Les tableaux économiques et l'étude des marchés", (F) (Input-Output Tables and Marketing Studies), ANNALES DES SCIENCES ECONOMIQUES APPLIQUEES, Louvain, Belgium, No. 3, Aug., 1958.

The author discusses the practical application of the Tableau Économique and the Leontief Input-Output Table to the study of markets and to marketing problems.

I), DOSSER, D., "The Formulation of Development Plans in the British Colonies," THE ECONOMIC JOURNAL, London, Vol. 69, No. 274, June, 1959, pp. 255-66 (See Section 8, p. 123).

the The DUE, J.F., INTERMEDIATE ECONOMIC ANALYSIS, R.D. Irwin, Inc., 1956, 588 pp.

The chapter, "General Equilibrium of the Economy," contains a section entitled, "Input-Output Analysis," on pp. 467-69.

ECKSTEIN, O., "An Interindustry Approach to Fiscal Policy," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1956-1957, Dec., 1957, pp. 51-56.

business: plus
one
put-
ment),
—, —FROMM, G., STEEL AND THE POSTWAR INFLATION, Study Paper No. 2, Materials Prepared in Connection with "Study of Employment, Growth and Price Levels" for Consideration by the Joint Economic Committee, Congress of the United States (86th Congress, 1st Session), Nov. 6, 1959, U.S. Government Printing Office, 1959, 38 pp. (See Section 1, p. 7).

ECONOMIST, THE, (London), "The Anatomy of Crisis" (anon.), Sept. 13, 1952, pp. 641-43.

This article presents a discussion and review of the Blue Book on National Income and Expenditure (Central Statistical Office, London), 1946-1951, H.M.S.O., 1952, and contains a reprint of the Input-Output Table of the United Kingdom for 1948.

58, —, "A Tool for Forecasting" (anon.), March 23, 1957, and

—, "Focusing Business Forecasts" (anon.), March 23, 1957.

on-
n 1, These last two articles discuss the feasibility of applying Input-Output analysis techniques to business forecasting.

Com- EFIMOV, A.N., "Perestroika upravleniia promyshlennosti i stroitelstvom v USSR" (R) (Reorganization of the Administration of Industry and Construction in the USSR), GOSPOLITISDAT, Moscow, 1957, 142 pp. (Input-Output Analysis is discussed on pp. 108-14) (See Section 8, p. 126).

sign
e
ources. ELLIOTT, G.A., "Comments on W. Leontief's article 'Factor Proportions and the Structure of American Trade'," THE REVIEW OF ECONOMICS AND STATISTICS, Vol. 40, Supplement, Feb., 1958, No. 1, Part 2, pp. 116-17.

EVANS, W.D., "The Relation of Input-Output Analysis to Economic Forecasting," Paper delivered at the International Statistical Institute, Petropolis, Brazil, 1955, mimeographed.

(EVANS Continued)

EVANS, W.D. (Continued)

-----, -HOFFENBERG, M., "Estudio de las Relaciones Interindustriales para 1947" (S), ESTADÍSTICA, Journal of the Inter-American Statistical Institute, Vol. 16, No. 61, Dec., 1958, pp. 505-31 and Vol. 17, No. 62, March, 1959, pp. 76-126, (S) translation of the article, "The Interindustry Relations Study for 1947," published in: THE REVIEW OF ECONOMICS AND STATISTICS, Vol. 34, No. 2, May, 1952.

FABBRINI, L., ISTANZE STATICHE ED ISTANZE EVOLUTIVE NELLA MODELLISTICA CONTEMPORANEA, (Leontief-Hayek-Post-Keynesiani), (I) (Static and Dynamic Examples of Contemporary Model Building), F. Capelli, Sept., 1959, 172 pp. (See Section 1, p. 8).

FEDOROVICH, M., "Ispol'zovanie matrichnogo uschisleniia v zavods kom planirovanii" (R) (The Application of Matrix Calculations in Planning the Works of a Plant), VOPROSI EKONOMIKI, 1958, No. 2, (E) translation in: PROBLEMS OF ECONOMICS, Vol. 1, No. 4, Aug., 1958.

FEI, J.C.H., -DEL PUNTA, V., "L'uso de la programmazione linear per lo studio della pianificazione dello sviluppo industriale con riferimento al problema del Mezzogiorno Italiano" (I) (The Use of Linear Programming for Planning of Industrial Development with Reference to the Problem of Southern Italy), RIVISTA DI POLITICA ECONOMICA, Vol. 45, III., Nov., 1955 (See Section 2, p. 29).

FOURASTIÉ, J., "Note sur les méthodes des prévision économique dérivées de l'étude des échanges interindustriels" (F) (Memorandum Regarding the Methods of Economic Forecasting Based on Interindustry Flows), Présidence du Conseil, Commissariat Général du Plan, Paris, April - Sept., 1951, Memorandum, mimeographed, 41 pp. plus 36 p. Statistical Appendix.

-----, LA PRÉVISION ÉCONOMIQUE, (F) (Economic Forecasting), Presses Universitaires de France, 1955, 151 pp.

Page 5 as well as the Appendix of this book (pp. 126-48) contain a discussion of the method and technique of Input-Output Analysis and its possible application to economic forecasting.

FOX, K.A., ECONOMETRIC ANALYSIS FOR PUBLIC POLICY, The Iowa State College Press, Ames, Iowa, 1958, 288 pp.

The application of Input-Output models to the analysis of interactions between sectors is discussed on pp. 268-69.

FUERST, E., "The Matrix as a Tool in Macro-Accounting," REVIEW OF ECONOMICS AND STATISTICS, Vol. 37, No. 1, Feb., 1955, pp. 35-47 (See Section 8, p. 123).

GARCÍA BARBANCHO, A., "El modelo del equilibrio general de Leontief y su aplicación a Italia" (S) (Leontief's General Equilibrium Model and its Application to the Italian Economy), ANALES DE ECONOMÍA, Vol. 16, No. 61, pp. 127-76 (See Section 8, p. 120).

GASS, S.J., LINEAR PROGRAMMING. METHODS AND APPLICATIONS. McGraw-Hill, Inc., 1958, 223 pp. Interindustry (Input-Output) Analysis is discussed on pp. 8, 79, 164-70.

George Washington University, Office of Naval Research, Logistics Research Project.

Several economic research studies based on Inter-Industry Analysis by: MOORE, F.T., BARNETT, H.J., NOBLE, S.B., SOLOMON, H., WHITTEMORE, N., were published for restricted circulation. They are not available for distribution.

GILLMANN, J.M., "Interindustry Correlation Between the Organic Composition of Capital and the Rate of Profit" (E), KEIZAI KENKYU (The Economic Review), Hitotsubashi University, Tokyo, Vol. 10, No. 3, July, 1959.

GRANICK, D., "The American Capital Position in Foreign Trade: A Comment," SOUTHERN ECONOMIC JOURNAL, Vol. 22, No. 2, Oct., 1955.

The comment refers to W. Leontief's article, "Domestic Production and Foreign Trade: The American Capital Position Re-examined."

GREBTSOV, G., "K voprosu o razrabotke svodnogo material'nogo balansa" (R) (Problems in the Construction of an Aggregated Materials Balance), PLANOVOE KHOZIAISTVO, 1959, No. 6, (E) translation in: PROBLEMS OF ECONOMICS, Vol. 2, No. 7, Nov., 1959 (See Section 8, p. 127).

HALDI, J., "A Test on Two Hypotheses Concerning Interpretation of Input-Output Coefficients," WELTWIRTSCHAFTLICHES ARCHIV, Vol. 83, No. 1, 1959, pp. 1-12, (H) sum. by SIMON, J., in: STATISZTIKAI SZEMLE, Vol. 38, No. 4, April, 1960, pp. 443-44.

Based on empirical data from the U.S. Boot and Shoe Industry (inputs of labor and leather, years 1919-1953), the interpretation of Input-Output Coefficients by W. Leontief and by L.R. Klein are compared.

HAVAS, P., "Az ágazati kapcsolatok mérlegének felhasználása exportgazdaságossági számításokhoz" (Utilization of Input-Output Analysis for Computing the Profitability of Exports) (H) w. (E) sum., In two parts: STATISZTIKAI SZEMLE, Vol. 38, No. 3, March, 1960, pp. 236-51, and No. 4, April, 1960, pp. 352-63, respectively (See Section 8, p. 83).

HEADY, E.O., -CARTER, H.O., "Input-Output Models as Techniques of Analysis for Interregional Competition," JOURNAL OF FARM ECONOMICS, Vol. 41, No. 5, Dec., 1959, pp. 978-96 (See Section 7, p. 53).

—, -SCHNITTKER, J.A., "Application of Input-Output Models to Agriculture," JOURNAL OF FARM ECONOMICS, Vol. 39, No. 3, Aug., 1957, pp. 745-58 (See Section 7, p. 53).

HELMSTAEDTER, E., "Produktionsstruktur und Wachstum" (G) (Structure of Production and Growth), JAHRBUECHER FUER NATIONAL OEKONOMIE UND STATISTIK, Vol. 169, No. 3, 4, Oct., 1957, pp. 173-212, and Vol. 169, No. 6, March, 1958, pp. 427-49 (See Section 1, p. 10).

HENDERSON, J.M., "Natural Resources," Harvard Economic Research Project, REPORT ON RESEARCH FOR 1954, Feb., 1955, pp. 1-27, and for 1956-1957, Dec., 1957, pp. 1-21, respectively.

-----, "A Short Run Model for the Coal Industry" and "Efficiency and Pricing in the Coal Industry," REVIEW OF ECONOMICS AND STATISTICS, Vol. 37, No. 4, Nov., 1955, pp. 336-46, and Vol. 38, No. 1, Feb., 1956, pp. 50-60, respectively.

The model contains only the results of Inter-Industry Analysis in the form of total demands and total production and Transportation costs, rather than an explicit Inter-Industry structure. (Included in this Bibliography ex officio since these articles were written while the author was a member of the Harvard Economic Research Project's Senior Research Staff).

-----, "Resource Allocation in the Coal Industry," Paper presented at the Detroit Meeting of the Econometric Society, Dec., 1954, hectographed.

-----, THE EFFICIENCY OF THE COAL INDUSTRY, Harvard University Press, 1958, 146 pp. (Included in this Bibliography ex officio--see above note).

-----, "The Utilization of Agricultural Land: A Theoretical and Empirical Inquiry," REVIEW OF ECONOMICS AND STATISTICS, Vol. 41, No. 3, Aug., 1959, pp. 242-59. (Included in this Bibliography ex officio--see above note).

HIRSCH, W.Z., "An Application of Area Input-Output Analysis," Paper presented at the Meetings of the Regional Science Association, Chicago, Dec., 1958, and included in: PAPERS AND PROCEEDINGS, Vol. 5, 1959, The Regional Science Association, pp. 79-92.

-----, "Decision Making in Industrial Marketing," JOURNAL OF MARKETING, Vol. 24, No. 3, Jan., 1960, pp. 21-27.

The author discusses Input-Output Analysis as a research tool in helping to make industrial marketing decisions and the use of an Input-Output model for making short-term demand projections, on pp. 25-27.

HOFFMEYER, E., "The Leontief Paradox Critically Examined," THE MANCHESTER SCHOOL OF ECONOMIC AND SOCIAL STUDIES, Vol. 26, No. 2, May, 1958.

The author discusses W. Leontief's "Factor Proportions and the Structure of American Trade: Further Theoretical and Empirical Analysis."

HOW TO SELECT DYNAMIC INDUSTRIAL PROJECTS, see International Cooperation Administration.

HSING, M.H., "The Construction of Social Accounting Models," WELTWIRTSCHAFTLICHES ARCHIV, Vol. 83, No. 1, 1959, pp. 15-31 (See Section 1, p. 11).

ICHIMURA, S., (ed.), APPLICATIONS OF INTER-INDUSTRY ANALYSIS, (J), Vol. 1, University of Osaka, Department of Economics, 1958.

-----, -TATEMOTO, M., "Factor Proportions and Foreign Trade: The Case of Japan," Osaka University, Toyonaka, Osaka, Japan, Discussion Paper No. 8, Aug., 1958,

(ICHIMURA, -TATEMOTO, "Factor Proportions and Foreign. . ." Continued)

ICHIMURA, S., -TATEMOTO, M., "Factor Proportions and Foreign. . ." (Continued)

8 pp., mimeographed, Published in: THE REVIEW OF ECONOMICS AND STATISTICS, Vol. 41, No. 4, Nov., 1959, pp. 442-46.

International Cooperation Administration, HOW TO SELECT DYNAMIC INDUSTRIAL PROJECTS, Office of Industrial Resources, Washington, D.C., 1956, 129 pp. plus 96 p. Appendix and Input-Output Table of Puerto Rico.

This manual deals with the problems of selecting dynamic industrial projects in underdeveloped countries and of identifying and evaluating industrial investment opportunities which contribute to sound economic growth of such countries. The use of Inter-Industry Analysis as an aid in this selection process is explained and illustrated by describing the actual construction of an Input-Output Table for Puerto Rico.

International Labor Organization, Metal Trades Committee, "Regularization of Production and Employment at a High Level in the Metal Trade," (See Section 8b, p. 137).

ISARD, W., -SCHOOLER, E.W., -VIETORISZ, T., INDUSTRIAL COMPLEX ANALYSIS AND REGIONAL DEVELOPMENT, A Case Study of Refinery-Petrochemical-Synthetic Fiber Complexes and Puerto Rico, The Technology Press of the Massachusetts Institute of Technology and J. Wiley & Sons, Inc., 1959, 294 pp. (See Section 7, p. 55).

JAKSCH, H.J., "Beitraege zur Theorie der Wirtschaftsplanung: Probleme einer gesamtwirtschaftlichen Anwendung des 'Linear Programming'" (G) (Contributions to the Theory of Economic Planning: Problems of the Application of Linear Programming to the Total Economy), Ph.D. Thesis, Johann Wolfgang Goethe Universitaet, Frankfurt a.M., 1958, 188 pp. (Input-Output models are discussed on pp. 20-115, 134-69).

JAWORSKI, D.A., "Inter-Industry Relationship of the Air Transportation Industry," CANADIAN AERONAUTICAL JOURNAL, Vol. 2, No. 9, Nov., 1956, Canadian Aeronautical Institute, Ottawa, Canada (See Section 4, p. 41).

JOHANSEN, L., A MULTI-SECTORAL STUDY OF ECONOMIC GROWTH, North-Holland Publishing Company, 1960, 177 pp. plus folding Table (See Section 6, p. 48).

JOHNSON, R.E., "Input-Output," CHEMICAL ENGINEERING PROGRESS, July, 1959, pp. 46-48.

Input-Output Analysis is discussed in this article as a new approach to market research and related subjects.

-----, "Interindustry Purchases and Sales - A Tool of Many Uses," Paper presented at the Federal Statistics Users' Conference, Washington, D.C., Sept. 29-30, 1959, 5 pp., mimeographed.

JONES, R.W., "Factor Proportions and the Heckscher-Ohlin Theorem," THE REVIEW OF ECONOMIC STUDIES, Cambridge, England, Vol. 24 (1), No. 63, 1956-1957.

The author discusses W. Leontief's article, "Domestic Production and Foreign Trade: The American Capital Position Re-examined."

Journal of Commerce, "Input-Output Analysis Evolves as New Business Gauge," (anon.), June 27, 1955.

KADLEC, V., "Použití šachovnicových tabulek a matematicového počtu v zahraničním obchodu" (Cz) (The Use of Matrices in Foreign Trade Calculations), PLÁNOVÁNÉ HOSPODÁŘSTVÍ, 1959, No. 10, pp. 775-79.

KAVESH, R.A., -JONES, J.B., "Differential Regional Impacts of Federal Expenditures: An Application of the Input-Output Matrix to Federal Fiscal Policy," Paper presented at the Meeting of the Regional Science Association, Dec., 1955, and included in: PAPERS AND PROCEEDINGS, Vol. 2, 1956, pp. 152-72.

KOENIG, H., "Input-Output Analyse und lineare Programmierung" (G) (Input-Output Analysis and Linear Programming), JAHRBUCH FUER SOZIALWISSENSCHAFT, Vol. 4-10, 1959, No. 1, pp. 64-79.

KURABAYASHI, Y., "Analysis of Labor Productivity by Input-Output Tables," THE ECONOMIC REVIEW, Vol. 6, No. 4, Oct., 1955, Hitotsubashi University, (J) w. (E) sum.

LANCASTER, K., "Protection and Real Wages: A Restatement," THE ECONOMIC JOURNAL, Vol. 67, No. 266, June, 1957.

This paper is based on W. Leontief's article, "Domestic Production and Foreign Trade: The American Capital Position Re-examined."

LANGE, O., "Produkcyjno-techniczne podstawy efektywnosci inwestycji" (P) w. (E) sum. (The Technical Roots of the Effectiveness of Investment), EKONOMISTA, 1959, No. 6, pp. 1159-189.

——, "The Output-Investment Ratio and Input-Output Analysis," ECONOMETRICA, Vol. 28, No. 2, April, 1960, pp. 310-24.

LASUÉN, J.R., "Países en vías de industrialización y programas de desarrollo económico" (S) (Countries Progressing Towards Industrialization and Economic Development Programs), ANALES DE ECONOMIA, Vol. 17, No. 64, Aug., 1957, pp. 325-69.

This paper discusses various methods of economic analysis and reviews the Input-Output studies conducted in Italy, Norway, Australia. The author considers Interregional Analysis especially useful for the study of economic problems such as: (a) estimating the effects of changes in public and private spending on regional employment, (b) as a guide to the formulation of regional development policies, (c) the analysis of interregional and international flows of trade, and (d) the analysis of the efficiency of the distribution of resources between regions.

LEONTIEF, W.W., "The Forest Economy in Relations to Other Branches of the Economy," Included in: RESEARCH IN THE ECONOMICS OF FORESTRY, The Waverly Press, Baltimore, Maryland, 1953 (Charles Lathrop Pack Forestry Foundation), pp. 60-64.

(LEONTIEF Continued)

LEONTIEF, W.W. (Continued)

——, "National Economic Problems," NAVAL WAR COLLEGE REVIEW, Vol. 7, No. 5, June, 1955, pp. 51-68.

——, "Factor Proportions and the Structure of American Trade: Further Theoretical and Empirical Analysis," REVIEW OF ECONOMICS AND STATISTICS, Vol. 38, No. 4, Nov., 1956, pp. 386-407, see also the preliminary version of this article in: Harvard Economic Research Project, REPORT ON RESEARCH FOR 1955, March, 1956.

This is the second report concerning the analysis of the factor proportions of the trade relationships between the U.S.A. and the rest of the world in the author's attempt to test the Heckscher-Ohlin theorem. On the basis of the empirical data presented in the article, the author arrives at the conclusion that the U.S.A. is a relatively capital-poor and labor-abundant country. A discussion of the theory, the method of computation, and the sources of the empirical data, are included.

——, Reply to the Comments by VALAVANIS, S., ROBINSON, R., ELLIOTT, G.A., and VACCARA, B.N., with regard to "Factor Proportions and the Structure of American Trade: Further Theoretical and Empirical Analysis," REVIEW OF ECONOMICS AND STATISTICS, Vol. 40, Supplement, Feb., 1958, No. 1, Part 2.

——, "Einsatz-Ausstoss Analyse" (G) (Input-Output Analysis), HANDWOERTERBUCH DER SOZIAL-WISSENSCHAFTEN, G. Fischer, J.C.B. Mohr, Vandenhoeck & Ruprecht, 1960, pp. 83-91 (See Section 1, p. 14).

——, -TASKIER, C.E., "Estimated Direct and Indirect Requirements of Energy by Final Demand in the Year 1947," Harvard Economic Research Project, Memorandum, hectographed, 60 pp., April, 1958.

LOEB, G.F., "A estrutura do Comercio Exterior da America do Norte" (Por) w. (E) and (F) sum. (The Structure of U.S.A.'s Foreign Trade), REVISTA BRASILEIRA DE ECONOMIA, Vol. 8, No. 4, Dec., 1954, pp. 81-97.

This paper contains a discussion of W. Leontief's study, "Domestic Production and Foreign Trade: The American Capital Position Re-examined."

LOMAX, K.S., "Allocation and Programming in Modern Economics," THE MANCHESTER SCHOOL OF ECONOMIC AND SOCIAL STUDIES, Vol. 21, No. 3, Sept., 1953, pp. 177-223.

W. Leontief's Input-Output Analysis is discussed and its application is illustrated by an aggregated Input-Output Table of the United Kingdom for 1948 on pp. 179-87.

LOVELL, M.C., "Inventories and Stability: An Inter-Industry Analysis," Ph.D. Thesis, Harvard University, 1959.

MAILLET, P., "La Place de l'Énergie dans l'Économie Nationale" (F) (The Place of Energy in the National Economy), LA REVUE FRANÇAISE DE L'ÉNERGIE, Paris, No. 89, Sept., 1957 (See Section 8, p. 80).

MALINVAUD, E., *MODELES LINEAIRES DES ECONOMIES A SECTEURS MULTIPLES*, (F) (Linear Models of Multiple Sector Economies), *COLECTÂNEA DE ESTUDOS*, No. 6, 1959, 90 pp., Centro de Estudos de Estatística Económica, Instituto de Alta Cultura, Lisbon (See Section 1, p. 15).

MANNE, A.S., "A Linear Programming Model of the U.S. Petroleum Refining Industry," *ECONOMETRICA*, Vol. 26, No. 1, Jan., 1958.

The author reports on the construction of a process analysis model of the U.S. Petroleum Refining Industry; he considers such a model a logical extension of Leontief's models.

MARANTZ, M., "Le Tableau économique de W. Leontief" (F), *LES CAHIERS DE LA REPUBLIQUE*, No. 26, July - Aug., 1960, pp. 58-69 (See Section 1, p. 16).

MARCZEWSKI, J., "Planification et Croissance Économique des démocraties populaires" (F) (Economic Planning and Growth of Peoples' Democracies), *PRESSES UNIVERSITAIRES*, Paris, 1956, Vol. 2, *ANALYSE ÉCONOMIQUE*.

The author presents a model based on a system of equations analogous to that of Leontief, suggested for economic planning in Peoples' Republics.

MEYER, J.R., "An Input-Output Approach to Evaluating the Influence of Exports on British Industrial Production in the Late 19th Century," *EXPLORATIONS IN ENTREPRENEURIAL HISTORY*, Vol. 8, No. 1, Dec., 1955, pp. 12-34, Harvard University Graduate School of Business Administration, Research Center in Entrepreneurial History.

MIYAZAWA, K., "The Foreign Trade Multiplier and the Interindustrial Relations," *THE ECONOMIC REVIEW*, Hitotsubashi University, Tokyo, Vol. 9, No. 3, July, 1958, (J) w. (E) sum.

-----, "Foreign Trade Multiplier, Input-Output Analysis and the Consumption Function," *THE QUARTERLY JOURNAL OF ECONOMICS*, Vol. 74, No. 1, Feb., 1960, pp. 53-64.

The study discusses certain defects in the treatment of imported intermediate goods in the usual Keynesian foreign trade multiplier analysis and in Leontief's Input-Output Analysis. The author maintains that the latter lacks an analysis of the multiplier process via the consumption function; he proposes to close the gaps in these two analyses by a revision of the conventional foreign trade multiplier on the one hand, and by a development of Input-Output Analysis, using the Keynesian consumption function in its disaggregated form, on the other.

MONTIAS, J.M., "Planning with Material Balances in Soviet-Type Economies," *THE AMERICAN ECONOMIC REVIEW*, Vol. 49, No. 5, Dec., 1959, pp. 963-85.

The author discusses "material balances" as theoretical models of administrative planning and compares these models with the actual planning methods assumed to be used by Soviet-type economies. The application of Input-Output methods for the improvement in coordinating planning procedures is suggested.

MOORE, F.T., -BARNETT, H.J., "Estimated Products Requirements from Inter-Industry Models," George Washington University, Logistics Research Project, Logistics Papers, Issue No. 15, Vol. 1, Dec., 1957, 22 pp.

MORGENSTERN, O., "Los cálculos para los programas económicos" (S) (The Computation of Economic Programs), BOLETIN DEL BANCO CENTRAL DE VENEZUELA, March - April, 1951, Nos. 73, 74.

This article explores the theoretical and the practical aspects of computing economic programs illustrated by the use of an Input-Output Table.

MOYERMAN, S., -HARRIS, B., "The Economics of the Base Study," JOURNAL OF THE AMERICAN INSTITUTE OF PLANNERS, Vol. 21, No. 23, Spring-Summer, 1955, pp. 88-93.

The application of Regional Input-Output Analysis to planning is discussed on pp. 90-91.

MUKHERJEE, P.K., ECONOMIC SURVEYS IN UNDERDEVELOPED COUNTRIES. A STUDY IN METHODOLOGY, Asia Publishing House, 1959, 263 pp. plus 12 p. Appendix.

". . .The author suggests the use of a Leontief-type model to demonstrate the incoming/outgoing transactions of the village and a Keynesian-type multiplier to estimate non-agricultural incomes. . ."

OHAMA, K., "Estimating the Demand for Steel by Input-Output Table" (J), TSUSAN TOKEI GEPPPO, Jan., 1958.

OTT, A.E., "Bemerkungen zu E. Helmstaedter: 'Produktionsstruktur und Wachstum'" (G) (Observations to Helmstaedter's 'Structure of Production and Growth'), JAHRBUCHER FUER NATIONAL OEKONOMIE UND STATISTIK, Vol. 171, No. 1-2, Jan., 1959, pp. 13-24 (See HELMSTAEDTER, E., Section 1, p. 10).

PEACOCK, A.T., -DOSSER, D.G.M., "The New Attack on Localized Unemployment," LLOYDS BANK REVIEW, No. 55, Jan., 1960, pp. 1-12, also, University of Edinburgh, Department of Political Economy, Reprint Series No. 13 (See Section 7, p. 66).

PETERSON, G.A., "Use of Input-Output Analysis in Estimating the Interdependence of Agriculture and other Economic Sectors," Ph.D. Thesis, University of Iowa, 1953.

-----, -HEADY, E.O., "APPLICATION OF INPUT-OUTPUT ANALYSIS TO A SIMPLE MODEL EMPHASIZING AGRICULTURE, (A Study of the Interdependence of Agriculture and Other Sectors of the National Economy), Agricultural Experiment Station, Iowa State College, Research Bulletin 427, April, 1955, pp. 402-19.

". . .Input-Output analysis is applied to a model of five economic sectors where emphasis is on interdependence of (a) primary with secondary agriculture, (b) agricultural sectors with the industrial sectors of the economy. Detailed analysis is made of input coefficients and interdependence coefficients for the year 1949; similar analysis is made for the years 1949, 1939, 1929 to allow prediction of changes in the coefficients in agriculture. . ."

- PORWIT, K., "Tablica gospodarki narodowej jako instrument koordynacji planu gospodarczego" (P) (Input-Output Tables as Instruments of Coordination in Economic Planning), GOSPODARKA PLANOWA, Dec., 1957.
- RASMUSSEN, P.N., "Input-Output Modellens Anvendelsesmuligheder" (D) (The Potential Uses of Input-Output Models), NATIONALØKONOMISK TIDSSKRIFT, 1954, Vol. 92, No. 3-4 (See Section 1, p. 19).
- , "Om indkomstfordelingen og handelen mellem sektorerne" (D) (On the Distribution of Income and Trade Between the Sectors), HANDELSVIDENSKABELIGT TIDSSKRIFT, Hefte 89-90 (See Section 1, p. 20).
- RESEARCH INSTITUTE OF AMERICA, "Input-Output—A New Management Tool," Policy Memorandum for Executive Members, Aug., 1952, 8 pp. plus three Input-Output Tables of the U.S.A. for 1947.

Contains a discussion of Input-Output Analysis, an Input-Output Table, Coefficient and Inverse Matrices of the U.S.A. for 1947, reprinted from EVANS, W.D., -HOFFENBERG, M., "The Interindustry Relations Study for 1947."

- ROBINSON, R., "Factor Proportions and Comparative Advantage, Parts I and II," THE QUARTERLY JOURNAL OF ECONOMICS, Vol. 70, No. 2, May, 1956, and No. 3, Aug., 1956.

The author comments on W. Leontief's article, "Domestic Production and Foreign Trade: The American Capital Position Re-examined."

- , "Comments on W. Leontief's 'Factor Proportions and the Structure of American Trade'," REVIEW OF ECONOMICS AND STATISTICS, Vol. 40, Supplement, Feb., 1958, No. 1, Part 2, pp. 113-16.

- RYABUSHKIN, T., STATISTICHESKIE METODY IZUCHENIIA NARODNOGO KHOZIAISTVA, (R) (Statistical Methods of Studying the National Economy), Moscow, 1957.

One of the chapters of this book discusses Input-Output Analysis and its possible application to Soviet economics.

- , "From the History of the Balance Sheet of the USSR National Economy," Paper presented at the 31st Session of the International Statistical Institute, Brussels, 1958, and included in: REPORTS MADE BY THE SOVIET SCIENTISTS TO THE 31st SESSION OF THE INTERNATIONAL STATISTICAL INSTITUTE, Bruxelles, 1958, Academy of Sciences of the USSR, Moscow, 1958.

- , PROBLEMY EKONOMICHESKOI STATISTIKI (Analiz struktury narodnogo khoziaistva vzaimosviazi ego elementov), (R) (Problems in Economic Statistics. An Analysis of the Structure of the National Economy and the Interdependence of its Elements), Academy of Sciences, USSR, Moscow, 1959, 376 pp.

Contains a discussion of the application of Input-Output Analysis in the West, also, of the structure and the interrelation of sectors as well as the interindustry balances in the USSR, and the "Balance Table of the USSR Economy, 1923-1924" (Input-Output Table).

SAGOROFF, S., "Die energetische Struktur der Volkswirtschaft: Anwendung der Matrizenrechnung in der volkswirtschaftlichen Energetik" (G) (The Structure of Energy in the Economy: The Application of Matrix Computations to Energy Need in an Economy), ZEITSCHRIFT FUER NATIONALOEKONOMIE, Vol. 19, No. 4, 1960, pp. 363-69.

The author discusses a "structural energy matrix of the economy" which, he maintains, supplements Leontief's matrix of material flows between economic sectors.

SALANT, W.S., (with the collaboration of Vaccara, B.N.), "Primary Effects on Employment of Shifts in Demand from Domestic to Foreign Products," REVIEW OF ECONOMICS AND STATISTICS, Vol. 40, No. 1, Part 2, Feb., 1958, pp. 91-103, also, Comments by Humphrey, D.D., -Sheldon, C.S., and Reply by Salant, pp. 103-10.

". . .this paper presents some results of a Brookings Institution study of the effects on domestic employment of unilateral reductions of U.S.A. import barriers. The study was undertaken to provide quantitative information which would be useful in the formation of economic policy. . ." The author assumes familiarity with the theory and techniques of Input-Output Analysis. The computations are based on the 200 sector Input-Output Table of the U.S.A. for 1947, however, with 1952 instead of 1947 import-output ratios. A table presents "Estimated Primary Employment Decreases per Million Dollar Increase in Imports due to reduction of Import Barriers" for 72 industries.

SARDA, J., "Las Tablas de Interdependencia Estructural y sus Aplicaciones" (S) (Structural Interdependence Tables and their Applications), Banco Central de Venezuela, 8 pp. (date not stated).

SAWYER, J.A., "Interindustry Relations of the Chemicals and Allied Product Industries," CHEMISTRY IN CANADA, June, 1957, pp. 64-67 (See Section 8, p. 73).

SCHNITTKER, J.A., "Application of Input-Output Analysis to a Regional Model Stressing Agriculture," Ph.D. Thesis, University of Iowa, 1956.

SEERS, D., "The Role of the Budget: Is a New Approach Necessary?" THE BANKER, London, Vol. 48, No. 314, March, 1952, pp. 136-42.

The author suggests the application of W. Leontief's Input-Output technique to National Income analysis.

SIROTKOVIĆ, J., "Input-Output analize i privredno planiranje" (SC) (Input-Output Analysis and Economic Planning), Materijali sa Savetovanje o statističkim problemima narodno-privrednih bilansa i računa. Jugoslavensko statističko društvo, Beograd, 1959, pp. 24-42.

STEWART, I.G., "The Practical Uses of Input-Output Analysis," SCOTTISH JOURNAL OF POLITICAL ECONOMY, Vol. 5, No. 1, Feb., 1958, pp. 50-59 (See Section 8, p. 124).

STOBBE, A., "Produktivitaetsmessung auf der Grundlage von Input-Output Tabellen" (G) w. (E), (F), (I) and (S) sum., (Productivity Measurement on the Basis of Input-Output Tables), WELTWIRTSCHAFTLICHES ARCHIV, Vol. 82, No. 2, 1959,

(STOBBE, "Produktivitaetsmessung auf der Grundlage. . ." Continued)

STOBBE, A., "Produktivitaetsmessung auf der Grundlage. . ." (Continued)

pp. 237-73, (H) sum by Halabuk, L., in: STATISZTIKAI SZEMLE, Vol. 38, No. 1, Jan., 1960, pp. 120-21.

Input-Output figures provide several new possibilities of measuring productivity. If Input-Output Tables for several periods of time are available--provided the set-up of the tables is identical--comparisons of changes in productivity over time can be made on the basis of Input-Coefficients. Input-Output Tables of the Netherlands for 1947 and 1950 (13 x 13 Intermediate Sectors) are used to demonstrate the method.

STOEWE, H., OEKONOMETRIE UND MAKROOEKONOMISCHE THEORIE. Stochastische Wirtschaftsforschung als notwendige Ergaenzung der Theorie, (G) (Econometric and Macroeconomic Theory. Stochastic Economic Analysis as a Necessary Supplement to the Theory), Oekonometrische Studien, No. 3, G. Fischer, Stuttgart, 1959, 190 pp. (See Section 1, pp. 22).

STONE, R., -CROFT-MURRAY, G., SOCIAL ACCOUNTING AND ECONOMIC MODELS, Bowes & Bowes, 1959, 88 pp. (See Section 1, p. 23).

STROUT, A.M., "Primary Employment Effects of Alternative Spending Programs," REVIEW OF ECONOMICS AND STATISTICS, Vol. 40, No. 4, Nov., 1958 (See Section 5, p. 44).

TATEMOTO, M., "The Leontief Paradox and the Structure of Japanese Trade," (J), THE ECONOMIC REVIEW, Hitotsubashi University, Vol. 9, No. 1, Jan., 1958.

---, -ICHIMURA, S., "Factor Proportions and Foreign Trade: The Case of Japan," Osaka University, Toyonaka, Osaka, Japan, Discussion Paper No. 8, Aug., 1958, 8 pp., mimeographed, also published in: THE REVIEW OF ECONOMICS AND STATISTICS, Vol. 41, No. 4, Nov., 1959, pp. 442-46.

Both papers discuss W. Leontief's article, "Factor Proportions and the Structure of American Trade: Further Theoretical and Empirical Analysis."

TIEBOUT, C.M., "Input-Output and Foreign Trade Multiplier Models in Urban Research," JOURNAL OF THE AMERICAN INSTITUTE OF PLANNERS, Vol. 23, No. 3, 1957, pp. 126-30.

TOLKACHEV, A., "Elektronnye mashiny i voprosy planirovaniia" (R) (Electronic Computing Machines and Problems of Planning), PROMYSHLENNO-EKONOMICHESKAIA GAZETA, March 19, 1958.

The possible use of Input-Output Analysis for Soviet Planning is discussed by the author who is assistant director of GOSPLAN's Economic Research Institute.

TOMASZEWSKI, W., -KORDA, B., "Zkoumání meziodvětových vztahů na základě matematických modelů" (C) w. (E) and (R) sum., (Investigation of Inter-branch Relationships based on Mathematical Models), STATISTICKÝ OBZOR, Vol. 38, No. 6, June, 1958, pp. 250-60 (See Section 8, p. 76).

TRIÁS-FARGAS, R., "La balanza de comercio de la provincia de Barcelona y la tabla de 'inputs' industriales de la misma" (S) (The Balance of Trade of the Province of Barcelona and the Input Table of Industries in this Region), MONEDA Y CRÉDITO, No. 69, June, 1959, pp. 41-67 (See Section 7, p. 65).

TUSENIUS R.R., DIE TEORIE EN PRAKTYK VAN DIE INTERINDUSTRIEVLOEI - TEGNIEK, (A) (The Theory and Practical Application of Inter-Industry Analysis), Suid-Afrikaanse Wetenskaplike en Nywerheidsnavorsingsraad, Pretoria, Union of South Africa, 1957, 342 pp. (See Section 8, p. 118).

United Nations, Economic Commission for Latin America, ECONOMIC BULLETIN FOR LATIN AMERICA, Vol. 1, No. 2, Sept., 1956, "The Input-Output Model. General Characteristics and Applicability to the Case of a Latin American Country," (See Section 8, p. 75).

U.S.A., THE NATIONAL ECONOMIC ACCOUNTS OF THE UNITED STATES, Hearings Before the Subcommittee on Economic Statistics of the Joint Economic Committee, Congress of the United States, 85th Congress, 1st Session, Oct. 29-30, 1957, Government Printing Office, 1957, 302 pp. (See Section 4, p. 42).

University of Maryland, Bureau of Business and Economic Research, Studies in Business and Economics, Vol. 11, No. 2, Sept., 1957, 12 pp., U.S. CONSUMPTION AND OUTPUT PATTERNS. A METHODOLOGICAL STUDY, (See Section 4, p. 43).

———, Vol. 12, No. 1, June, 1958, 21 pp., SOME RELATIONSHIPS BETWEEN U.S. CONSUMPTION AND NATURAL RESOURCES, 1899, 1947, 1954, (See Section 4, p. 43).

VACCARA, B.N., "Comments on W. Leontief's 'Factor Proportions and the Structure of American Trade'," REVIEW OF ECONOMICS AND STATISTICS, Vol. 40, Supplement, Feb., 1958, No. 1, Part 2, pp. 118-19.

VAHABZADEH, A.A., "Conceptual Problems in the Interindustry Analysis and Linear Projection Techniques as a Tool of National Planning in Underdeveloped Countries," Ph.D. Thesis, University of Southern California, 1956.

VALAVANIS, S., "Comments on W. Leontief's 'Factor Proportions and the Structure of American Trade'," REVIEW OF ECONOMICS AND STATISTICS, Vol. 40, Supplement, Feb., 1958, No. 1, Part 2, pp. 111-13.

VANEK, J., "The Natural Resources Content of Foreign Trade, 1870-1955, and the Relative Abundance of Natural Resources in the United States," REVIEW OF ECONOMICS AND STATISTICS, Vol. 41, No. 2, Part 1, May, 1959, pp. 146-53.

The author assumes familiarity with Input-Output techniques. As an extension of Professor W. Leontief's Foreign Trade investigation, the author attempts to study the natural resources content of the U.S. Foreign Trade. The paper contains essentially a crude evaluation of the long-run changes of natural resource requirements of U.S. Foreign Trade. The evaluation is to be refined later on. The author also discusses the problems of measuring the natural resource requirements in an aggregate such as export or imports, and he presents statistical results of his investigation.

VENTURA, E., "Illustration sur le cas particulier des combustibles minéraux solides, des principes d'établissement d'un tableau économique de la nation" (F) (The Principles Involved in Setting up an Input-Output Table [Tableau Economique] for France Illustrated by an Application of this Method to the Special Case of Solid Mineral Fuels), ANNALES DES MINES, Paris, April - May, 1954, pp. 7-92, mimeographed.

VERDOORN, P.J., "Complementarity and Long-Range Projections," ECONOMETRICA, Vol. 24, No. 4, Oct., 1956, pp. 429-50 (See Section 2, p. 35).

WALLANDER, J., "Input-Output-analysen och samhällsplaneringen" (Sw) w. (E) sum., (Input-Output Analysis as a Tool of Town and Country Planning), PLAN Tidskrift för planering av landsbygd och tätorter, Stockholm, Vol. 13, No. 4, 1959, pp. 117-23 (See Section 7, p. 66).

WATANABE, T., "Leontief's Paradox and the Traditional Theory," Osaka University, Osaka Economic Papers, Vol. 6 (2), No. 13, Feb., 1958.

The author discusses W. Leontief's article, "Factor Proportions and the Structure of American Trade: Further Theoretical and Empirical Analysis."

WOOD, M.K., -NORTON, J.D., OUTLINE OF A PROCEDURE FOR POST-ATTACK RESOURCE MANAGEMENT, A Report to the Office of Civil and Defense Mobilization by the National Planning Association, Aug., 1959, 85 pp. mimeographed (See Section 4, p. 43).

YAMADA, I., "Economic Planning Based on Leontief's Method" (J), Essay contained in: YAMAGUCHI, S.L., "Keizai-Keikakuto kokumin-shotoku" (Economic Planning and National Income), Tokyo, Jan., 1950, 269 pp.

ZIMMERMANN, L.J., "Zukunftsaufgaben der Volkswirtschaftslehre" (G) (Future Tasks of the Science of Economics), WELTWIRTSCHAFTLICHES ARCHIV, Vol. 67, 1951, No. 2, pp. 183-217.

The author discusses the importance of social accounts and Input-Output analysis for the development of a practically applicable economic theory. He demonstrates the practical necessity of such research for Germany.

ŽIVADINOVIĆ, V., "Italijansko iskustvo sa input-output tablicam" (SC) w. (E) sum., (Italian Experience with Input-Output Tables), STATISTICKA REVIJA, Vol. 7, No. 3, 1957, pp. 321-31 (See Section 8, p. 132).

SECTION NO. 10

APPRAISALS

- ABDEL-MALEK, M., "Les modèles économiques de Walras et de Léontief" (F) L'EGYPTE CONTEMPORAINE, Cairo, Vol. 49, No. 292, April, 1958.
- ACZEL, I., "A marxizmus ujjratértelezési sémája és az input-output-módszer" (H) (The Marxian Reproduction Scheme and the Input-Output Method), KOEZGAZDASAGI SZEMLE, No. 12, 1958, pp. 1282-295.
- AERTS, L., "Input-Output en linear programming in het kader van de economische Wetenschap" (Fl) (Input-Output and Linear Programming in the Framework of Economic Science), ECONOMICA DOCUMENTATIE, Leuven (Belgium), No. 4, 1954.
- AGANBEGIAN, A., "Kniga burzhuaznykh ekonomistov o metode 'zatrát-vypusk'" (R) (A Bourgeois-Economist's Book on the Method of Input-Output), PLANOVOE KHOZIAISTVO, 1959, No. 8, pp. 90-96.
- This is a review and a discussion of Input-Output Analysis based on the Russian translation of: LEONTIEF, W., and Others, STUDIES IN THE STRUCTURE OF THE AMERICAN ECONOMY.
- BASSIE, V.L., ECONOMIC FORECASTING, McGraw-Hill, Inc., New York, 1958 (See Section 1, p. 3).
- BELKIN, V., "Delo bol'shogo budushchego" (R) (A Method with a Great Future), IZVESTIA, July 30, 1958, p. 3 (popular newspaper article).
- , —BIRMAN, I., "Kniga amerikanskikh ekonomistov o metode 'zatrát - vypusk' produktsii" (R) (An American Economist's Book on the Method of Input-Output Analysis), VOPROSI EKONOMIKI, 1959, No. 6, pp. 105-13, (E) translation in: PROBLEMS OF ECONOMICS, Vol. 2, No. 6, Oct., 1959, pp. 58-64, (See Section 8, p. 126).
- BILLETER, E., "Kreislauftheoretische Modelle. Ihre Bedeutung und ihre Entwicklung in den U.S." (G) (Circular Flow Models, their Significance and their Development in the U.S.), SCHWEIZERISCHE ZEITSCHRIFT FUER VOLKSWIRTSCHAFT UND STATISTIK, Berne, Aug., 1951, Vol. 86, No. 4, pp. 335-41.
- BJERVE, P.J., "Kryssløpsforskning i statistisk centralbyrå" (N) (Input-Output Research in the Norwegian Central Bureau of Statistics), STATISTISK TIDSSKRIFT, Vol. 3, 1954.
- , PLANNING IN NORWAY 1947-1956, North-Holland Publishing Company, 1959, 383 pp. (See Section 8, p. 112).
- BLYUMIN, I., —SHLYAPENTOKH, V., "Ob ekonometricheskom napravlenii v burzhuaznoi politicheskoi ekonomii" (R) (The Econometric Trend in Bourgeois Political
- (BLYUMIN, —SHLYAPENTOKH, "Ob ekonometricheskom napravlenii. . ." Continued)

BLYUMIN, I., -SHLYAPENTOKH, V., "Ob ekonometricheskom napravlenii. . ." (Continued)

Economy), VOPROSY EKONOMIKI, 1958, No. 11, (E) translation in: PROBLEMS OF ECONOMICS, Vol. 1, No. 11, March, 1959, pp. 45-52, (See Section 8, p. 126).

BRUNNER, K., "Ein Ausblick of die oekonometrische Forschungsarbeit" (G) (Survey of Research in Econometrics), SCHWEIZERISCHE ZEITSCHRIFT FUER VOLKSWIRTSCHAFT UND STATISTIK, Basel, No. 2, June, 1955.

BUELOW, F., "Input-Output Analyse" (Einsatz-Ausstoss Analyse), (G), WOERTERBUCH DER WIRTSCHAFT, Alf. Kroener Verlag, Stuttgart, 1954, pp. 219-20.

This dictionary of economic terms contains a definition, discussion and appraisal of Input-Output Analysis.

CAMERON, B., "The Future of Inter-Industry Analysis," THE ECONOMIC RECORD, Melbourne University Press, Vol. 31, No. 61, Nov., 1955, pp. 232-41.

". . .the aim of the paper is to assess the degree of success with which interindustry analysis can handle practical problems of industrial structure. . ." The author concludes that ". . .for all its deficiencies, interindustry analysis offers a method of solving practical problems of the first importance. . ."

CAO-PINNA, V., "Analisi delle Interdipendenze Strutturali" (I) (Analysis of Structural Interdependences), DIZIONARIO DI ECONOMIA POLITICA, Edizioni di Comunità, Milan, 1956 (See Section 1, p. 5).

——, "El Método de Analisis de las Interdependencias Estructurales Input-Output" (S) (The Method of Analyzing Structural Interdependences), FACULTAD DE CIENCIAS POLITICAS Y ECONOMICAS, ANALES DE ECONOMIA, Sept., 1956.

CHERUBINO, S., "Osservazioni sulle economie astratte" (I) (Observations on Abstract Economic Theories), RIVISTA DI POLITICA ECONOMICA, Vol. 49, III, No. 10, Oct., 1959, pp. 1559-573.

The author discusses Leontief's Input-Output model and its applications.

CLARK, J.W., "The State of Input-Output Analysis," REVIEW OF SOCIAL ECONOMY, Vol. 14, No. 2, Sept., 1956, pp. 130-37.

COLM, G., "Entwicklungen in Konjunkturforschung und Konjunkturpolitik in den Vereinigten Staaten von Amerika" (G) (Phases in the Development of Business Cycle Research and Policy in the U.S.A.), INSTITUT FUER WELTWIRTSCHAFT, Universitaet Kiel, Kieler Vortraege, 1954.

CUMBERLAND, J.H., "Interindustry Analysis - New Tool in Economics," SCIENTIFIC MONTHLY, Oct., 1956, pp. 189-97.

D'ALAURO, O., "Lo schema della interdipendenze strutturali: appunti bibliografici e note critiche sul suo impiego" (I) (The Scheme of Structural Interdependence [Input-Output Analysis], its Bibliography and Evaluation of its Application), ECONOMIA INTERNAZIONALE, Genova, No. 3, Aug., 1955.

DELLACASA, D.C., "Lo schema Leonteviano" (I) (The Leontief Scheme), RIVISTA DI POLITICA ECONOMICA, Roma, Vol. 45, Series III, Fasc. 5, May, 1955, 20 pp.

DERWA, L., "Notes sur la méthode d'Input-Output" (F), Paper presented at the Conference of La Société Belge de Statistique, Jan. 12, 1958, published in: BULLETIN DE LA SOCIÉTÉ BELGE DE STATISTIQUE, 1958, pp. 11-30 (See Section 1, p. 6).

Dictionnaire des Sciences Économiques (J. Romeuf, Vol. 1, pp. 621-24), "Interindustriels: échanges ou relations" (F) (A discussion and appraisal of Leontief's Interindustry Analysis, by C. Vimot).

Dizionario di Economia Politica, "Analisi delle Interdipendenze Strutturali" (See CAO-PINNA, V., p. 5).

Dizionario Enciclopedico, (I), Vol. IV, pp. 931-33.

In the section entitled, "La Scienza Economica," Input-Output Analysis is discussed as one of the methods of economic analysis (anon.).

DOMAR, E., ESSAYS IN THE THEORY OF ECONOMIC GROWTH, Oxford University Press, New York, 1957. W. Leontief's Input-Output Analysis is referred to on pp. 8, 17, 20, 27-29, 116, 166, 173 and 234.

FOSSATI, E., ELEMENTI DI POLITICA ECONOMICA RAZIONALE, A. Giuffrè, Milan, 1955, (I) (Elements of Rational Political Economy).

Contains a discussion and appraisal of the Leontief Input-Output Table.

FRISCH, R., "Kryssløpsanalyse" (N) (Interindustry Analysis), Lectures given at the University of Oslo during the fall term of 1953, University Institute of Economics, Oslo, 1954, 93 pp., mimeographed.

FRIŠČIČ, I., "Input-Output Analiza i Marxova Analiza Reprodukciije" (SC) w. (E) sum. (Input-Output Analysis and Marxian Reproduction Analysis), EKONOMSKI PREGLED, Vol. 9, No. 10, 1958, pp. 697-724.

GARDNER, W.W., "The Leontief Interindustry Relations Analysis," Ph.D. Thesis, University of Michigan, 1954.

GREECE, Ministry of Coordination, Memorandum on the Practice of Input-Output Technique, Athens, 1955, mimeographed.

HATANAKA, M., "Testing the Workability of Input-Output Analysis," Princeton University, Economic Research Project, Technical Report, 79 pp. and Addenda, April 22, 1957, mimeographed (See Section 1, p. 10).

HENDERSON, J.M., -QUANDT, R.E., "Walras, Leontief and the Interdependence of Economic Activities" (Comment), QUARTERLY JOURNAL OF ECONOMICS, Vol. 69, No. 4, Nov., 1955, pp. 626-31.

HENN, R., "Modellbetrachtungen in der Wirtschaft" (G) (A Discussion of Economic Models), ZEITSCHRIFT FUER DIE GESAMTE STAATSWISSENSCHAFT, No. 2, 1957

Contains a discussion of Leontief's Input-Output model.

- HURWICZ, L., "Input-Output Analysis and Economic Structure," AMERICAN ECONOMIC REVIEW, Vol. 45, Sept., 1955, pp. 626-36 (See Section 1, p. 11).
- IEMOTO, H., "On the Input-Output Analysis of Interindustrial Relations" (J), Hitotsubashi University, THE ECONOMIC REVIEW, Vol. 5, No. 1, Jan., 1954.
- INPUT-OUTPUT ANALYSIS: AN APPRAISAL, National Bureau of Economic Research, Studies in Income and Wealth, Vol. 18, Princeton University Press, 1955, 367 pp. (See Section 1, p. 11).
- KINDLEBERGER, C.P., ECONOMIC DEVELOPMENT, McGraw-Hill, Inc., 1958.
- The study contains a discussion and appraisal of Input-Output Tables on pp. 142-43.
- KLEIN, L.R., "The Interpretation of Leontief's System - A Reply," THE REVIEW OF ECONOMIC STUDIES, Cambridge, England, Vol. 24 (1), No. 63, 1956-57.
- KOENIG, H., -JLRICH, H., "Grundlagen und Bedeutung der Input-Output Analyse" (G) (Bases and Significance of Input-Output Analysis), SCHWEIZERISCHE ZEITSCHRIFT FUER VOLKSWIRTSCHAFT UND STATISTIK, Vol. 93, No. 1, 1957 (See Section 1, p. 12).
- KOLMS, H., "Volkswirtschaftliche Gesamtrechnung, Nationalbudgets und oekonomische Gesamtmodelle" (G) (National Accounting, National Budgets and Economic Models), WELTWIRTSCHAFTLICHES ARCHIV, 1953, Vol. 71, No. 2 (See Section 1, p. 12).
- KOOPMANS, T.C., THREE ESSAYS ON THE STATE OF ECONOMIC SCIENCE, McGraw-Hill, Inc., 1957 (See Section 1, p. 12).
- KRELLE, W., "Investitionsquote, Wachstumsstrategie, Kapazitätsausnutzung und Disproportionalitäten in der fortschreitenden Wirtschaft" (G) (Capital Coefficients [Investment Quota], Rate of Growth, Utilization of Capacity and Disproportionalities in the Expanding Economy), JAHRBUCHER FUER NATIONALOEKONOMIE UND STATISTIK, Stuttgart, No. 3, Oct., 1954.
- The study contains a discussion of the Leontief Input-Output Table on pp. 262-69.
- KUENNE, R.E., A Rejoinder to: MOSES, L.N., "Location Theory, Input-Output and Economic Development - An Appraisal," THE REVIEW OF ECONOMICS AND STATISTICS, Vol. 37, No. 3, Aug., 1955.
- LANGE, O., "Some Observations on Input-Output Analysis," SANKHYA, Vol. 17, Part 4, Feb. 1957 (See Section 1, p. 13).
- , "Études sur la Planification Économique dans les Démocraties Populaires et dans les Pays Sous-Développés" (F) (Studies Regarding Economic Planning in Peoples' Democracies and in Underdeveloped Countries), CAHIERS DE L'INSTITUT DE SCIENCE ÉCONOMIQUE APPLIQUÉE, Serie G.2, No. 49, 1957 (See Section 1, p. 13).

- LAZAR, A.A., THE LEONTIEF SYSTEM, (Gr), Ekdotes: Argures Papazeses, Athens, 1957, 47 pp.
- LUKACS, O., "Az ágazati kapcsolatok mérlege tapasztalatai Norvégiában" (H) (Norwegian Experience with Input-Output Tables), STATISZTIKAI SZEMLE, Oct., 1958, pp. 963-70.
- MANNE, A.S., "Comments on 'Interindustry Economics' by Chenery and Clark," COWLES FOUNDATION DISCUSSION PAPER No. 84, Dec. 4, 1959, 11. p. mimeographed.
- The author maintains that "...The activity analysis approach to Interindustry economics provides a convenient framework for handling certain kinds of 'conceptual' difficulties--import substitution, processing substitution, labor-capital substitution, and the output of by-products--difficulties that have arisen in any of the empirical applications proposed by Chenery and Clark. On balance, their work provides impressive evidence against the presumption that the collection of data for a square matrix is cheaper than for a rectangular one. . ."
- MARANTZ, M., "Le Tableau économique de W. Leontief" (F), LES CAHIERS DE LA REPUBLIQUE, No. 26, July - Aug., 1960, pp. 58-69 (See Section 1, p. 16).
- MARCHAL, J., "Note Critique sur le Modèle Économique présenté par M. Gruson," REVUE ÉCONOMIQUE, No. 4, July, 1951, pp. 385-401.
- MARCZEWSKI, J., "Planification et Croissance Économique des démocraties Populaires" (F) (Economic Planning and Growth of Peoples' Democracies), PRESSES UNIVERSITAIRES, Vol. 2, ANALYSE ÉCONOMIQUE (See Section 9, p. 152).
- MORISHIMA, M., "A Comment on Dr. Klein's Interpretation of Leontief's System," THE REVIEW OF ECONOMIC STUDIES, Vol. 24 (1), No. 63, 1956-57.
- , "Dr. Klein's Interpretation of Leontief's System," A Rejoinder, THE REVIEW OF ECONOMIC STUDIES, Vol. 25 (1), No. 66, Oct., 1957.
- MOSES, L.N., "Location Theory, Input-Output and Economic Development: An Appraisal," THE REVIEW OF ECONOMICS AND STATISTICS, Vol. 37, No. 3, Aug., 1955, pp. 308-12 (See Section 7, p. 58).
- , "Discussion of F.T. Moore's Paper: 'Regional Reaction Paths'," AMERICAN ECONOMIC REVIEW, Vol. 45, No. 2, May, 1955, pp. 150-53.
- NEMCHINOV, V.S., "O sootnosheniakh rasshirennogo vosproizvodstva" (R) (Relationships of Expanded Reproduction), VOPROSY EKONOMIKI, 1958, No. 10, pp. 20-31, (E) translation in: PROBLEMS OF ECONOMICS, Vol. 1, No. 10, Feb., 1959, pp. 11-17 (See Section 8, p. 129).
- NIKITIN, S., Discussion and Review of: LEONTIEF, W.W., I DR., ISSLEDOVANIA STRUKTURII AMERIKANSKOI EKONOMIKI. TEORETICHESKII I EMPIRICHESKII ANALYS PO SKHEME ZATRATII-VIPUSK. VESTNIK STATISTIKI, GOSSTATISDAT, Moscow, 1959, No. 6, pp. 59-65 (R) (LEONTIEF, W., and Others, STUDIES IN THE STRUCTURE OF THE AMERICAN ECONOMY).

NORDBOTTEN, S., "A Survey of Models for Interindustry Economics," WELTWIRTSCHAFT-
LICHES ARCHIV, 1955, Vol. 74, No. 2, pp. 251-66.

The study is a discussion of the various types of Interindustry Models, the static closed and open model, and the dynamic model.

OHLSSON, I., ON NATIONAL ACCOUNTING, Konjunkturinstitutet, Stockholm, 1953 (See Section 1, p. 17).

PEACOCK, A.T., -DOSSER, D.M., "Input-Output Analysis in an Underdeveloped Country: A Case Study" (Tanganyika), THE REVIEW OF ECONOMIC STUDIES, Vol. 25, No. 66, Oct., 1957, pp. 21-24 (See Section 8, p. 122).

PLATT, H., INPUT-OUTPUT ANALYSE, (G) (Input-Output Analysis), Schriften zur Wirtschaftswissenschaftlichen Forschung, Band 6, Verlag Anton Hain KG. (See Section 1, p. 18).

POWELSON, J.P., ECONOMIC ACCOUNTING, McGraw-Hill, Inc., 1955.

For a discussion and an appraisal of Input-Output Analysis and Input-Output Tables, see pp. 425-51.

PREDETTI, A., "Talune considerazioni sul modello Leontieviano e sulla contabilità sociale" (I) (Some Considerations Regarding the Leontief Model and Social Accounting), L'INDUSTRIA, RIVISTA DI ECONOMIA POLITICA, 1954, No. 3, pp. 387-404.

RUGGLES, R., and N.D., NATIONAL INCOME ACCOUNTS AND INCOME ANALYSIS, McGraw-Hill, Inc., 1956 (See Section 1, p. 20).

RYABUSHKIN, T., "Balansovye postroeniia v burzhuaznoi statistike" (R) (Balance Models in Bourgeois Statistics), VESTNIK STATISTIKI, No. 6, 1959, pp. 50-59 (See Section 1, p. 20).

SAGOROFF, S., WIRTSCHAFTSSTATISTIK, THEORY DER INTERPRETATION. I. QUANTITATIVE ERFORSCHUNG DES GESAMTEN WIRTSCHAFTLICHEN PROZESSES, (G) (Economic Statistics, the Theory of Interpretation. I. Quantitative Analysis of the Total Economic Process), A. Francke A.G. Verlag, 1950 (See Section 1, p. 21).

SAMUELSON, P.A., ECONOMICS. AN INTRODUCTORY ANALYSIS, 4th Ed., McGraw-Hill, Inc., 1958 (See Section 1, p. 21).

SCHNEIDER, E., EINFUEHRUNG IN DIE WIRTSCHAFTSTHEORIE. 1. Theorie des Wirtschaftskreislaufs, (G) (Introduction to the Theory of Economics, Part 1, Circular Flow Theory of Economics), J.C.N. Mohr, 1955 (See Section 1, p. 21).

SCHWARTZMANN, D., "The Leontief Input-Output System," Dominion Bureau of Statistics, Ottawa, 1952, mimeographed.

SIROTKOVIĆ, J., "Metode ekonomske analize i ekonomska politika" (SC) w. (E) sum. (Methods of Economic Analysis and Economic Policy), EKONOMSKI PREGLED, Vol. 7, No. 4, 1956, pp. 221-62 (See Section 1, p. 22).

STEINTHORSON, D.H., "Notes on Inter-Industry Studies," THE CANADIAN JOURNAL OF ECONOMICS AND POLITICAL SCIENCE, Vol. 21, No. 4, Nov., 1955.

The author comments on the relationship of Input-Output analysis to national accounts, the treatment of competitive imports and secondary products, trade margins, transportation costs as well as the constancy of Input-Coefficients.

SULMICKI, P., PRZEPŁYWY MIĘDZYGAŁĘZIOWE (P) (Interindustry Flows), Polskie Wydawnictwa Gospodarcze, 1959 (See Section 1, p. 23).

TIEBOUT, C.M., "Regional and Interregional Models: An Appraisal," SOUTHERN ECONOMIC JOURNAL, Oct., 1957 (See Section 7, p. 60).

TINTNER, G., "Game Theory, Linear Programming and Input-Output Analysis," ZEITSCHRIFT FÜR NATIONALÖKONOMIE, Vol. 17/1, 1957 (See Section 2, p. 34).

UTTING, E.G., "National Income and Related Statistics," JOURNAL OF THE ROYAL STATISTICAL SOCIETY, Series A (General), Vol. 118, Part 4, 1955, pp. 434-51.

The author summarizes the work done on national income in the U.K., discusses the basic national income definitions and considers in particular the social accounting and the Input-Output approaches.

VIMOT, C., "Interindustriels: échanges ou relations" (F) DICTIONNAIRE DES SCIENCES ÉCONOMIQUES, Vol. 1, pp. 621-24, Presses Universitaires de France, 1956 (See Section 1, p. 24).

VIRENQUE, P., "De Input-Output Analyse" (Fl), ECONOMISCH EN SOCIAL TIJDSCHRIFT, 12th Vol, No. 2, April, 1958, 20 p.

ZEUTHEN, F., "Input-Output Analysis the Entrance to Efficient Economics," ECONOMIA INTERNAZIONALE, Genoa, Vol. 10, No. 4, Nov., 1957.

——, "Input-Output analysen og vejen videre frem" (D) (Input-Output Analysis and What Then?), NATIONALØKONOMISK TIDSSKRIFT, 1956, Vol. 94, No. 3, pp. 114-21.

This is a review of RASMUSSEN, P.N., STUDIES IN INTERSECTORAL RELATIONS, emphasizing the value of economic analysis as compared with a formal mathematical set-up.

ŽIVADINOVIĆ, V., "Italijansko iskustvo sa input-output tablicam" (SC) w. (E) sum. (Italian Experience with Input-Output Tables), STATISTICKA REVIJA, Vol. 7, No. 3, 1957, pp. 321-31 (See Section 8, p. 132).

CRITICAL REVIEWS OF INPUT-OUTPUT LITERATURE

ARROW, K.J., -HOFFENBERG, M., -MARKOWITZ, H., -SHEPARD, R., A TIME SERIES ANALYSIS OF INTERINDUSTRY DEMANDS, North-Holland Publishing Company, 1959 289 pp.

Reviews by: FISK, P.R., JOURNAL OF THE ROYAL STATISTICAL SOCIETY, Serie A (General), Vol. 122, Part 4, 1959, pp. 552-53; KLEIN, L.R., JOURNAL OF THE AMERICAN STATISTICAL ASSOCIATION, Vol. 55, No. 291, Sept., 1960, pp. 583-84; MAKOWER, H., ECONOMICA, Vol. 27, No. 106, May, 1960; NERLOVE, M., AMERICAN ECONOMIC REVIEW, Vol. 50, No. 1, March, 1960, pp. 182-86; RIVISTA DI POLITICA ECONOMICA, Vol. 50, Ser. 3, Fasc. 1, Jan., 1960, pp. 207-09; THEISS, E., STATISZTIKAI SZEMLE, Vol. 38, No. 7, July, 1960, pp. 755-58.

BARNA, T., (ed.), THE STRUCTURAL INTERDEPENDENCE OF THE ECONOMY, (Varenna Conference 1954), J. Wiley & Sons, Inc., -A. Giuffrè, 1956, 429 pp.

Reviews by: BJERVE, P.J., AMERICAN ECONOMIC REVIEW, Vol. 47, No. 1, March, 1957, pp. 184-85; CLARK, P.G., JOURNAL OF THE AMERICAN STATISTICAL ASSOCIATION, Vol. 52, No. 279, Sept., 1957, pp. 406-07; HENDERSON, J.M., THE JOURNAL OF POLITICAL ECONOMY, June, 1957, p. 268; PRESTON, M.H., ECONOMICA, Nov., 1957, pp. 374-75; RIVISTA DI POLITICA ECONOMICA, June, 1959, pp. 113-14; SOLOW, R.M., ECONOMETRICA, Jan., 1958, Vol. 26, No. 1, pp. 173-74; THE ECONOMIST (anon.), March, 1958, p. 845.

BAUCHET, P., LES TABLEAUX ÉCONOMIQUES: ANALYSE DE LA RÉGION LORRAINE, 1952, Editions Génin, Librairie de Médecis, 1955, 182 pp.

Reviews by: ECKSTEIN, O., ECONOMETRICA, Vol. 25, No. 4, Oct., 1957; PARKER, W.N., JOURNAL OF ECONOMIC HISTORY, June, 1957.

BJERVE, P.J., PLANNING IN NORWAY, 1947-1956, North-Holland Publishing Company, 1959, 383 pp.

Reviews by: COLM, G., JOURNAL OF THE AMERICAN STATISTICAL ASSOCIATION, Vol. 55, No. 289, March, 1960, pp. 236-37; RIDKER, R.G., AMERICAN ECONOMIC REVIEW, Vol. 50, No. 1, March, 1960, pp. 220-22.

CANADA: THE INTERINDUSTRY FLOW OF GOODS AND SERVICES, CANADA, 1949, Dominion Bureau of Statistics, Reference Paper No. 72, 1956, 52 pp.

Review by: EVANS, W.D., JOURNAL OF THE AMERICAN STATISTICAL ASSOCIATION, Vol. 52, No. 280, Dec., 1957, pp. 592-93.

CHAKRAVARTY, S., THE LOGIC OF INVESTMENT PLANNING, North-Holland Publishing Company, 1959, 160 pp.

Reviews by: CHENERY, H.B., JOURNAL OF THE AMERICAN STATISTICAL ASSOCIATION, Vol. 55, No. 290, June, 1960, pp. 387-88; RIVISTA DI POLITICA ECONOMICA, Vol. 50, Feb., 1960, pp. 448-49.

CHENERY, H.B., -CLARK, P.G., INTERINDUSTRY ECONOMICS, J. Wiley & Sons, 1959, 345 pp. plus 15 Tables.

Reviews by: HENDERSON, J.M., REVIEW OF ECONOMICS AND STATISTICS, Vol. 42, No. 3/1, Aug., 1960, pp. 338-39; MANNE, A.S., "Comments on 'Interindustry Economics' by Chenery and Clark," COWLES FOUNDATION DISCUSSION PAPER No. 84, Dec. 4, 1959, 11 p., mimeographed.

DIAB, M.A., THE UNITED STATES CAPITAL POSITION AND THE STRUCTURE OF ITS FOREIGN TRADE, North-Holland Publishing Company, 1956, 67 pp.

Reviews by: CAVES, R.E., ECONOMETRICA, Vol. 26, No. 4, Oct., 1958, pp. 632-33; KOO, A.Y.C., AMERICAN ECONOMIC REVIEW, Vol. 47, No. 5, Sept., 1957, pp. 743-45.

HOCH, I., FORECASTING ECONOMIC ACTIVITY FOR THE CHICAGO REGION: FINAL REPORT, Chicago Area Transportation Study, 1959.

Review by: HOCHWALD, W., JOURNAL OF THE AMERICAN STATISTICAL ASSOCIATION, Vol. 55, No. 289, March, 1959, pp. 233-34.

INPUT-OUTPUT ANALYSIS: AN APPRAISAL, National Bureau of Economic Research, Studies in Income and Wealth, Vol. 18, Princeton University Press, 1955, 367 pp.

Reviews by: CONRAD, A.M., REVIEW OF ECONOMICS AND STATISTICS, Vol. 38, No. 3, Aug., 1956, pp. 349-51; DAZA, A.M., MONEDA Y CREDITO, No. 63, Dec., 1957, pp. 104-07; HATANAKA, M., ECONOMETRICA, Vol. 24, No. 3, July, 1956, p. 357.

ITALY: THE STRUCTURE AND GROWTH OF THE ITALIAN ECONOMY, U.S. Mutual Security Agency, Rome, 1953, 165 pp. (CHENERY, H.B., -CLARK, P.G., -CAO-PINNA, V.).

Reviews by: EVANS, W.D., ECONOMETRICA, Vol. 23, No. 1, Jan., 1955, pp. 110-11; GARCIA BARBANCHO, A., ANALES DE ECONOMIA, Vol. 16, No. 61, April, 1956, pp. 127-76; HENDERSON, P.D., THE ECONOMIC JOURNAL, Vol. 65, No. 257, March, 1955, pp. 149-51, and MONEDA Y CREDITO, Vol. 54, Sept., 1955, pp. 3-25.

LEONTIEF, W.W., THE STRUCTURE OF THE AMERICAN ECONOMY 1919-1939, Oxford University Press, 1951, 264 pp. and Tables.

Reviews by: BARNA, T., ECONOMICA, Vol. 21, No. 84, Nov., 1954, pp. 348-50; DAZA, A.M., MONEDA Y CREDITO, Vol. 59, Dec., 1956, pp. 108-12; DUETSCHLER, H., SCHWEIZERISCHE ZEITSCHRIFT FÜR VOLKSWIRTSCHAFT UND STATISTIK, 1952, No. 2, pp. 173-74.

LEONTIEF, W., and Others, STUDIES IN THE STRUCTURE OF THE AMERICAN ECONOMY: THEORETICAL AND EMPIRICAL EXPLORATIONS IN INPUT-OUTPUT ANALYSIS, Oxford University Press, 1953, 561 pp.

Reviews by: HURWICZ, L., "Input-Output Analysis and Economic Structure," AMERICAN ECONOMIC REVIEW, Vol. 45, Sept., 1955, pp. 626-36; KLEIN, L.R., THE JOURNAL OF POLITICAL ECONOMY, Vol. 61, No. 3, June, 1953, pp. 260-62.

(LEONTIEF, and Others, STUDIES IN THE STRUCTURE OF. . . Continued)

LEONTIEF, W., and Others, STUDIES IN THE STRUCTURE OF. . . (Continued)

Reviews of the (R) translation, ISSLEDOVANIA STRUKTURII AMERIKANSKOI EKONOMIKI. TEORETICHESKII I EMPIRICHESKII ANALYS PO SKHEME ZATRATII - VIPUSK, by: AGANBEGIAN, A., PLANOVOE KHOZIAISTVO, 1959, No. 8, pp. 90-96; BELKIN, V., -BIRMAN, I., VOPROSI EKONOMIKI, 1959, No. 6, pp. 105-13, and PROBLEMS OF ECONOMICS, Vol. 2, No. 6, Oct., 1959, pp. 58-64; NIKITIN, S., VESTNIK STATISTIKI, 1959, No. 6, pp. 59-65.

RASMUSSEN, P.N., STUDIES IN INTERSECTORAL RELATIONS, North-Holland Publishing Company, 1956, 217 pp.

Reviews by: GOSFIELD, A., AMERICAN ECONOMIC REVIEW, Vol. 47, No. 3, June, 1957, pp. 432-35; HENDERSON, J.M., REVIEW OF ECONOMICS AND STATISTICS, Vol. 39, No. 3, Aug., 1957, pp. 352-53; HOOD, W.C., JOURNAL OF THE AMERICAN STATISTICAL ASSOCIATION, Vol. 52, No. 277, March, 1957, pp. 115-17; STEWART, I.G., ECONOMICA, Vol. 23, No. 92, Nov., 1956, p. 387; WERIN, L., EKONOMISK TIDSKRIFT, Dec., 1956, pp. 256-58; ZEUTHEN, F., NATIONALØKONOMISK TIDSSKRIFT, 1956, Vol. 94, No. 3, pp. 114-21.

INDEX OF AUTHORS or ISSUING AGENCIES and TITLES*

	Page No.
ABDEL-MALEK, M., Les modèles économiques de Walras et de Léontief (1, 10)	1
ACS, M., A nepgazdasági mérlegrendszer szerepe a tervezésben (Hungary) (8)	82
ACZEL, I., A marxi ujratermelesí sémák és az input-output módszer (1, 10,)	1
ADAMS, A.A., -STEWART, I.G., Input-Output Analysis: An Application (United Kingdom) (8, 9)	123
AERTS, L., Input-Output en linear programming in het kader van de economische Wetenschap (1, 2, 9, 10)	1
AGANBEGIAN, A., Kniga burzhuaznykh ekonomistov o metode 'zatrát-vypusk' (U.S.S.R.) (8, 10, 11)	125
AICHI Prefecture, (Japan) Input-Output Table for 1951 (7b)	65
D'ALAURO, O., see D'ALAURO	
ALCAIDE INCHAUSTI, A., El Sector F.A.O. en la table 'Input-Output' de la Economía Española (8)	119
-----, -BEGUÉ CANTÓN, G., -FERNÁNDEZ CASTAÑEDA, J., -SANTOS BLANCO, A., LA ESTRUCTURA DE LA ECONOMÍA ESPAÑOLA TABLA INPUT-OUTPUT (8)	119
ALCOCER CHILLÓN, F.J., Aplicación de las matrices de Leontief a la contabilidad social y a la economía de la empresa (9)	138
ALEKSANDROV, V., Elektronnye matematicheskie mashiny (U.S.S.R.) (8, 9)	125
ALGERIA, Ministère de l'Algérie, PERSPECTIVE DÉCENNALES DE DÉVELOPPEMENT ECONOMIQUE DE L'ALGERIE (8)	67
ALLEN, R.G.D., MATHEMATICAL ECONOMICS (1, 2, 9)	1
AMATO, V., Inversione della matrice leontieviana col metodo di riduzione alla matrice-elemento (2)	26
-----, 'Matrici di posizione' e loro impiego nell' analisi delle interdipendenze strutturali dei sistemi economici (2)	26
-----, Un metodo pratico per la inversione della matrice di Leontief (2)	26

* The figures within brackets refer to the Subject Section or Sections under which the respective study is listed. Annotations to the study are entered on the page listed at the right.

	<u>Page No.</u>
AMEY, L.R., Input-Output Analysis and Productivity Measurement (9)	138
The Anatomy of Crisis, THE ECONOMIST (United Kingdom) (1, 8)	1
ANDO, A., -SIMON, H.A., Aggregation of Variables in Dynamic Systems (2, 3)	26
ANTIGUA, The Economy of Antigua (O'LOUGHLIN, C.), see BRITISH WEST INDIES (8)	72
ARA, K., Aggregation Problem in Input-Output Analysis (3)	37
-----, Some Repercussion Effects Obtained from Input-Output Tables (Analysis of the Post-War Economy of Japan, Inter-Industrial Analysis) (2, 8)	26
-----, -YAMADA, I., -KURABAYASHI, Y., Input-Output Analysis (1, 9)	1
ARCHER, M., -DE OLIVEIRA, A.B., see DE OLIVEIRA, A.B., -ARCHER, M.	
ARGENTINA,, ALGUNAS APLICACIONES DEL MODELO DE INSUMO-PRODUCTO EN EL ANÁLISIS Y EN LAS PROYECCIONES DE LA ECONOMÍA ARGENTINA (U.N. - E.C.L.A.) (8)	67
-----, ANÁLISIS Y PROYECCIONES DEL DESARROLLO ECONÓMICO. V. EL DESARROLLO ECONÓMICO DE LA ARGENTINA (U.N. - E.C.L.A.) (8)	67
-----, Some Application of the Input-Output Model to the Argentine Economy (8)	68
ARGENTINA - PERU, COMPARACIÓN DE LA ESTRUCTURA INTERSECTORIAL DE LA PRODUCCIÓN DE ARGENTINA Y DE PERÚ (U.N. - E.C.L.A.) (8a)	134
ARNAIZ VELLANDO, G., -LASUÉN, J.R., Significado económico de los coeficientes en el análisis Input-Output (2)	26
ARROW, K.J., -HOFFENBERG, M., A TIME SERIES ANALYSIS OF INTERINDUSTRY DEMAND (4, 9)	39
ARTLE, R., SAMPELET MELLAN EKONOMISKA SEKTORER I STOR-STOCKHOLM (1, 7b, 8, 9)	1
-----, STUDIES IN THE STRUCTURE OF THE STOCKHOLM ECONOMY (1, 7b, 8, 9)	1
AUJAC, H., La hiérarchie des industries dans un tableau des échanges industriels et ses conséquences sur la mis-en-oeuvre d'un plan national décentralisé (8)	80
AUKRUST, O., Principles of National Accounting (1)	2
-----, Teoretiske modeller og deres bruk i økonomisk tenkning (1, 2, 9)	2

AUSCH, S., A népgazdasági mérlegrendszer néhány főbb problémája (Hungary) (8)	82
AUSTRALIA, Transaction Tables of, (Cameron, B.) (8)	68-69
——, Canberra University College (Cameron, B.) (8)	68-69
AUSTRIA, Oesterreichisches Zentralamt und Oesterreichisches Institut für Wirtschaftsforschung, Die erste Bestandaufnahme der Oesterreichischen Wirtschaft (1, 8)	2
——, Makro-ökonomische Modelle für die österreichische Wirtschaft (Tintner, G.) (8)	70
BALBOA, M., ALGUNAS APLICACIONES DEL MODELO INSUMO-PRODUCTO EN EL ANÁLISIS Y EN LAS PROYECCIONES DE LA ECONOMÍA ARGENTINA (8)	67
——, La utilización del modelo de insumo-producto en las proyecciones de la economía argentina (8)	67
——, COMPARACIÓN DE LA ESTRUCTURA INTERSECTORIAL DE LA PRODUCCIÓN DE ARGENTINA Y DE PERÚ (8a)	134
BALOGH, T., Factor Intensities of American Foreign Trade and Technical Progress (9)	139
BARNA, T., Classification and Aggregation in Input-Output Models (3)	37
——, The Interdependence of the British Economy (8)	123
——, Review of LEONTIEF, W., THE STRUCTURE OF THE AMERICAN ECONOMY (11)	167
——, (ed.), THE STRUCTURAL INTERDEPENDENCE OF THE ECONOMY (Conference at Varenna) (1)	2
BARNETT, H.J., -MOORE, F.T., see MOORE, F.T., -BARNETT, H.J.	
BARRACLOUGH, S., The Interindustry Relations Study and its Application (9)	139
BARRÈRE, A., L'analyse des relations entre le capital et la production (6)	46
BASSIE, V.L., ECONOMIC FORECASTING (1, 9, 10)	3
BAUCHET, P., LES TABLEAUX ÉCONOMIQUES: ANALYSE DE LA RÉGION LORRAINE (France) (7b, 8)	63
BAUMOL, W.J., Activity Analysis in One Lesson (9)	139
——, ECONOMIC DYNAMICS, 2nd Edition (1, 9)	4

BEGUÉ CANTÓN, G., see ALCAIDE INCHAUSTI, A., -BEGUÉ CANTÓN, G., -FERNÁNDEZ CASTAÑEDA, J., -SANTOS BLANCO, A.	
BELGIUM, ANALYSE INPUT-OUTPUT DE L'ÉCONOMIE BELGE EN 1953 (De Falleur, R., -Kirschen, E.S.) (8)	70
BELKIN, V., Delo bol'shogo budushchego (8, 10)	125
——, Ekonomicheskie raschety s pomoshch'iu elektronnykh vychislitel' nykh mashin (8)	125
——, O primeneniі elektronnykh vychislitel'nykh mashin v planirovanii i statistike narodnogo khoziaistva (U.S.S.R.) (2, 8)	27
——, -BIRMAN, I., Kniga amerikanskikh ekonomistov o metode 'zatrati- vypusk' produktsii (U.S.S.R.) (8, 11)	126
BERGER, W.J., -SAIBEL, E., Power Series Inversion of the Leontief Matrix (2)	27
——, Rejoinder to W.D. Evans' letter regarding above article (2)	27
BERMAN, B., The Structure of Consumption; Part II: Cross Section Analysis and Consumption; Part III: An Intensive Cross Section Study: Family Clothing Expenditure, 1935-36 (4)	39
——, Time-to Time Comparisons of Income Expenditure Patterns (4)	39
BERMAN, L.S., National Experiences with Input-Output Analysis: United Kingdom (8)	123
BERRI, L., -EFIMOV, A.N., Metody postroeniia mezhotraslevogo balansa (U.S.S.R.) (8)	126
BILLETER, E., Kreislaufstheoretische Modelle. Ihre Bedeutung und ihre Entwicklung in den U.S. (1, 9, 10)	4
BISHOP, R.A., Input-Output Work as a Basis for Development Planning (9)	139
BISWAS, A.K., Demand for Imports under Planning: Some Theoretical Con- siderations (8)	86
——, Input-Output Analysis and General Equilibrium (1, 8)	4
——, Input-Output Analysis, National Income Accounting and Planning (1, 8)	4
——, Input-Output Relationships Among Selected Indian Industries (8)	86
——, Inter-Industry Transactions and National Income (1, 8)	4
——, Schemes of Sector Classification in Input-Output Analysis (3, 8)	37

BJERKE, K., Betragninger om og ved en doktordisputats (9)	139
——, —MILHØJ, P., —RASMUSSEN, P.N., National Experiences with Input-Output Analysis: Denmark (8)	77
——, ———, ———, Input-Output Work in Denmark (8)	77
BJERVE, P.J., Kryssløpsforskning i statistisk sentralbyrå (Norway) (1, 8, 9, 10)	4
——, PLANNING IN NORWAY, 1947-1956 (8, 9, 10)	112
——, Review of BARNA, T., THE STRUCTURAL INTERDEPENDENCE OF THE ECONOMY (11)	166
BLANC, L.P., National Experiences with Input-Output Analysis: France (8)	80
BLYUMIN, I., —SHLYAPENTOKH, V., Ob ekonometricheskom napravlenii v burshuaznoi politicheskoi ekonomii (8, 10)	126
BOIARSKII, A.I., Ob 'ekonometrike' i primenii matematiki v ekonomicheskom analize (2, 8)	27
——, Sebestoimost' i stoimost' (U.S.S.R.) (8, 9)	126
BORCH, K., Input-Output Analysis as a Basis for Productivity Measurement (9)	139
BOUDEVILLE, J.R., L'ESPACE OPÉRATIONNEL MACROÉCONOMIQUE, LA RÉGION PLAN (7b)	62
——, Léontief et l'étude du circuit économique (1)	4
——, LA SIDÉRURGIE DU MINAS GERAIS (Brazil) (7b, 8)	62
BOURQUE, P.J., The Derivation of Capital Coefficients for Input-Output Analysis: A Study of the Machine Tool Accessories Industry (6, 9)	46
BOUTHOOORN, T.M., De Nationale rekening en Input-Output Tabellen (Netherlands) (1, 8, 9)	4
BOZUFFI, R., —REVIGLIO, G., Il procedimento d'inversione della matrice delle interdipendenze strutturali dell'economia italiana per il 1950 (2)	27
BRATT, E.C., BUSINESS FORECASTING (9)	140
BRAUERS, W.K., De ontwikkeling van de Input-Output Tekniek (1)	4
BRAZIL, Inter-relações do Sistema Industrial Brasileiro (de Oliveira, A.B., Barbosa, A., Archer, M.) (7b, 8)	62

(BRAZIL Continued)

BRAZIL (Continued)

-----, Relações Interindustriais no Estado de Minas Gerais, 1953 (7b, 8)	61	---
-----, LA SIDÉRURGIE DU MINAS GERAIS (Boudeville, J.) (7b, 8)	62	---
BREMS, H., Employment and Money Wages under Balanced Foreign Trade (9)	140	---
-----, Input-Output Coefficients as Measures of Product Quality (9)	140	---
-----, OUTPUT, EMPLOYMENT, CAPITAL, AND GROWTH: A QUANTITATIVE ANALYSIS (9)	140	---
BRIGGS, F.E.A., On Problems of Estimation in Leontief Models (2)	27	---
BRITISH GUIANA, The Economy of British Guiana: 1952-1956 (8)	72	---
-----, WEST INDIES (The Economies of Antigua, Montserrat, St. Kitts-Nevis-Anguilla) (8)	72	CAN
BRÓDY, A., Az ágazati kapcsolatok mérlegének elméletéhez (Hungary (1, 8)	4	---
-----, Az ágazati kapcsolatok mérlege és a közvetett bernházások (8, 9)	82	---
-----, Input-Output Módszer a nemzetgazdasági folyamatok elemzésére (Hungary) (1, 8, 9)	4	---
-----, Az ipar ágazati termékmerlegei (Hungary) (8, 9)	82	---
-----, A nehézipar néhány fajlagos mutatójának alakulása (Hungary) (8, 9)	82	CAN
-----, -RENYI, A., see RENYI, A., -BRODY, A.		CAN
BROMBERGER, N., Structural Relations Between Consumer Expenditure and Income: Part III. Household Input Coefficients from Budget Data (4)	39	CAC
BROWN, A.I., Professor Leontief and the Pattern of World Trade (9)	141	---
BRUNNER, K., Ein Ausblick auf die oekonometrische Forschungsarbeit (1, 10)	4	---
BUCHANAN, N.S., Lines on the Leontief Paradox (9)	141	---
BUELOW, F., Input-Output Analyse (10)	160	---
BYLEVELD, J.P., Planning hier en in de Verenigde Staten (Netherlands) (8, 9)	110	---
CALIFORNIA, see MOORE, F.T.		

CAMERON, B., The Australian Economy - 1965 (8)	69
——, THE AUSTRALIAN TRANSACTION TABLE 1946-47 (8)	68
——, The Compilation of the Australian Transaction Tables, 1947 (8)	68
——, The Factor Content of Final Demand (8)	69
——, The Future of Inter-Industry Analysis (10)	160
——, Inter-Sector Accounts, 1955-1956 (Australia) (8)	69
——, New Aspects of Australia's Industrial Structure (8)	69
——, The Study of Imports in the Canberra Inter-Industry Project (8)	69
——, THE TRANSACTION TABLE: AUSTRALIA, 1953-54 (8)	69
CANADA, Dominion Bureau of Statistics, THE INTER-INDUSTRY FLOW OF GOODS AND SERVICES, CANADA, 1949 (8)	72
——, SUPPLEMENT TO THE INTER-INDUSTRY FLOW OF GOODS AND SERVICES, 1949 (8)	72
——, BRITISH COLUMBIA, Province of, Regional Input-Output Table (7b, 8)	62
——, QUEBEC, Province of, Regional Input-Output Table (7b, 8)	62
——, U.S.A., see WONNACOTT, R.J.	
CANDLER, W., -HEADY, E.O., see HEADY, E.O., -CANDLER, W.	
CANSADO, E., Sobre la inversión de matrices de Leontief (2)	28
CAO-PINNA, V., ANALISI DELLE INTERDIPENDENZE SETTORIALI DI UN SISTEMA ECONOMICO (Italy) (8)	90
——, Analisi delle Interdipendenze Strutturali (1, 10)	5
——, Applicazioni ed esperienze del metodo Input-Output in vari paesi (Italy) (8, 9)	89
——, Determinación de las transferencias de renta entre los distintos sectores productivos por efecto de las variaciones en el sistema de precios relativos (Determinazione dei trasferimenti di reddito tra singoli settori produttivi per effetto delle variazioni nel sistema dei prezzi relativi) (1)	5
——, Effetti sul sistema produttivo nazionale e sul fabbisogno d'importazione del carico di lavoro dei cantieri navali italiani (8)	90

(CAO-PINNA Continued)

CAO-PINNA, V. (Continued)

-----, El Método de Analisis de las Interdependencias Estructurales Input-Output (1, 10)	4
-----, National Experiences with Input-Output Analysis: Italy (8)	89
-----, Notes introductives à l'étude et à l'application de la méthode Input-Output (1, 9)	4
-----, Possibili applicazioni del modello di contabilità 'input-output' al livello aziendale (Posibles aplicaciones del modelo input- output en el ámbito de la empresa) (8, 9)	90
-----, Principali caratteristiche strutturali di due economie Mediterranee: Spagna e Italia (Principales características estructurales de las economías Mediterráneas, España y Italia) (8a)	133
-----, Rapport sur l'état actuel des recherches sur les relations inter- industrielles en Italie (8)	90
-----, Relationships Between Import Requirements and Final Demand in Italy, 1953-54 (8)	89
-----, LE RELAZIONI DI INTERDIPENDENZA DELLE INDUSTRIE TESSILI, NEL QUADRO DELL'ECONOMIA ITALIANA (8)	90
-----, Le relazioni di interdipendenza tra il settore dei Trasporti ed il sistema produttivo italiano (8)	90
-----, Il valore aggiunto nella contabilità 'input-output' (1)	5
-----, see PARETTI, V., -CAO-PINNA, V., -CUGIA, L., -RICHI, C.	
CARASSO, M., The Real Pushbutton War (9)	141
CARBONNELLE, C., -KIRSCHEN, E.S., Structure de l'Économie de Haut et Bas Uele en 1957 (Congo) (7b, 8)	62
CARTER, A.P., Analysis of Technological Change (6)	46
-----, Technological Change: Electric Public Utilities (6)	46
-----, The Analysis of Technological Change (6)	46
-----, Investment, Capacity Utilization, and Changes in Input-Structure in the Tin Can Industry (6)	46
-----, Technological Change: Status of Research. New Plant Coefficients - Introduction (6)	46

CARTER, H.O., Regional Input-Output Analysis of Agriculture and Industry (7a)	52
-----, -HEADY, E.O., AN INPUT-OUTPUT ANALYSIS EMPHASIZING REGIONAL AND COMMODITY SECTORS OF AGRICULTURE (4, 7a)	39
-----, -----, see HEADY, E.O., -CARTER, H.O.	
CASTIGLIONI, P., L'aggregazione nella tavola delle interdipendenze strutturali (3)	37
CAVES, R.E., The Interindustry Structure of the Canadian Economy (8)	73
-----, Review of DIAB, M.A., THE UNITED STATES CAPITAL POSITION AND THE STRUCTURE OF ITS FOREIGN TRADE (11)	167
-----, TRADE AND ECONOMIC STRUCTURE. MODELS AND METHODS (9)	141
-----, -HOLTON, R.H., THE CANADIAN ECONOMY. PROSPECT AND RETROSPECT (8, 9)	73
CEDRAS, J., Le paradoxe de Léontief et la théorie de la spécialisation internationale (9)	142
CÉLAYA, F., La construcción naval y la estructura de la economía española (8, 9)	120
ČERVENÝ, A., -VÁCHA, J., Přípravy pro sledování meziodvětových a mezioborových vztahů (Czechoslovakia) (8)	76
CHABERT, A., L'analyse empirique des relations interindustrielles (9)	142
CHAKRAVARTY, S., THE LOGIC OF INVESTMENT PLANNING (9)	142
-----, The Matrix Extension of the Multiplier (India) (2, 8)	28
CHAKRAVERTI, A.K., Role of Imports in the Economy-Estimation of Technological Import Requirements (India) (8)	86
-----, -AGRAWAL, V.K., A Note on Forecasting Net-Product of 1953-1954 (India) (8)	86
-----, -SENGUPTA, S.S., On Some Simple Illustrative Dynamic Inter-Industry Models (India) (8)	86
-----, -----, Inter-Industry Transactions of the Indian Economy 1951-52 (8)	85
-----, -----, Planning and the Problem of Aggregation (India) (8)	85
-----, -----, -AGRAWAL, V.K., On Applications of Inter-Industry Relations, 1951-52 (8)	86

	<u>Page No.</u>
CHAND, M., Models for Planning in a Socialist Economy (8, 9)	87
CHAPIN, F.S., Jr., Employment Forecasts for City Planning (7a)	52
CHEMICAL ENGINEERING, New Tools for Economic Studies (1)	5
CHENERY, H.B., Application of Interindustry Analysis to Problems of Economic Development (9)	142
——, Il compito dell'industrializzazione nello sviluppo dell'Italia meridionale (7b)	63
——, Inter-Regional and International Input-Output Analysis (7a)	52
——, The Role of Industrialization in Development Programs (Italy) (8, 9)	90
——, Tests of Inter-Industry Models of Growth (1, 2, 6)	5
——, Review of CHAKRAVARTY, S., THE LOGIC OF INVESTMENT PLANNING (11)	166
——, —CLARK, P.G., INTERINDUSTRY ECONOMICS (1, 2, 3, 4, 6, 7a, 8a, 9)	5
——, —GOLDBERGER, A.S., The Use of Models for Development Policy (9)	143
——, —KRETSCHMER, K.S., Resource Allocation for Economic Development (Distribución de recursos para el desarrollo económico) (1, 7b, 9)	6
——, —UZAWA, H., Non-Linear Programming in Economic Development (9)	143
——, —WATANABE, T., International Comparisons of the Structure of Production (8a)	133
CHERUBINO, S., Osservazioni sulle economie astratte (10)	160
——, I prezzi nella teoria dell'equilibrio generale dinamico secondo Leontief-Goodwin (2)	28
——, Sui fondamenti matematici della teoria dell'equilibrio generale economico (2)	28
——, Sulle matrici leontieviane e su un problema di programmazione lineare (2)	28
CHICAGO, FORECASTING ECONOMIC ACTIVITY FOR THE CHICAGO REGION (Hoch, I.) (7a)	54
——, CHICAGO HEIGHTS INDUSTRIAL ECONOMIC BLUEPRINT (Longini, A.) (7a)	57
CHIPMAN, J.S., A Note on Stability, Workability, and Duality in Linear Economic Models (2)	28

	<u>Page No.</u>
CHOUDHURI, T., Consumption Levels in India (8)	86
-----, GOODWIN , R.M., Transaction Matrices in the Indian Union, 1950-1951 (8)	85
CLARK, J.W., The State of Input-Output Analysis (10)	160
CLARK, P.G., Review of BARNA, T., (ed.), THE STRUCTURAL INTERDEPENDENCE OF THE ECONOMY (11)	166
-----, CHENERY , H.B., see CHENERY, H.B., CLARK , P.G.	
CLARK, V., Technological Change: New Plant Coefficients - Aluminum (6)	47
-----, Technological Change: Preliminary Estimates of 1947 Capacity (6)	47
-----, Technological Change: A Study of the Input Coefficients in the Motor Vehicle Industry (6)	47
COLEGIO NACIONAL DE DOCTORES Y LICENCIADOS EN CIENCIAS ECONÓMICAS Y COMERCIALES, Madrid, Las estructuras de empleo y su aplicación macroeconómica (Spain) (8, 9)	120
COLM, G., Entwicklungen in Konjunkturforschung und Konjunkturpolitik in den Vereinigten Staaten von Amerika (1, 10)	6
-----, Review of BJERVE, P.J., PLANNING IN NORWAY, 1947-1956 (11)	166
COLOMBIA, ANALYSIS AND PROJECTIONS OF ECONOMIC DEVELOPMENT. III. THE ECONOMIC DEVELOPMENT OF COLOMBIA (U.N. - E.C.L.A.) (8)	74
-----, ANÁLISIS Y PROYECCIONES DEL DESARROLLO ECONÓMICO. III. EL DESARROLLO ECONÓMICO DE COLOMBIA. ANEXO ESTADÍSTICO (U.N. - E.C.L.A.) (8)	75
-----, The Input-Output Model. General Characteristics and Applicability to the Case of a Latin American Country (U.N. - E.C.L.A.) (8)	75
CONGO, Structure de l'Économie de Haut et Bas Uéle en 1957 (7b, 8)	62
CONRAD, A.H., Labor Coefficients and Income Generation (5)	44
-----, Labor (Effect of Changes in the Occupation-Industry Structure 1939-49) (5)	44
-----, Labor Utilization and Income Generation (5)	44
-----, Structural Change, Labor Utilization and the Inequality of Wage Incomes (5)	44

(CONRAD, Continued)

	<u>Page No.</u>	
CONRAD, A.H. (Continued)		DA2
----, Labor and Income Generation (5)	44	---
----, Multiplier Effects of Redistributed Public Budgets (4, 9)	40	---
----, On the Calculation of Tax Burdens (9)	143	DE
----, The Share of Wages and Salaries in Manufacturing Incomes, 1947-1956 (5)	44	DE
----, Review of INPUT-OUTPUT ANALYSIS: AN APPRAISAL, Studies in Income and Wealth, National Bureau of Economic Research, Vol. 18 (11)	167	DE
CORNBLIT, O., Precios en la matriz de Leontief (1)	6	---
CROFT-MURRAY, G., -STONE, R., see STONE, R., -CROFT-MURRAY, G.		---
CSEPINSZKY, A., Hibameghatározás az ágazatok kapcsolatának elemzésénél (2)	28	---
CUGIA, L., see PARETTI, V., -CAO-PINNA, V., -CUGIA, L., -RIGHI, C.		---
CUMBERLAND, J.H., Interindustry Analysis - New Tool in Economics (1, 10)	6	---
----, -ISARD, W., see ISARD, W., -CUMBERLAND, J.H.		---
CYPRUS, INPUT-OUTPUT ANALYSIS OF THE ECONOMY OF CYPRUS (8)	75	DE
CZECHOSLOVAKIA, Input-Output Studies (8)	76	---
DAÍÉ LILLO, J., Método de análisis insumo-producto (1)	6	---
D'ALAURO, O., Lo schema della interdipendenze strutturali; appunti bibliografici e note critiche sul suo impiego (10)	160	DE
----, IL MERCATO COMUNE EUROPEO (8a, 9)	136	---
DANIÈRE, A.L., American Trade Structure and Comparative Cost Theory (9)	144	DE
----, Household Consumption, Part II: Theoretical and Empirical Analysis of Consumption within the Input-Output System (1, 4)	6	DE
----, An Empirical Consumption Structure for Clothing (4)	40	---
----, -GILBOY, E.W., A Multivariate Analysis of Selected Items of Consumer Expenditure (4)	40	---
DANTZIG, G.B., Optimal Solution of a Dynamic Leontief Model with Substitution (6)	47	DE
DAVIS, J.H., -GOLDBERG, R.A., A CONCEPT OF AGRIBUSINESS (4, 9)	40	

DAZA, A.M., Review of INPUT-OUTPUT ANALYSIS: AN APPRAISAL, National Bureau of Economic Research, Vol. 18 (11)	167
——, Review of LEONTIEF, W., THE STRUCTURE OF THE AMERICAN ECONOMY, 1919-1939 (11)	167
DE FALLEUR, R., -KIRSCHEN, E.S., Analyse Input-Output de l'Économie Belge en 1953 (8)	70
DELLACASA, D.C., Lo Schema Leontieviano (1, 10)	6
DEL PUNTA, V., Input-Output Regionale: Problemi delle differenze regionali nei prezzi e nelle tecniche di produzione (7b)	64
——, Il <u>paradosso</u> di Leontief alla luce della teoria classica del commercio internazionale (9)	144
——, La tesi di W. Leontief sul commercio con l'estero degli Stati Uniti (9)	144
——, Sull'applicazione dell' input-output analysis e della programmazione lineare al problema dello sviluppo economico (Italy) (7b, 8, 9)	63
——, -FEI, J.C.H., see FEI, J.C.H., -DEL PUNTA, V.	
DENMARK, Statistiske Meddelelser, NATIONALPRODUKTET OG NATIONALINDKOMSTEN, 1930-1946 (8)	77
——, Statistiske Meddelelser, NATIONALPRODUKTET OG NATIONALINDKOMSTEN, 1946-1949 (8)	77
——, Statistiske Meddelelser, NATIONALINDKOMSTEN 1938 og 1947-1954 (8)	77
DE OLIVEIRA, A.B., -ARCHER, M., Inter-relações do Sistema Industrial Brasileiro (7b, 8)	62
DE TORRES MARTÍNEZ, M., y Asociados, Tablas Input-Output de la economía española, años 1954-1957 (8)	121
DERWA, L., Notes sur la méthode d'Input-Output (1, 9, 10)	6
——, Une Nouvelle Méthode d'Analyse de la Structure Économique (Belgium, Liège) (1, 7b, 8)	6
——, Technique d'Input-Output et programmation linéaire (Belgium) (1, 7b, 8)	6
DESAI, B.C., -BRAHMANANDA, P.R., Notes. The Structure of Capital in the Indian Economy (India) (6, 8)	47

	<u>Page No.</u>
DHAR, P.N., Some Aspects of Technical Progress in Small Scale Industries (India) (6, 8)	47
DIAB, M.A., THE UNITED STATES CAPITAL POSITION AND THE STRUCTURE OF ITS FOREIGN TRADE (9)	144
Dictionnaire des Sciences Économiques, Interindustriels: échanges ou relations (1, 10)	7
DIEULEFAIT, C.E., El modelo de insumo-producto y el problema de inversión (2)	28
DIVISIA, F., Note technique sur les travaux d'analyse des interdépendances entre industries 1951-52 (1)	7
DIVOY, I., Les tableaux économiques et l'étude des marchés (9)	145
Dizionario di Economia Politica, Analisi delle Interdipendenze Strutturali (1, 10)	7
Dizionario Enciclopedico, La Scienza Economica, Input-Output Analysis (1, 10)	7
DOMAR, E., ESSAYS IN THE THEORY OF ECONOMIC GROWTH (1, 10)	7
Dominion Bureau of Statistics (Canada) (8)	72
DORFMAN, R., -SAMUELSON, P.A., -SOLOW, R.M., LINEAR PROGRAMMING AND ECONOMIC ANALYSIS (1)	7
DOSSER, D.G.M., The Formulation of Development Plans in the British Colonies (United Kingdom) (8, 9)	123
-----, -PEACOCK, A.T., see PEACOCK, A.T., -DOSSER, D.G.M.	
DUE, J.F., INTERMEDIATE ECONOMIC ANALYSIS (9)	145
DUETSCHLER, H., Review of LEONTIEF, W., STRUCTURE OF THE AMERICAN ECONOMY, 1919-1939 (11)	167
DUMONTIER, J., BUDGET ÉCONOMIQUE ET CAPITAL NATIONAL (1)	7
DUTTA, U., A Preliminary Study of Inter-Industry Relations in India (8)	85
EASTERN ECONOMIST, Input-Output Analysis in India (8)	86
ECKSTEIN, O., An Interindustry Approach to Fiscal Policy (4, 9)	40
-----, Review of BAUCHET, P., LES TABLEAUX ÉCONOMIQUES: ANALYSE DE LA REGION LORRAINE (11)	166
-----, -FROMM, G., STEEL AND THE POSTWAR INFLATION (1, 4, 9)	7

École Polytechnique, Laboratoire d'Économétrie (Divisia, F.) (1, 4, 9)	7
THE ECONOMIST, The Anatomy of Crisis (United Kingdom) (8, 9)	123
——, Focusing Business Forecasts (9)	145
——, A Tool for Forecasting (9)	145
——, Review of BARNA, T., (ed.), THE STRUCTURAL INTERDEPENDENCE OF THE ECONOMY (11)	166
EDEY, H.C., -PEACOCK, A.T., National Income and Social Accounting (1)	7
EDWARDS, B.E., An Empirical Estimate of Some Regional and Interregional Input-Output Matrices (7a)	52
EFIMOV, A.N., Mezhotraslevoi balans i ekonomicheskie proporsii (8)	126
——, Perestroika upravleniia promyshlennosti i stroitelstva v U.S.S.R. (8, 9)	126
——, -BERRI, L., see BERRI, L., -EFIMOV, A.N.	
EGYPT, National Planning Committee, Input-Output Tables for the Southern Region of the U.A.R. (8)	78
EIDEL'MAN, M., K voprosu o postroenii otchetnogo mezhotraslevogo balansa proizvodstva i raspredeleniia produktsii v narodnom khoziaistve S.S.S.R. (8)	127
EKKER, M.H., La Contabilidad del Ingreso Nacional (1)	8
ELLIOTT, G.A., Comments on W. Leontief's 'Factor Proportions and the Structure of American Trade' (9)	145
EUROPE, Rome Treaty Nations, Input-Output Study (8b)	136
EVANS, W.D., Input-Output Computations (2)	29
——, Rebuttal to BERGER, W.G., -SAIBEL, E., 'Power Series Inversion of the Leontief Matrix' (2)	28
——, The Relation of Input-Output Analysis to Economic Forecasting (9)	145
——, Review of THE INTER-INDUSTRY FLOW OF GOODS AND SERVICES, CANADA, 1949 (11)	166
——, Review of THE STRUCTURE AND GROWTH OF THE ITALIAN ECONOMY (11)	167
——, -HOFFENBERG, M., Estudio de las Relaciones Interindustriales para 1947 (4, 9)	40

FABBRINI, L., La generalizzazione del moltiplicatore e degli schemi macroeconomici (2)	29
-----, ISTANZE STATICHE ED ISTANZE EVOLUTIVE NELLA MODELLISTICA CONTEMPORANEA (1, 9)	8
FAIVELEY, G., La dynamisation du modèle de Léontief et le problème de l'équipement optimum (2, 6)	29
FEDOROVICH, M., Ispol'zovanie matrichnogo uschisleniia v zavods kom planirovanii (8, 9)	127
FEI, J.C.H., An Alternative Exposition of the Generalized Simplex Method for the Maximization of the Linear Function of Non-negative Variables Subject to Linear Equalities (2)	29
-----, A Fundamental Theorem for the Aggregation Problem of Input-Output Analysis (3)	37
-----, -DEL PUNTA, V., L'uso della 'programmazione linear' per lo studio della pianificazione della sviluppo industriale con riferimento al problema del Mezzogiorno Italiano (2, 7b, 9)	29
-----, -MOSES, L.N., Appendix to MOSES, L.N., The Stability of Interregional Trading Patterns (7a)	58
FERNÁNDEZ CASTAÑEDA, J., see ALCAIDE INCHAUSTI, A., -BEGUÉ CANTÓN, G., FERNÁNDEZ CASTAÑEDA, J., SANTOS BLANCO, A.	
FIGUEROA, E. de, El sistema de Leontief y el principio de máximo (2)	29
FINLAND, Input-Output Table (Forssell, O., -Grönlund, P.) (8)	78
FISHER, W., Criteria for Aggregation in Input-Output Analysis (3)	37
FISK, P.R., Review of ARROW, K.J., -HOFFENBERG, M., TIME SERIES ANALYSIS OF INTERINDUSTRY DEMANDS (11)	166
Focusing Business Forecasts, see THE ECONOMIST	
FORSSELL, O., -GRÖNLUND, P., Panos-Tutos-Menetelmä (Finland) (8)	78
FOSSATI, E., ELEMENTI DI POLITICA ECONOMICA RAZIONALE (1, 10)	8
FOURASTIÉ, J., Note sur les méthodes des prévision économique dérivées de l'étude des échanges interindustriels (9)	146
-----, LA PRÉVISION ÉCONOMIQUE (9)	146
FOX, K.A., ECONOMETRIC ANALYSIS FOR PUBLIC POLICY (9)	146

FRANCE, Ministère des Affaires Économiques et Financières, TABLEAU ECONOMIQUE DE L'ANNEE 1951 (8)	79
——, Conseil Économique, BULLETIN, Études des tableaux d'échanges intersecteurs (8)	79
——, École Polytechnique (Divisia, F.) (1)	7
FRISCH, R., Kryssløpsanalyse (1, 10)	8
——, Main Features of the Oslo Median Model (1, 8)	8
——, From National Accounts to Macroeconomic Decision Models (1)	8
——, Preliminary Results of Experimental Plan Frame No. 1, Structure of the Set-Up and Numerical Results (India) (8)	86
——, PLANNING FOR INDIA: SELECTED EXPLORATIONS IN METHODOLOGY (8)	87
——, The Structure of the Norwegian Input-Output Work on 1954 Data (8)	113
FRISČIĆ, I., Input-Output Analiza i Marxova Analiza Reprodukciije (1, 10)	8
FROMM, G., -ECKSTEIN, O., see ECKSTEIN, O., -FROMM, G.	
FUERST, E., The Matrix as a Tool in Macro-Accounting (United Kingdom) (2, 8, 9)	29
FUJIMAKI, Y., Tables of the Agricultural Sectors, 1951 (Japan) (8)	93
FUKUOKA, M., Efficient Paths of Dynamic Input-Output Processes (6)	47
FURUYA, H., Intertemporal Efficiency in the Process of Capital Accumulation (6)	47
——, INADA, K., Efficient Path and Path for Balanced Growth in Capital Accumulation (6)	47
GAATHON, A.L., Food Supply for Consumption, 1951 (Israel) (8)	88
——, FOUR YEAR DEVELOPMENT PLAN OF ISRAEL (8)	88
——, SURVEY OF ISRAEL'S ECONOMY, 1951 (8)	88
GARCÍA BARBANCHO, A., El modelo del equilibrio general de Leontief y su aplicación a Italia (Italy, Spain) (1, 8, 9, 11)	8
GARDNER, W.W., The Leontief Interindustry Relations Analysis (10)	161
GASS, S.J., LINEAR PROGRAMMING. METHODS AND APPLICATIONS (1, 9)	8

GEORGE WASHINGTON UNIVERSITY, Office of Naval Research, Logistics Research Project (see MOORE, F.T., -BARNETT, H.J., -NOBLE, S.B., and p. 147)		GR
GERMANY, Volkswirtschaftliche Gesamtrechnung einschliesslich Input-Output Analyse mit Zahlen f.d. Bundesrepublik Deutschland (Krelle, W.) (8)	81	GR
-----, Arbeitsgemeinschaft fuer Rationalisierung des Landes Nordrhein-Westfalen (Leontief, W.) (1)	14	GR
GHOSH, A., Input-Output Approach in an Allocation System (1)	9	GR
-----, Input-Output Analysis with Substantially Independent Groups of Industries (1)	9	GR
-----, A Note on Leontief Models with Non-Homogeneous Production Functions (2)	29	GR
GILBERT, M., -STONE, R., Recent Developments in National Income and Social Accounting (1)	9	GR
GILBOY, E.W., Consumption and Input-Output Analysis (4)	41	HA
-----, Elasticity, Consumption and Economic Growth (4)	41	HA
-----, Household Consumption: Introduction (4)	41	HA
-----, Household Consumption. The Status of Consumption Research (4)	41	HA
-----, The Structure of Consumption. Analytical Problems (4)	40	HA
-----, Structural Relations Between Consumer Expenditure and Income. Status of Research (4)	40	
-----, -DANIERE, A.L., see DANIERE, A.L., -GILBOY, E.W.		
GILLMANN, J.M., Interindustry Correlation Between the Organic Composition of Capital and the Rate of Profit (9)	147	
GOLDBERG, R.A., -DAVIS, J.H., see DAVIS, J.H., -GOLDBERG, R.A.		
GOLDBERGER, A.S., -CHENERY, H.B., see CHENERY, H.B., -GOLDBERGER, A.S.		
GOLD COAST, Financial and Physical Problems of Development in the Gold Coast 1952 (Ross, C.T., -Seers, D.) (8)	81	
GOSFIELD, A., Review of RASMUSSEN, P.N., STUDIES IN INTERSECTORAL RELATIONS (11)	168	
GOTTLIEB, A., Planning Elements of an Inter-Industry Analysis (7a)	53	

GRANICK, D., The American Capital Position in Foreign Trade: A Comment (9)	147
GRASBERG, E., Social Accounts and Input-Output Tables (1)	9
GRDJIĆ, G., Na putu izgradnje našeg sistema društvenih računa (Yugoslavia) (8)	131
GREAT BRITAIN, see UNITED KINGDOM	
GREBTSOV, G., K voprosu o razrabotke svodnogo material'nogo balansa (U.S.S.R.) (8, 9)	127
GREECE, Ministry of Coordination, Memorandum on the Practice of Input- Output Technique (8, 10)	81
GRÖNLUND, P., -FORSSELL, O., see FORSSELL, O., -GRÖNLUND, P.	
GRUENBAUM, L.A., see GAATHON, L.A.	
HAAVELMO, T., En Økonomisk Disputats, Kryssløpsanalysen som Teoretisk og som Økonomisk - Politisk Instrument (1, 11)	9
HALDI, J., A Test on Two Hypotheses Concerning Interpretation of Input- Output Coefficients (9)	147
HARRIS, B., -MOYERMAN, S., see MOYERMAN, S., -HARRIS, B.	
HARVARD ECONOMIC RESEARCH PROJECT (Limited Distribution of Reports, Studies, Memoranda)	
REPORT ON RESEARCH FOR 1954 (Feb., 1955), 255 pp.	
Natural Resources (Henderson, J.M.) (1, 9)	9
Technological Change:	
I Status of Research (Carter, A.P.) (6)	46
II New Plant Coefficients:	
1. Introduction (Carter, A.P.) (6)	46
2. Synthetic Rubber (Smith, V.) (6)	50
3. Aluminum (Clark, V.) (6)	46
4. Trucking (Smith, V.) (6)	50
5. Electric Public Utilities (Carter, A.P.) (6)	46
Price Index Research, 1939-1947 (Taskier, C.E.) (6)	50
Labor Coefficients and Income Generation (Conrad, A.H.) (5)	44
Structural Relations Between Consumer Expenditure and Income:	
I Status of the Research (Gilboy, E.W.) (4)	41

(HARVARD ECONOMIC RESEARCH PROJECT Continued)

HARVARD ECONOMIC RESEARCH PROJECT (Continued)

REPORT ON RESEARCH FOR 1954 (Continued)

Structural Relations Between Consumer Expenditure and Income: (Continued)

II Household Input Coefficients for a 20 Industry Model as Derived from Time Series (Lippitt, V.) (4)	42
III Household Input Coefficients from Budget Data (Bromberger, N.) (4)	39
Interregional Analysis (Moses, L.N.) (2, 7a)	32

REPORT ON RESEARCH FOR 1955 (March, 1956), 175 pp.

Technological Change:

I Analysis of Technological Change (Carter, A.P.) (6)	46
II Preliminary Estimates of 1947 Capacity (Clark, V.) (6)	47
III A Study of the Input Coefficients in the Motor Vehicle Industry (Clark, V.) (6)	47
IV Revision of the 1939 Matrix (Taskier, C.E.) (6)	50

Labor Utilization and Income Generation (Conrad, A.H.) (5)	44
--	----

The Structure of Consumption:

I Analytical Problems (Gilboy, E.W.) (4)	40
II Cross-Section Analysis and Consumption (Berman, B.) (4)	39
III An Intensive Cross-Section Study: Family Clothing Expenditure, 1935-36 (Berman, B.) (4)	39
IV The Derivation of Preliminary Household Input Coefficients for Selected Industries, 1935-36 (Wexler, I.) (4)	43

Factor Proportions and the Structure of American Trade: Further Theoretical and Empirical Analysis (Leontief, W.W.) (1, 9)	9
---	---

REPORT ON RESEARCH FOR 1956-1957 (Dec., 1957), 169 pp.

Natural Resources (Henderson, J.M.) (1, 9)	9
--	---

An Input-Output, Linear Programming Approach to Interregional Analysis (Moses, L.N.) (2, 7a)	32
---	----

An Interindustry Approach to Fiscal Policy (Eckstein, O.) (4, 9)	40
--	----

Technological Change:

I The Analysis of Technological Change (Carter, A.P.) (6)	46
II The Aluminum Industry (Strout, A.M.) (6)	50
III Technological Change and Efficiency in the Textile Industry (Tsung-Yuen Shen) (6)	50
IV Some Properties of Leontief's Dynamic Models (Wurtele, Z.S.) (2, 6)	36

(HARVARD ECONOMIC RESEARCH PROJECT Continued)

HARVARD ECONOMIC RESEARCH PROJECT (Continued)

REPORT ON RESEARCH FOR 1956-1957 (Continued)

Labor--Effect of Changes in the Occupation Industry Structure,
1939-1949 (Conrad, A.J.) (5) 44

Household Consumption:

- I The Status of Consumption Research (Gilboy, E.W.) (4) 41
- II Theoretical and Empirical Analysis of Consumption Within the
Input-Output System (Danière, A.L.) (1, 4) 6
- III Input-Output Classification Problems: Consumer Survey Data
(Taskier, C.E.) (3, 4) 38

REPORT ON RESEARCH FOR 1958-1959 (July, 1960) 244 pp.

Technological Change:

- I Introduction (Carter, A.P.) (6) 46
- II Investment, Capacity Utilization, and Changes in Input Structure
in the Tin Can Industry (Carter, A.P.) (6) 46
- III Flow Matrix Comparison, 1939-1947 (Strout, A.M.) (6) 50
- IV Technological Progress and the Production Function in the
United States Steam Power Industry (Komiya, R.) (6) 49
- V Technological Progress and the Prediction of Input Coefficient
in the United States Steam Power Industry (Komiya, R.) (6) 49

Dynamic Computations:

- I Revised 10 Sector Input-Output Matrices for Dynamic Computations,
U.S., 1947 (Strout, A.M.) (6) 50
- II Computation of Eigenvalues of Nonsymmetric Matrices on UNIVAC I
(Sullivan, M. McCarthy) (2, 6) 34

Labor and Income Generation (Conrad, A.H.) (5) 44

Household Consumption:

- I Introduction (Gilboy, E.W.) (4) 41
- II An Empirical Consumption Structure for Clothing (Danière, A.L.)
(4) 40

A General Equilibrium Model of Production, Interregional Trade, and
Location of Industry (Moses, L.N.) (7a) 58

MEMORANDA:

Time-to-Time Comparisons of Income Expenditure Patterns (Berman, B.) (4) 39

An Alternative Exposition of the Generalized Simplex Method for the
Maximization of the Linear Function of Non-negative Variables Subject
to Linear Equalities (Fei, J.C.H.) (2) 29

A Fundamental Theorem for the Aggregation Problem of Input-Output
Analysis (Fei, J.C.H.) (3) 37

(HARVARD ECONOMIC RESEARCH PROJECT Continued)

HARVARD ECONOMIC RESEARCH PROJECT (Continued)

MEMORANDA: (Continued)

The Utilization of Agricultural Land: A Regional Approach (Henderson, J.M.) (7a)	53
Covariance Analysis Applied to Technological Progress (Komiya, R.) (6)	49
The Isolation of the Income Effect: An Analysis of Budget-Study Data on Family Expenditures for Food (Lippitt, V.) (4)	42
On the Use of Engineering Data and Direct Statistical Techniques in the Analysis of Production and Technological Change (Smith, V.) (6)	50
Economic Equipment Policies: An Evaluation (Smith, V.) (6)	50
Estimated Direct and Indirect Requirements of Energy by Final Demand in the Year 1947 (Taskier, C.E., -Leontief, W.W.) (4, 9)	41
Input-Output Analysis of the Relationship of the Canadian and the U.S. Economies (Wonnacott, R.J.) (1, 8, 8a)	25
Introduction of Capacity Restraints into an Input-Output Trade Model (Wonnacott, R.J.) (2, 8, 8a)	36
Harvard University, Graduate School of Business Administration, Research Center in Entrepreneurial History, An Input-Output Approach to Evaluating the Influence of Exports on British Industrial Produc- tion in the Late 19th Century (Meyer, J.R.) (9)	152
-----, Graduate School of Business Administration, Division of Research, A CONCEPT OF AGRIBUSINESS (Davis, J.H., -Goldberg, R.A.) (4, 9)	40
-----, Center for Middle Eastern Studies and Center for International Affairs, Input-Output Analysis of the Economy of Cyprus (Vassiliou, S.G.) (8)	75
HARVIE, C.H., -KLEVE, J.G., THE NATIONAL INCOME OF SUDAN 1955/1956 (8)	121
HASEGAWA, K., The Demand Structure of Energy Products and the Input- Output Table (Japan) (8)	94
-----, On the Rate of Import Inducement of Consumption, Investment and Exports (Japan) (8)	94
HATANAKA, M., Review of INPUT-OUTPUT ANALYSIS: AN APPRAISAL, Studies in Income and Wealth, National Bureau of Economic Research, Vol. 18 (11)	167
-----, Testing the Workability of Input-Output Analysis (1, 10)	10

HAVAS, P., Az ágazati kapcsolatok mérlegének felhasználása export-gazdaságossági számításokhoz (Hungary) (8, 9)	83
HEADY, E.O., -CANDLER, W., LINEAR PROGRAMMING METHODS (2)	29
——, -CARTER, H.O., Input-Output Models as Techniques of Analysis for Interregional Competition (7a, 9)	53
——, ——, see CARTER, H.O., -HEADY, E.O.	
——, -PETERSON, G.A., see PETERSON, G.A., -HEADY, E.O.	
——, -SCHNITTKER, J.A., Application of Input-Output Models to Agriculture (4, 7a, 9)	41
——, ——, see SCHNITTKER, J.A., -HEADY, E.O.	
HELI, H., DET STATISTISKE GRUNNLAG FOR KRYSSLØPSANALYSE MED SAMMENKNYTTING (Norway) (8)	113
HELMSTAEDTER, E., Produktionsstruktur und Wachstum (1, 2, 9)	10
HENDERSON, J.M., Efficiency and Pricing in the Coal Industry (9)	148
——, THE EFFICIENCY OF THE COAL INDUSTRY (9)	148
——, Natural Resources (1, 9)	10
——, Review of BARNA, T., (ed.), THE STRUCTURAL INTERDEPENDENCE OF THE ECONOMY (11)	166
——, Review of CHENERY, H.B., -CLARK, P.G., INTERINDUSTRY ECONOMICS (11)	167
——, Review of RASMUSSEN, P.N., STUDIES IN INTERSECTORAL RELATIONS (11)	168
——, Resource Allocation in the Coal Industry (9)	148
——, A Short-Run Model for the Coal Industry (9)	148
——, THE UPPER MIDWEST ECONOMIC STUDY: A RESEARCH PROSPECTUS (7a)	53
——, The Utilization of Agricultural Land: A Regional Approach (7a)	53
——, The Utilization of Agricultural Land: A Theoretical and Empirical Inquiry (9)	148
——, -QUANDT, R.E., Walras, Leontief and the Interdependence of Economic Activities (1, 10)	10
——, ——, MICROECONOMIC THEORY - A MATHEMATICAL APPROACH (1, 2)	10

	<u>Page No.</u>
HENDERSON, P.D.; Review of THE STRUCTURE AND GROWTH OF THE ITALIAN ECONOMY (11)	167
-----, El método del factor-producto: una aplicación del mismo a la economía italiana (1, 8, 11)	10
HENN, R., Modellbetrachtungen in der Wirtschaft (10)	161
HIRSCH, W.Z., An Application of Area Input-Output Analysis (7a, 9)	53
-----, Decision Making in Industrial Marketing (9)	148
-----, Interindustry Relations of a Metropolitan Area (7a)	54
HITOTSUBASHI UNIVERSITY, Institute of Economic Research, Some Repercussion Effects (Ara, K.) (8)	94
-----, Efficient Paths of Dynamic Input-Output Processes (Fukuoka, M.) (6)	47
-----, Intertemporal Efficiency in the Process of Capital Accumulation (Furuya, H.) (6)	47
-----, On the Input-Output Analysis of Interindustrial Relations (Iemoto, H.) (10)	162
-----, A Note on Professor I. Yamada's article: The Leontief System and Production Function (Iemoto, H.) (1)	10
-----, Analysis of Labor Productivity using Input-Output Tables (Kurabayashi, Y.) (6, 8, 9)	49
-----, The Leontief Paradox and the Structure of Japanese Trade (Tatemoto, M.) (8, 9)	96
-----, Maximizing Principle and a Method of Consistent Determination of Input Coefficients in a Leontief System (Yamada, I.) (2)	30
-----, On a Measurement of a Leontief System (Yamada, I.) (1)	10
-----, The Leontief System and Production Function (Yamada, I.) (1)	10
-----, Input-Output Analysis and Demand and Supply Function (Yamada, I.) (1)	11
-----, Ecocirc Graph and the Structure of Input-Output (Yamada, I.) (8)	94
-----, Inter-Industrial Analysis of the New Long-Range Economic Plan of Japan (Yoshiue, S.) (8)	96
HOCH, I., A Comparison of Alternative Inter-Industry Forecasts for the Chicago Region (7a)	54

(HOCH Continued)

HOCH, I. (Continued)

-----, Forecasting Economic Activity for the Chicago Region (7a)	54
-----, FORECASTING ECONOMIC ACTIVITY FOR THE CHICAGO REGION. FINAL REPORT (7a)	55
-----, FORECASTING ECONOMIC ACTIVITY: REGIONAL INPUT-OUTPUT ANALYSIS (7a)	54
HOCHWALD, W., Conceptual Issues of Regional Income Estimation (7a)	55
-----, Review of HOCH, I., FORECASTING ECONOMIC ACTIVITY FOR THE CHICAGO REGION (11)	167
-----, -EVANS, D.W., see EVANS, W.D., -HOFFENBERG, M.	
HOFFMEYER, E., The Leontief Paradox Critically Examined (9)	148
HÖGLUND, B., Input-Output och den strukturella interdependensen (1)	11
-----, Jämviktsanalys, aktivitetsanalys och input-output (1)	11
HOKKAIDO, (Japan) Input-Output Table (7b, 8)	64
HOOD, W.C., Review of RASMUSSEN, P.N., STUDIES IN INTER-SECTORAL RELATIONS (11)	168
HOW TO SELECT DYNAMIC INDUSTRIAL PROJECTS (International Cooperation Administration (8a, 9)	137
HSING, M.H., The Construction of Social Accounting Models (1, 9)	11
HUBBEL, C.H., Sociometry and Leontief Matrices (2)	30
HUNGARY, Központi Statisztikai Hivatal, AZ AGAZATI KAPOSLATOK MERLEGE 1957 (8)	82
HURWICZ, L., Input-Output Analysis and Economic Structure (1, 10, 11)	11
ICHIMURA, S., INPUT-OUTPUT ANALYSIS (1)	11
-----, Input-Output Theory and Economic Policy (8)	94
-----, INQUIRY INTO INTER-INDUSTRIAL RELATIONS (1, 8)	11
-----, From Trade Dependency Analysis to Linear Programming (8)	94
-----, THE STRUCTURE OF THE JAPANESE ECONOMY (8)	94
-----, (ed.), APPLICATIONS OF INTER-INDUSTRY ANALYSIS (8, 9)	94

(ICHIMURA Continued)

ICHIMURA, S. (Continued)

-----, (ed.), INTERINDUSTRY RELATIONS AND ECONOMIC FLUCTUATIONS (1, 8)	11
-----, -TATEMOTO, M., see TATEMOTO, M., -ICHIMURA, S.	
ITEMOTO, H., On the Input-Output Analysis of Interindustrial Relations (10)	162
-----, A Note to Professor I. Yamada's Article: The Leontief System and Production Function (1)	11
-----, A Note on Input-Output Analysis: Differences between the Repercussion Effects in Physical Terms and in Value Terms (2)	30
INADA, K., -FURUYA, H., see FURUYA, H., -INADA, K.	
INDIA, Institute of Public Opinion, The Structure of the Indian Economy (8)	86
-----, Statistical Institute, Interindustry Unit, Working Paper Series (8)	85
Input-Output--A New Management Tool (Research Institute of America) (9)	154
Input-Output Tables: Recent Experiences in Western Europe (U.N. Economic Bulletin for Europe) (8a)	136
INPUT-OUTPUT ANALYSIS: AN APPRAISAL (National Bureau of Economic Research) (1)	11
Input-Output Analysis Evolves as New Business Gauge (Journal of Commerce) (9)	150
The Input-Output Model (U.N. Economic Bulletin for Latin America) (1)	23
International Cooperation Administration, HOW TO SELECT DYNAMIC INDUSTRIAL PROJECTS (8a, 9)	137
International Labour Organisation, Metal Trades Committee, Regularisation of Production and Employment at a High Level in the Metal Trades (5, 8a, 9)	137
Iowa State University (Carter, H.O., -Heady, E.O.) (7a)	52
ISARD, W., and Associates, METHODS OF REGIONAL ANALYSIS (7a)	56
-----, -CUMBERLAND, J.H., Regional Input-Output Analysis (7a)	55
-----, -SCHOOLER, E.W., -VIETORISZ, T., INDUSTRIAL COMPLEX ANALYSIS AND REGIONAL DEVELOPMENT (7a, 9)	55

ISRAEL, Central Bureau of Statistics, FOUR YEAR DEVELOPMENT PLAN OF ISRAEL, 1950-1953 (Gaathon, A.L.) (8)	88
-----, SURVEY OF ISRAEL'S ECONOMY 1951 (Gaathon, A.L.) (8)	88
-----, GOVERNMENT YEARBOOK, 1953 (8)	88
ITALY, Banco di Sicilia, Osservatorio Economico, LE INTERDIPENDENZE STRUTTURALI DELL'ECONOMIA SICILIANA NEL 1958 (7b)	64
-----, Comitato Nazionale per la Produttività, LE RELAZIONI DI INTERDIPENDENZA DELLE INDUSTRIE TESSILI NEL QUADRO DELL'ECONOMIA ITALIANA (Cao-Pinna, V.) (8)	90
-----, Istituto Nazionale di Economia Agraria, ANNUARIO DELL'AGRICOLTURA ITALIANA (8)	89
-----, Istituto Nazionale per lo Studio della Congiuntura, RELAZIONE GENERALE SULLA SITUAZIONE ECONOMICA DEL PAESE (8)	88
-----, Istituto Nazionale per lo Studio della Congiuntura, Relationships between Import Requirements and Final Demand in Italy (Cao-Pinna, V.) (8)	89
-----, Istituto Nazionale per lo Studio della Congiuntura, Effetti sul sistema produttivo nazionale e sul fabbisogno d'importazione del carico di lavoro dei cantieri navali italiani (Cao-Pinna, V.) (8)	90
-----, Institute Universitaire d'Études Européennes de Turin, Notes introductives à l'étude et à l'application de la méthode input-output (Cao-Pinna, V.) (1)	4
IWASAKI, H., -MIYAZAWA, K., see MIYAZAWA, K., -IWASAKI, H.	
JAKSCH, H.J., Beitrage zur Theorie der Wirtschaftsplanung (9)	149
-----, A Regular Input-Output Model with Decreasing Marginal Returns (2)	30
JAPAN, Council for Industry Planning, THE CAPITAL STRUCTURE OF THE JAPANESE ECONOMY (8)	94
-----, Economic Planning Agency, Economic Research Institute, REPORT ON SOURCES AND METHODS USED IN COMPILING THE 1951 INPUT-OUTPUT TABLE FOR JAPAN (8)	93
-----, Electric Public Utilities, Central Research Institute, TECHNOLOGICAL PROGRESS AND THE INDUSTRIAL STRUCTURE OF THE JAPANESE ECONOMY (8)	93
-----, Ministry of Agriculture and Forestry, Tables of the Agricultural Sectors, 1951 (8)	93

(JAPAN Continued)

JAPAN (Continued)

-----, Ministry of Agriculture and Forestry, INPUT-OUTPUT TABLE OF THE JAPANESE ECONOMY FOR 1953 (8)	94
-----, Ministry of International Trade and Industry, INTER-INDUSTRY ANALYSIS OF THE JAPANESE ECONOMY, 1955 (8)	93
-----, Ministry of International Trade and Industry, THE PRESENT STATE OF JAPANESE INDUSTRY (8)	93
-----, Ministry of International Trade and Industry, and Council for Industry Planning, INTER-INDUSTRY ANALYSIS OF THE JAPANESE ECONOMY, YEARS 1951 AND 1954 (8)	92
-----, Council for Industry Planning, Hokkaido Interindustry Research Project, REGIONAL INTERINDUSTRY TABLE OF THE ECONOMY OF HOKKAIDO (7b)	64
-----, Kansai Economic Federation, INPUT-OUTPUT ANALYSIS OF THE KINKI (KANSAI) REGION, YEARS 1951 AND 1954 (7b)	65
-----, Analysis of the Post-War Economy of Japan, Inter-Industrial Analysis, (Ara, K., -Kurabayashi, Y., -Yamada, I.) (8)	94
-----, -ITALY - NORWAY - U.S.A., International Comparisons of the Structures of Production (Chenery, H.B., -Watanabe, T.) (8a)	133
JAWORSKI, D.A., Inter-Industry Relationship of the Air Transportation Industry (4, 9)	41
JOHANSEN, L., A MULTI-SECTORAL STUDY OF ECONOMIC GROWTH (Norway) (6, 8, 9)	48
JOHNSON, R.E., Input-Output (9)	149
-----, Interindustry Purchases and Sales - A Tool of Many Uses (9)	149
JONES, J.B., -KAVESH, R.A., see KAVESH, R.A., -JONES, J.B.	
JONES, R.W., Factor Proportions and the Heckscher-Ohlin Theorem (9)	149
JORGENSEN, D.W., Duality and Stability in Dynamic Input-Output Analysis (6)	48
-----, On a Dual Stability Theorem (2, 6)	30
-----, Growth and Fluctuations: A Causal Interpretation (6)	48
-----, Stability of the Dynamic Input-Output System (2, 6)	30
Journal of Commerce, Input-Output Analysis Evolves as New Business Gauge (9)	150

KADLEC, V., Použití sachovnicových tabulek a matematicového počtu v zahraničním obchodu (Czechoslovakia) (8, 9)	76
KALAMAZOO COUNTY ECONOMY 1954 (Smith, H.T.) (7a)	59
KANTOROVICH, V.L., Matematicheskie metodi organizatsii i planirovaniya proizvodstva (U.S.S.R.) (2, 8)	30
KARLIN, S., METHODS AND THEORY IN GAMES, PROGRAMMING, AND MATHEMATICAL ECONOMICS (2)	30
KAVESH, R.A., -JONES, J.B., Differential Regional Impacts of Federal Expenditures: An Application of the Input-Output Matrix to Federal Fiscal Policy (7a, 9)	56
KENESSEY, Z., A magyar népgazdaság ágazati kapcsolatainak mérlege (8)	83
-----, Az olasz Központi Statisztikai Hivatal Munkájáról (Hungary, Italy) (8)	83
-----, A szovjet népgazdaság 1923-24. évi mérlege (Hungary, U.S.S.R.) (8)	83
-----, A társadalmi termék részletes sakktáblaszerd mérlegének (8)	83
-----, -NEMENY, V., -SZAKOLCZAY, G., A ráfordítás-kibocsátás (Input-Output) rendszer vázlatos ismertetése (1, 8)	12
KHANDKER, R.K., National Accounting Technique and Input-Output Analysis (1)	12
KIMURA, H., An Approximation Method in Numerical Computations of the Leontief Open Input-Output Model (2)	30
-----, On the Errors in Output Due to Errors in Technical Coefficients in Leontief's Open Input-Output Models (2)	31
-----, A Remark on Price Analysis in Leontief's Open Input-Output Model (2)	31
KINDLEBERGER, C.P., ECONOMIC DEVELOPMENT (10)	162
KIRKSEY, C.D., AN INTERINDUSTRY STUDY OF THE SABINE-NECHES AREA OF TEXAS (7a)	56
KIRSCHEN, E.S., -DE FALLEUR, R., Analyse Input-Output de l'Économie Belge en 1953 (8)	70
-----, and Associates, THE STRUCTURE OF EUROPEAN ECONOMY IN 1953. TENTATIVE INPUT-OUTPUT TABLE FOR THE O.E.E.C. MEMBER COUNTRIES (8b)	135
KITALJEVIĆ, B., Izrada prvehi tabela ulaza-izlaza u okviru naših privrednih bilansa (Yugoslavia) (8)	131

	<u>Page No.</u>	
KLAMECKER, A., Bemerkungen zur Einsatz-Ausstoss Analyse und ihre Anwendung in Oesterreich (Austria) (1, 8)	12	K
KLEIN, L.R., The Interpretation of Leontief's System—A Reply (1, 10)	12	K
——, A Review of LEONTIEF, W., and Others, STUDIES IN THE STRUCTURE OF THE AMERICAN ECONOMY (11)	167	K
——, Some Theoretical Issues in the Measurement of Capacity (6)	48	K
——, Review of ARROW, K.J., -HOFFENBERG, M., A TIME SERIES ANALYSIS OF INTERINDUSTRY DEMANDS (11)	166	K
KLEVE, J.G., see HARVIE, C.H., -KLEVE, J.G.		K
KOENIG, H., Input-Output Analyse und lineare Programmierung (9)	150	L
——, -ULRICH, H., Grundlagen und Bedeutung der Input-Output Analyse (1, 10)	12	L
KOLMS, H., Volkswirtschaftliche Gesamtrechnung, Nationalbudgets und oekonomische Gesamtmodelle (1, 10)	12	-
KOMIYA, R., Covariance Analysis Applied to Technological Progress (6)	49	-
——, Technological Progress and the Prediction of Input Coefficients in the United States Steam Power Industry (6)	49	-
——, Technological Progress and the Production Function in the United States Steam Power Industry (6)	49	-
KOO, A.Y.C., Review of DIAB, M.A., THE UNITED STATES CAPITAL POSITION AND THE STRUCTURE OF ITS FOREIGN TRADE (11)	167	-
KOOPMANS, T.C., THREE ESSAYS ON THE STATE OF ECONOMIC SCIENCE (1, 10)	12	L
KORDA, B., -TOMASZEWSKI, W., see TOMASZEWSKI, W., -KORDA, B.		L
Központi Statisztikai Hivatal, AZ AGAZATI KAPCSOLATOK MERLEGE 1957 (Hungary) (8)	82	-
KRELLE, W., Investitionsquote, Wachstumsrate, Kapazitätsausnutzung und Disproportionalitäten in der fortschreitenden Wirtschaft (10)	162	I
——, Sviluppo d'equilibrio in una economia multi-settore (2)	31	I
——, VOLKSWIRTSCHAFTLICHE GESAMTRECHNUNG EINSCHLIESSLICH INPUT-OUTPUT ANALYSE MIT ZAHLEN FÜR DIE BUNDESREPUBLIK DEUTSCHLAND (Germany) (8)	81	J
——, und Andere, EINZELBERECHNUNGEN ZUR VOLKSWIRTSCHAFTLICHEN GESAMTRECHNUNG FÜR DIE BUNDESREPUBLIK DEUTSCHLAND (Germany) (8)	81	-

KRETSCHMER, K.S., -CHENERY, H.B., see CHENERY, H.B., -KRETSCHMER, K.S.	
KRZECZKOWSKA, E., -SZYBISZ, B., -ZIENKOWSKI, L., Tablice przepływów międzydziałowych i międzygałęziowych w gospodarce narodowej Polski (Poland) (8)	116
KUENNE, R.E., A Rejoinder to L.N. Moses: Location Theory, Input-Output and Economic Development (7a, 10)	56
KUERBS, F., Volkswirtschaftliche Gesamtrechnung fuer Berlin (1)	12
KURABAYASHI, Y., Analysis of Labor Productivity by Input-Output Tables (6, 8, 9)	49
KYUSHU, (Japan), Input-Output Table (7b, 8)	65
LAGINHA, J.J., A resolução do sistema de Leontief (1, 2)	13
LANCASTER, K., Protection and Real Wages: A Restatement (9)	150
LANGE, O., Some Observations on Input-Output Analysis (1, 8, 10)	13
——, Études sur la Planification Économique dans les Démocraties Populaires et dans les Pays Sous-Développés (1, 10)	13
——, WSTEP DO ECONOMETRII (Poland) (1, 8)	13
——, Model wzrostu gospodarczego (Poland) (1, 8)	14
——, INTRODUCTION TO ECONOMETRICS (Poland) (1, 8)	13
——, The Output-Investment Ratio and Input-Output Analysis (2, 9)	31
——, Produkcyjno-techniczne podstawy efektywności inwestycji (2, 9)	31
LANSING TRI-COUNTY AREA. ECONOMIC AND POPULATION BASE STUDY (7b)	56
LASUÉN J.R., Países en vías de industrialización y programas de desarrollo económico (9)	50
——, -ARNAIZ VELLANDO, G., see ARNAIZ VELLANDO, G., -LASUÉN, J.R.	
LAZAR, A.A., The Leontief System (Greece) (8, 10)	81
LENDVAI, B., -MANYI, S.I., A köslekedési szektor problémái az 1957 (Hungary) (8)	84
LEONTIEF, W.W., Die Analyse der Volkswirtschaftlichen Struktur (1)	14
——, Einsatz - Ausstoss Analyse (1, 2, 9)	14
——, -TASKIER, C.E., Estimated Direct and Indirect Requirements of Energy by Final Demand in the Year 1947 (4, 9)	41

(LEONTIEF Continued)

LEONTIEF, W.W. (Continued)

——, La Estructura de la Economía Americana 1919-1939 (1, 4)	15
——, Factor Proportions and the Structure of American Trade: Further Theoretical and Empirical Analysis (1, 9)	14
——, The Forest Economy in Relations to other Branches of the Economy (9)	150
——, Input-Output Analysis and the General Equilibrium Theory (1)	14
——, Japanese translation of THE STRUCTURE OF THE AMERICAN ECONOMY, 1919-1939 (1, 4)	15
——, La matematica in economia (2)	31
——, National Economic Problems (9)	151
——, Une Nouvelle Analyse des Faits Économiques; la Methode de l'entrée-sortie (1)	14
——, Reply to Comments by Valavanis, S.; Robinson, R.; Elliott, G.A.; Vaccara, B.N., on 'Factor Proportions and the Structure of American Trade' (1, 9)	14
——, La Structure de l'Économie Américaine 1919-1939 (1, 4)	15
——, Les Tableaux d'entrée-sortie (1)	14
——, and Others, ISSLEDOVANIA STRUKTURII AMERIKANSKOI EKONOMIKI (Russian translation of STUDIES OF THE STRUCTURE OF THE AMERICAN ECONOMY) (1, 4)	15
LEVINE, H., Centralized Planning of Supplies in Soviet Industry (8)	128
——, Input-Output Analysis and Linear Programming in Soviet Planning (8)	128
LIEGE, Region of, Une Nouvelle Méthode d'Analyse de la Structure Economique, see DERWA, L.	
LIPPITT, V., The Isolation of the Income Effect: An Analysis of Budget Study Data on Family Expenditures for Food (4)	42
——, Structural Relations Between Consumer Expenditure and Income: Part II. Household Input Coefficients for a 20 Industry Model as Derived from Time Series (4)	42
LOEB, G.F., A Estructura do Comercio Exterior da America do Norte (9)	151
LOMAX, K.S., Allocation and Programming in Modern Economics (9)	15
LONGINI, A., CHICAGO - CHICAGO HEIGHTS INDUSTRIAL ECONOMIC BLUEPRINT (7a)	57

LORRAINE, LES TABLEAUX ÉCONOMIQUES: ANALYSE DE LA RÉGION LORRAINE, see BAUCHET, P.	
LOVELL, M.C., Inventories and Stability: An Inter-Industry Analysis (9)	151
LUKACS, O., Az ágazati kapcsolatok mérlege tapasztalatai Norvégiában (Hungary, Norway) (8, 10)	113
MCCARTHY, J., Aggregation in the Leontief Model (3)	38
McKENZIE, L., An Elementary Analysis of the Leontief System (1)	15
McMANUS, M., General Consistent Aggregation in Leontief Models (3)	38
——, On Hatanaka's Note on Consolidation (3)	38
——, Self-Contradiction in Leontief's Dynamic Model (1, 2, 6)	15
MAILLET, P., L'Analyse des Flux Physiques entre Secteurs (1)	15
——, Circuits Financiers et Tableau Économique (1)	15
——, L'Économie Française vue à travers le Tableau Économique (8)	80
——, La Place de l'Énergie dans l'Économie Nationale (8, 9)	80
——, LA STRUCTURE ÉCONOMIQUE DE LA FRANCE (8)	80
MALENBAUM, W., India's Domestic Product, 1951-1952/1953-1954 (8)	87
MALINVAUD, E., Aggregation Problems in Input-Output Models (3)	38
——, L'Agrégation dans les Modèles Économiques (3)	38
——, MODÈLES LINÉAIRES DES ÉCONOMIES A SECTEURS MULTIPLES (1, 2, 9)	15
MANGOLD, G., Die Strukturanalyse des wirtschaftlichen Kreislaufs (1)	16
MANNE, A.S., Comments on 'Interindustry Economics' by Chenery and Clark (10, 11)	163
——, A Linear Programming Model of the U.S. Petroleum Refining Industry (9)	152
MANYI, S.I., -LENDVAI, B., see LENDVAI, B., -MANYI, S.I.	
MARANTZ, M., Le Tableau Économique de W. Léontief (1, 9, 10)	16
MARCHAL, J., Note Critique sur le Modèle Économique présenté par M. Gruson (10)	163

MARCZEWSKI, J., Planification et Croissance Économique des démocraties populaires (9, 10)	152
MARKOWITZ, H., Industry-wide, Multi-Industry and Economy-wide Process Analysis (2)	32
MARQUES DA SILVA, F., Algumas notas sobre a análise das relações interindustriais (1, 2)	16
MARTIN DAZA, A., see DAZA, A.M.	
MASSON, D., Méthode de triangulation du tableau européen des échanges interindustriels (O.E.E.C.) (2, 8b)	32
MASUCCI, R.H., DOLLAR VOLUME OF AGRICULTURE'S TRANSACTIONS WITH INDUSTRY (4)	42
MAY, F.B., An Inter-Industry Relations Analysis of the Texas Economy for 1947 (7a)	57
MERING, O.V., Input-Output Analyse (1)	16
MEXICO, Banco de Mexico, LAS CUENTAS NACIONALES DE MÉXICO (8)	108
MEYER, J.R., An Input-Output Approach to Evaluating the Influence of Exports on British Industrial Production in the Late 19th Century (9)	152
Michigan State University, see LANSING TRI-COUNTY AREA. ECONOMIC AND POPULATION BASE STUDY	
MIERNYK, W.H., A Primer of Input-Output Economics (1)	16
MILHØJ, P., see BJERKE, K., -MILHØJ, P., -RASMUSSEN, P.N.	
MILLER, R.E., The Impact of the Aluminum Industry on the Pacific Northwest (7a)	57
MIYAZAWA, K., The Foreign Trade Multiplier and the Interindustrial Relations (9)	152
——, Foreign Trade Multiplier, Input-Output Analysis and the Consumption Function (9)	152
——, -IWASAKI, H., Interindustrial Repercussions and the Multiplier (1)	16
MODERN INDUSTRY, see New Facts on U.S. Economy	
MOL, J., -OOMENS, C.A., Gecumuleerde Kostenquoten (Netherlands) (8)	110
MONTIAS, J.M., Planning with Material Balances in Soviet-Type Economies (9)	152

	<u>Page No.</u>
MONTSERRAT, The Economy of Montserrat (British West Indies) (8)	72
MOORE, F.T., Regional Economic Reaction Paths (7a)	57
-----, -BARNETT, H.J., Estimated Products Requirements for Inter- Industry Models (9)	153
-----, -PETERSEN, J.W., Regional Analysis: An Interindustry Model of Utah, 1947 (7a)	58
MORGENSTERN, O., Los Cálculos para los Programas Económicas (9)	153
-----, -WONG, Y.K., see WONG, Y.K., -MORGENSTERN, O.	
MORISHIMA, M., A Comment on Dr. Klein's Interpretation of Leontief's System (1, 10)	16
-----, A Dynamic Analysis of Structural Change in a Leontief System (6)	49
-----, Dr. Klein's Interpretation of Leontief's System - A Rejoinder (1, 10)	16
-----, Prices, Interest and Profits in a Dynamic Leontief System (1, 6)	16
-----, Mrs. Robinson's New Book and Professor Leontief's Dynamic System (1, 6)	17
-----, Some Properties of a Dynamic Leontief System with a Spectrum of Techniques (1, 6)	17
-----, Stability Condition of the Leontief System (1)	17
MORTON, G., Dynamic Programming (2)	32
MOSES, L.N., A General Equilibrium Model of Production, Interregional Trade, and Location of Industry (7a)	58
-----, Discussions of Interregional Economics Papers (7a, 10)	58
-----, An Input-Output, Linear Programming Approach to Interregional Analysis (2, 7a)	32
-----, Interregional Analysis (2, 7a)	32
-----, Location and the Theory of Production (7a)	58
-----, Location Theory, Input-Output and Economic Development: An Appraisal (7a, 10)	58
-----, The Stability of Interregional Trading Patterns and Input-Output Analysis (7a)	58

	<u>Page No.</u>	
MOYERMAN, S., -HARRIS, B., The Economics of the Base Study (7a, 9)	59	New
MUKHERJEE, P.K., ECONOMIC SURVEYS IN UNDERDEVELOPED COUNTRIES (9)	153	New
MURTEIRA, B., Nota introdutória aos modelos de Leontief (1, 2)	17	NEV
——, -TINTNER, G., see TINTNER, G., -MURTEIRA, B.		—
NATAF, A., Quelques propriétés des systèmes de Leontief et des systèmes s'y rattachant (1)	17	—
National Bureau of Economic Research, Studies in Income and Wealth, INPUT-OUTPUT: AN APPRAISAL (1)	11	—
National Planning Association, see WOOD, M.K., -NORTON, J.D. (1)	17	—
NEMCHINOV, V.S., The Balance Sheet Method in Economic Statistics (U.S.S.R.) (1, 8)	17	NI
——, Balanz zatrat-vipuska produktsii SSSR dlya 1923-24 (8)	128	NI
——, Some Aspects of the Balance Sheet Method as Applied in the Statistics of Interdependent Dynamic Economic Systems (8)	128	—
——, Nekotorye teoreticheskie voprosy mezhotraslevogo i mezhraionnogo balansa proizvodstva i raspredelenia produktsii (8)	129	—
——, O sootnosheniakh rasshirennogo vosproizvodstva (8, 10)	129	—
——, (ed.) PRIMENENIE MATEMATIKI V EKONOMICHESKIKH ISSLEDOVANIYAKH (2, 8)	32	NI
NEMENY, V., see KENNESSEY, Z., -NEMENY, V., -SZAKOLCZAY, G.		NO
NERLOVE, M., Review of ARROW, K., -HOFFENBERG, M., TIME SERIES ANALYSIS OF INTERINDUSTRY DEMANDS (11)	166	—
THE NETHERLANDS, Centraal Bureau voor de Statistiek, DE NATIONALE JAARREKENINGEN: DOELEINDEN, PROBLEMEN, RESULTATEN (8)	108	—
——, Centraal Bureau voor de Statistiek, NATIONAL ACCOUNTS OF THE NETHERLANDS, 1948-1949 (8)	108	NO
——, Centraal Bureau voor de Statistiek, STATISTISCHE EN ECONOMETRISCHE ONDERZOEKINGEN (8)	108	NO
——, Centraal Bureau voor de Statistiek, DE PRODUKTIE-STRUKTUUR VAN DE NEDERLANDSE VOLKSHUISHOUDING (8)	109	NO
——, Centraal Plan Bureau, EEN VERKENNING DER ECONOMISCHE TOEKOMST- MOGELIJKHEDEN VAN NEDERLAND 1950-1970 (8)	109	—

	<u>Page No.</u>
New Facts on U.S. Economics (1)	17
New Tools for Economic Studies (1)	17
NEW ZEALAND, Department of Statistics, REPORT ON THE INTERINDUSTRY STUDY OF THE NEW ZEALAND ECONOMY IN 1952-53	111
-----, Department of Statistics, REPORT ON THE INTERINDUSTRY STUDY OF THE NEW ZEALAND ECONOMY IN 1954-55	111
-----, Department of Statistics, REPORT ON THE OFFICIAL ESTIMATES OF NATIONAL INCOME AND SECTOR ACCOUNTS FOR THE YEAR 1955-56 (8)	111
-----, Department of Statistics, REPORT ON THE OFFICIAL ESTIMATES OF NATIONAL INCOME AND SECTOR ACCOUNTS FOR THE YEAR 1956-57 (8)	112
NIITAMA, O.E., -PAUNIO, J.J., Panos-tuotos menetelmä taloudellisen tutkimuksen pohjana (1)	17
NIKITIN, S., Ekonometrika v sovremennoi burzhuaanoi ekonomicheskoi nauke (U.S.S.R.) (2, 8)	32
-----, Ob odnom napravlenii v ekonometrike (8)	129
-----, Review of LEONTIEF, W., and Others, ISSLEDOVANIA STRUKTURII AMERIKANSKOI EKONOMIKI (STUDIES IN THE STRUCTURE OF THE AMERICAN ECONOMY) (8, 10, 11)	129
NISHIKAWA, S., Income Ratios of Various Industries Classified by the Scales (Japan) (8)	95
NOBLE, S.B., Control of Aggregation Error in the Leontief Model (3)	38
-----, Measures of the Structure of Some Static Linear Economic Models (2)	33
-----, Structure and Classification in Resource Flow Models (3)	38
NORDBOTTEN, S., A Survey of Models for Interindustry Economics (10)	164
NORTH CAROLINA, Eight Counties of the Northern Tidewater Area, Input- Output Tables (Ram, P.) (7a)	59
NORTON, J.D., -WOOD, M.K., see WOOD, M.K., -NORTON, J.D.	
NORWAY, Statistisk Sentralbyrå, NASJONALREGNSKAP 1930-1939 og 1946-1951 (8)	112
-----, Statistisk Sentralbyrå, NASJONALREGNSKAP 1938 og 1948-1953 (8)	112

(NORWAY Continued)

NORWAY (Continued)

-----, Statistisk Sentralbyrå, KRYSSLOPSANALYSE AV PRODUKSJON OG INNSATS I NORSKE NAERINGER 1954 (8)	112
-----, University of Oslo, Social-Economic Institute (Frisch, R.) (8)	113
-----, -JAPAN - ITALY - U.S.A., International Comparisons of the Structures of Production (Chenery, H.B., -Watanabe, T.) (8a)	133
NYITRAI, F., Az 1957 évi ágazati kapcsolatok mérlege (Hungary) (8)	84
-----, Külkereskedelmi kapcsolataink vizsgálata az ágazati kapcsolatok mérlege alapján (Hungary) (8)	84
Northeastern University, Bureau of Business and Economic Research, see MIERNYK, W.H.	
OHAMA, K., Estimating the Demand for Steel by Input-Output Tables (Japan) (8, 9)	95
-----, -SUZUKI, T., see SUZUKI, T., -OHAMA, K.	
OHLSSON, I., On National Accounting (1, 10)	17
OKISHIO, N., Measurement of Total Employment and Import Coefficients (Japan) (8)	95
O'LOUGHLIN, C., The Economy of British Guiana, 1952-1956 (8)	72
-----, The Economy of Montserrat (British West Indies) (8)	72
-----, The Economy of Antigua (British West Indies) (8)	72
-----, The Economy of St. Kitts-Nevis-Anguilla (British West Indies) (8)	72
OOMENS, C.A., Die volkswirtschaftliche Gesamtrechnung in den Niederlanden. Einige Beispiele fuer ihre Anwendung (Netherlands) (8)	110
-----, -MOL, J., Gecumuleerde kostenquoten (Netherlands) (8)	110
Organization for European Economic Cooperation, NATIONAL ACCOUNTS STUDIES, The Netherlands (1, 8)	18
-----, Input-Output Analysis as a Basis for Productivity Measurement (Borch, K.) (9)	139
-----, The Structure of European Economy in 1953. Tentative Input-Output Table for O.E.E.C. Member Countries (Kirschen, E.S., and Associates) (8b)	135

O.E.E.C. Countries, Estructura de la economía Europea en 1953 (O.E.E.C. and Spain) (8b)	135
ORLANDO, G., Osservazioni sull' equilibrio economico di settore (1)	18
ORTHABER, A., Pitanje primene sistema tabela 'Ulaza-Izlaza' kod nas (Yugoslavia (8)	131
Osaka University, Mrs. Robinson's New Book and Professor Leontief's Dynamic System (Morishima, M.) (1, 6)	18
——, Factor Proportions and Foreign Trade: The Case of Japan (Tatemoto, M., -Ichimura, S.) (8, 9)	96
——, Leontief's Paradox and the Traditional Theory (Watanabe, T.) (9)	158
OTT, A.E., Bemerkungen zu E. Helmstaedter: 'Produktionsstruktur und Wachstum' (1, 2, 9)	18
PACIFIC NORTHWEST, Region of, see MILLER, R.E.	
PAJESTKA, J.M., Z zagadnien zastosowania matematyki w badaniach ekonomicznych (Poland) (2, 8)	33
PAPP, I., -RECZEY, G., Az energiagázdalkodás elemzése (Hungary)(8)	84
PARETTI, V., -CAO-PINNA, V., -CUGIA, L., -RIGHI, C., STRUTTURA E PROSPETTI DELL' ECONOMIA ENERGETICA ITALIANA (8)	91
PARKER, W.N., Review of BAUCHET, P., LES TABLEAUX ÉCONOMIQUES: ANALYSE DE LA REGION LORRAINE (11)	166
PAUNIO, J.J., -NIITAMA, O.E., see NIITAMA, O.E., -PAUNIO, J.J.	
PEACOCK, A.T., -DOSSER, D.G.M., Input-Output Analysis in an Under- developed Country: A Case Study (Tanganyika) (8, 10)	122
——, ——, The National Income of Tanganyika 1952-54 (8)	122
——, ——, The New Attack on Localized Unemployment (7b, 9)	66
——, ——, Regional Input-Output Analysis and Government Spending (7b)	66
——, -EDEY, H.C., see EDEY, H.C., -PEACOCK, A.T.	
——, -STEWART, I.G., Fiscal Policy and the Composition of Government Purchases (United Kingdom) (8)	123
PERÚ, Banco Central de Reserva del Perú, RENTA NACIONAL DEL PERÚ, 1942-1955, 1942-1956, 1942-1957 (8)	114-15

(PERÚ Continued)

PERÚ (Continued)

- , ANALYSIS AND PROJECTIONS OF ECONOMIC DEVELOPMENT. VI. THE INDUSTRIAL DEVELOPMENT OF PERU (U.N., E.C.L.A.) (8) 115
- , -ARGENTINA, COMPARACIÓN DE LA ESTRUCTURA INTERSECTORIAL DE LA PRODUCCIÓN DE ARGENTINA Y DE PERÚ (U.N., E.C.L.A.) (8a) 134
- PETERSEN, J.W., -MOORE, F.T., see MOORE, F.T., -PETERSEN, J.W.
- PETERSON, G.A., Use of Input-Output Analysis in Estimating the Interdependence of Agriculture and Other Economic Sectors (9) 153
- , -HEADY, E.O., APPLICATION OF INPUT-OUTPUT ANALYSIS TO A SIMPLE MODEL EMPHASIZING AGRICULTURE (4, 9) 42
- PHILLIPS, A., The Variation of Technical Coefficients in the Anti-Friction Bearing Industry (6) 49
- PLATT, H., INPUT-OUTPUT ANALYSE (1, 10) 18
- POLAND, Komisja Planowania przy Radzie Ministrow (1, 8) 18
- , Główny Urząd Statystyczny, ROCZNIK STATYSTYCZNY 1959 (8) 115
- PORTUGAL, Um modelo 'Input-Output' simplificado para a economia portuguesa (Tintner, G., -Murteira, B.) (8) 118
- PORWIT, K., Powiązania międzygałęziowe w ujęciu regionalnym (7b, 8) 65
- , Tablica gospodarki narodowej jako instrument koordynacji planu gospodarczego (Poland) (8, 9) 117
- , -ZURKOWSKI, J., Zastowanie współczynników powiązań międzygałęziowych w planowaniu (8) 117
- , ———, -SLAWIN, W., PRACE I MATERIAŁY ZAKŁADU BADAŃ EKONOMICZNYCH (8) 117
- POWELSON, J.P., ECONOMIC ACCOUNTING (1, 2, 10) 18
- PREDETTI, A., Talune considerazioni sul modello Leontieviano e sulla contabilità sociale (1, 10) 18
- PRESTON, M.J., Review of BARNA, T., (ed.), THE STRUCTURAL INTERDEPENDENCE OF THE ECONOMY (11) 166
- Princeton University, Economic Research Project: Testing the Workability of Input-Output Analysis (Hatanaka, M.) (1) 18
- QUANDT, R.E., Probabilistic Errors in the Leontief System (1, 2) 19

(QUANDT Continued)

QUANDT, R.E. (Continued)

-----, Stochastic Elements in Economic Theory and Statistical Inference in Input-Output Analysis (1, 2)	19
-----, -HENDERSON, J.M., MICROECONOMIC THEORY - A MATHEMATICAL APPROACH (1, 2)	19
-----, -----, Walras, Leontief and the Interdependence of Economic Activities (1, 2)	19
RAM, P., An Input-Output Analysis of a Small Homogeneous Agricultural Area (Northern Tidewater Area, North Carolina (7a)	59
RASMUSSEN, P.N., Input-Output Modellens Anvendelsesmuligheder (1, 9)	19
-----, Nogle udvidelser af Input-Output modellen (1)	19
-----, Om indkomstfordelingen og handelen mellem sektorerne (Denmark) (1, 8, 9)	20
-----, Om Input-Output Analysen (1)	19
-----, On Changes in Inter-Sectoral Terms of Trade (1)	19
-----, STUDIES IN INTER-SECTORAL RELATIONS (Denmark) (1, 8)	19
-----, -BJERKE, K., -MILHØJ, P., Input-Output Work in Denmark (1, 8)	20
RECZEY, G., -PAPP, I., see PAPP, I., -RECZEY, G.	
Regularisation of Production and Employment at a High Level in the Metal Trades (International Labour Organisation) (5, 8b, 9)	44
RENYI, A., -BRODY, A., Az árrendezés problémája (Hungary) (1, 8)	20
Research Institute of America, Input-Output - A New Management Tool (9)	154
REVIGLIO, G., -BOZUFFI, R., see BOZUFFI, R., -REVIGLIO, G.	
RIDKER, R.G., Review of BJERVE, P.J., PLANNING IN NORWAY, 1947-1956 (11)	166
RIGHI, C., see PARETTI, V., -CAO-PINNA, V., -CUGIA, L., -RIGHI, C.	
ROBINSON, R., Comments on W. Leontief's Factor Proportions and the Structure of American Trade (1, 9)	20
-----, Factor Proportions and Comparative Advantage Parts I and II (1, 9)	20
ROMAN, Z., A ráfordítási-kibocsátási tábla összeállításának vállalati feladatai (Hungary) (1, 8)	20

(ROMAN Continued)

ROMAN, Z. (Continued)

——, Tervezés, statisztika és az ágazati kapcsolatok mérlege (Hungary) (1, 8)	20
ROSEN, G., Capital-Output Ratios in Indian Industry (6, 8)	50
ROSENBLATT, D., On Linear Models and the Graphs of Minkowski-Leontief Matrices (2)	33
ROSS, C.R., -SEERS, D., Financial and Physical Problems of Development in the Gold Coast (8)	81
RUGGLES, R., and N.D., NATIONAL INCOME ACCOUNTS AND INCOME ANALYSIS (1, 10)	20
RYABUSHKIN, T., Balansovye postroeniia v burzhuaznoi statistike (1, 8, 10)	20
——, From the History of the Balance Sheet of the USSR National Economy (8, 9)	130
——, PROBLEMY EKONOMICHESKOI STATISTIKI (8, 9)	130
——, STATISTICHESKIE METODY IZUCHENIIA NARODNOGO KHOZIAISTVA (U.S.S.R.) (8, 9)	130
——, Voprosy rasrabotki balansa narodnogo khoziaistva v sotsialisticheskikh stranakh (8)	130
SAGOROFF, S., Die energetische Struktur der Volkswirtschaft (9)	155
——, WIRTSCHAFTSSTATISTIK, THEORIE DER INTERPRETATION. I. QUANTITATIVE ERFORSCHUNG DES GESAMTEN WIRTSCHAFTLICHEN PROZESSES (1, 10)	21
SAIBEL, E., -BERGER, W.J., see BERGER, W.J., -SAIBEL, E.	
ST. KITTS-NEVIS-ANGUILLA, The Economy of (British West Indies) (8)	72
ST. LOUIS (Missouri), Metropolitan Area Input-Output Study (Hirsch, W.Z.) (7)	54
SALANT, W.S., Primary Effects on Employment of Shifts in Demand from Domestic to Foreign Products (9)	155
SAMUELSON, P.A., ECONOMICS. AN INTRODUCTORY ANALYSIS (1, 10)	21
——, An Extension of the Le Chatelier Principle (2)	33
——, A Modern Treatment of the Ricardian Economy (1)	21
——, -DORFMAN, R., -SOLOW, R.M., see DORFMAN, R., -SAMUELSON, P.A., SOLOW, R.M.	

SANDEE, J., A DEMONSTRATION PLANNING MODEL FOR INDIA (8)	87
——, Input-Output Accounts (1)	21
——, National Experiences with Input-Output Analysis: Netherlands (8)	110
SANTOS BLANCO, A., see ALCAIDE INCHAUSTI, A., BEGUÉ CANTÓN, G., FERNANDEZ CASTAÑEDA, J., SANTOS BLANCO, A.	
SARDA, J., Las Tablas de Interdependencia Estructural y sus Aplicaciones (1, 9)	21
SARGAN, J.D., The Instability of the Leontief Dynamic Model (2)	34
SASTRY, N.S.R., Input-Output Analysis (1)	21
SAWYER, J.A., Interindustry Relations of the Chemicals and Allied Product Industries (8, 9)	73
——, The Measurement of Inter-Industry Relationships in Canada (8)	73
SCHNEIDER, E., EINFUEHRUNG IN DIE WIRTSCHAFTSTHEORIE (1, 10)	21
SCHNITTKER, J.A., Application of Input-Output Analysis to a Regional Model Stressing Agriculture (7a)	59
——, —HEADY, E.O., Application of Input-Output Analysis to a Regional Model Stressing Agriculture (7a)	59
——, ———, see HEADY, E.O., —SCHNITTKER, J.A.	
SCHOOLER, E.W., see ISARD, W., —SCHOOLER, E.W., —VIETORISZ, T.	
SCHOUTEN, D.B.J., EXACTE ECONOMIE (1, 2)	21
SCHWARTZMANN, D., The Leontief Input-Output System (Canada) (1, 8, 10)	21
SEERS, D., The Role of the Budget: Is a New Approach Necessary? (9)	155
——, —ROSS, C.R., see ROSS, C.R., —SEERS, D.	
SENGUPTA, S.S., —AGRAWAL, V.K., see AGRAWAL, V.K., —SENGUPTA, S.S.	
——, —CHAKRAVERTI, A.K., —AGRAWAL, V.K., On Applications of Inter- Industrial Relations 1951-1952 (India) (8)	86
——, —BOSE, D.K., A Study in Maximizing Employment (8)	86
Service des Études Économiques et Financières, Division des Études (Nataf, A.) (1)	17

	<u>Page No.</u>
SEVALDSON, P., Input-Output Analysis and Economic Theory (1, 3)	22
——, Teori for praktisk økonomisk politikk (Norway) (8)	114
——, National Experiences with Input-Output Analysis: Norway (8)	114
SHEN, T.Y., Technological Change, and Efficiency in the Textile Industry (6)	50
SHISHIDO, S., Recent Input-Output Studies in Japan, Particularly by Government Agencies (8)	95
SHLYAPENTOKH, V., -BLYUMIN, I., see BLYUMIN, I., -SHLYAPENTOKH, V.	
SICILY (Italy), LE INTERDIPENDENZE STRUTTURALI DELL' ECONOMIA SICILIANA NEL 1958 (7b, 8)	64
SIMON, H.A., -ANDO, A., see ANDO, A., -SIMON, H.A.	
SIROTKOVIĆ, J., Metode ekonomske analize i ekonomska politika (1, 10)	22
——, Input-Output analize i privredno planiranje (Yugoslavia) (8, 9)	131
SKARE-VIDOJEVIC, L., Nasi pokusaji u postavljanju sistema privrednih bilansa i tabela medusobni odnosi privrednih delatnosti (Yugoslavia) (8)	132
SMITH, H.T., THE KALAMAZOO COUNTY ECONOMY 1954 (7a)	59
SMITH, V.L., Economic Equipment Policies: An Evaluation (6)	50
——, Engineering Data and Statistical Techniques in the Analysis of Production and Technological Change: Fuel Requirements of the Trucking Industry (6)	50
——, Technological Change—New Plant Coefficients: Synthetic Rubber, Trucking (6)	50
——, On the Use of Engineering Data and Direct Statistical Techniques in the Analysis of Production and Technological Change (6)	50
SOLOW, R.M., Competitive Valuation in a Dynamic Input-Output System (1, 6)	22
——, Review of BARNA, T., (ed.), THE STRUCTURAL INTERDEPENDENCE OF THE ECONOMY (11)	166
——, -DORFMAN, R., -SAMUELSON, P.A., see DORFMAN, R., -SAMUELSON, P.A., -SOLOW, R.M.	
SONNENBLUM, S., Regional Economic Analysis and Social Accounts: An Inter-industry Application (7a)	60

	<u>Page No.</u>
SOUTH AFRICA, Union of, South African Scientific and Industrial Research Council, Input-Output Tables, 1951-52 (8)	118
SPAIN, LA ESTRUCTURA DE LA ECONOMÍA ESPAÑOLA, TABLA INPUT-OUTPUT 1954 (Alcaide Inchausti, A., -Begué Cantón, G., Fernández Castañeda, J., -Santos Blanco, A.) (8)	119
-----, Tablas Input-Output de la economía Española, años 1954-1957 (Torres Martinez, M. de) (8)	121
-----, Ministerio de Comercio, INFORMACIÓN COMERCIAL ESPAÑOLA, La técnica Input-Output (8)	119
-----, Ministerio de Comercio, Una técnica al servicio de la política económica: La Tabla y el análisis Input-Output (8)	119
-----, Ministerio de Comercio, Las estructuras económicas de España y Europa occidental (8)	120
-----, Ministerio de Comercio, Relación entre la estructura del Comercio Exterior de España y la de los países de la O.E.C.E. (8a)	133
-----, Ministerio de Comercio, Estructura de la economía Europea en 1959 (8a)	135
-----, Colegio Nacional de doctores y licenciados en ciencias económicas y comerciales, Las estructuras de empleo y su aplicación macroeconómica (8, 9)	120
SPIEGELGLAS, S., Input-Output Relations in the Shoe Industry 1947; A Regional Analysis (7a)	60
Stanford University, The Treatment of Competitive Imports in Input-Output Analysis (Watanabe, Ts.) (1)	25
-----, Consolidation of Input-Output Tables for International Comparisons (Watanabe, Ts.) (3)	38
-----, A Note on the Japanese Capital/Output Ratio (Watanabe, Ts.) (8)	96
-----, Tests of Inter-Industry Models of Growth (Chenery, H.B.) (1)	5
-----, Recent Input-Output Studies in Japan (Shishido, S.) (8)	95
STATISTISKE MEDDELELSER, see DENMARK	
STEINDL, J., Wie wirkt die Ausgabe einer zusaetzlichen Milliarde Schillings? (Austria) (8)	70
STEINTHORSON, D.H., Notes on Inter-Industry Studies (Canada) (8, 10)	74

STEVENS, B.H., A Review of the Literature of Linear Methods and Models for Spatial Analysis (7a)	60
STEWART, I.G., Input-Output Table for the United Kingdom, 1948 (8)	124
——, The Practical Uses of Input-Output Analysis (United Kingdom) (8, 9)	124
——, Review of RASMUSSEN, P.N., STUDIES IN INTERSECTORAL RELATIONS (11)	168
——, —ADAMS, A.A., see ADAMS, A.A., —STEWART, I.G.	
——, —PEACOCK, A.T., see PEACOCK, A.T., —STEWART, I.G.	
STOBBE, A., Produktivitaetsmessung auf der Grundlage von Input-Output Tabellen (9)	155
STOEWE, H., OEKONOMETRIE UND MAKROOEKONOMISCHE THEORIE (1, 9)	22
STONE, R., Input-Output and the Social Accounts (1, 8)	22
——, Linear Expenditure Systems and Demand Analysis: An Application to British Demand (United Kingdom) (8)	124
——, Model Building and the Social Accounts: A Survey (1)	22
——, —CROFT-MURRAY, G., SOCIAL ACCOUNTING AND ECONOMIC MODELS (1, 9)	23
——, —GILBERT, M., see GILBERT, M., —STONE, R.	
STROUT, A.M., Flow Matrix Comparison, 1939-1947 (6)	50
——, Primary Employment Effects of Alternative Spending Programs (5, 9)	44
——, Technological Change: The Aluminum Industry (6)	50
——, Revised 10 Sector Input-Output Matrices for Dynamic Computations, U.S., 1947 (6)	50
SUDAN, Department of Statistics, THE NATIONAL INCOME OF SUDAN 1955/1956 (8)	121
SULLIVAN, M. McC., Computation of Eigenvalues of Nonsymmetric Matrices on UNIVAC I (2, 6)	34
SULMICKI, P., Tabela przepływów międzygałęziowych (Poland) (1, 8)	23
——, PRZEPŁYWY MIĘDZYGAŁĘZIOWE (Interindustrial Flows) (Poland, Yugoslavia) (1, 2, 8, 10)	23
SUZUKI, T., A Few Points Regarding Import Coefficients (8)	95

(SUZUKI Continued)

	<u>Page No.</u>
SUZUKI, T. (Continued)	
——, GNP and Manufacturing and Mining Production in 1958 (Japan) (8)	95
——, Interindustrial Relations and Linear Programming (8)	95
——, On the 36 Sector Table for 1955 (Japan) (8)	95
——, OHAMA, K., On the Newly Aggregated Japanese Input-Output Tables for 1951 and 1955 (8)	95
SWEDEN, Den Svenska Input-Output Undersokningen (8)	121
——, Konjunkturinstitutet Stockholm, On National Accounting (Ohlsson, I.) (1)	17
——, Industriens Utredningsinstitute (IUI) Input-Output och den strukurella interdependensen (Höglund, B.) (1)	11
——, Stockholm School of Economics, Business Research Institute, SAMSPELET MELLAN EKONOMISKA SEKTORER I STOR-STOCKHOLM (Artle, R.) (7b)	65
——, Stockholm School of Economics, Business Research Institute, STUDIES IN THE STRUCTURE OF THE STOCKHOLM ECONOMY (Artle, R.) (7b)	66
SZAKOLCZAY, G., see KENESSEY, Z., -NEMENY, V., -SZAKOLCZAY, G.	
SZYBISZ, B., see KRZECZKOWSKA, E., -SZYBISZ, B., -ZIENKOWSKI, L.	
TANGANYIKA, The National Income, 1952-1954 (8)	122
TASKIER, C.E., Household Consumption: Input-Output Classification Problems: Consumer Survey Data (3, 4)	38
——, Price Index Research, 1939-1947 (6)	50
——, Technological Change: Revision of the 1939 Matrix (6)	50
——, -LEONTIEF, W.W., see LEONTIEF, W.W., -TASKIER, C.E.	
TATEMOTO, M., The Leontief Paradox and the Structure of Japanese Trade (8, 9)	96
——, ICHIMURA, S., Factor Proportions and Foreign Trade: The Case of Japan (8, 9)	96
TERANISHI, T., Interindustrial Analysis of Economic Conditions (Japan) (8)	96
THEIL, H., Linear Aggregation in Input-Output Analysis (2, 3)	34

THEISS, E., Review of ARROW, J.K., -HOFFENBERG, M., A TIME SERIES ANALYSIS OF INTERINDUSTRY DEMAND (11)	166
THIONET, M.P., Le tableau français des achats et ventes des secteurs de production (8)	80
THONSTAD, T., PRODUKSJONSSTRUKTUR, IMPORT OG SYSSELSETTING (Norway) (8)	114
TIEBOUT, C.M., Input-Output and Foreign Trade Multiplier Models in Urban Research (7a, 9)	60
-----, Regional and Interregional Models: An Appraisal (7a, 10)	60
TINTNER, G., Game Theory, Linear Programming and Input-Output Analysis (2, 10)	34
-----, Makro-Oekonomische Modelle fuer die oesterreichische Wirtschaft (2, 8)	34
-----, The Use of Mathematical Methods in Econometrics and Economic Statistics (2)	35
-----, -MURTEIRA, B., Um modelo 'Input-Output' simplifacado para a economia portuguesa (8)	118
TLUSTÝ, Z., -SKOLKA, J., Oekometrickém směrn v buržoasní politické ekonomii (Czechoslovakia) (8)	76
TOHOKU (Japan), Input-Output Table (7b)	65
TOLKACHEV, A., Elektronnye mashiny i voprosy planirovaniia (U.S.S.R.) (8, 9)	130
TOMASZEWSKI, W., -KORDA, B., Zkoumání meziodvětových vztahů na základě matematických modelů (Czechoslovakia) (8, 9)	76
TORRES MARTÍNEZ, M. de, y Asociados, Tablas Input-Output de la economía española, años 1954-1957 (8)	121
TRÍAS-FARGAS, R., La balanza de comercio de la provincia de Barcelona y la tabla de 'inputs' industriales de la misma (Spain) (7b, 8, 9)	65
TUREK, O., Otázky využití bilance národního hospodářství CSR při plánování (Czechoslovakia) (8)	76
TUSENIUS, R.R., DIE THEORIE EN PRAKTYK VAN DIE INTERINDUSTRIEVLOEI TEGNIEK, UNION OF SOUTH AFRICA (Input-Output Tables, 1951-52) (1, 8, 9)	23
ULRICH, H., -KOENIG, H., see KOENIG, H., -ULRICH, H.	
UNION OF SOUTH AFRICA, Input-Output Table for 1951-52 (Tusenius, R.R.) (8)	118

UNITED KINGDOM, Central Statistical Office (H.M.S.O.), NATIONAL INCOME AND EXPENDITURE, 1946-1951 (8)	122
——, NATIONAL INCOME AND EXPENDITURE, 1955 (8)	122
——, NATIONAL INCOME BLUE BOOK FOR 1958 (8)	122
——, University of Cambridge, see STONE, R.; GILBERT, M., -STONE, R.; STEWART, J.G.	
——, University of Edinburgh, see PEACOCK, A.T., -DOSSER, D.G.M.	
UNITED NATIONS ORGANIZATION, Research and Planning Division, Economic Commission for Europe; Economic Bulletin for Europe, Input-Output Tables: Recent Experience in Western Europe (1, 2, 8b)	23
——, ECONOMIC SURVEY OF EUROPE IN 1957 (8b)	135
——, Economic Commission for Latin America, INPUT-OUTPUT TABLES AND ANALYSIS (1, 8b,)	24
——, Economic Commission for Latin America, Economic Bulletin for Latin America, The Input-Output Model. General Characteristics (1, 2, 9)	23
——, Economic Commission for Latin America, Some Applications of the Input-Output Model to the Argentine Economy (8)	68
——, Economic Commission for Latin America, ALGUNAS APLICACIONES DEL MODELO DE INSUMO-PRODUCTO EN EL ANÁLISIS Y EN LAS PROYECCIONES DE LA ECONOMÍA ARGENTINA (8)	67
——, Economic Commission for Latin America, ANÁLISIS Y PROYECCIONES DEL DESARROLLO ECONÓMICO. V. EL DESARROLLO ECONÓMICO DE LA ARGENTINA (8)	67
——, Economic Commission for Latin America, ANALYSIS AND PROJECTIONS OF ECONOMIC DEVELOPMENT. III. THE ECONOMIC DEVELOPMENT OF COLOMBIA (8)	74
——, Economic Commission for Latin America, ANÁLISIS Y PROYECCIONES DEL DESARROLLO ECONÓMICO. III. EL DESARROLLO ECONÓMICO DE COLOMBIA. ANEXO ESTADÍSTICO (8)	75
——, Economic Commission for Latin America, ANALYSIS AND PROJECTIONS OF ECONOMIC DEVELOPMENT. VI. THE INDUSTRIAL DEVELOPMENT OF PERU (8)	115
——, Economic Commission for Latin America, COMPARACIÓN DE LA ESTRUCTURA INTERSECTORAL DE LA PRODUCCIÓN DE ARGENTINA Y DE PERÚ (8a)	134
——, Economic Commission for Latin America, Banco de México, LAS CUENTAS NACIONALES DE MEXICO (8)	108

U.S.A., Department of Agriculture, DOLLAR VOLUME OF AGRICULTURE's TRANSACTIONS WITH INDUSTRY (Masucci, R.H.) (4)	42
-----, 85th Congress, 1st Session, Hearings, THE NATIONAL ECONOMIC ACCOUNTS OF THE UNITED STATES (4, 9)	42
-----, 86th Congress, Joint Economic Committee, Study of Employment, Growth and Price Levels, Steel and Postwar Inflation (Eckstein, O., -Fromm, G.) (1, 4, 9)	7
-----, 86th Congress, Joint Economic Committee, Study of Employment, Growth and Price Levels, The Share of Wages and Salaries in Manufacturing Incomes, 1947-56 (Conrad, A.H.) (5)	44
-----, 86th Congress, The Centralized Planning of Supplies in Soviet Industry, Comparison of the United States and Soviet Economies (Levine, H.) (8)	128
Universidade de Minas Gerais, Brazil, Relações Interindustriais no Estado de Minas Gerais, 1953 (7b, 8)	61
Universitaet Kiel, Institut fuer Weltwirtschaft (Colm, G.) (1)	6
Université de Bruxelles (DULBEA) Département d'Économie Appliquée (8)	70
Universitetet i Oslo, Sosialøkonomisk Institutt (Frisch, R.) (1)	8
University College, Canberra, A.C.T., The Australian Transaction Tables (Cameron, B.) (8)	68-69
University College of the West Indies (O'Loughlin, C.) (8)	72
University of California (Jorgenson, D.W.) (2)	30
University of Cambridge, Department of Applied Economics, Model Building and the Social Accounts: A Survey (Stone, R.) (1)	22
-----, Input-Output and the Social Accounts (Stone, R.) (1)	22
-----, Recent Developments in National Income and Social Accounting (Gilbert, M., -Stone, R.) (1)	9
-----, Input-Output Table for the United Kingdom (Stewart, J.G.) (8)	124
University of Edinburgh, Department of Political Economy (Peacock, A.T., -Dosser, D.G.M.) (7b)	66
University of Iowa, Application of Input-Output Analysis to a Regional Model Stressing Agriculture (Schnittker, J.A.) (7a, 9)	59

(University of Iowa Continued)

University of Iowa (Continued)

——, Regional Input-Output Analysis of Agriculture and Industry (Carter, H.O.) (7a)	52
University of Maryland, Bureau of Business and Economic Research, Some Relationships Between U.S. Consumption and Natural Resources, 1899, 1947, 1954 (4, 9)	43
——, U.S. CONSUMPTION AND OUTPUT PATTERNS (4, 9)	43
University of Michigan, Seminar on the Application of Mathematics to the Social Sciences: Sociometry and Leontief Matrices (Hubbel, C.H.) (2)	30
——, The Leontief Inter-Industry Relations Analysis (Gardner, W.W.) (10)	161
——, An Empirical Estimate of Some Regional and Interregional Input- Output Matrices (Edwards, B.E.) (7)	52
University of Pennsylvania, The Derivation of Capital Coefficients for Input-Output Analysis: A Study of the Machine Tool Accessory Industry (Bourque, P.J.) (6)	46
University of Texas, An Inter-Industry Relations Analysis of the Texas Economy for 1947 (May, F.B.) (7a)	57
——, AN INTER-INDUSTRY STUDY OF THE SABINE-NECHES AREA OF TEXAS (Kirksey, C.D.) (7a)	56
Upjohn Institute for Employment Research (Smith, H.T.) (7a)	59
U.S.S.R., Academy of Science of the U.S.S.R., Balanz zatrat i vipustka produksii (Lange, O.) (1, 2, 8)	24
UTTING, E.G., National Income and Related Statistics (10)	165
UZAWA, H., Note on Leontief's Dynamic Input-Output System (6)	50
——, On the Efficiency of Leontief's Dynamic Input-Output System (6)	50
——, —CHENERY, H.B., see CHENERY, H.B., —UZAWA, H.	
VACCARA, B.N., Comments on W. Leontief's 'Factor Proportions and the Structure of American Trade' (9)	157
VÁCHA, J., —ČERVENY, A., see ČERVENY, A., —VÁCHA, J.	
VAHABZADEH, A.A., Conceptual Problems in the Interindustry Analysis and Linear Projection Techniques as a Tool of National Planning in Underdeveloped Countries (1, 9)	24

	<u>Page No.</u>
VALAVANIS, S., Comments on W. Leontief's 'Factor Proportions and the Structure of American Trade' (9)	157
VANEK, J., The Natural Resources Content of Foreign Trade, 1870-1955 and the Relative Abundance of Natural Resources in the United States (9)	157
VASSILIOU, S., INPUT-OUTPUT ANALYSIS OF THE ECONOMY OF CYPRUS (8)	75
VENTURA, E., Illustration sur le cas particulier des combustibles minéraux solides, des principes d'établissement d'un tableau économique de la nation (France) (8, 9)	80
VERDOORN, P.J., Complementarity and Long-Range Projections (Netherlands) (2, 8, 9)	35
VIELROSE, E., Uwagi o schematach input-output (1)	24
VIETORISZ, T., see ISARD, W., -SCHOLLER, E.W., -VIETORISZ, T.	
VIMOT, C., Dictionnaire des Sciences Économiques, Interindustriels: échanges ou relations (1, 10)	24
VIRENQUE, P., De input-output analyse (1, 10)	24
WAGENFUEHR, R., Die Volkswirtschaftlichen Bilanz (1)	25
WAGNER, H.M., A Linear Programming Solution to Dynamic Leontief-Type Models (2)	35
WALKER, F.V., Projection of the Gulf Coast Regional Output (7a)	60
——, An Estimated Growth in the Texas - Louisiana Gulf Coast Area (7a)	60
WALLANDER, J., Input-Output-analysen och samhällsplaneringen (7b, 9)	66
WATANABE, Taro, Leontief's Paradox and the Traditional Theory (9)	158
WATANABE, Tsunehiko, Consolidation of Input-Output Tables for International Comparisons (3)	38
——, A Note on the Japanese Capital/Output Ratio (8)	96
——, Tests of Inter-Industry Models of Growth (6)	51
——, The Treatment of Competitive Imports in Input-Output Analysis (1)	25
——, -CHENERY, H.B., see CHENERY, H.B., -WATANABE, Ts.	
WENKE, K., On the Analysis of Structural Properties of Large Scale Microeconomic Input-Output Models (2)	35

WERIN, L., Review of RASMUSSEN, P.N., STUDIES IN INTERSECTORAL RELATIONS (11)	168
Western Europe, United Nations, Economic Bulletin for Europe, Input-Output Tables: Recent Experience in Western Europe (1, 8b)	25
WEXLER, I., The Structure of Consumption: The Derivation of Preliminary Household Input Coefficients for Selected Industries, 1935-36 (4)	43
Wharton School of Finance and Commerce (Danière, A.L., -Gilboy, E.W.) (4)	40
WIERZBICKI, J., Tablice Poljske Privrede (Yugoslavia, Poland) (8)	118
WONG, Y.K., An Elementary Treatment of an Input-Output System (Un Procedimento elementare per un sistema di interdipendenze strutturali) (2)	35
-----, -MORGENSTERN, O., A Study of Linear Economic Systems (2)	36
WONNACOTT, R.J., An Input-Output Analysis of the Interrelationship of the Canadian and United States Economies (1, 8, 8a)	25
-----, Introduction of Capacity Restraints into an Input-Output Trade Model (1, 8, 8a)	25
-----, A Foreign Trade Input-Output System for Canada and the U.S. (1, 2, 8, 8a)	25
WOOD, M.K., -NORTON, J.D., OUTLINE OF A PROCEDURE FOR POST-ATTACK RESOURCE MANAGEMENT (4, 9)	43
WURTELE, Z.S., A Note on Some Stability Properties of Leontief's Dynamic Models (2, 6)	36
-----, A Problem Encountered in the Comparison of Technical Coefficients (2, 6)	36
-----, Technological Change: Some Properties of Leontief's Dynamic Models (2, 6)	36
YAMADA, I., Ecocirc Graph and the Structure of Input-Output (8)	94
-----, Economic Planning Based on Leontief's Method (9)	158
-----, Input-Output Analysis and Demand and Supply Functions (1)	25
-----, Leontief's System and Production Function (1)	25
-----, Maximizing Principle and a Method of Consistent Determination of Input Coefficients in a Leontief System (2)	36

(YAMADA Continued)

YAMADA, I. (Continued)	
——, On a Measurement of a Leontief System (1)	25
YASUNAGA, T., -NODA, T., -ARAI, M., Consumption and its Degree of Dependence on Imports in Postwar Japan (8)	96
YOSHIUE, S., Inter-Industry Analysis of the New Long-Range Economic Plan of Japan (8)	96
YUGOSLAVIA, Federal Statistical Institute, MEDUSOBNI ODNOSI PRIVREDNIH DELATNOSTI JUGOSLAVIJE U 1955 GODINI (8)	131
ZARNOWITZ, V., Technology and Price Structure in General Interdependence Systems (1)	25
ZEUTHEN, F., Input-Output analysen og vejen videre frem? (10, 11)	165
——, Input-Output Analysis the Entrance to Efficient Economics (10)	165
ZHELEZNIAK, P., Nauchnoe soveshchanie po primeneniiu matematicheskikh metodov (U.S.S.R.) (8)	130
ZIMMERMANN, L.J., Zukunftsaufgaben der Volkswirtschaftslehre (9)	158
ŽIVADINVIČ, V., Italijansko iskustvo sa input-output tablicam (Italy, Yugoslavia) (8, 9,10)	92