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An Inventory of Regional Input-Output Studies in the United States #17

Philip J. Bourque
University of Washington

Gerald Hansen
University of Washington

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AN INVENTORY OF REGIONAL INPUT-OUTPUT
STUDIES IN THE UNITED STATES

by

Philip J. Bourque and Gerald Hansen

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Graduate School of Business Administration
University of Washington
Seattle, Washington

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SUMMARY

This report presents an inventory of regional input-output studies which have been undertaken in the United States (Part I), and a listing of studies which are currently in process (Part II). Only studies of basic empirical content are included in the bibliography. An arrangement alphabetically by state has been chosen for easy area reference; studies of multi-state regions appear at the end of each part.

Fifty-four completed studies and an additional 32 currently in process are reported in this inventory. A later edition, including a brief description of each completed study, is planned for publication. The authors will be grateful for any omissions or corrections which are brought to their attention.

BACKGROUND

The spectacular surge of interest in input-output methods and applications in recent years is witness to the significance of the innovation whose foundations were laid by Wassily Leontief in the 1930's.¹ Interindustry tables developed by Leontief

¹Wassily Leontief, The Structure of the American Economy, 1919-1929 (New York: Oxford University Press, 1941). The second edition (1951) is entitled, The Structure of the American Economy, 1919-1939.

for the United States economy for the years 1919, 1929, and 1939 were followed by a massive national input-output table prepared by the Bureau of Labor Statistics for the year 1947.² After a period of quiescence during the 1950's in the United States (but accelerating development abroad) the OBE began work on a modest-sized input-output table for the year 1958.³ Since its publication in 1964 the coming to maturity of I-O as a significant planning and forecasting tool for government and industry has approached. A national table for 1963 is soon to be released, and the statistical apparatus of the federal government is set to provide another for the year 1967 and at regular intervals thereafter.

To meet the lag problem associated with the construction of I-O matrices these periodic benchmark tables prepared by the Office of Business Economics are being updated by others. The tables prepared by Leontief for a \$600 billion and \$750 billion GNP,⁴ and the 1966 CEIR-Fortune table,⁵ are readily available. The practical

²W. Duane Evans and Marvin Hoffenberg, "The Interindustry Relations Study for 1947," The Review of Economics and Statistics, Vol. 54, No. 2 (May 1952).

³Morris R. Goldman, Martin L. Marimont, and Beatrice H. Vaccara, "The Interindustry Structure of the United States," Survey of Current Business, Vol. 44, No. 11 (November 1964); National Economics Division Staff, "The Transactions Table of the 1958 Input-Output Study and Revised Direct and Total Requirements Data," Survey of Current Business, Vol. 45, No. 9 (September 1965).

⁴Wassily W. Leontief, "The Structure of the U.S. Economy," Scientific American, Vol. 212, No. 4 (April 1965) contains \$600 billion gross flows table. The \$750 billion table supplement is available from the publishers.

⁵Fortune Marketing Department, Fortune's Input-Output Portfolio: A Fortune Marketing Service. Time, Inc. (1967).

application of I-O in the 1960's is particularly evident in its adoption by research organizations, public and private, and business firms. I-O has caught the flood of interest in rational economic planning, and it contributes to the tide in that impressive results justify expanded use.

But I-O is not conceptually bound to national economies. Many of the problems to which I-O can be applied are regional. The earliest application in the United States of I-O on a regional basis was "The Eighth District Balance and Trade" published by the FRB of St. Louis,⁶ followed soon by a New England study by Walter Isard,⁷ the Utah study by Frederick Moore and J. W. Peterson,⁸ and a Maryland study by the Bureau of Business Research, University of Maryland.⁹ Each of these studies contributed toward the development of techniques for estimating regional inter-industry flows. In the late 1950's several investigations were undertaken which pioneered local data collection for measuring regional coefficients.¹⁰ These early studies have been followed by others in multiplying numbers during the 1960's.

⁶Guy Freutel, "The Eighth District Balance of Trade," Eighth Federal Reserve District Monthly Review, Federal Reserve Bank of St. Louis, Vol. 34, No. 6 (June 1952).

⁷Walter Isard, "Interregional Analysis and Regional Development," American Economic Review, Vol. XLIII, No. 2 (May 1953).

⁸Frederick T. Moore and James W. Petersen, "Regional Analysis: An Interindustry Model of Utah," The Review of Economics and Statistics, Vol. XXXVII, No. 4 (November 1955).

⁹A Regional Interindustry Study of Maryland, Studies in Business and Economics, Vol. 8, No. 2 (September 1954). Bureau of Business and Economic Research, University of Maryland, College Park, Maryland.

¹⁰Cf. Werner Z. Hirsh, "Interindustry Relations of a Metropolitan Area," The Review of Economics and Statistics, Vol. XLI, No. 4 (November 1959); C. D. Kirksey, An Interindustry Study of the Sabine-Neches Area of Texas, Bureau of Business Research, University of Texas, Austin (1959); Werner Hochwald, Herbert E. Striner, and Sidney Sonenblum, Local Impact of Foreign Trade, National Planning Association, Washington, D.C. (July 1960).

PURPOSE

At the time the Washington Interindustry Study was initiated (1964) an effort was made to compile a bibliography of input-output studies to facilitate a review of methods and results of preceding studies. The excellent bibliography by Riley and Allen of United States studies and the international bibliography by Taskier had a few regional study references. Isard's Methods of Regional Analysis contained well-organized bibliographic material of methods of regional analysis. But the surge of articles and papers is growing and the need to wade through an expanding literature to find those with basic empirical content or practical guidance in execution is arduous. It seems likely that many researchers involved in the design and execution of regional I-O studies would welcome a selected up-to-date bibliography to make their canvass of the literature easier.

This inventory makes available a compilation of that portion of the regional I-O literature which contains input-output studies for regions, states, or smaller areas of the United States. Only those studies of substantive empirical content are included. We have attempted to confine the collection to those completed studies (Part I) or studies in progress (Part II), which have (or will have) invertible matrices for a region. The inventory is arranged alphabetically by state, with multi-state areas appearing at the end of each list.

Part I, Completed Studies, includes citations to published work. By "published" we expansively include privately circulated drafts, abstracts, and mimeographed or multilith reports not yet printed or freely circulated. Perhaps the phrase "Completed Studies" is ill-chosen since many of these reports are progressive

(progress or interim). On the other hand, the term "Published Studies" would suggest a form of presentation which often appears only some time after the results have had considerable informal circulation. Part II, Studies in Progress, includes reference to the area, the principal investigator, and anticipated completion dates of studies currently under way.

REGIONAL INPUT-OUTPUT ACCUMULATION

In an effort to accumulate a comprehensive inventory of completed and on-going regional studies, a number of reference sources were utilized.

The following bibliographies relevant to regional input-output analysis were most helpful:

Isard, Walter, Methods of Regional Analysis: An Introduction to Regional Science (Cambridge, Massachusetts: The M.I.T. Press, 1960), Chapter 8.

Working bibliography for the input-output study of Washington (mimeograph).

Riley, Vera and Allen, Robert Loring, Interindustry Economic Studies, Bibliographic Reference Series No. 4, Operations Research Office (Baltimore, Maryland: John Hopkins University, John Hopkins Press, May 15, 1955).

Taskier, C. E., Input-Output Bibliography 1955-1960, New York, N. Y., United Nations, 1961, St/Stat/7.

United Nations Department of Economic and Social Affairs, Input-Output Bibliography 1960-1963, New York, N. Y., United Nations, Statistical Papers Series M, No. 39, 1964.

American Economic Association, Index of Economic Journals (Homewood, Illinois: Richard D. Irwin, Inc.), Vol. 1-5.

These bibliographies included references of a theoretical or conceptual nature as well as empirical studies. Those which appeared to be regional applications were investigated and included if appropriate.

It was, nevertheless, questionable whether these sources would reveal all studies, especially those in process, those recently completed, or those not formally published. To close this gap a reference questionnaire was sent, in the fall of 1966, to (1) each state agency in the United States whose jurisdiction involved economic planning and development, (2) each of the fifty-seven Bureaus of Business and Economic Research and (3) each Federal Reserve Bank. At least one response was received from all but five states. By surveying both Bureaus of Business Research and state planning agencies it was hoped one or the other, if not both, would acquaint us with I-O studies for their region.

With the scents provided by these responses we attempted to obtain copies of reports or to contact personally those individuals conducting on-going studies. Undoubtedly there are yet some significant omissions or corrections and we hope readers will bring them to our attention. An expanded and updated version is planned for 1968.

It was originally intended that this report would include a brief description of each study. The annotated bibliography, partially completed, seemed too time-consuming to warrant delay in publishing the initial inventory. Moreover, the incompleteness of our files may be partially remedied by this more simple approach.

The difficulties in a classified bibliography of studies may be briefly mentioned. It is fairly easy to identify the base year of the tables (although the coefficients may be from one year and the output or control totals another); and

the number of column and row sectors is readily identified (but not always apparent are those which are endogeneous). But the multiplying designs of the tables and methods of construction require careful attention to the details of each study. Some studies apply national coefficients to regional output totals of each industry (Isard's "balanced trade model"), others use national coefficients modified to derive approximations of intraregional trading coefficients ("Utah" type model). Still other studies rely upon coefficient observations based on the experience of industries within the region; either technical (a_{ij}) or trading (r_{ij}) coefficients--occasionally both--are reported. There are still other taxonomic categories but perhaps these illustrations suffice to indicate that the designs and methods of regional input-output studies, as well as size, scope, and periods, vary considerably. Some studies are distressingly vague as to design and definition.

TYPES OF STUDIES INCLUDED AND EXCLUDED

Our objective was to compile an inventory of regional I-O studies within the United States which contain substantive empirical content. The "theoretical" literature relating to model building or statistical analysis is excluded. Also excluded from the inventory are interpretive or policy oriented reports unless these include previously uncited tables. A number of excellent empirical studies using I-O techniques along the lines of Isard's locational analysis for iron and steel, or Miller's study of the impact of the aluminum industry upon the Pacific Northwest, are not included.

Even thus restricted, the lengthy list of I-O regional studies attests to the widespread and expanding use of input-output techniques in regional research.

Fifty-four references to completed studies and 32 in process are reported in this collection. In the years ahead we may have regularly compiled regional I-O tables, integrated with the national accounts, covering the network of flows within the country. Hopefully, this inventory will make easier and more efficient future efforts in the direction of regional I-O research.

INVENTORY OF REGIONAL INPUT-OUTPUT STUDIES IN THE UNITED STATES

PART I: Completed Studies

Base Year

1951 Alabama: Mobile County

Hochwald, Werner, Striner, Herbert E. and Sonenblum, Sidney
Statistical Results of Kalamazoo and Mobile County Analyses, (Technical Supplement to Local Impact of Foreign Trade). National Planning Association, Washington, D.C., July, 1960.

1954 State of California

Martin, William E. and Carter, Harold O.
A California Interindustry Analysis Emphasizing Agriculture, Part 1 and 2, California Agricultural Experiment Station, Giannini Foundation of Agricultural Economics. Giannini Foundation Research Report No. 250, February, 1962.

1960 State of California

Tiebout, Charles M. and Hansen, W. Lee
An Intersectoral Flows Analysis of the California Economy, University of Washington, Seattle, Washington, Reprint No. 2, 1964. Reprinted from The Review of Economics and Statistics, Vol. XIV, No. 4, November 1963.

1961 California: San Benito County

Rao, Ananda S. and Allee, David J.
An Application of Interindustry Analysis to San Benito County, California, California Agricultural Experiment Station, Giannini Foundation of Agricultural Economics. Giannini Foundation Research Report No. 278, September, 1964.

1965 California: San Diego County

Tjersland, Tore and Chu, Kong
Input-Output or Base Economic Model of San Diego County, (Abstract, 1966).

Base Year1962 California: Stockton

Arthur D. Little, Inc. (Hendricks, Francis)
The Metropolitan Stockton Economy. The Department of City Planning, Stockton, California (undated, probably 1964).

1963 Colorado: Boulder

Miernyk, William, and others
The Impact of Space and Space-Related Activities on a Local Economy. Bureau of Economic Research and Institute of Behavioral Science, Boulder, Colorado, July, 1965. (Clearing House for Federal Scientific and Technical Information, Catalogs Nos. N65-33125 and N65-33190).

1960 Colorado: Colorado River Basin

Miernyk, William, and Udis, Bernard
 Input-Output tables for the Colorado River Basin Study (six sub basins) dated December 20, 1963.

1963 State of Connecticut

Thompson, John M. Jr.
The Socio-Economic Growth Model. P-42, Staff Paper #223D (undated) State of Connecticut, Connecticut Interregional Planning Program, State Office Building, Hartford, Connecticut. Also a memo from C. L. Leven to Carl Veazie (dated August 5, 1965) which includes the tables.

1960 Hawaii: Oahu

McClure, George E.
A Study of the Economy of Oahu. Manual 4, Oahu Transportation Study, Ft. Ruger, Honolulu, Hawaii, September, 1964.

1947 Illinois: Chicago

Hoch, Irving
Forecasting Economic Activity in the Chicago Region: A Progress Report, No. 119, May 10, 1957. Chicago Area Transportation Study, Chicago, Illinois. See also Forecasting Economic Activity for the Chicago Region: Final Report, No. 48, May 15, 1959. Chicago Area Transportation Study, Chicago, Illinois.

Base Year

1963 Illinois: Davenport--Rock Island--Moline

The Economic Potential of the Davenport--Rock Island--Moline Metropolitan Area, A First Report, prepared for Moline Plan Commission by City of Moline. Illinois Planning and Zoning Department Comprehensive Plan Office, January, 1965.

State of Iowa

1954 Maki, Wilbur R.

Projections of Iowa's Economy and People in 1974. Special Report No. 41, Agricultural and Home Economics Experiment Station, Iowa State University of Science and Technology, Ames, Iowa, January, 1965.

1954 Maki, Wilbur, R., Suttor, Richard E. and Barnard, Jerald
Simulation of Regional Product and Income with Emphasis on Iowa, 1954-1974. Agricultural and Home Economics Experiment Station, Iowa State University of Science and Technology, Research Bulletin 548, September, 1966.

1960 Barnard, Jerald R.
Design and Use of Social Accounting Systems in State Development Planning, Bureau of Business and Economic Research, The University of Iowa, Iowa City, 1967.

1958 Iowa: Sioux City Area

Levin, Charles L. "Regional Income and Product Accounts: Construction and Applications," Design of Regional Accounts, Werner Hochwald, editor. The Johns Hopkins Press, Baltimore (1961).

1958 Kentucky: East Kentucky

Baird, Robert N.
Interindustry Analysis in Appalachia: A Demonstration for East Kentucky. Multilith. Western Reserve University, Cleveland, Ohio.

1963 Maine: Bangor

Clark, David H., and John D. Coupe
The Bangor Area Economy, Its Present and Future. College of Business Administration, University of Maine, Orono, March, 1967.

Base Year

1963 Maine: Presque Isle

Miss Shirley Elias

A Microregional Input-Output Model of the Presque Isle Area. M.A. Thesis, University of Maine, 1967.

1947 State of Maryland

A Regional Interindustry Study of Maryland. Studies in Business and Economics, Vol. 8, No. 2, September, 1954. Bureau of Business and Economic Research, University of Maryland, College Park, Maryland.

1958 Massachusetts: Boston SMSA

Isard, Walter, Romanoff, Eliahu, and Alspach, Lucy
Technical Reports Issued:

No. 1--Reconciliation of Industrial Classification Used by the Massachusetts Department of Labor and Industries and the Standard Industrial Classification Developed by the Office of Statistical Standards, U. S. Bureau of the Budget

No. 2--Estimates of Key Coefficients for the Manufacturing Industries

No. 3--Derived Input-Output Coefficients: 1958: First Steps Toward Regional Input-Output Standardization

Boston Regional Science Project, Regional Science Research Institute, Cambridge, Massachusetts.

1954 Michigan: Kalamazoo

Smith, Harold T.

The Kalamazoo County Economy. The W. E. Upjohn Institute for Employment Research, Kalamazoo, Michigan, April, 1960. (Also Technical Supplement C, "Kalamazoo and Mobile County Survey Questionnaires," National Planning Association, Washington, D. C.).

1958 Michigan: Lansing Tri-County Area

Economic and Population Base Study of the Lansing Tri-County Area, 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.

Base Year1961 State of Mississippi

Carden, John G. D. and Whittington, P. B. Jr.
Studies in the Economic Structure of the State of Mississippi,
 Vol. 1 and 2. Mississippi Industrial and Technological Research
 Commission, Jackson State Department of Commerce, 1964.

1958 State of Missouri

Harmston, Floyd K. and Monroe, Claude E.
A Preliminary Input-Output Analysis of the Missouri Economy.
 (Multilith, Undated).

1955 Missouri: St. Louis

Hirsch, Werner Z.
 "Interindustry Relations of a Metropolitan Area," The Review of
 Economics and Statistics, Vol. 12, No. 4, November 1959.

1960 State of New Mexico

Blumenfeld, Arthur A. and others
A Preview of the Input-Output Study. A New Mexico Business Re-
 print, October, 1965.

Lindberg, Carolyn D.
New Mexico's Imports and Exports. A New Mexico Business Reprint,
 September, 1966.

Lindberg, Carolyn D.
A Technical Supplement to the Input-Output Study for New Mexico.
 Bureau of Business Research, The University of New Mexico,
 September, 1966.

1954 New York: Fulton County

Goldwasser, Betti
 Report on Fulton County, Local Impact of Foreign Trade. National
 Planning Association, Washington, D. C., July, 1960.

1954 New York: New York Metropolitan Area

Berman, Barbara R., Chinitz, Benjamin, and Hoover, Edgar M.
Projection of a Metropolis. Technical Supplement to the New York
 Metropolitan Region Study, Harvard University Press, Cambridge,
 Massachusetts, 1960.

Base Year1954 North Carolina: Northern Tidewater Area

Ram, Peretz

"An Input-Output Analysis of a Small Homogeneous Agricultural Area," Journal of Farm Economics, Vol. 40, No. 5, December, 1958.

North Dakota

Bartch, Bruce L.

North Dakota Economic Development Commission, An Analysis of Interindustry and Intercommunity Relationships in South Western North Dakota. MA Thesis, North Dakota State University, 1966.

Sand, Larry D.

Analysis of Effects of Income Changes of Intersectoral and Intercommunity Economic Structure. MA Thesis, North Dakota State University, 1966.

1963 State of Oregon

Allen, Robert Loring and Watson, Donald A.

The Structure of the Oregon Economy: An Input-Output Study. Bureau of Business and Economic Research, University of Oregon, Eugene, Oregon, 1965.

1963 Pennsylvania: Clinton County

Gamble, Hays B. and Raphael, David L.

A Microregional Analysis of Clinton County Pennsylvania, Vol. 1 and Vol. 2. The Pennsylvania Regional Analysis Group, The Pennsylvania State University, University Park, Pennsylvania, February, 1965.

1956-
1957 Pennsylvania: Pittsburgh

Longini, Arthur

Region of Opportunity: Industrial Potential Along the Pittsburgh-Youngstown Axis. The Pittsburgh and Lake Erie Railroad Company, 1961.

1959 Pennsylvania: Philadelphia

Isard, Walter, Langford, Thomas W., and Romanoff, Eliahu
Philadelphia Region Input-Output Study. Regional Science Research Institute, 1966, Vol. 1 and Vol. 2.

Weskott, James

Employment Multipliers for the Philadelphia Metropolitan Area. Federal Reserve Bank of Philadelphia, July, 1966.

Base Year1947 State of Texas

May, F. B.

An Inter-Industry Relations Analysis of the Texas Economy for 1947. Ph.D. Dissertation, University of Texas, 1957.1963 Texas: Rio Grande Valley

Williamson, Robert B.

The Lower Rio Grande Valley of Texas, Economic Resources and Growth Prospects to 1983-1984. Area Economic Survey No. 27, Bureau of Business Research, University of Texas, Austin, 1966.1955 Texas: Sabine-Neches Area

Kirksey, C. D.

An Interindustry Study of the Sabine-Neches Area of Texas. Bureau of Business Research, University of Texas, Austin, 1959.1947 State of Utah

Moore, Frederick T. and Petersen, James W.

"Regional Analysis: An Interindustry Model of Utah," The Review of Economics and Statistics, Vol. XXXVII, No. 4, November, 1955.1963 State of Washington

Bourque, Philip J., and others

"The Washington Interindustry Study for 1963," University of Washington Business Review, Vol. XXV, No. 3, February, 1966. See also The Washington Economy: An Input-Output Study, Business Studies #3, University of Washington Graduate School of Business Administration, 1967.Washington: Puget Sound Region

1958 Little, Arthur D., Inc.

Economic Growth of the Puget Sound Region, Arthur D. Little, Inc. Cambridge, Massachusetts, 1964.

1963 Tiebout, Charles

Projections: 1980, 2000, 2020: An Economic Study of the Puget Sound and Adjacent Waters Area. Consulting Services Corporation Seattle (1967).

Base Year1959 Wyoming: Carbon County

Harmston, Floyd K.

A Study of the Resources, People and Economy of Carbon County, Wyoming. Wyoming Natural Resources Board, Cheyenne, Wyoming, 1962.

1959 Wyoming: East Central

Harmston, Floyd K. and Lund, Richard E.

A Study of the Resources, People, and Economy of East-Central Wyoming: Platte and Goshen Counties. The Wyoming Natural Resource Board, Cheyenne, Wyoming, 1963.

1959 Wyoming: Southwestern

Lund, Richard E.

A Study of the Resources, People, and Economy of Southwestern Wyoming. The Wyoming Natural Resource Board, Cheyenne, Wyoming, June, 1962. See also An Analysis of Local Economy in a Period of Rapid Transition prepared by The University of Wyoming for Small Business Administration, Washington, D. C. (June, 1962).

1958 Appalachia

Baird, Robert N.

Interindustry Analysis in Appalachia: A Demonstration for East Kentucky, Western Reserve University, Cleveland, Ohio. (Multi-lith).

1947 Eighth Federal Reserve District

Freutel, Guy

"The Eighth District Balance of Trade," Eighth Federal Reserve District Monthly Review, Federal Reserve Bank of St. Louis, Vol. 34, No. 6, June, 1962.

1947 New England

Isard, Walter

"Interregional Analysis and Regional Development," American Economic Review, Vol. XLIII, No. 2, May, 1953.

1955 North Central States

Maki, Wilbur R. and Schreiner, Dean F.

Regional Intersectoral Relations and Demand Projections with Emphasis on the Feed-Livestock Economy of the North Central States, Agricultural and Home Economics Experiment Station, Iowa State University of Science and Technology, Research Bulletin 530, December, 1964. Ames, Iowa.

Base YearUnited States

- 1947 Moses, Leon N.
"The Stability of Interregional Trading Patterns and Input-Output Analysis," The American Economic Review, Vol. XLV, No. 5 (December, 1955).
- 1963 CONSAD Research Corporation, Pittsburgh, Pennsylvania
Regional Federal Procurement Study (May 15, 1967 draft). Refers to development of 35 industry table for 50 states plus District of Columbia for year 1963 based on national coefficients applied to regional gross output estimates. Appendix C of the draft report presents trade coefficient matrix for New York State as illustrative of the computer printout of direct coefficients found by adjusting the national table according to location quotients.
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II. Studies in Progress

State of Alaska

A 24 x 24 industry matrix with 5 final demand sectors for the state of Alaska has been reported with publication probably in 1968. Robert C. Haring, University of Alaska.

Alaska: Fairbanks

An I-O like study (rows only) of the Fairbanks and North Star Borough, with publication probable in 1967.

State of Arizona

A completed I-O study for the state of Arizona has been reported to be in press:

Tijoriwala, Anilkumar G., Martin, William E., and Bower, Leonard
The Structure of the Arizona Economy, Arizona Agricultural Experiment Station Technical Bulletin, The University of Arizona (forthcoming).

An I-O study for the state of Arizona for 1963 (based on Colorado River Basin study coefficients for 1960). Arlyn J. Larson, Arizona State University.

State of California

An I-O model for the state of California for 1958 with 81 industries using national coefficients and estimates of state control totals from secondary sources. E. M. Lofting, University of California.

State of Connecticut

An I-O study for the state of Connecticut, 1963. Carl E. Veazie and Robert W. Batchelor, Connecticut Interregional Planning Program.

State of Idaho

An I-O study for the state of Idaho, 1963, with 20 sectors. R. D. Peterson, University of Idaho.

State of Iowa

New I-O tables for 1953 covering the state of Iowa and the mid-continent region are in process. Wilbur R. Maki, Iowa State University and Jerald R. Barnard, University of Iowa.

State of Kansas

An I-O study for the state of Kansas, Jarvin Emerson, Kansas State University.

Massachusetts: Worcester

An I-O study for the Worcester SMSA. Albert J. Sargent, Clark University.

Massachusetts; Boston

An I-O study for the Boston SMSA, 1963. Walter Isard and Eliahu Romanoff. (See reports cited in Part I of this bibliography).

Michigan: Jackson County

An I-O study of Jackson County, Michigan, is reported to be in process under the direction of D. Milstein, Michigan State University.

State of Minnesota

An I-O study for the state of Minnesota is in the planning stage. John S. Hoyt, Jr., and Dale Dahl, Agricultural Extension Service, University of Minnesota.

State of Missouri

An I-O table for 1963 is currently in preparation. Floyd K. Harmston and Claude E. Monroe, University of Missouri.

Missouri: St. Louis

An I-O study for the St. Louis SMSA is reported in progress for year 1964. St. Louis Regional Industrial Development Corporation: Dr. Miller B. Spangler, Director of Research.

State of Nebraska

An I-O study for the state of Nebraska, 1963. Theo. W. Roesler, The University of Nebraska.

Pennsylvania: County Studies

The Pennsylvania Regional Analysis Group has published an I-O study for Clinton County (see Part I of this bibliography) and reports another study for Sullivan County has been completed. Other studies of Bradford, Tioga, Cameron, and Potter counties are under way. Pennsylvania State University.

Pennsylvania: City of Bethlehem

An I-O study for the City of Bethlehem is reported under way. Warren Pillsbury, Lehigh University.

Pennsylvania: Philadelphia

An I-O study of Philadelphia SMSA by Walter Isard, et al. (See report cited in Part I of this bibliography).

Rhode Island: Providence

An I-O study for the Providence-Pawtucket-Warwick SMSA, 1963. Professor Caleb A. Smith, Department of Economics, Brown University.

State of South Carolina

An I-O study for the state of South Carolina is in preliminary stages. Sang O. Park, Clemson University.

State of Tennessee

An I-O study for the state of Tennessee. John R. Moore, The University of Tennessee.

State of Texas

An I-O study for the state at the Texas Water Development Board is reported under way and should be completed in 1968.

State of Utah

An I-O study of the state of Utah for the year 1963 is near completion. Ivar E. Bradley, University of Utah.

State of Vermont

An I-O study for the state of Vermont. Abbas Alnasrawi and Horace H. Squire, University of Vermont.

State of Washington

Disaggregated intraregional state flows tables with export and import matrices for state of Washington, 1963. Philip J. Bourque, University of Washington.

State of West Virginia

An I-O study for the state of West Virginia for the year 1965 is currently in progress. William H. Miernyk and John H. Chapman, Regional Research Institute, West Virginia University.

Wyoming: Teton County

An I-O study of Teton County, Wyoming. G. R. Rajender, Floyd K. Harmston, and D. M. Blood, College of Commerce and Industry, The University of Wyoming.

Appalachia

An I-O study for 376 counties in Appalachia for year 1958; 120 sectors and three sub-regional matrices. Estimated completion in September, 1967. Charles A. Berry, Office of Appalachian Studies, Corps of Engineers, Cincinnati, Ohio.

New England

An I-O type study of the marine oriented activities in Southern New England. Niels Rorholm, University of Rhode Island.

Western States Model

An interstate I-O model for eleven Western states with 15 economic sectors to emphasize water-using industries. The interstate model calls for the linkage of the state economies via commodity trade using railroad waybill, trucking data, and a gravity flow estimator. H. Craig Davis and Jona S. Bargur, Sanitary Engineering Research Laboratory, University of California.

United States

Harvard Economic Research intranational I-O study of all regions in the United States for years 1947, 1958, 1963. Wassily Leontief and Karen R. Polenske, Harvard University.

Commonwealth of Puerto Rico

Has initiated data collection for an I-O study of Puerto Rico; completion expected in 1968. Alberto Morales Laureano, Puerto Rico Planning Board.
