

URBAN HOUSEHOLD INCOME AND CONSUMPTION IN LATIN AMERICA

Programa de Estudios Conjuntos de Integración Económica Latinoamericana (ECIEL)

This study is based on household budget surveys conducted in eighteen major cities of ten South American countries. The project has two major objectives: One is to present a uniform statistical analysis of the principal features of family income and expenditure; the other is to create a body of data suitable for a variety of subsequent analyses. These analyses, described below, concentrate on the relations between income and expenditure, and on the allocation of the household budget as a function of income and a variety of socioeconomic variables. Because information with wide coverage and extensive detail is rare in Latin America, much of the project effort lies in obtaining and cleaning the data.

The Brookings Institution has been largely responsible for computer processing of the data. The member institutes, sometimes in collaboration with other institutions in their respective countries, undertook the surveys and the initial checking of the information; they collaborated with coordination in cleaning and interpreting the data, which are their property; and they are responsible for publications describing the national results. Several of the institutes have acquired or are installing the capacity for further computer processing.

Altogether some nineteen thousand observations were obtained in the surveys. The number of different households is somewhat smaller, since many families were interviewed two or more times during the course of a year. The sample design varies among cities, but in most cases includes four waves of interviews, the use of a panel of reinterviewed families, and a nonproportional structure which overrepresents the high income strata. Sampling distortions are corrected by assigning weights to the observations so that the weighted data represent the population.

Similar questionnaires of some five hundred to one thousand items were used, and the data were standardized by aggregation and transformation of the initial information into a nearly uniform list of 1,293 variables. These data were subjected to four kinds of tests before being analyzed: Logical consistency (particularly for sociodemographic variables); arithmetic consistency; elimination of extreme values which are likely to be incorrect; and equality of distributions and mean values among different subsamples and/or different interview periods. Examination of the data typically takes more time and effort than the analysis which constitutes the study's results, in part because of the need for frequent con-

sultation with the institute which collected the data and knows their peculiarities. Difficulties are increased by three features not usually found in household survey work. These include (1) the need to harmonize information obtained by different questionnaires and procedures, (2) the possible distortions introduced by rapid inflation during the year covered by a survey and (3) the use of both panel and nonpanel households. The first of these presents the greatest problem in early stages of the analysis.

There is now enough experience with the cleaning and checking procedures developed for the ECIEL study to assess their value and to begin to see a return on the effort expended. They are described in two ECIEL documents (5, 22) which have been widely circulated. The application of these procedures to Colombia has been described (15), and experiments with the extreme-value tests have been published (19), which show a fairly high efficiency at detecting errors. Two other papers consider the difficulties of data collection (8) and the biases likely to remain in the information (7). The sample-analysis procedures have thus far been found adequate to detect and correct each of the following problems in one or more countries: Differential mortality of sample households; unexpected global mortality; distortions arising from the omission of data; distortions due to differences in periods of reference of the data; and the presence of large transitory elements. The results of these procedures are improved data for national purposes and much greater international comparability than would otherwise be found. The initial experience with these stages of the project is also the basis of a contract report to the U.S. Bureau of Labor Statistics (18).

Three principal standard analyses are made of the cleaned data. The first is estimation (by regression) of double-logarithmic or constant-elasticity functions relating particular expenditures to total expenditure, and the latter to total income. The estimates are based on ungrouped, unweighted data, and include the effects of a series of sociodemographic variables. A maximum of forty-nine functions are estimated when all the data are available. The second is a set of frequency tabulations (weighted) showing the distribution of the population and of some financial information according to a series of classifying variables. The third is a set of structural tabulations (also weighted) showing the composition of income by source, and the allocation of expenditure by category, again in each of several classifications. All three analyses are conducted for each country separately; if more than one city is included (as is the case in five of the ten countries), these are distinguished in the results. Such analyses form the bases for national monographs (1, 9, 23, 25), preparation of which are the responsibility of the appropriate institute. A preliminary summary and comparison of four countries (Colombia, Paraguay, Peru, and Venezuela) has already been distributed (5). A complete book covering at least five, and perhaps as many as nine, countries is now in preparation, one chapter of which is available as a separate paper (21).

As of December 1974, standard analyses were complete for six countries (Colombia, Chile, Ecuador, Paraguay, Peru, and Venezuela) and nearly so for a seventh (Argentina). Monographs have been or shortly will be published for Colombia, Peru, and Venezuela, and will soon be forthcoming for Argentina and

Paraguay as well. In only two cases (Bolivia and Brazil) are the data still undergoing cleaning. The tenth country in the study, Uruguay, may not be included because of the end of participation in the program by the institute which collected the data and published a preliminary description (16). Analyses of Bolivia and Brazil are to be completed during 1975, along with the draft of a volume covering several, but perhaps not all, countries (there may therefore be a second volume later). In addition to the standard analyses, data for the first several countries to complete the cleaning process have been and will continue to be used for individual and comparative studies by ECIEL participants or (with the permission of the institutes) by outside researchers. Five such studies (2, 3, 11, 17, 20) were presented to the ECIEL Conference on Consumption, Income and Prices held in Hamburg in October 1973, and will be included along with other papers in a separate volume (6). Two other studies of household expenditure, using a model which permits the estimate of both price and income effects, have also been written (13, 14).

The initial stage of methodological investigation for this study has been concluded. Only three substantive publications (4, 23, 24) appeared before 1973, but in the interval from October 1973 to October 1974 no fewer than twelve papers or volumes have appeared, presenting results for one or more of six countries. Three other papers utilizing data from the ECIEL surveys were published in March 1973 (10, 12, 26). It only remains to finish the analyses for Bolivia and Brazil (and possibly Uruguay) for completion of the standard, or common, project. However, use of the data will not end there; in addition to possible further investigations of household expenditure, the information is being used in the ECIEL study of income distribution and will be incorporated into one or more parts of the ECIEL study of education and development.

BIBLIOGRAPHY

1. FIGUEROA A., ADOLFO, ED. *Estructura del Consumo y Distribución de Ingresos en Lima Metropolitana, 1968-1969*. Lima: Pontificia Universidad Católica del Perú, 1974.
2. CLINE, WILLIAM R. "Income Distribution and Economic Development: A Survey, and Tests for Selected Latin American Cities." ECIEL Conference, Hamburg, October 1973.
3. CROCKETT, JEAN, AND FRIEND, IRWIN. "Consumption and Saving in Economic Development." ECIEL Conference, Hamburg, October 1973.
4. DIRECCIÓN DE ESTADÍSTICA Y CENSOS. *Encuesta Nacional de Presupuestos Familiares; 1, Distribución del Gasto Familiar en el Gran Santiago*. Santiago, 1970.
5. ECIEL. *Urban Household Income and Consumption Patterns in Latin America: A Comparative Analysis of Colombia, Paraguay, Peru, and Venezuela*. Washington: The Brookings Institution, 1974.
6. FERBER, ROBERT, ED. *Consumption, Prices and Economic Development*. Papers from the ECIEL Conference, Hamburg, October 1973 (to be published).
7. ———, AND SALAZAR-CARILLO, JORGE. "Experience in Generating Micro Data in Latin America." In Eliezer B. Ayal, ed., *Micro Aspects of Development*. New

- York: Praeger, 1973. Also published as "Algunas Experiencias en la Generación de Datos de Tipo Microeconómico en América Latina," *Ensayos ECIEL 1*, November 1974, pp. 55–82.
8. ———, AND DE SOUZA, JANES. "Problems in the Collection of Micro Data for International Comparisons." ECIEL Conference, Hamburg, October 1973.
 9. FERNÁNDEZ, ANTONIO, AND DE KHAN, BEATRIZ A. *ECIEL, Estudio de Consumo: Venezuela*. Caracas: Banco Central de Venezuela and Universidad del Zulia, 1974.
 10. FIGUEROA, ADOLFO. "El Impacto de las Reformas Actuales Sobre la Distribución de Ingresos en el Perú." Conference on Income Distribution and Development, CEPLAN, Universidad Católica de Chile, Santiago, March 1973.
 11. ———, AND WEISSKOFF, RICHARD. "Viewing Social Pyramids: Income Distribution in Latin America." ECIEL Conference, Hamburg, October 1973. Published as "Visión de las Pirámides Sociales: Distribución del Ingreso en América Latina," *Ensayos ECIEL 1*, November 1974, pp. 83–154.
 12. FOXLEY, ALEJANDRO, AND MUÑOZ, OSCAR. "Redistribución del Ingreso, Crecimiento Económico y Estructura Social: El Caso Chileno." Conference on Income Distribution and Development, CEPLAN, Universidad Católica de Chile, Santiago, March 1973.
 13. HOWE, HOWARD J. "Estimation of the Linear and Quadratic Expenditure Systems: A Cross-Section Case for Colombia." Ph.D. diss., University of Pennsylvania, 1974.
 14. ———, AND MUSGROVE, PHILIP. "The Extended Linear Expenditure System: Estimates from ECIEL Household Budget Data for Bogotá, Caracas, Guayaquil and Lima." Mimeographed. Washington: The Brookings Institution, June 1974.
 15. ———, AND VILLAVECES, ROBERTO. "Data Preparation for Latin American Comparisons of Consumption." In Nancy Ruggles, ed., *The Role of the Computer in Economic and Social Research in Latin America*. New York: NBER, 1974.
 16. (LÁZARO, CARLOS M., ET AL.) *Encuesta Sobre Consumos e Ingresos Familiares en el Area Metropolitana de Montevideo*. Montevideo: Instituto de Estadística, Universidad de la República, 1968.
 17. MEYER, ARTURO CARLOS. "International Comparison of Consumption Patterns." ECIEL Conference, Hamburg, October 1973. Published as "Diferencias Internacionales en los Patrones de Consumo," *Ensayos ECIEL 1*, November 1974, pp. 173–213.
 18. MUSGROVE, PHILIP. "The Collection and Interpretation of Household Income and Expenditure Information." Mimeographed. Washington: The Brookings Institution, May 1972.
 19. ———, "Detecting Errors in Economic Survey Data: Multivariate vs. Univariate Procedures." *Annals of Economic and Social Measurement*. 3 (April 1974): 333–45.
 20. ———, "Determination and Distribution of Permanent Household Income in Urban South America." Ph.D. diss., Massachusetts Institute of Technology, 1974. Also presented to the ECIEL Conference, Hamburg, October 1973. To be published as "El Ingreso y el Consumo Permanente de las Familias Urbanas," *Ensayos ECIEL 2*, 1975.
 21. ———. "Determinants of Urban Household Consumption and Saving in Latin America: A Summary of Evidence from the ECIEL Surveys." Conference of the Eastern Economic Association, Albany, October 1974.

22. ———, AND HOWE, HOWARD. "ECIEL, Estudio de Consumo: Antecedentes y Metodología." Mimeographed. Washington: The Brookings Institution, 1973.
23. PRIETO DURÁN, RAFAEL. *Estructura del Gasto y Distribución del Ingreso Familiar en Cuatro Ciudades Colombianas*. Bogotá: CEDE, Universidad de los Andes, 1971.
24. ———. "El Consumo y el Ahorro Familiar en Cuatro Ciudades Colombianas." En Banco de la República, *Necesidades de Mobilización de Ahorro para el Desarrollo Colombiano*. Bogotá: 1971.
25. ———. "ECIEL, Estudio de Consumo: Colombia." To be published.
26. ROLDÁN, ROMUALDO. "Funciones Consumo: Una Estimación por Estratos de Ingreso." Conference on Income Distribution and Development, CEPLAN, Universidad Católica de Chile, Santiago, March 1973.