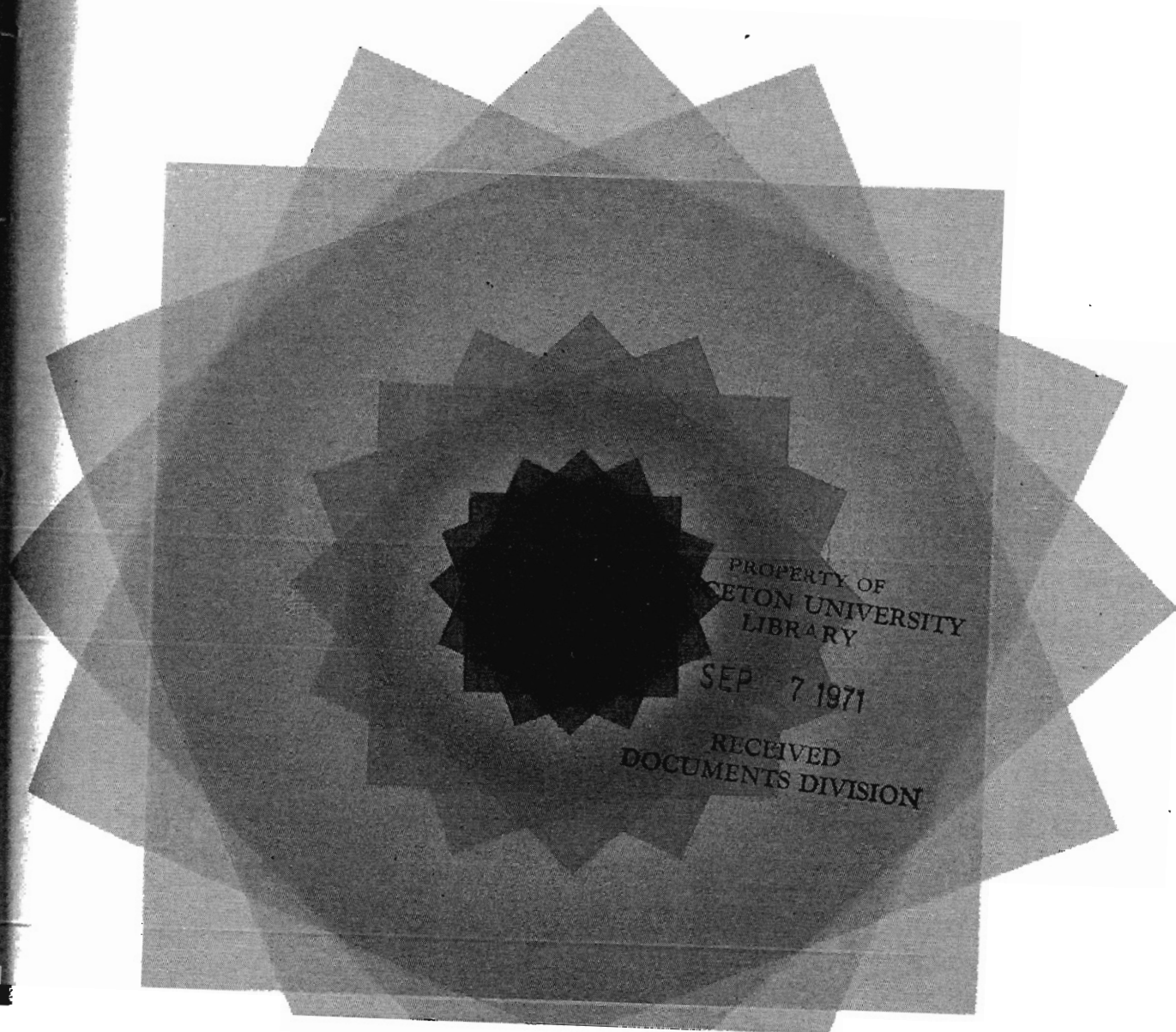


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CONSUMER
EXPENDITURES
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Survey
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BULLETIN 1684
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Bureau of Labor Statistics



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**CONSUMER
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Guidelines

BULLETIN 1684

U.S. DEPARTMENT OF LABOR
J. D. Hodgson, Secretary

BUREAU OF LABOR STATISTICS
Geoffrey H. Moore, Commissioner

1971



Preface

This bulletin documents the planning, operation, and evaluation of the Survey of Consumer Expenditures, 1960-61, and lays the foundation for planning surveys in the 1970's. It draws on experience gained over more than 8 decades by the Bureau of Labor Statistics in interviewing American families about their earnings and spending.

The Bureau of Labor Statistics and the U.S. Department of Agriculture published about 200 statistical reports and supplements and numerous analytical reports based on the 1960-61 nationwide survey of urban and rural families. In addition, the Bureau entered a new phase of data dissemination by duplicating and selling magnetic tapes of disaggregated data to universities and others having access to electronic data-processing equipment. This greatly expanded the survey's usefulness for micro-economic research. Some description of concepts and methods accompanied each publication. Fees for magnetic tapes included a handbook describing tape content and format, as well as consultation with Bureau staff.

This bulletin repeats some of those statements on methods, but includes additional descriptive and tabular materials. More significantly, it contains information on sampling and other errors, and presents extensive comparisons of the survey findings with data from other sources, principally the Bureau of the Census and Office of Business Economics of the Department of Commerce. Also, it includes facsimiles of all questionnaires and forms used in interviewing families. The principal purpose of this bulletin is to provide a handbook that will stimulate ideas and programs for continuing improvement of expenditure surveys.

Many people in the Office of Prices and Living Conditions have contributed to this report, both in its broad outline and in its detail. Kathryn R. Murphy is the principal author. Helen H. Lamale and Joseph A. Clorey, Jr., advised and counseled Mrs. Murphy throughout its preparation and wrote the sections on family income distributions and on aggregate income and expenditures in chapters 9 and 10. Marvin Wilkerson and Elizabeth Ruiz developed the sections on sampling, sampling errors, and the weighting system. Alice Bigelow Curry and Nellie M. Covington prepared the tables in the text and appendix B.

This bulletin is a testimonial to the generosity and interest of thousands of American families who cooperated in supplying information requested in the Survey of Consumer Expenditures, 1960-61. Their names appear nowhere on the survey records. They spent hours helping interviewers construct a detailed account of a year's income and how they used it. Neither the Bureau nor the Department of Agriculture will use or release data in a way that would permit identification of an individual family.

Contents

	Page
Chapter 1. Introduction.....	1
Historical background	1
Collection of data	2
Classification and tabulation	4
Preliminaries to 1960-61 survey	5
Chapter 2. Purpose, scope, and organization	7
Multi-purpose survey.....	7
Joint BLS-USDA responsibility.....	7
Considerations affecting sample size	7
BLS organization for CES	8
Chapter 3. Design of sample	11
Urban sample	11
Rural sample	14
Definition of consumer unit and eligibility requirements	15
Substitution procedures	16
Chapter 4. Data collection	17
Reporting forms	17
Field operations.....	19
Timing and man-hours in the field operations	23
Chapter 5. Analysis of sample returns	25
Samples assigned for interviews.....	25
Mail questionnaires for weekly food expenditures.....	26
Characteristics of families cooperating in Cincinnati	27
Chapter 6. Preparation of schedules for tabulation	29
Precoded schedules	29
Review of schedules	29
Manual editing and coding	33
Transfer of data to punchcards	33
Computer editing, coding, and summarizing programs	33
Chapter 7. Tabulation and publication	36
Classification of items	36
Computation of averages.....	36
Content of statistical reports	37
Weighting data to United States and regional averages	37
Chapter 8. Reliability of information	40
Sampling error	40
Characteristics of nonrespondents	42
Response errors	43
Processing errors	44
Chapter 9. Comparisons with data from other sources	45
Differences in definitions.....	45
Distribution of consumer units by characteristics	46

	Page
Chapter 10. Reconciliation of aggregate from CES, OBE, and other sources -----	56
Aggregate income, expenditures, and savings -----	56
Other comparisons -----	56
Chapter 11. Uses of the survey data -----	68
Updating BLS statistical measures -----	68
Availability of data for other purposes -----	68
Uses of data outside BLS and USDA -----	70
Appendixes:	
A. Comparability of the Survey of Consumer Expenditures in 1960-61 and in 1950 -----	74
B. Supplementary tables -----	79
C. Exhibits -----	109
Index -----	217

Chapter 1. Introduction

The Survey of Consumer Expenditures, 1960-61 was the seventh major survey of spending patterns of American families conducted by the Bureau of Labor Statistics. These periodic investigations rank among the Bureau's oldest data collecting functions. Although they have changed in purpose and design since their inception in 1888, all were based on the premise that knowledge of how families use their incomes is essential to understanding and solving major economic and social problems.

The need to revise the Consumer Price Index (CPI) provided the immediate stimulus for the 1960-61 survey. The previous comprehensive revision of the index was based on the Bureau's Survey of Consumer Expenditures in 1950. During the fifties, families' real incomes increased, extensive housing developments surrounding major cities had been accompanied by growing proportions of home- and car-owning families, and many new services and products had come on the market. These were some of the numerous indications of changes in buying habits that needed measuring to update the CPI. In addition, a large-scale survey would provide new detail for analyzing consumers' purchases which totalled almost two-thirds of the gross national product (GNP).

The Bureau reverted to its pre-1950 practice and spread the survey over 2 years, partly to hedge against the possible abnormality of a single year. As it turned out, the 1960-61 survey spanned a mild recession that began in the first half of 1960 and reached its trough in February 1961. Unemployment was high in 1961. (See table 1.) Sharp cutbacks in new home construction occurred in 1960, and homebuilding remained at a low level in 1961. Although 1960 was a good year for sales of new passenger cars, volume dropped sharply in 1961. Expansion of consumer credit and mortgage debt outstanding was restrained, partly because purchases of major consumer durable goods were lagging. Nevertheless, the total picture was one of continued economic growth in 1960-61, but at a slower pace than in the remainder of the 1960's. Personal consumption expenditures increased, even on a per capita basis and after allowance for rising prices. The Federal Reserve Board's industrial production index and the GNP also continued upward.

Concepts, techniques, and publications for the Survey of Consumer Expenditures, 1960-61, were planned to provide maximum continuity and comparability with the Bureau's 1950 survey, and also to trace the historical and theoretical background of family expenditure surveys from the earliest European investigations in the mid-19th century. The 1950¹ monograph summarized

the extensive experimental work which contributed to the development of methods for collecting and analyzing the 1950 data. The present bulletin is a sequel to the 1950 monograph. Its purpose is similar to that set forth in the earlier monograph:

"To use the 1950 study properly, the analyst should know something of its background and recognize the diversity of purposes it serves and the complexity of the experiences it attempts to record. The purpose of this monograph is to describe the 1950 survey in its historical setting and to summarize important details of the technical and administrative procedures used in collecting and tabulating the data. Some appraisal of the findings is included, but the real evaluation must come from discerning use of the data in specific analyses."²

Historical Background

As part of a 5-year revision project for modernizing the Consumer Price Index, Congress authorized the Bureau to begin planning in June 1959 for a new expenditure survey. The Bureau's commitment to introduce the new series with the January 1964 CPI governed the timing and numerous other aspects of the Survey of Consumer Expenditures (CES). This timetable called for full-scale collection of CES data to begin early in 1961, following a lead city survey in 1960.

The Bureau has been interviewing American families about their spending since 1888. For almost 75 years, independently or in collaboration with the U.S. Department of Agriculture (USDA) and other agencies, the Bureau has conducted research on a wide range of problems encountered in collecting and using such information. The diversity of this experience is suggested by brief reference to the Bureau's major family expenditure surveys.³

The survey of expenditures for the period 1888-91 was made to study living costs of American workers in connection with setting tariffs. Rapid changes in the

¹ Helen H. Lamale, *Study of Consumer Expenditures, Incomes and Savings—Methodology of the Survey of Consumer Expenditures in 1950* (monograph), (Wharton School of Finance and Commerce, University of Pennsylvania, Philadelphia, 1959).

² Ibid.

³ The subject of family living studies before 1935 has an excellent bibliography in *Studies of Family Living in the United States and Other Countries* by Faith M. Williams and Carle C. Zimmerman (U.S. Department of Agriculture Miscellaneous Publication No. 223, 1935). Miss Williams appended a bibliography of consumer expenditures covering 1946 or later years to her chapter on "International Comparisons of Patterns of Family Consumption," in *Consumer Behavior, Research on Consumer Reactions*, edited by Lincoln H. Clark (New York, Harper & Brothers, 1958).

Table 1. Selected economic indicators, United States, selected years, 1949-69¹

Year	Total gross national product (billions)	Personal consumption expenditures		Consumer credit outstanding (billions)	Mortgage debt outstanding (billions)	Civilian unemployment (percent)	Total industrial production index (1957-59=100)	Consumer price index (1957-59=100)	Private nonfarm housing starts (thousands)	Factory sales of passenger cars (thousands)
		Total (billions)	Per capita, 1958 prices (dollar)							
1949	\$256.5	\$176.8	\$1,451	\$17.4	\$62.7	5.9	64.7	83.0	1,429.8	5,119.5
1950	284.8	191.0	1,520	21.5	72.8	5.3	74.9	83.8	1,908.1	6,665.9
1951	328.4	206.3	1,509	22.7	82.3	3.3	81.3	90.5	1,419.8	5,338.4
1957	441.1	281.4	1,683	45.0	156.5	4.3	100.7	98.0	1,174.8	6,113.3
1958	447.3	290.1	1,666	45.1	171.8	6.8	93.7	100.7	1,314.2	4,257.8
1959	483.6	311.2	1,735	51.5	190.8	5.5	105.6	101.5	1,494.6	5,591.2
1960	503.7	325.2	1,749	56.1	206.8	5.6	108.7	103.1	1,230.1	6,674.8
1961	520.1	335.2	1,755	58.0	226.2	6.7	109.7	104.2	1,284.8	5,542.7
1962	560.3	355.1	1,813	63.8	248.6	5.5	118.3	105.4	1,439.0	6,933.2
1963	590.5	375.0	1,865	71.7	274.5	5.7	124.3	106.7	1,582.9	7,637.7
1964	632.4	401.2	1,945	80.3	300.1	5.2	132.3	108.1	1,502.3	7,751.8
1965	684.9	432.8	2,044	90.3	325.8	4.5	143.4	109.9	1,450.6	9,305.6
1966	749.9	466.3	2,123	97.5	347.4	3.8	156.3	113.1	1,141.5	8,598.3
1967	793.5	492.3	2,161	102.1	370.2	3.8	158.1	116.3	1,268.4	7,436.8
1968	865.7	536.6	2,250	113.2	397.5	3.6	165.5	121.2	1,483.6	8,822.2
1969 ¹	932.3	576.0	2,293	122.2	424.7	3.5	172.7	127.7	1,445.5	8,822.2

¹ Preliminary.

SOURCE: Economic Report of the President, Transmitted to the Congress, February 1970, Together With the Annual Report of the Council of Economic Advisers (U.S. Government Printing Office, Washington, 1970); and Automobile Manufacturers Association, *Automobile Facts and Figures* (1969 Edition, Automobile Manufacturers Association, Inc., Detroit, 1969).

price level at the close of the 19th century and during World War I led to new large-scale urban surveys in 1901 and during 1917-19. These two surveys formed the basis for developing the original Consumer Price Index, then called the Cost of Living Index. The main purpose of the Bureau's urban surveys for 1934-36 and in 1950 was to revise the "market basket" of goods and services to be priced for the CPI.

In the severe and prolonged economic depression of the 1930's, interest in consumer surveys expanded from study of the welfare of selected groups to general economic analysis. To this end, the Bureau cooperated with four other Federal agencies in the Study of Consumer Purchases in 1935-36, which was undertaken to show consumption of all segments of the population in both urban and rural communities. The Bureau also collaborated with the USDA in a smaller scale nationwide survey of urban and rural families in 1941-42, to obtain facts on which to base decisions for the civilian economy during wartime.

Thereafter, the Bureau conducted a series of urban surveys. Its Survey of Prices Paid by Consumers in 1944 covered a nationwide sample of urban families. For each year from 1946 through 1949, the Bureau collected information on consumer income and expenditures in 1 to 3 large cities. These surveys, culminating with the 1949 Memphis Consumer Expenditure Survey, produced both substantive and procedural results.

The Memphis survey, which was based on four equally representative samples of 150 living quarters each, was designed to serve as a test of various procedures that might be used in the nationwide urban survey for 1950. The principal tests pertaining to schedule design and data collection are:

1. Diary (or account) vs. recall for reporting food purchases (page 11).⁴
2. Interviewer- or respondent-recorded schedules (pages 14-15).
3. Question wording and design and content of schedule (pages 19-20).
4. Interviewer revisits to balance accounts (pages 24-25).

Experimentation with publicity, supervision, editing, and use of machine tabulating equipment was also part of the 1949 pilot survey.

Collection of data

The importance of comparability with 1950 data and the short time available to prepare for the 1960-61

⁴ Results of these Memphis tests were summarized on the indicated pages of the 1950 Methodology Monograph cited in footnote 1.

survey led to basically the same type of "test" schedule and methods used in 1950⁵ that was the first large-scale expenditure survey in which the Bureau used machine tabulating equipment to produce tabulations ready for reproduction in published reports. The experimental work in that area greatly expedited schedule design and other plans for collecting and tabulating the 1960-61 data.

The principal procedural features of the 1960-61 survey which were carried over from 1950 and earlier experience will be discussed briefly.

Schedule or diary (account). Families rarely keep complete records of their spending and savings; thus, the basic choice of a method of collecting such information was between the schedule and the accounts method. The schedule method relies on an interviewer to record information supplied by responsible family members from memory or partial records. The alternative is to leave an account book or diary in which family members keep a daily record of household accounts with varying degrees of supervision and follow-up by interviewers.

Historically, the choice of methods has hinged on a variety of considerations. These include the length of the recording period; whether the objective is to obtain a complete statement of family accounts or expenditures for a single category, such as medical care or housing; the availability of records (e.g., income tax returns, mortgage payment books, and department store bills) which the respondent may consult; the frequency and seasonality of purchases of various goods and services; the literacy of the population; and the availability of interviewers. Each method has advantages and disadvantages.⁶ The account book method has been used generally in Europe. In the United States, the schedule method has been preferred for large-scale surveys of annual expenditures and incomes of families, but it is recognized that more definitive research and experimentation is needed to determine the specific areas where account keeping could be used effectively.⁷

Split or complete schedules. The time and effort required for cooperating families to give a complete report of their annual income, expenditures, and savings suggest that the total list of expenditures might be "split" into separate categories; e.g., housing, food, clothing, etc. Thus, information for the separate categories could be obtained from different subsamples of families. The category averages (mean) would then be combined to obtain the complete pattern of expenditures, representing all families. Proponents argue that the reduction in interview time would increase cooperation among respondents and would reduce the response error caused by fatigue. Limited experimentation in the use of split schedules in a BLS survey

in Indianapolis, Ind., in 1945, showed that the refusal rate was not reduced by using a shorter schedule.⁸ The design of the Indianapolis experiment did not provide for a control sample. Therefore, there was no basis for statistical tests of the accuracy of the expenditure averages obtained by the split-schedule method.

The USDA conducted a similar test of the split-schedule technique, using a control sample. According to a report based on that test: "It was found that the split-schedule technique was open to considerable field error. It required a larger sample than did a complete schedule; it increased travel and supervisory costs." For these and other reasons, USDA concluded that this technique "probably should not be attempted in a survey of a heterogeneous population, especially if interrelationships of several factors are to be studied."⁹ The split schedule also precludes examining reports for completeness by comparing reported expenditures and savings with reported income.

Global or detailed questions. Tests made by BLS and USDA prior to the 1950 survey indicated that global estimates of broad classes of expenditures were in most cases substantially below totals obtained by itemizing the detail of expenditures within the class. More recent research by the Bureau of the Census¹⁰ confirmed findings that a detailed probing questionnaire was needed, particularly if small expenditures are of significance. Use of a detailed questionnaire in effect presumes the use of the "check-listing"

⁵ After the 1950 survey, the Bureau had virtually no staff available for research and collection and tabulation of information on family expenditures.

⁶ United Nations Statistical Office, *Handbook of Household Surveys: A Practical Guide for Inquiries on Levels of Living*, Provisional Edition. (Studies in Methods, Series F, No. 10, United Nations, New York, 1964), pp. 53-54 and 137-139.

⁷ Extensive research on this and numerous other aspects of survey techniques has been conducted in recent years as part of the U.S. National Health Survey. The studies have been conducted in cooperation with the U.S. Bureau of the Census, and the results published by the U.S. Department of Health, Education, and Welfare. See reports from the National Health Center for Health Statistics, Public Health Service Publication No. 1000—Series 1, Programs and Collection Procedures and; Series 2, Data Evaluation Methods Research. See also, *Methodology in Two California Health Surveys*, Public Health Monograph No. 70. These publications are for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C.

⁸ BLS and USDA experiments with the diary and schedule method have been mainly in collecting food data. Results of some experiments with the two methods of obtaining expenditures for both food and nonfood items in other countries are summarized in: "Some Problems in the Measurement of Price Changes with Special Reference to the Cost of Living—A Discussion Opened by Dr. S. J. Pras," *Journal of the Royal Statistical Society (Series A (General))*, vol. 121, pt. 3, 1958, pp. 312-332.

⁹ Lamale, op. cit. (monograph), pp. 16-17. See also p. 24.

¹⁰ Barbara B. Reagan and Evelyn Grossman, *Rural Levels of Living in Lee and Jones Counties, Mississippi, 1945, and A Comparison of Two Methods of Data Collection* (U.S. Department of Agriculture, Agricultural Information Bulletin 41, 1951), p. 3.

¹¹ John Neter and Joseph Waleberg, *Response Errors in Collection of Expenditures Data by Household Interviews: An Experimental Study* (Bureau of the Census, Technical Paper No. 11, 1965), pp. 14-15 and 73-79.

technique rather than "free-listing," i.e., providing blank space for writing in each item the respondent recalls purchasing.¹¹ The global and free-listing techniques have obvious advantages if a short schedule is desired. On the other hand, the growing use of electronic data-processing equipment favors maximum use of precoded checklists from which data can be transferred directly to punch-cards or other machine input with a minimum of manual editing and coding.

Sequence of questions. The sequence of questions is an important consideration in a successful interview. In the long history of family expenditure surveys, certain common-sense guidelines have evolved:

"Questions should be arranged logically if confusion and misunderstanding are to be avoided. When information is to be secured by the interviewer method, the questions should be grouped so that conversation leads logically from one question to the next. If general and specific questions are used, the general ones should precede specific ones. The opening question should have human interest appeal. If interest is aroused at the start, the respondent is less likely to refuse to cooperate. The opening questions should be easily answered. . . ."

Those on economic status, those that reflect on the knowledge or ability of the respondent, those of an intimate personal nature are best asked after rapport has been established with the interviewers. . . ."¹²

Adherence to these United Nations guidelines is evident in BLS schedules used for both the 1960-61 and the 1950 surveys.¹³ Questions on living arrangements and housing expenditures, which were recalled easily or for which records frequently were readily available, were asked early to help establish rapport between respondent and interviewer. At this time, income from roomers, boarders, or rental property was requested rather than delayed until the latter part of the interview when questions on earnings and other income were asked. Similarly, the consensus was that amounts of debts outstanding were recalled more easily when information was recorded on home mortgages, automobiles, and other goods and services purchased on credit, rather than when assets and liabilities were discussed generally at the very end of the questionnaire.¹⁴

Classification and tabulation

The immense detail obtained in expenditure surveys requires careful classification into a manageable number of major expenditure categories for analysis. The

importance of historical continuity has influenced the Bureau's classification system over the years. The United Nations and International Labour Office have worked toward standardization of classifications to facilitate international comparisons.

In principle, the prevailing practice has been to classify household expenditures according to the kind of commodity or service, not according to the occasion or purpose of the purchase. To illustrate: all food, whether purchased in connection with a wedding, at school, or during a vacation trip, is classified under "food" rather than "other expenditures," "education," "recreation," etc. In practice, it is not possible to adhere strictly to this principle. Cost of meals may not be shown separately in bills rendered for all-expense tours or by summer camps and resort hotels.¹⁵

Present classifications bear a strong resemblance to those suggested by Engel and other early students of family expenditures. Changes in the scope and purposes of the surveys, as well as shifting emphasis in spending, have lengthened the list of major categories. For instance, transportation, which had become the third largest category by 1960-61, was included in "sundries" prior to World War I.

Historically, it has been customary to cross-classify expenditure data by some indicator of family composition and by income or expenditure level. The BLS has used annual family income as the primary family characteristic classification in all of its major surveys, except for the 1934-36 period.¹⁶ However, a measure of expenditure or consumption level is preferred for some purposes, especially in countries where income data are particularly difficult to obtain. Choice of other family characteristics for classifying the BLS

¹¹ See p. 26.

¹² United Nations, op. cit., p. 135.

¹³ Schedules used in 1960-61 are reproduced in exhibit, pp. 117-91. Schedules used in U. S. Department of Labor surveys for 1901, 1918, and 1950 were reproduced in Lamale, op. cit. (monograph), appendixes B and C.

¹⁴ See also discussion of revisitors after survey in Cincinnati, p. 17.

¹⁵ This classification principle has had general international acceptance. See United Nations, op. cit., p. 103.

However, the Japanese classify expenditures in two ways: by use and by kind of commodity. Beginning in January 1953, they have classified expenditures according to a use classification in summing family income and expenditures. Prior to then, they classified expenditures according to a commodity classification. For the sake of comparability between the two series, expenses of one-third the current sample are reclassified monthly according to the commodity classification. See General Report on the Family Income and Expenditure Survey, 1946-1962 (Bureau of Statistics, Office of the Prime Minister, Japan), p. 34.

¹⁶ In the 1934-36 study, the major classification was by total annual unit expenditures, called economic level or consumption level. This classification involved grouping the families by number of equivalent adult males, based on family-size scales for food, clothing, and all other commodities, and determining the total expenditure per equivalent adult. This, the economic level was defined as the annual unit expenditure for the family, i.e., its consumption level. See Lamale, op. cit. (monograph), pp. 32-35.

expenditure data has varied over the years, depending on the areas and population covered by the survey and the purposes it is to serve.

Preliminaries to 1960-61 Survey

Two important decisions guided the Bureau in preparing for its new nationwide expenditure survey. First, the Bureau set up the Consumer Expenditure Survey Advisory Committee, composed of experts from academic and marketing research circles. Members were chosen for the contribution they could make in advising on consumer expenditure survey content and coverage, sampling, evaluation and appraisal of the reliability of the data, classification of expenditure data, tabulations and publication, and methods of making consumption data available for research purposes. The members were:

Dorothy S. Brady, Chairman
Wharton School of Finance
and Commerce
University of Pennsylvania

Robert J. Lamplan
Department of Economics
University of Wisconsin

Angus Campbell
Survey Research Center
(Alternate: Ida Irene Hess)
University of Michigan

Ruth P. Mack
National Bureau of
Economic Research, Inc.

Joseph A. Pechman
The Brookings Institution

Robert Farber
Bureau of Economic and
Business Research
University of Illinois

Mabel A. Rollins
New York State College
of Home Economics
Cornell University

Elizabeth Gilboy
Department of Economics
Harvard University

Edwin H. Sonneck
Market Planning Corporation,
Division of
Communication Affiliates, Inc.

Sidney Hollander, Jr.
Sidney Hollander, Associates

Second, the Bureau decided to conduct a lead city survey early in 1960 in preparation for the full-scale field collection to be started in 1961. The lead city survey was conceived as a "dry run" for schooling personnel in survey techniques and for obtaining current experience in the administrative, operational, and technical procedures in all phases of the survey, including tabulation and utilization of the results.

The Standard Metropolitan Statistical Area (SMSA) of Cincinnati was selected for the lead city survey. Among the criteria for choosing a lead city were the following: It should be reasonably representative of all urban places in terms of population, industrial composition, income, and climate; it should be a city surveyed in 1950 and preferably in the sample for the CPI; and it should be close enough to the Bureau's Washington headquarters to permit observation and travel at reasonable expense but without interfering with normal operations of the field staff.

In addition to the sample for the lead city survey, the Bureau submitted to the Bureau of the Budget a proposal to select a supplementary sample of Cincinnati families for use in a series of experimental studies related to the CES. The initial proposal, submitted in January 1960, included the following eight projects:

Project 1.

Long-range expenditure surveys. The major purpose of this project was to develop a proposal for maintaining an expenditure survey program between major CPI revisions. Emphasis was on experimenting with alternative methods of (a) sampling, e.g., continuous panel of the same families, partially overlapping samples, and independently drawn samples in successive years; and of (b) data collection, e.g., abbreviated schedules to identify the amount of detail on expenditures, and income and savings needed for classifying families and estimating the level of total consumption expenditures.

Project 2.

Long-term income. The purpose of this project was to provide data for use in the analysis of the permanent income hypothesis as it relates to the quantity-income elasticity technique, which is basic to the Bureau's methods for deriving quantities specified for some components of its standard budgets.¹⁷ It would (a) obtain income of the same or similar families over several years, and (b) test the possibility of obtaining a 4-year record of income change in connection with periodic expenditure surveys.

Project 3.

Annual food expenditure estimates. This project was designed to resolve differences between BLS and USDA in the method of obtaining estimates of annual food expenditures. USDA emphasized taking account of seasonal variation in food purchases, and BLS was concerned primarily with removing purchases of non-food items in food stores from estimates of food expenditures.

Project 4.

Changes in assets and liabilities. In connection with projects using an abbreviated schedule of expenditures (e.g., project 1), the purpose of this project was to experiment with consolidating all questions on debts in one part of the schedule rather than distributing them among the expenditures sections.

¹⁷ For an explanation of the quantity-income elasticity technique, see Helen H. Lamale and Margaret S. Stotz, "The Interim City Worker's Family Budget," Monthly Labor Review, August 1960, pp. 802-805.

Project 5.

Weekly food expenditures and food consumption.

This project developed out of differences in the kind of food data collected by the Bureau (expenditures) and USDA (consumption). It was proposed to test the operational feasibility of collecting food consumption data along with a full-scale expenditure survey and to compare the two types of data.

Project 6.

Nonresponse on expenditure surveys. This project proposed analysis of data collected on other projects. The characteristics of matched supplementary and primary sample families could be compared directly. Hypotheses as to the effects of actual and assumed nonresponse could be evaluated more fully than when only actual alternate family data are available.¹⁸

Project 7.

Where goods are bought. The purpose of this project was to test the feasibility of recording the percent of purchases families made in each type of store or other outlet instead of only a check (✓) to indicate the type of outlet in which purchases usually are made.

Project 8.

Rural nonfarm survey. The purpose of this project was to collect the regular consumer expenditure schedules from a small number of rural nonfarm families in the Cincinnati metropolitan area to obtain operational data in anticipation of extending the nationwide survey into rural areas.¹⁹

The pressures of other work in preparation for starting the lead city survey in mid-May led the Bureau to decide, late in February 1960, to postpone projects 2, 3, 5, and 8. Other experiments are referred to later in this report.²⁰

The CES advisory committee first met with the Bureau staff in mid-April, about the time field work started in Cincinnati.²¹ Plans and objectives for the full-scale pilot survey, as well as the experimental projects, were discussed, and the questionnaires examined in detail. One of the committee's suggestions for utilizing the Cincinnati experience was that the Bureau prepare a form for questioning the interviewers on their experiences with families in the Cincinnati sample. Acting upon this advice, the Bureau obtained from the interviewers numerous suggestions which were helpful in revising the schedules and instruction manuals, as well as insights into ways of enlisting

the family's cooperation on the initial visit. The most important of these were to:

1. Stress the confidentiality of the data.
2. Sell the respondent on the interviewer's sincerity and integrity.
3. State at the outset that the schedule is not brief, that it may take more than one interview, but that the length and timing of the interviews will be entirely at the respondent's convenience.
4. Point out, if the respondent notes the size of the schedule, that all parts are not applicable to any one family.

Actual interview time averaged 8 1/2 hours per assignment in the Cincinnati survey, compared with a national average of 8 hours in 1950.²² Widespread concern about the length of the interview, in terms of its effect on the refusal rate and inaccuracy of reporting because of fatigue, as well as the cumulative effect on survey costs, added pressure to shorten and simplify the schedules. Some sections were eliminated; others were consolidated.

Major schedule changes would necessitate revisions in machine programs, because the schedule was precoded for transferring data to punch cards for automatic data processing. The shortage of programmers and the tight time schedule for the nationwide survey resulted in a decision not to write a complete set of programs for tabulating the lead city schedules. At this time, data from the Cincinnati schedules were used for only one set of preliminary tabulations for Bureau use. Hence, the lead city survey fell short of providing the full range of experience in machine editing, machine tabulating procedures, and publication of reports developed around machine printouts that had been anticipated.

The CES advisory committee met again in mid-October 1960, to discuss materials compiled by the BLS staff from the Cincinnati experience. They also considered proposals for tabulating the nationwide data for publication, and alternatives for making it available for more specialized research projects. The committee's suggestions will be noted in sections describing procedures for the 1960-61 survey.²³

¹⁸ For explanation of use of alternates, see pp. 14, 16, 25, and 42.

¹⁹ See p. 7.

²⁰ See pp. 17 and 24.

²¹ At the request of the Bureau of the Budget to avoid conflict with the Decennial Census of Population taken for Apr. 1, 1960, BLS did not begin field work on the lead city survey of approximately 300 families until mid-April.

²² See Lamale, op. cit. (monograph), p. 61.

²³ See pp. 13, 17, 42, 43, and 69.

Chapter 2. Purpose, Scope, and Organization

Multi-Purpose Survey

The 1960-61 survey was planned to collect information on annual family expenditures, income, and changes in assets and liabilities. The primary purpose was to obtain detailed expenditure data to revise the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI).¹ From the outset, however, the Bureau planned to conduct a multi-purpose survey of urban families generally, from which information for families meeting the index criteria² would be selected. This broadened coverage had been customary since the mid-1930's, when the importance of consumer expenditure studies for economic research and policymaking was recognized. Specifically, the Bureau planned to use the CES data: (1) To continue work it had initiated in the 1940's on the development of family budget standards and intercity comparisons of living costs, and (2) in a broad program of family living conditions studies. Beyond these needs, the survey would provide data to public and private users responsible for developing economic and social policy and for marketing and consumption economics research.

Largely on the basis of its 1950 experience, the Bureau planned to resume its practice of extending its infrequent large-scale surveys over more than a single year. As already indicated, a longer period presumably would improve the chances of obtaining typical spending patterns.³ Further, this time spread had administrative and operational advantages. It would permit recruitment and training of a smaller number of field supervisors who could be utilized over a longer period.

After the urban survey was underway, the Bureau, in cooperation with the U.S. Department of Agriculture (USDA), extended the 1961 survey to families living in rural areas. The primary objective of widening the scope of the survey at this time was to obtain consumer income, expenditures, and savings data for rural families which could be combined with the urban data to obtain averages for all United States consumers. Thus, for the first time since 1941, information would be available for a cross section of the population in urban, rural nonfarm, and rural farm areas of the United States; and, for the first time since 1935-36, from a sample large enough to permit extensive cross-classification of rural families. (See chapter 7.) However, throughout the survey—in the design of the sample and the questionnaires, and in the programming and running of the initial tabulations—CPI revision requirements and time schedules had priority over other uses of the data.

Joint BLS-USDA Responsibility

About 73 percent of the families in the universe for the 1960-61 survey lived in urban places, 21 percent in rural nonfarm areas, and 6 percent in rural farm areas of the 50 States and the District of Columbia. The CES classification of families by place of residence follows the definitions adopted for the 1960 Census of Population. The urban segment includes persons living in incorporated or unincorporated areas of 2,500 population or more and in the densely settled (urbanized) areas immediately adjacent to cities of 50,000 population or more. The rural population, located outside these urban areas, is subdivided into the rural-farm population, which constitutes all rural residents living on farms, and the rural-nonfarm population, composed of the remaining rural population. A farm, according to the 1960 census, is a place of 10 acres or more from which the sale of crops, livestock products, etc. (and government farm program payments) amounted to \$50 or more; or a place of less than 10 acres with sales (and payments) of \$250 or more.

The BLS was responsible for collecting data from all urban residents. The BLS and USDA shared this responsibility in the rural areas of Standard Metropolitan Statistical Areas (SMSA's), and the USDA had sole responsibility for interviewing rural households in nonmetropolitan areas.

Considerations Affecting Sample Size

The selection of a new sample of cities⁴ in which prices of commodities and services would be collected was part of the CPI revision project. Continued representativeness of the sample for measuring national changes in consumer prices was the overriding consideration. A core sample of 50 cities for CPI pricing was established as the maximum size consistent with anticipated resources for continuing the CPI pricing

¹ For a detailed account of this revision, see *The Consumer Price Index: History and Techniques* (BLS Bulletin 1517, 1966).

² See appendix A.

³ The outbreak of hostilities in Korea in June 1950 gave an inflationary stimulus to an already prosperous economy. Buying of consumer durables, particularly, expanded faster than income in the second half of 1950.

⁴ Although the CPI sample consists of the urban portions of SMSA's, as well as urban places outside SMSA's, customarily it is referred to as the "city" sample and the selected localities as "cities." This is partly due to historical usage dating from periods when CPI data were collected in large cities only, and partly because use of the term "city" emphasizes the urban coverage of the index. The term "city" is used in this bulletin to designate the entire urban part of the SMSA.

program. Analyses of expenditure data from previous consumer surveys indicated a much higher variability in spending patterns among small places than among large cities. Consequently, the CES resources available to supplement the regular CPI sample were allocated to urban places with populations of less than 50,000. The 16 additional small cities, plus the core sample of 50 CPI cities, resulted in a 66-area sample for the urban CES.

The total number of living-quarter addresses⁵ in the 1960-61 urban sample was approximately 12,000. An additional 5,000 addresses were allocated to rural areas. The inclusion of 275 addresses in the 1959 survey for Anchorage, Alaska, made a nationwide sample for the combined urban and rural population of approximately 17,300 addresses. (See table 4, p. 25.)

A minimum sample size in each city was regarded as necessary, because the Bureau publishes individual city price indexes and budgets for a number of major areas. Samples for cities having individual CPI's ranged from 250 to 625 assignment addresses. The minimum city sample was 65 addresses. The distribution of assignment addresses among the 66 cities in the urban sample is shown in appendix table B-1.

Determination of sample sizes for individual cities was based on the cost of data collection and processing, the city size, and the estimated variability in the reported data. The 1960-61 allocation among cities followed the pattern for the 1950 survey. That pattern, in turn, had been developed from the Bureau's 1934-36 study of Money Disbursement of Wage Earners and Clerical Workers. Tabulations of 1934-36 data collected in 42 cities provided coefficients of variation in expenditures for major classes of goods and services within and between cities, which served as guides in determining the size of the samples for the 1950 study.⁶

The sample of rural families was to be large enough and of a design that would provide separate tabulations for families residing in (a) rural nonfarm, and (b) rural farm areas. This subdivision of families in the rural sample corresponded to the census classifications of demographic and economic data which would have to be used in combining and analyzing the CES data. The total of 5,000 addresses in the rural sample was divided about equally between the farm and non-farm segments. A sample of 2,500 families in each segment was considered essentially the minimum necessary for publishing averages for the census' four broad regions, cross-classified by the family characteristics contemplated in the tabulation plans. The rural farm sample was more than double the size that would have been allocated solely on the basis of the population distribution.

BLS Organization for CES⁷

The Office of Prices and Living Conditions was the center of BLS activities for the Survey of Consumer Expenditures. Other parts of the Bureau provided significant support to the survey in advisory capacities or in specialized operations. Chief among these were the six regional offices, the then Division of Statistical Standards, the Division of Data Processing, and the then Division of Publications.

Within the Office of Prices and Living Conditions, the added activities occasioned by the survey were, with few exceptions, superimposed on regular functions of the organization. In general, the Washington office was responsible for the planning and administration of the survey; for maintaining liaison and cooperating with the USDA in the rural segment of the survey; and for the review, tabulation, analysis, and publication of information recorded in the field.

The field staff was assigned to administrative and operational units established in cities in the survey sample. These temporary offices were responsible for collecting the information specified on the schedules by personal interviews with families in the samples. Operations of the field offices and their relationships to the regional offices and the Washington headquarters are discussed in chapter 4.

The accompanying chart shows the organization of the Office of Prices and Living Conditions in April 1960, when the field staff was interviewing families in the lead city survey in Cincinnati. Pressures built up by a nationwide survey of this scope pervaded the entire office. However, some divisions⁸ had limited continuing responsibilities, but their staffs served generously in consultative and advisory capacities as required. The Division of Consumer Prices and Price Indexes and part of the Division of Living Conditions Studies were in a sense customers for semifinished products of the survey—namely, CES data on machine input tapes ready for tabulation and arranged to their specifications. The staffs served on various committees and reviewed manuals and other instructional materials to make certain that their requirements were met.

On July 1, 1961—about the half-way point in the field collection timetable—a total 149 full-time positions were budgeted for the CPI revision project, of which

120 were filled. These positions were set up in the Office of Prices and Living Conditions and in the field as follows:

	Budgeted	Filled
Total, full time -----	149	120
Professional and supporting -----	70	56
Section of statistical services -----	45	37
Field -----	34	27

In addition to this full-time staff, it was estimated that about 85 man-years of part-time employment, also referred to as "daily rate," would be necessary

for data collection in the fiscal year beginning July 1961.

None of the above figures included full-time or part-time positions for the CPI Revision in the BLS outside the Office of Prices and Living Conditions. These were principally for machine tabulations and related work in the Division of Data Processing.

In planning overall staff requirements for a nationwide expenditure survey, it should not be overlooked that the USDA had staff in Washington and in the field engaged in collecting and processing information from the farm segment of the CES sample.

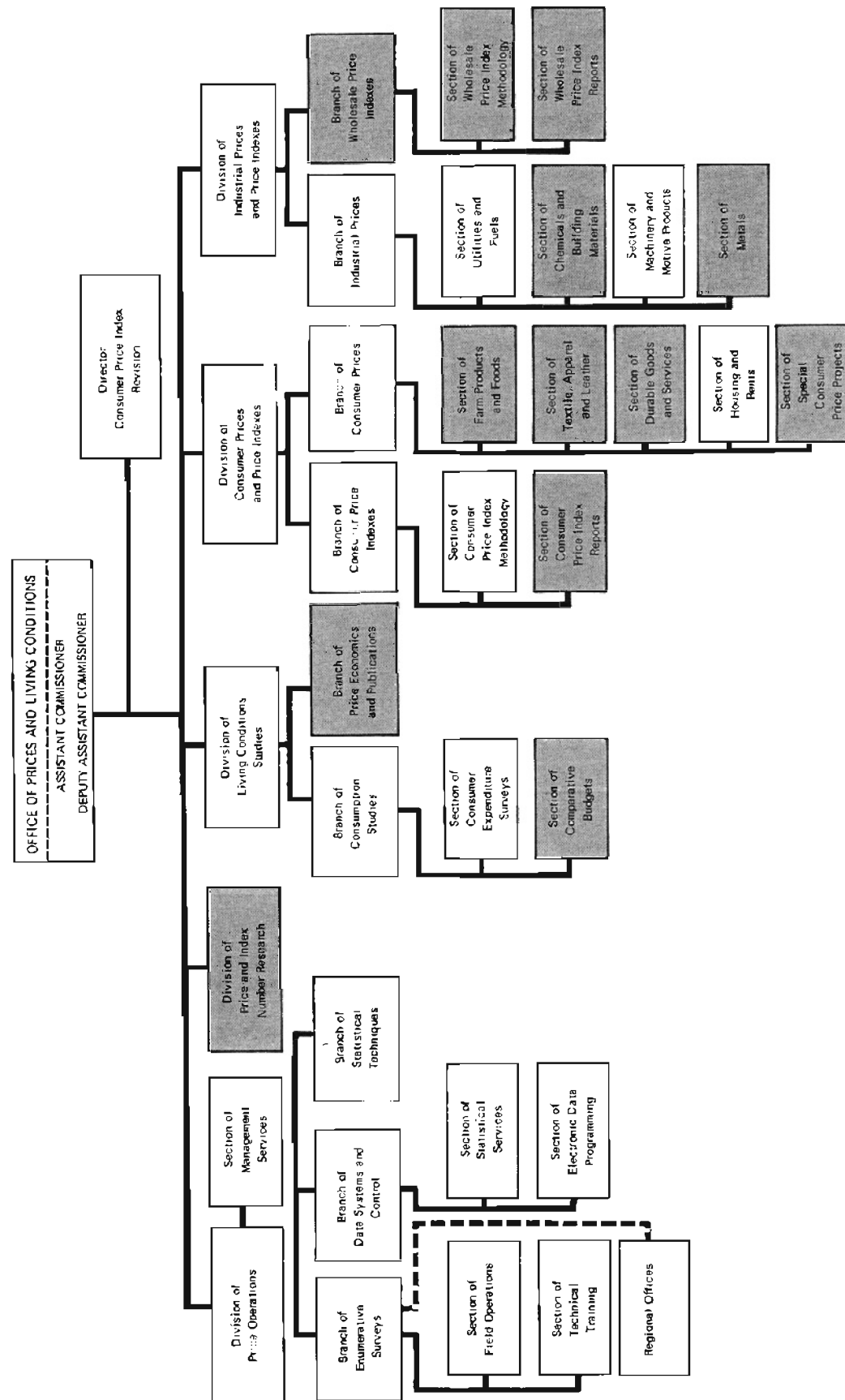
⁵ For definition, see p. 14.

⁶ See Lamale, *op. cit.*, (monograph) pp. 84-85.

⁷ The organization of the Bureau no longer corresponds to that described in this chapter. One change was the establishment of the Office of Data Collection and Survey Operations in 1967. This change was to implement a recommendation that the Bureau make a basic distinction between field data collection and survey operations; and program development, survey specifications, and research and analysis.

⁸ Indicated by shading on chart 1, p. 10.

Chart 1. Organization Chart, April 1960



Shading indicates organizational units having limited continuing responsibility for CES.

Chapter 3. Design of Samples

Customarily, the Bureau has selected samples of consumer units for expenditure surveys by probability methods. For the 1960-61 CES, separate stratified area samples were selected for urban areas, rural areas in metropolitan counties, and rural areas in non-metropolitan counties. A three-stage sample design was used within each of these three segments to obtain a sample of consumer units representative of all United States consumer units as defined for this survey.

Urban Sample

The first stage in the urban sample was the selection of cities to be surveyed. At the second stage, a sample of living-quarter addresses was obtained in each city from the Comprehensive Housing Unit Survey (CHUS) conducted by the BLS or from listings recorded in the 1960 Census of Population and Housing (pages 13-14). In the third stage, the CES samples were chosen as subsamples of the housing unit addresses obtained in the CHUS or census. This double sampling procedure in each city was used because of the small CES samples to be selected.

Selection of cities¹

The primary sampling units (PSU's) were Standard Metropolitan Statistical Areas (SMSA's), as defined by the Bureau of the Budget prior to the 1960 census, plus individual urban places in the nonmetropolitan segment of the United States. For New York and Chicago, the PSU's were the Standard Consolidated Areas, rather than the constituent SMSA's. However, in the collection and analysis of the data, the New York-Northeastern New Jersey Standard Consolidated Area was divided into two subareas—New York, N.Y., and Northeastern New Jersey. The entire urban part of an SMSA, including some small noncontiguous urban places that were outside the "urbanized area," was included in the urban sample. (See also page 50.)

Tests² of the effectiveness of some of the more obvious modes of stratification, such as region, size of city, and climate indicated that no elaborate stratification was justifiable for a sample of only 50 areas. Region and size of city were selected as the most effective stratification variables. The four census regions—Northeast, North Central, South, and West—were used for the areas. (See chart 2 page 12.) The size stratification was of particular importance because of differential cost factors in the pricing program to maintain the CPI in different size cities. The measure of size was the urban population on January 1, 1959, as estimated in *Sales Management, the Magazine of*

Marketing, published by Bill Brothers Publications, since data from the 1960 Census of Population had not become available.

Several possible size groupings were considered. It was decided to retain the 12 largest SMSA's then in the CPI sample (the A stratum) as certainty selections, that is, to represent only themselves. On the basis of the population data then being used, the lower limit for this stratum was described as being 1,250,000. However, when 1960 population figures became available, the cutoff for the 12 largest areas in effect became 1,400,000. For the other three population strata, it was believed that commonly used size groups would facilitate comparison with other data. The four size strata were defined as follows:

- A. SMSA's having a 1960 urban population of over 1,400,000.
- B. SMSA's with urban population of 250,000 to 1,400,000.
- C. SMSA's with urban population of 50,000 to 250,000.
- D. Nonmetropolitan urban places with population of 2,500 to 50,000.

Alaska and Hawaii posed special problems. Although their urban population did not justify the allocation of a sample city to each, their cities were so different from cities in the other 48 States and from each other that there appeared to be no alternative to making each a separate stratum with a sample place for each. The urban population of Alaska is concentrated in Anchorage, Fairbanks, Juneau, and Ketchikan. On the basis of probability proportional to urban population, Anchorage was selected to represent Alaska in the CPI and CES.³ Honolulu was designated to represent Hawaii, since almost seven-eighths of the State's urban population lived in the Honolulu SMSA.

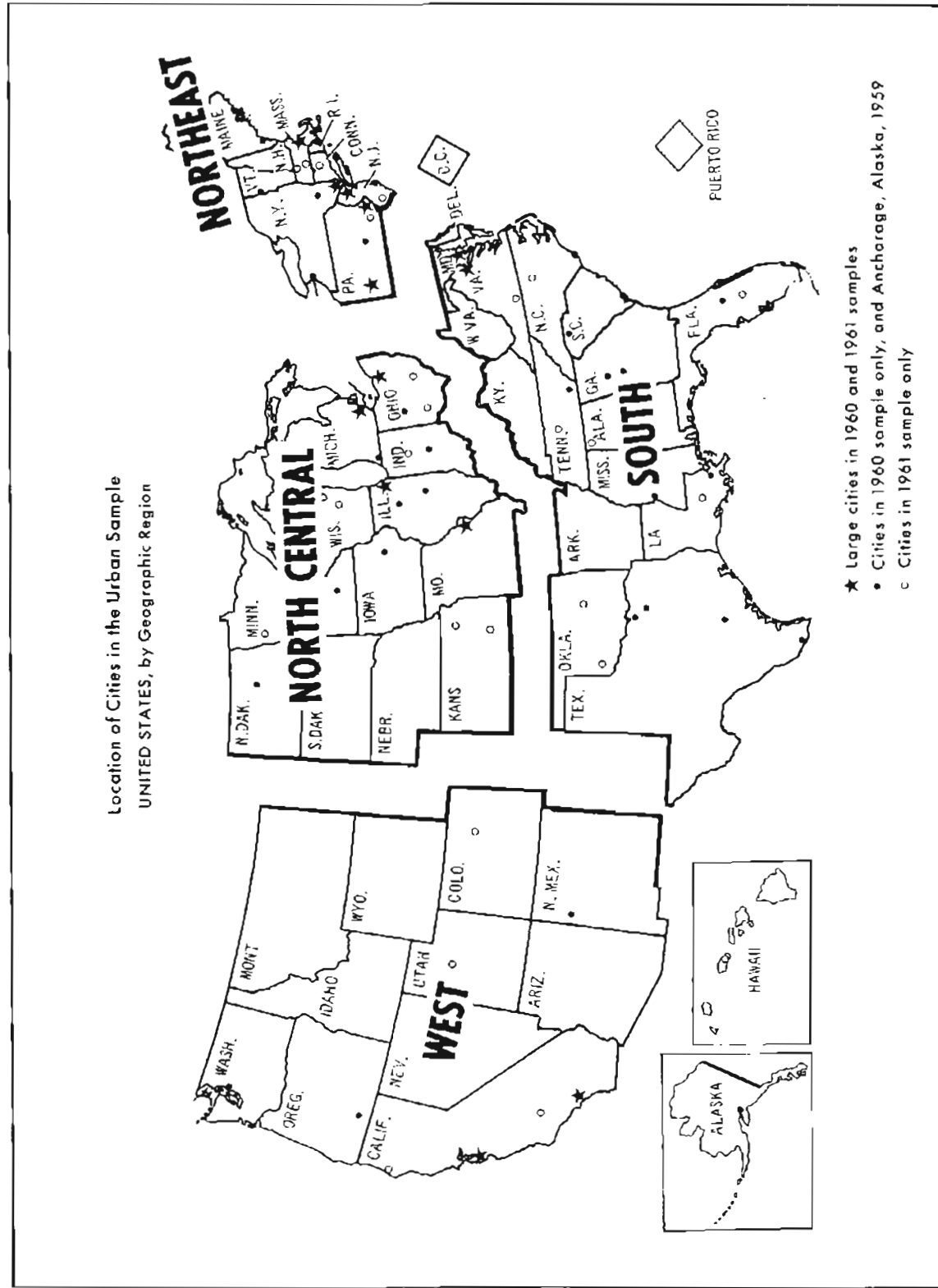
The certainty selection of the 12 largest cities and the allocation of one sample place each to Alaska and Hawaii left 36 cities to represent the B, C, and D urban strata in the remaining 48 States. These 36 were divided among strata on the basis of the relative importance of their urban population, and the estimated annual costs of operating a pricing program in cities of different size.

¹ The selection of the city sample is described in greater detail by Marvin Wilkerson in "Technical Note—The Revised City Sample for the Consumer Price Index," *Monthly Labor Review*, October 1960, pp. 1078-1083. (BLS Reprint 2352.)

² Analysis of variance techniques were applied to price movements for three different time periods for 25 items and groups of items; similar analyses utilized expenditure data from the 1950 CES. See Wilkerson, *ibid.*, p. 1078.

³ See p. 38.

Chart 2. Survey of Consumers Expenditures, 1960-61



An important goal in selecting the specific cities was to achieve good regional dispersion. After considerable consultation and experimentation, the BLS decided to utilize the procedure usually referred to as "controlled selection."⁴ This procedure involves the probability selection of a sample "pattern" from a set of patterns which have been purposively established so that, taken as a group, they give to each primary sampling unit its proper chance of appearing in the final sample. Each pattern is set up according to controls, which may be as rigid as desired, to insure that it satisfies selected criteria of proper distribution. In selecting the CES sample, controls were used only on size of city and location, with the latter control carried to the State (or group of small States) level.

To expedite the work, the BLS established patterns for each of the four regions of the country separately. Briefly, the BLS procedure consisted of establishing for each region a set of selection "patterns," each of which satisfied certain criteria of representation of different sizes of cities, as well as being reasonably well spread over the region. Probability values based on population factors were assigned to each pattern and one was selected by random means. Although each pattern was set up purposively, probabilities were so assigned that the entire set of patterns constituted a probability system that retained the initially assigned probabilities of selection. These were proportional to the size of the PSU as measured by urban population.

The Bureau also selected two alternate city samples in the event that an expanded CPI sample was desired later. Analyses of consumer expenditure data from previous surveys indicated a much higher variability in expenditure patterns among small places than among large cities. Consequently, the resources available to supplement the regular CPI sample were allocated to the D stratum, permitting the sample size in this stratum to be doubled. Accordingly, the sample for the CES included the 16 "D" stratum cities in the first alternate sample as well as the 16 nonmetropolitan places in the basic CPI sample.

Since CES interviews with urban families were to be conducted in 2 years (in 1961, covering 1960 expenditures; and in 1962, covering 1961 data), it was necessary to divide the sample into two balanced subsamples, each representing the United States urban population. In the 12 largest SMSA's, data were collected each year from half the sample of living-quarter addresses. Cities in the B, C, and D strata were assigned alternately to the two subsamples. Because of a special price program in Alaska, the expenditure survey for Anchorage covered 1959.⁵ The cities in the CES sample are listed in appendix table B-1 by stratum and survey year.

Selection of samples of consumer units

The samples of consumer units for the urban CES were drawn as subsamples of living-quarter addresses enumerated by the BLS in the Comprehensive Housing Unit Surveys (CHUS) conducted in each city⁶ and in the urban part of each SMSA late in the year preceding the CES field work. The housing unit surveys were based on area block samples designed to give proportionate representation to all noninstitutional living quarters, including nontransient accommodations in hotels and rooming houses. Because the CHUS also was designed for use in the CPI, the actual size of the CHUS sample in an area was determined primarily by the sample desired to measure price changes in rents for the CPI and by the proportion of renters in the area, as estimated from census data. The total of approximately 130,000 addresses of homeowners and renters enumerated in the CHUS was many times larger than the CES sample: The overall CES ratio for urban places averaged 1 out of every 12.24 CHUS addresses. (See appendix table B-1.)

The CHUS covered the entire urban portion of the sample SMSA's including: (a) The central city or cities, (b) the urbanized areas surrounding the central cities, and (c) noncontiguous urban places within the SMSA. Census maps showed the urban boundaries. For urban places outside SMSA's, the CHUS covered only the city proper.

Slightly different procedures⁷ were used to sample the three urban segments inside SMSA's. A two-stage design was used in the central cities: A probability sample of blocks was chosen from Census Block Statistics Books, and a subsample of addresses selected within blocks. A classification of blocks by size was incorporated in the design with variable-block (and within-block) sampling fractions for large and small blocks (based on number of housing units) and for apartment and nonapartment blocks.

⁴ This method was recommended at the initial meeting of the CES advisory committee. It is described by Roe Goodman and Leslie Kish in "Controlled Selection: A Technique in Probability Sampling," *Journal of the American Statistical Association*, September 1950, pp. 350-372.

For the 1950 survey, the Latin Square technique had been used to select the city sample. See Lamsle, *op. cit.* (monograph), pp. 43-48, and Marvin Kogan, "Selection of Cities for Consumer Expenditures Survey, 1950," *Monthly Labor Review*, April 1951, pp. 430-436. (BLS Reprint 2060.)

⁵ See footnote 7, p. 38.

⁶ Because of the shortage of time, the BLS did not conduct a CHUS in all sample places with populations of 2,500 to 50,000. (See p. 14.)

⁷ Steps in selecting these samples are described in a published paper by Marvin Wilkerson, *Sampling Aspects of the Revised CPI* (U.S. Department of Labor, Bureau of Labor Statistics), October 1964, pp. 4-8. *The Consumer Price Index: History and Techniques* (BLS Bulletin 1517), pp. 40-42, contains more extensive excerpts from Mr. Wilkerson's paper than those presented here.

In the urban fringe, a first-stage selection of census enumeration districts (ED's) was made. Since census block statistics were not available for areas outside central cities, the sampling of blocks (or segments) and of addresses within blocks was based on BLS field surveys using central sources or personal observation. An apartment block-nonapartment block-classification was used here also.

If there were only a few urban places outside the urbanized area of the SMSA, all were covered, using the two-stage central city procedure. If these places were numerous, a first-stage sample of the places was selected with subsequent sampling of blocks and of addresses within blocks.

Sampling fractions for each stage were selected so that the entire urban part of the SMSA was sampled at a uniform rate; that is, the product resulting from the two or three sampling fractions was uniform for all strata within the SMSA.

All separate living quarters or housing units in sample blocks were listed by address on BLS 2549. (See exhibit A.) A housing unit was defined as a group of rooms or a room occupied or intended for occupancy as separate living quarters by a family or other group of persons living together or by a person living alone. To be considered a housing unit, the room or rooms must have a separate entrance and/or separate cooking equipment (either installed or portable). Housing units in detached or row houses; apartment buildings; hotels and rooming houses where more than half the units were rented to nontransients; and in occupied trailers, houseboats, etc. were listed. Units in public housing projects were listed separately for inclusion in the CES sample,⁸ but units on military reservations or posts were not listed.

To the addresses listed on BLS 2549, the indicated in-block sampling ratio was applied. Living quarters that fell on the ratio were classified by type of housing unit, occupancy status, and a number of other characteristics of the housing unit and occupants as shown on BLS 2549.

In selecting the CES urban sample from this larger sample, punch cards containing CHUS data were stratified by variables known to influence consumption patterns, the most important being size of family and income level. Specifically, each living-quarter address was arrayed by type of unit and location (i.e., in the central city or in the surrounding urban area). The cards were then sorted by race, family income, and number of persons in the housing unit. From these arrays, a systematic selection was made by choosing a random start and selecting every n-th unit in the array, n being selected to give a primary sample of the desired size (i.e., number

of assignment addresses) for each city shown in appendix table B-1. Then beginning with the unit immediately following the first primary sample unit, every n-th unit was drawn for a matched alternate sample of the specified size. For the largest SMSA's (stratum A), the matched pairs of primary and alternate addresses were divided into two subsamples, one subsample to be surveyed for 1960 and the other for 1961.

For some of the smaller cities⁹ (stratum D), time did not permit a CHUS before selecting the sample for the 1960 CES. Therefore, with the cooperation of the Bureau of the Census and observing procedures respecting census confidentiality restrictions, samples of addresses were selected from enumeration schedules used for the 1960 census. A double sampling procedure also was used to take advantage of census information on family characteristics. Briefly, a first-stage sample of approximately 500 addresses of living quarters (housing units and group quarters) was selected by starting with a random number and taking every n-th address. Census information for each of the 500 addresses selected was transcribed to cards. The cards then were arrayed, keeping housing units separate from group quarters (such as rooming and boarding houses, but excluding dormitories, student nurses quarters, etc.). Housing unit cards were arrayed by race of occupants, and group quarter cards were arrayed similarly. Using a random starting point and a sampling ratio to end with 65 addresses, the starting point card and the next card were selected, and the process was repeated until 65 pairs of cards were selected from the arrays of housing units and group quarters.

Rural Sample

Selection of the rural sample followed similar procedures. The first stage in selecting the rural sample in metropolitan areas utilized all 34 SMSA's selected for the urban sample. In the second stage, BLS conducted a Rural Housing Unit Survey (RHUS) which consisted of a listing of housing unit addresses in a stratified sample of census ED's and a subsample of smaller segments or blocks in the designated ED's. Each housing unit was visited and classified as farm or nonfarm, and as to whether the family included

⁸ Units in projects with "adjusted rent," i.e., rent adjusted on the basis of tenant's income, and lower than economic rent, were included in the sample for the CES but not in the CPI rent sample.

⁹ See footnotes 5 and 8, appendix table B-1.

a farm operator.¹⁰ In the third stage, subsamples of rural nonfarm and rural farm housing unit addresses were selected from the RHUS listing by applying a ratio based on census data for rural farm and rural nonfarm households in each stratum.

In the first stage of the USDA's design¹¹ for the rural sample in nonmetropolitan areas, counties were grouped by State Economic Areas into 126 strata equal in weighted counts of rural farm and rural nonfarm dwellings, as the sample of counties was to be used for both farm and nonfarm households. For each stratum, the county was chosen at random with a probability proportional to its weighted count. Counties were selected from 41 States. At the second stage, within each sample county, a selection of rural segments was made separately from rural places (100 to 2,500 inhabitants) and the open country. Addresses of all housing units in these segments were listed and classified as farm and nonfarm. Farm operators also were identified. In the third stage, subsamples of nonfarm and farm housing unit addresses were selected from the survey listings.

Definition of Consumer Unit and Eligibility Requirements

The survey was planned to represent a year's income, expenditure, and saving experience of all noninstitutional consumer units living in the United States. All persons residing at a selected sample address were eligible for the survey except for periods in the survey year that they resided in military posts, camps, or reservations (except for periods of 45 days or less for training with National Guard or reserve units); in homes for the aged, asylums, jails, and similar "long-stay" institutions; or in foreign countries (except on vacations or business trips).

The family or consumer unit (CU) refers to: (1) A family of two persons or more usually living together who pooled their income and drew from a common fund for their major items of expense, or (2) a single consumer—who is financially independent of any family group. The single consumer (or one-person family) may be living either by himself in a separate housing unit; as a roomer in a private home, lodging house, or hotel; or sharing a unit.

With rare exceptions, the members of a family are related by blood, marriage, or adoption. Groups of unrelated persons who share both income and expenses seldom are found. In classifying persons into CU's, related persons living in one housing unit were considered as one CU unless it was very

clear that some of the group, such as married children living with parents, kept their household finances separately. Never-married children, regardless of age, always were considered members of the CU. Even when there is an apparent separation of finances, and the unmarried children pay a specified sum for room and board, they usually do not pay prevailing rates, have more privileges than generally are extended to a roomer, and sometimes are partly supported by or partly support the CU.

An unmarried child living away from home or at school was considered a member of the CU if the parents provided the major part of his support. Other persons supported by contributions from the family income but not living in the housing unit were considered separate CU's. Foster children (i.e., children for whose care the family is paid by a welfare agency, parent, or other person, and whose major expenses for clothing, medical care, etc., are not paid by the family) were considered boarders.

If more than one family or single consumer lived in a housing unit and shared household expenses but did not pool their incomes, they were counted as separate CU's. A family member working away from home during the survey year but contributing regularly to the pooled family fund and returning home as his work permitted was treated as a member of the consumer unit unless he was living in a military camp or reservation.

Interviews for the 1960 and 1961 CES were conducted in the spring and summer of 1961 and 1962, respectively. (See table 2, page 20.) Interviewers asked for expenditures, income, and savings for the calendar year 1960 or 1961, and recorded this information for the family as it was composed during that year, i.e., the "reconstructed family."¹² In about 7 of 8 cases (appendix B-13), the composition of the family (or CU) did not change during the survey year. The remaining families had part-year members (i.e., persons who joined or left the family during the survey year) because of marriages, births, deaths, military duty, or other reasons. Income and expenditures for part-year members were recorded for that portion of the year they were in the family and were combined with information for the full-year members of the consumer unit.

¹⁰ These classifications, which were on the basis of census definitions, enabled BLS to refer addresses of all households meeting the census definition of farm operator or farm resident to the USDA for inclusion in the rural sample. (See exhibit B.)

¹¹ See *Consumer Expenditures and Income, Rural Farm Population, United States, 1961* (U. S. Department of Agriculture, Agricultural Research Service, 1965, Consumer Expenditure Survey Report 5), pp. 8-9.

¹² For a description of the effect of this definition on family size and income, see pp. 52-54.

Part-year consumer units, i.e., units containing no member who met the eligibility requirements for the entire calendar year, were included in the 1960-61 survey. Examples of part-year consumer units are a newly married couple, if both were members of other CU's during the rest of the survey year;¹³ or a family returning to the United States after living abroad part of the year. Information for part-year consumer units was obtained for special analytical research,¹⁴ but was not included in the survey reports.

Substitution Procedures

As explained earlier, a "matched alternate" was drawn for every address in the primary or master sample. Field supervisors assigned alternate addresses to the interviewers on the basis of information the interviewer had recorded on the back of the Household Record Form, BLS 2648A (page 116) used for the address in the master sample. The alternate assignment was used only: (1) if the interviewer could not locate the address of the master assignment even after additional identifying information had been obtained from Washington; (2) if, after one visit, the living quarters at the master assignment were vacant; (3) if, after at least two visits, 1 or 2 days apart and at different hours of the day, the respondent at

the master assignment was not at home; (4) the respondent at the master assignment refused or was unable to give enough information to complete the nonresponse section (i.e., items 4 through 13) of the BLS 2648-A.

The alternate was not used if: (1) The interview had progressed beyond the Household Record and the respondent had answered some questions in the basic schedule (BLS 2648B); (2) the respondent had answered items 4 through 13 of the Household Record; (3) the respondent at the master assignment was ineligible; or (4) two CU's or more were found at the master assignment address, and a schedule was obtained from one of them.

The primary purpose of this "matched alternate" procedure, which had been used in the 1950 survey, was to cut down the high rate of attrition that is typical of the complex consumer expenditure surveys while maintaining the proper representation of families having specified characteristics. This does not reduce any bias which may be associated directly with nonresponse.¹⁵

¹³ It should be noted that each person would have been included as a part-year member of these families for the part of the year prior to their marriage.

¹⁴ See p. 54. The distribution of part-year consumer units by survey area is shown in appendix table B-2.

¹⁵ For example, families in which both husband and wife work may be harder to contact, even after repeated visits, than those in which only one member is employed. If there is a tendency for families of the latter type to be substituted for multi-earner families, the response rate may be improved without a corresponding reduction of the nonresponse bias arising from dissimilar consumption patterns of the two groups.

Reporting Forms

The reporting forms for the Survey of Consumer Expenditures, 1960-61, were developed from the long experience of both the Bureau and the U.S. Department of Agriculture (USDA) in collecting information on family accounts. Revision of the three schedules used in the 1959 pilot survey began immediately upon completion of data collection in Cincinnati. Modified formats used in the 1960-61 nationwide survey were adopted after consultation with the CES advisory committee, the Office of Statistical Standards of the Bureau of the Budget, USDA, other government agencies, and some private organizations planning to use the CES results in their research programs. Facsimiles of the principal reporting forms used in the nonfarm survey¹ appear in exhibits D, E, and F.

Household Record Sheet—BLS 2648A

Interviewers used this two-page form to open all interviews. Information recorded on it served to: (1) Determine the family's eligibility for the survey, (2) "reconstruct" the consumer unit as it was composed in the survey year, and (3) classify "non-response" families by selected characteristics.

Annual Income, Savings, and Expenditures Record—BLS 2648B

This schedule was used for each eligible consumer unit willing to participate in the survey. It formed the basic framework of the survey and underwent the most extensive post-1959 revision. Revisions were aimed at shortening the interview time, removing ambiguities in questions and responses, improving sequence and arrangements of sections, and reducing the 2648B's bulk.

Several types of questions were removed entirely or consolidated. Questions about the type and location of stores at which families purchased various goods and services were removed. It was decided that such information, needed to select a sample of outlets for collecting price information for the CPI, should be collected in a separate survey² in order to shorten the CES interview. So-called "Standard Questions" on the value of goods or services given to or received from persons outside the CU and changes in amounts owed on installment or other credit purchases were consolidated and appeared in only four places on the schedule (e.g., on page 17) instead of after each expenditure section. Unbound duplicates of some

sections of the schedule (e.g., clothing and automobiles) were provided for interviewing large families or families owning more than two cars, etc., rather than providing space in each schedule for maximum anticipated needs.

In the revision, schedule content was expanded in only two places. Questions on seasonal variations in food expenditures were added to the schedule in section J, question 8, page 18, to assist the respondent in arriving at a better estimate of annual food expenditures. A question on family income 2 years preceding the survey year was added in section W, p. 58. On balance, the revisions cut schedule 2648B from 76 to 59 pages. All pages rarely applied to a single family.

Questions on annual expenditures, income, and savings in 2648B were grouped in 23 major sections. Information on family composition throughout the year, living arrangements, and all transactions relating to owned or rented housing—including receipts from roomers and boarders—were recorded in the first six sections. Twelve sections on expenditures, interspersed with four sets of "Standard Questions," followed. Detailed checklists³ were used to obtain expenditures for specific items in the major categories of fuel, light, and water; miscellaneous household expenses; housefurnishings and equipment; food; clothing; medical care; personal care; recreation, reading, and education; transportation; and miscellaneous family expenditures. The remaining five sections were devoted to income from earnings and other sources; taxes, insurance, gifts and contributions, and savings.

Throughout the design and arrangement of the schedule, one goal prevailed. The phrasing and sequencing of the questions were to enable the interviewer to produce complete and accurate reports of the family's accounts, in the shortest possible time and with the minimum inconvenience to the family. Hence, after obtaining a description of the family and its living arrangements—subjects easily recalled and

¹ For the 1961 rural farm survey, the USDA used the Household Record Sheet (2648A) and a modified version of the Annual Record (2648B). The modifications consisted of additions to the housing sections to cover farm real estate; to the income sections to obtain information on production expenses and assets of farm operators; and to the food section to record detail on quantities of home-produced food for families estimating that the value of such food exceeded \$100. Codes for tabulating the additional information were assigned so that in the final tabulations the rural farm, urban, and rural nonfarm averages were compatible. The weekly food schedule (2648C) was not used in interviewing farm families.

² See *The Consumer Price Index: History and Techniques*, BLS Bulletin 1517 (1966), p. 60.

³ Schedule 2648 contained about 1,800 "line items," i.e., items for which separate family expenditures could be obtained. Op. cit., Bulletin 1517, p. 46.

generally reported freely—the interviewer moved on to “shelter” expenditures⁴ and related home financing data. This information is generally of two types: (1) Recurrent payments, such as for rent, mortgages, taxes, or utility bills; and (2) irregular, but sometimes large, outlays for home repairs or improvements. Although the homeownership sections contained difficult conceptual distinctions, requiring painstaking training of the interviewers about various types of mortgages and insurance, the respondent usually was informed or could consult records about his particular housing payments.

The section on housefurnishings and equipment was the first of the detailed checklists that requested not only total expenditures, but also quantities bought and prices paid for numerous items. These details, requested for homefurnishings and also for clothing items, were included to facilitate recall and to provide specific quantity and price information needed to determine CPI weights and the content of the BLS budgets for different family types.

The section on food (J), which followed the housing sections, illustrates how the interviewing and recording techniques were planned to overcome difficulties peculiar to particular types of purchases. For example, a family's annual food expenditure customarily was estimated by the housewife, who recalled the usual weekly or monthly expenditure and adjusted it to an annual total, by allowing for variations because of changing family membership, vacations, holidays, and other special occasions affecting the food bill. The widening variety of merchandise in food stores of the supermarket type leads to overestimates of food expenditures because of the inclusion of nonfood items. On the other hand, underreporting may result from failure to recall expenditures for food delivered to the home or purchased in special markets. The BLS and USDA collaborated to adjust Section J from the comparable section of the 1950 schedule. That version had been designed to obviate shortcomings in earlier schedules, such as those mentioned.

Similarly, the section for recording changes in family assets and liabilities, other than those reported in the expenditures sections, was adapted to the special problems in collecting such data. Repeatedly, in pre-1950 surveys, respondents had been reluctant to divulge their total assets or liabilities. Since the Bureau needed only the net change over the year in assets and liabilities to complete the evaluation of the annual family accounts, the Bureau concentrated on the change rather than the level of assets⁵ to minimize the risk of refusals to complete the schedules. The complexities of estimating net changes accurately without recording total holdings at the beginning and end of the year had contributed to serious underreporting in

previous surveys. A feature introduced in 1950 to overcome the family's reluctance to report total holdings was therefore repeated in the 1960-61 schedules. The first page of section V, Changes in Family Assets and Liabilities, was designed as a tear sheet on which the family recorded the aggregates needed to compute the annual changes recorded on the facing page. If they preferred, respondents could therefore tear out the first page of section V, complete it in private, and keep it after they had reported the changes over the year to the interviewer.

The growing number of employed wives and of husbands who worked at more than one job, as well as the increasing prevalence of stock ownership and other sources of income through a wide range of families caused the Bureau, in 1960-61, to repeat the 1950 practice of recording income information by family member and source.⁶ Some expenditures also were recorded for individual members (e.g., clothing, medical care, transportation, and meals away from home), to provide sex and age detail needed for the CPI or budgets and to improve recall.

Food and Other Items Purchased in a 7-Day Period—BLS 2648C

At the completion of the food section on the annual expenditure record, the interviewer filled in schedule C for CU's regularly buying food to prepare at home. This supplementary questionnaire, involving only a 7-day recall, was designed to get item detail on food and related purchases in the week preceding the interview. The approximate periods in which schedule C's were collected in each survey area are shown in appendix table B-2, page 82. The Bureau used this detail primarily in deriving CPI food weights.⁷

⁴ See Glossary, p. 207.

⁵ For estimates of the wealth (i.e., value of assets minus debts secured by these assets) of individual consumers, see Dorothy S. Projector and Gertrude S. Weiss, *Survey of Financial Characteristics of Consumers*, Board of Governors of the Federal Reserve System, Washington, D.C., August 1966.

⁶ Elizabeth Waldman, “Marital and Family Characteristics of Workers, March 1966,” *Monthly Labor Review*, April 1967, pp. 29-36.

⁷ Op. cit., Bulletin 1517, p. 50. Mail collection of additional information for seasonal adjustment of weekly food expenditures is described on p. 27.

All averages of 1960-61 food expenditures published by the Bureau in its basic statistical reports on *Consumer Expenditures and Income, 1960-61*, refer to the annual data recorded in section J. The National Industrial Conference Board has published Bureau tabulations of weekly expenditures in 1961 and 1962 recorded on schedule 2648C for nonfarm families, classified by selected family characteristics, in *Expenditure Patterns of the American Family* (1965).

Other forms

In addition to the three forms used in questioning the family, two other forms were prepared for each CU.

A summary sheet, BLS 2648D, was developed to allocate the various section totals in 2648B to the expenditures, income, or asset/liabilities accounts. Thus, the balance between the receipts and disbursements as reported by the family was determined. The field editor filled in the “D” sheets from the 2648B's turned in by the interviewer. Initially, schedule D was used by the field supervisor in evaluating the completeness and consistency of entries on 2648B and in determining whether the schedule should be reassigned to the interviewer to obtain additional information from the family. (See also pages 32 and 34.)

Assignment Record—PB 715, served a dual purpose: To furnish a record for cost accounting purposes of the time required for completing and field editing a schedule; and to provide information for evaluating the quality of the data reported by the respondent. The interviewer made entries on this form after each visit to an assignment address.

Field Operations

Success in a survey using the personal interview technique requires workers who can enlist the cooperation of a high proportion of the individuals or families approached and who can record responses with precision, speed, and accuracy. Therefore, the Bureau made great efforts to select and train the large staff needed for this key phase of the CES and to see that the Washington headquarters and the regional offices gave the field personnel ample and sustained support.

Since the Bureau had had no funds for conducting expenditure surveys after completion of the 1950 operations, it approached the Cincinnati lead city survey for 1959 with only a nucleus of staff with field experience. The Branch of Enumerative Surveys worked closely with the BLS regional offices in Boston, New York, Atlanta, Chicago, and San Francisco⁸ in recruiting, training, assigning, and supervising the staff necessary for a nationwide survey. In Washington, these functions were divided between the Branch's Section of Field Operations, which administered the field data collection for the CES and other programs of the office, and the Section of Technical Training. That section ascertained training needs, developed training materials, and conducted training courses. (See chart 1, page 10.)

Staff requirements

Staff was needed at three levels of field operation outside the Washington headquarters: (1) Senior survey supervisors in the regional offices, (2) field survey supervisors who set up and were in charge of temporary offices in each survey area, and (3) interviewers, referred to as “daily rates” because they were temporary employees hired locally for a few weeks to interview families in their city.

Senior Survey Supervisors. The regional price supervisor in each region assumed the added responsibilities of senior survey supervisor for the CES. All had participated in the 1950 expenditure survey either as senior supervisor or survey supervisor. Since the field collection was to be spread over 2 years and assistance was available from the Washington headquarters, the senior supervisory staff needed to be expanded in only two regions.

Field Survey Supervisors. The only field supervisors with experience in conducting a CES were the few who had participated in the Cincinnati lead city survey. Estimates of requirements for supervisory staff were based on the decision to spread data collection over 2 years (1961 and 1962) and to begin collection as early as possible each year, the production rate in Cincinnati, and the number of assignment addresses in each survey area. (See appendix table B-2.)

For technical and administrative reasons, it was advantageous to begin data collection as early in 1961 or 1962 as possible. Technically, it was desirable to interview families close to the end of the survey year, 1960 or 1961, in order to reduce errors of recall and to take advantage of most U.S. families' preoccupation with income and expenditures for income tax reports to be filed in the spring. Administratively, an early start increased the number of surveys or reassignments each supervisor could handle in a year. Holding the number of supervisors to a minimum and reassigning them added to the uniformity of the collection and field editing of the schedules and reduced the cost of recruiting and training field supervisors.

Field supervisors were selected from three sources: Staff regularly engaged in field collection of price data for the CPI and other BLS pricing programs and who had participated in the CES in Cincinnati; supervisors of the Bureau's Comprehensive Housing Unit Surveys conducted late in 1960; and new professional personnel recruited by the BLS regional offices. New employees were selected from U.S.

⁸ The Cleveland regional office was established after CES field operations had begun; in July 1967 functions of the Cleveland office were transferred to Kansas City.

Civil Service Commission registers of persons who had passed the Federal Service Entrance Examination qualifying them at the GS-5 or GS-7 level.

Thirty-two supervisors were trained for the field operations that began early in 1961. Late in 1961, 15 new employees were hired and trained to replace losses and to build up the supervisory staff for the 1962 collection.

The number of field supervisors for the 2 years is summarized in table 2. In February 1961, temporary field offices were opened in the largest SMSA's. Thus, in Round 1, the entire supervisory staff was distributed among 12 Stratum A cities (population of 1,400,000 and over) and 3 Stratum B cities (250,000-1,400,000 population). Five field supervisors were assigned to field offices in New York City (3) and Newark, N.J. (2), with responsibility for 563 addresses in the New York-Northeastern N.J. Standard Consolidated Area. Two supervisors were assigned to each of the other "A" and "B" cities which had samples of 187 to 250 addresses. (See appendix table B-2.) Each supervisor set up a separate office and, except for interviewer training, operated independently, having complete responsibility for half the sample.⁹

Toward the end of April, the reassignment of field supervisors to Round 2 cities began. This included the remaining "A" and "B" cities, all "C" cities, and 13 of the 16 "D" cities. In late June, three supervisors began third assignments in the remaining "D" cities. Only one supervisor was assigned to each "C" and "D" city which had samples of 160 and 65 addresses, respectively.

Table 2. Span of data collection period for 1960-61 CES urban sample,¹ by population stratum

Survey year and population stratum	Date ²		Number of—		
	Collection began	Survey completed	Survey areas	Field supervisors	Assignment addresses
Total, 1960			39		
Stratum A, Round 1	February 22, 1961	June 2, 1961	12	24	5,845
Stratum A, Round 2	May 17, 1961	July 14, 1961	1	2	2,567
Stratum B, Round 1	February 24, 1961	May 5, 1961	3	6	188
Stratum B, Round 2	May 9, 1961	July 19, 1961	2	4	750
Stratum C, Round 2	May 1, 1961	July 28, 1961	5	5	500
Stratum D, Round 2	May 4, 1961	August 18, 1961	16	16	800
Total, 1961 ³			40		1,040
Stratum A, Round 1	January 17, 1962	May 10, 1962	13	27	2,745
Stratum B, Round 2	April 5, 1962	August 14, 1962	6	12	1,500
Stratum C, Round 1	January 26, 1962	April 19, 1962	2	4	320
Stratum C, Round 2	April 24, 1962	July 14, 1962	3	6	480
Stratum D, Round 2	April 18, 1962	August 28, 1962	16	16	1,040

¹ Does not include Anchorage, Alaska, surveyed in spring 1960.

² This information for individual survey areas is shown in appendix table B-2.

³ Concurrently with the 1961 urban survey, supervisors also handled 465 rural nonfarm assignments inside SMSA's in the 1961 sample, distributed as follows: Stratum A (172); Stratum B (147), and Stratum C, Round 1 (59) and Round 2 (107). Figures in this table do not cover 271 rural nonfarm assignments inside SMSA's in Strata B and C in the 1960 sample.

A similar assignment pattern was followed for the second year's field operations. However, the 15 new supervisors had been brought to Washington for training late in 1961. Both staff and materials were in a greater state of readiness for the 1962 field operations than they had been in the previous year. Thus, supervisors began opening offices early in January 1962—about a month sooner than in 1961.

Sixteen field supervisors remained throughout the 2 years and contributed substantially to the continuity and uniformity of data collection for the CES. The majority of supervisors completed two to four surveys each, but four conducted five surveys and one conducted six surveys over the 2-year period. Six completed one survey. In 1961, two-thirds of the supervisors were men, but in 1962, replacements pulled the proportion down to less than half.

Local Interviewers. Historically, the BLS has used local people as CES interviewers. The majority of these short-time "daily rate" workers have been housewives or retirees. The number of "daily rates" needed in each city was determined by the number of survey assignments; the most effective supervisor-interviewer ratio; and the production rate in Cincinnati.

In 1960-61, the BLS used the same method of recruiting "daily rates" which it had developed in co-operation with the U.S. Employment Services (USES) for the 1950 survey, but on a wider and more successful

⁹ In 1950, assignments were made to a team of one supervisor and one editor trained in Washington. The maximum number of assignments for a one-supervisor-editor team was 250. A single team was used in all but 10 cities, where the sample was too large for one team to complete the survey in an acceptable time span. See Lamale, *op. cit.* (monograph), p. 61.

scale. In 1950, the USES Aptitude Test Battery B-210, consisting of five tests from the General Aptitude Test Battery, was set up, and norms for the battery were based on aptitude scores for four general aptitudes. These were: (1) General Intelligence, (2) verbal ability, (3) numerical ability, and (4) clerical perception.¹⁰ The USES Test Battery B-210 had been used by State and local employment offices for all types of interviewing requests since 1950. The scoring procedure had been refined in a decade's use.

In advance of opening an office, the BLS regional supervisor notified the local State Employment Service of the starting date for the survey, the approximate number of interviewers required, and the estimated duration of their employment. Also, the supervisor asked the employment office to test applicants whom the CES field supervisors could interview in the first week of survey operations in a city. For example, for the Cincinnati survey, the Ohio employment office was asked to supply 60 applicants for interviews from whom the CES supervisors could select 35 to 40 "daily rates." Among other things discussed during the interview were the applicants' availability for 6 to 8 weeks, their willingness to work irregular hours and their willingness to travel to specified addresses in the survey sample. There were no specific educational requirements for the interviewers, but, because of the complexity of the survey, some formal education beyond the high school level was desirable. Applicable types of experience were social work, teaching, survey work, home economics, economics, and statistics.

The rate of pay for "daily rates" was \$14.48 for an 8-hour day, or \$1.81 an hour for each hour worked. Interviewers were never required to work more than 40 hours a week, but might work less because of difficulties in scheduling appointments with respondents.

Each Cincinnati supervisor had supervised only six or seven interviewers and had only 50 assignment addresses. However, it was evident that they could manage more interviewers.¹¹ Balanced against the supervisors' capacity was the knowledge that there are measurable limits to the number of interviews that a field agent can handle successfully.¹²

For 1960-61, supervisors in most metropolitan areas (Stratum A, B, or C) had between 80 and 125 assignments and were permitted to hire as many as 15 interviewers. H hirings depended somewhat on the supply of qualified applicants, and most supervisors started training classes with approximately 12 interviewers. In "D" cities, having 65 assignments, 5 to 7 interviewers were adequate. Where there were two supervisors or more in a city, interviewers in the first office to complete

its assignment might be reassigned to another supervisor so that more efficient use of interviewer time resulted. On the average, supervisors gave 10.5 assignments to each "daily rate" interviewer in 1960-61.

The Bureau's long experience has indicated that women usually are better qualified than men for collecting family purchase data (much of which is obtained from the housewife). They also are more available for short-term employment. In the 1960-61 survey, only about 10 percent of the interviewers were men.

Training

The two levels of field supervisors met in Washington for training at intervals throughout the CES. Their training was planned around the following series of manuals and other materials developed for the CES by the Section of Technical Training:

Training Guide	Film Strip "Some Helpful Guides to Interviewing"
Interviewers' Collection Manual	Flannel Graph Board and
Interviewers' Work Book	Characters (for use in teaching family composition)
Interviewers' Work Book (Answer Book) and Sample Schedules	Field Supervisors' Manual
Field Editing Manual	

Senior Survey Supervisors. The regional supervisors attended a briefing conference in September 1960 to discuss changes in survey procedures and materials on the basis of the Cincinnati experience, and to determine and coordinate timetables for supervision of the upcoming surveys. Following completion of field operations in the 39 survey areas in the first year's program, senior supervisors returned to Washington for a critique to evaluate the work of the field supervisors assigned in their respective regions and to appraise the management of the surveys in terms of production rates and the similarity and dissimilarity of problems encountered by individual supervisors. Finally, they reevaluated the supervisors' assignments or workload from the standpoint of improving supervision of interviewers.

¹⁰ For a description of the experimental results, see Beatrice J. Dvorak, Frances C. Fox, and Charles Meigh, "Tests for Field Survey Interviewers," *The Journal of Marketing*, pt. 1, January 1952, pp. 301-306.

¹¹ On the basis of earlier experience, 1950 staffing plans took into consideration: "The training and review of the interviewers' work is such that one supervisor and one editor cannot operate efficiently with more than about 15 to 20 interviewers." See Lamale, *op. cit.* (monograph), p. 61.

¹² See Lamale, *op. cit.* (monograph), p. 61. In the 1950 CES, it was found that the time and cost of the first few interviews by a "daily rate" were high but decreased very rapidly as the interviewer gained experience. Minimum cost was achieved by the fifth interview and was maintained through about the twelfth or fifteenth interview. Thereafter costs rose, and the interviewer's efficiency and enthusiasm seem to reflect the strain of the job.

Field Survey Supervisors. Prior to initiating field work in 1961 and 1962, 6-week intensive training programs for the survey supervisors were held in Washington. They were instructed in survey management (e.g., the establishment and administration of offices in survey areas and the hiring, training, and supervision of interviewers) and in CES background and methods (purposes, concepts, definitions, content of questionnaires, interviewing techniques, etc.).

The training classes were conducted by six members of the Section of Technical Training. All were thoroughly familiar with the entire set of CES schedules and training materials. However, because of the length and complexity of the schedules, each member specialized in selected subject matter segments of the schedules, such as all sections dealing with housing (sections B through I). They were responsible also for training the supervisors in these related sections. To keep training classes a manageable size and to use the training staff efficiently, the supervisors were divided into two classes that started a week apart.

The supervisors first were trained as if they were to be interviewers. The training staff followed the daily program outlined in the Training Guide for presenting the CES schedules, Collection Manual, and workbooks. They tested the supervisors on various sections of the schedules and on overall CES concepts. The supervisors then were taught to conduct similar training classes for daily-rate interviewers whom they would hire in each survey area. They practiced using the Training Guide and other teaching aids by conducting training sessions on selected sections of the schedules for their fellow supervisors. This was concluded by a training critique. The last week in Washington was devoted to use of the Field Editing Manual and the Field Supervisors' Manual. The latter manual was concerned with survey management, including recruitment of interviewers, selection of field editors from among the interviewers, determining interviewer workload, maintaining the flow of schedules through field editing and transmittal to Washington, and compiling the records to inform the regional and Washington headquarters on the status of the survey in each area.

A critique on the 1961 surveys was held in Washington for the field survey supervisors, followed by a retraining session prior to their reassignment for the 1962 surveys.

Local Interviewers. The Washington training staff stressed that a successful CES depended upon uniformity in training local interviewers, and they emphasized the responsibility of each field supervisor in achieving this goal. In survey areas requiring two supervisors or more who operated separate offices for all other purposes, training was conducted as a team project to promote uniformity. The Washington

training staff assigned related sections of the CES schedules to each supervisor in the team for interviewer training. These team assignments were based on the evaluation of each supervisor's interests and his mastery of the related sections and demonstrated ability to teach them.

Supervisors trained approximately 1,200 interviewers for the 1960-61 CES. (See appendix table B-3.) The size of the training class ranged from five "daily rates" in the "D" cities to 24 in the larger SMSA's, except the New York-Northeastern New Jersey area.

On the average, the local interviewers attended seven consecutive 8-hour training sessions. In these sessions, the field supervisors followed the pattern of their Washington training and covered basically the same material. They used the same Training Guide and related materials to teach interviewing techniques, basic survey concepts and purposes, and to clarify and interpret the content of the CES schedules. After the interviewing was started, the field supervisor selected one or more of the interviewers to assist in editing the schedules before transmittal to Washington and gave them additional training in using the Field Editing Manual.

Field training in each city was observed and evaluated by either a member of the Washington training staff or the regional senior survey supervisor.

Communications

Channels of official communication were very important factors throughout the data collection phase of the nationwide CES. Two types of communication were necessary: (1) Publicity to inform local residents about the survey and thus aid the interviewers, and (2) the intercommunication of the local survey office, regional, and Washington offices on survey progress and problems.

Publicity was prepared for the news media. Commissioner of Labor Statistics Ewan Clague taped a short description of the survey for use on radio and television in each of the survey cities. The regional offices arranged to have these broadcast just prior to the dates when interviewers would begin calling on families. The BLS regional directors also held press conferences with the local newspapers, radio, and television stations and supplied them official press releases describing the survey.

A letter from the Commissioner was mailed to each assignment address just before the interviewer called. (See exhibit C, page 114.) The letter informed the occupants that they had been selected for inclusion in the study, gave the purpose and a short description of the CES, and requested their cooperation. The interviewer also carried a copy of the letter in case

the family had not received theirs or had not read it. No scientific study was made of the effectiveness of the publicity. However, most interviewers reported the letter was very helpful in identifying them and gaining some response.

The major provisions for the communications between the survey city offices and the regional and Washington offices were the Weekly Progress Report (Form 142), the Question and Answer Form (PB 218), and the Narrative Reports. The progress report was prepared and mailed each Friday. It provided a status report on assignments, personnel, and survey costs. Each weekly report was cumulative, so the final report provided a complete accounting of assignments and survey costs. The question and answer form provided a quick means for the survey supervisor to get specialized assistance from Washington on problems or specific schedules. In reverse, the Washington office could get clarification of schedule entries which were inconsistent, incomplete, or not clear. The PB 218's were kept in the folder with the family's schedule and became part of the permanent CES files.

Before closing an office, each supervisor was required to prepare a Narrative Report covering the following aspects of the survey in that area: Effectiveness of publicity, supervisor's contact with local officials, daily rate employees, and technical and administrative problems.

Under "effectiveness of publicity," the supervisor evaluated the publicity described above on the basis of his personal observations, on those of his interviewers, and on comments of respondents with whom he talked.

"Supervisor's contact with local officials" covered cooperation received from the local police department, other city officials, business and civic organizations, and the local employment office. Before interviewing started, supervisors were required to notify the police department that the BLS was conducting a family survey and to supply the names of interviewers. Frequently, both the city engineering office and local planning offices were visited to obtain information on assignment addresses which interviewers could not locate. In many areas, the CES field supervisor was the only representative of the Department of Labor in the city. Therefore, the supervisor received many calls from organizations and individuals interested in obtaining information on a variety of Labor Department programs and in knowing when CES results would be available.

In the section "daily rate employees," the supervisor reported pertinent information about the interviewer which was not covered on the interviewer's personnel sheet. In the largest SMSA's to be surveyed in 2 years, these comments on 1961 staff were particularly valuable for supervisors recruiting interviewers for the 1962 round.

"Technical and administrative problems" covered difficulties in obtaining office equipment or cooperation of the building management; administrative problems with the interviewers, such as reasons for releasing some interviewers early in the survey; flow of work and editing problems; etc.

Quality control

Evaluation of the quality of interviewer training, supervisory training, data recording, and field editing was continuous throughout the survey. This was carried out in a variety of ways. Regional supervisors or members of the Washington headquarters training staff observed some parts of the interviewer training done by the survey supervisors on their first round of the 1961 survey. They evaluated the training and provided assistance to the field supervisors where required.

The quality of survey supervision, interviewing, and field editing was evaluated continuously by review of the weekly status reports (Form 142) submitted to the regional and Washington offices, by systematic review and evaluation of the schedules in Washington, and by periodic visits to field offices by senior staff throughout the survey. Field supervisors were required to transmit to Washington completed schedules in groups of 10. Staff in the section of Consumer Expenditure Surveys promptly examined schedules sent in by each supervisor¹³ and worked closely with the Branch of Enumerative Surveys so that problem areas could be clarified and corrected while the supervisors and interviewers were still in the survey area.

After completing review of schedules collected in 1961, the reviewing staff of the Section of Consumer Expenditure Surveys summarized their records on types of recurring problems (e.g., automobile purchase and financing). This staff also evaluated the supervisors on their understanding of the schedule, their use of PB 218's, the number of schedules that were rejected after review in Washington, etc. These quality evaluations and the evaluation of the survey management by the Branch of Enumerative Surveys were used in the refresher training course for those supervisors who continued in the 1962 survey. The same quality control program was used in 1962.

Timing and Man-Hours in the Field Operations

As noted in chapter 2, the Bureau was responsible for collecting 1960-61 data at assignment addresses in urban places and in the rural nonfarm segments

¹³ See discussion of review procedures, pp. 29-33.

of metropolitan areas. It is estimated that field operations (salaries of supervisors and interviewers and travel costs) covered almost one-third of the total \$2.8 million¹⁴ spent by the Bureau of Labor Statistics on the Survey of Consumer Expenditures in the fiscal years July 1959 through June 1964. Prorating the \$2.8 million over the sample of urban and rural nonfarm assignments for which the BLS was responsible gives an average cost of approximately \$225 for each assignment and \$275 for each usable schedule.

Daily-rate interviewer time on all phases of BLS field operations averaged just under 20 hours for each assignment. The "daily-rate" hours for each assignment averaged about the same as in the 1950 urban survey, but the distribution among activities differed as shown below:

	Average hours	
	1960-61 ¹	1950 ²
Total, daily-rate interviewers-----	19.9	20.0
Training-----	5.2	3.5
Interviewing family-----	6.4	8.0
Editing, office consultation, etc-----	3.2	2.5
Travel-----	2.9	6.0
Other-----	2.2	

¹ The number of hours spent for training was taken from supervisors' progress reports, and the distribution among other activities from the form PB 715's (p. 197), adjusted upward to equal cost accounting records of total daily-rates' hours paid for, as shown in appendix table B-3.

² Lamale, op. cit. (monograph), p. 61.

The "daily rates" spent less time in interviewing the families and in travel during 1960-61 than in 1950, but more in training and in office consultation, editing, and other work in preparing the schedules for transmittal to Washington. Average interview time for each assignment was reduced from about 8½ hours in the 1959 "lead city" survey in Cincinnati and 8 hours in 1950 to less than 7 hours in 1960-61.

Average hours for each assignment is a convenient and useful unit of measurement, particularly for administrative and budgetary purposes. However, this average length of interview covers time spent with all families contacted, including those ineligible or not willing or able to complete the schedules. Special tabulations of families who completed schedules have been made for three cities and are summarized in table 3 to indicate the interview pattern and time contributed to the survey by participating families. The selection of the cities has no special significance. The tabulations were readily available¹⁵ for only a few cities, and these three cover the range of small and large places in different parts of the country. Except in Boston, the great majority of families spent from 3 to 7 hours with the interviewer who may have called on the family as many as five times. A few schedules were completed in a single visit lasting less than 3 hours. In addition to the interviewer's skill, many factors affected the time required to obtain a year's recall of family accounts. A salaried worker

living by himself in a furnished room, without a car, could give a complete annual account quickly, and he probably would not be eligible for the weekly food schedule. In contrast, respondents for a large home-owning family having substantial income from various sources would spend more time, spread over several visits, to complete the annual and weekly schedules. The interviewer probably would talk with the family head, his wife, and others to obtain information from the best informed member.

Some information on the relationship of length of interview and response rate was obtained from an experiment in data collection methods conducted in Cincinnati in July 1960, just after completion of the "lead city" survey. An abbreviated schedule, composed of selected sections and items in schedule 2648-B^{1,2} was used to interview a subsample of families at addresses selected from the same sampling frame and by the same methods as the lead city sample. The condensed schedule required about 4 hours to complete, on the average, or roughly half as long as the full schedule B and schedule C used in the lead city survey. The proportion of usable schedules was about the same for both surveys—75.6 percent for the lead city survey and 76.5 percent for the experimental abbreviated schedule.

Table 3. Length of interview and number of visits with urban families completing CES schedules, 3 cities, 1960 and 1961

Item	Boston, Mass., 1960 ¹	Florence, Ala., 1961	Wichita, Kans., 1961
Average daily-rate hours per assignment-----	17.6	17.8	13.9
Number of assignment addresses-----	187	65	250
Completed schedules:			
Number as reported by field supervisors-----	132	56	196
Percent distribution according to length of interview and number of visits-----	100	100	100
Less than 3 hours, 1 or 2 visits-----	27	24	25
From 3 to 7 hours, 1 through 5 visits-----	48	70	366
From 7 to 10 hours, 2 through 7 visits-----	25	19	22
10 hours or more, 3 through 7 visits-----	20	7	7

¹ Covers only that half of sample surveyed for 1960.

² Includes 1 family visited 3 times.

³ Includes 1 family visited 6 times.

⁴ Includes 1 family visited 1 time.

¹⁴ This covers costs in the field and in Washington for salaries, travel, automatic data processing, and nonlabor and administrative costs. It includes preparing the raw schedule data ready to be used in the CPI revision, but does not include other cost specifically assignable to the CPI revision. It does not cover salaries and other costs in preparing CES tabulations and publications after June 30, 1964.

¹⁵ The information was compiled from field supervisors' summaries of data on PB 715's. The number of completed schedules was as reported by the field supervisors, prior to final review in Washington, and may differ from the number shown in other tables.

¹⁶ See Project 1, p. 5.

Chapter 5. Analysis of Sample Returns

Samples Assigned for Interviews

All consumer units residing at the assignment address were included in the survey. Schedules giving detailed expenditures, income, and changes in assets and liabilities were taken for all eligible CU's, determined on the basis of criteria outlined in chapter 3.

A total sample of 17,283 living quarter addresses, with an alternate for each, was selected as the sample of assignments in urban and rural places. These addresses produced an effective sample of 16,987 full-year consumer units eligible for scheduling. Usable schedule B's were obtained from 13,728 CU's, or about 80 percent of the eligible units. The total usable schedules included 1,956 schedules for one-person families and 11,772 for families of two persons or more. Comparable summary information for the urban, rural nonfarm, and rural farm segments of the 1960-61 sample is shown in table 4.

A more detailed analysis of the returns for the urban sample¹ is presented in appendix table B-4. In the urban segment, 2,772 alternates were substituted, or 23 percent of the 12,205 master addresses. Among the SMSA's having populations of 250,000 or more, this proportion varied from a tenth in Atlanta, Ga., to approximately a third in New York, N.Y., and Hartford, Conn., (appendix table B-2). In a survey aimed at obtaining data for individual cities, the matched alternate procedure is a more economical

method of achieving a reasonably balanced intercity distribution than use of a larger sample for each city.

More than three-fifths of the 2,772 alternate addresses in the nationwide urban sample were substituted, because (a) the interviewer could not contact a respondent at the master address (38 percent), or (b) the unit was vacant (23 percent). The remaining 39 percent were substituted for families who refused to give the minimum required to complete the Household Record (2648A). Of the 13,661 urban CU's actually contacted in both the master and alternate samples, 2,306 refused to report their family accounts, but 707 of these in the master sample cooperated to the extent of completing the Household Record. An additional 1,031 CU's who started to give information for the family accounts schedule (2648B) were either unwilling or unable to complete it. No alternates were substituted for these 1,738 CU's.

The net effective urban sample of eligible full-year CU's, after substitution of alternates, totaled 11,970 units. About 79 percent of these furnished usable schedules. The response rate was about the same among families in small cities as in the largest metropolitan areas, as the following classification by population stratum shows:

¹ Similar detail is available for the rural nonfarm sample inside SMSA's, but the USDA analysis of the rural nonfarm sample outside SMSA's was on a somewhat different basis. (See appendix table B-5.)

Table 4. Summary of returns for the Consumer Expenditure Survey, 1960-61

Urbanization and year	Assignment addresses (a)	Effective sample ¹		Usable schedules--full-year consumer units (d)	Response rate	
		1950 definition (b)	1960-61 definition ² (c)		Col. d ÷ col. b (e)	Col. d ÷ col. c (f)
Urban, 1960-61 ³ -----	12,205	12,524	11,970	9,476	75.7	79.2
Rural nonfarm, 1961-----	2,497	2,679	2,636	2,285	85.3	86.7
Rural farm, 1961-----	2,581	2,381	2,381	1,967	82.6	82.6
Total, urban and rural-----	17,283	17,584	16,987	13,728	78.1	80.8
Urban, 1950 ⁵ -----	15,180	15,676	-	12,489	79.7	-

¹ The potential number of full-year consumer units from whom a schedule could be expected after alternate assignment addresses were substituted. It includes additional consumer units found at assignment addresses, but excludes ineligible and part-year consumer units. It does not include the original assignment address where a substitute address was used.

² Column (c) differs from (b), because (c) excludes vacant units and "no contacts" in the alternate sample for which no further substitution was possible and a small number of vacant units and "no contacts" in the master sample for which it was not appropriate to substitute alternates. (For detail, see appendix table B-4.)

³ Includes Anchorage, Alaska, which was surveyed for 1959.

⁴ Estimated by BLS on basis of response rate (82.6 percent) computed by USDA.

⁵ Helen H. Lamale, *Study of Consumer Expenditures, Income and Savings—Methodology of the Survey of Consumer Expenditures in 1950*, p. 41.

Area	All urban places	Population stratum			
		A	B	C	D
Total, eligible full-year consumer units---	11,970	5,464	2,715	1,552	2,239
Percent of total eligible ---	100.0	100.0	100.0	100.0	100.0
Usable schedules -----	79.2	78.9	78.1	80.5	80.3
Incomplete schedules---	8.6	8.9	8.3	9.7	7.6
Refusals -----	10.3	10.4	11.6	7.9	9.9
Rejected schedules-----	1.9	1.8	2.0	1.9	2.2

The percentage of usable schedules in each city is shown in appendix table B-2.

The proportion of usable schedules obtained from the urban sample was somewhat lower in 1960-61 than in 1950. (See table 4.) For 1950, records are not available to make an analysis in the same detail as in 1960-61, but it is evident that the loss attributable to vacant units was higher for the 1960-61 period than in 1950 when the post-war housing shortage was still a national problem.²

In addition to the full-year CU's, the urban sample also included 386 part-year families, 293 of whom gave usable schedules. (See appendix table B-4.) As indicated in chapter 3, the part-year schedules were not included in computing the survey averages but some analytical tabulations³ were made for this group which made up 3 percent of the total 9,769 usable schedules obtained from full-year and part-year urban families.

The largest category of part-year families—35 percent of the total—was composed of persons who had married during the survey year but had lived with another CU prior to their marriage. The next largest group—21 percent of the part-year units—were individuals who left their families to become financially independent. This would include a son, for example, who got a job and moved into his own apartment. Another 13 percent had returned during the survey year from military service, an institution, or from living abroad. The remaining 31 percent had joined or left another CU during the survey year for a variety of reasons, including married couples who separated or obtained divorces.

Mail Questionnaires for Weekly Food Expenditures

As indicated earlier, schedule 2648C (see exhibit F) was used during the interview to supplement the information recorded on annual expenditures for food,⁴ beverages, household supplies, and related items purchased frequently. The detail of such items purchased during the 7 days preceding the interview was essential for determining the CPI weights for specific items of food. It also was necessary to

have some basis for adjusting the weekly information to represent annual expenditures for individual items, because of the seasonal variation in food purchases. Ideally, such information is obtained by reinterviewing the cooperating families at quarterly or more frequent intervals over a full-year cycle. This was deemed impractical, primarily because of the cost of personal interviews.

Experimental survey in Cincinnati

Since it is cheaper to collect data by mail than by personal interview, an experimental mail survey was undertaken in the "lead city" of Cincinnati in the spring of 1961. The experiment was designed: (1) To compare response rates for families previously interviewed and for "new" families, and (2) to obtain guidance in schedule design if it were decided to undertake an extensive mail survey.

The new addresses, which were divided into two groups of 150 each, were subsamples of living quarter addresses drawn for experimental purposes at the same time and following the same procedures used in drawing the subsample of addresses visited for the 1959 CES in Cincinnati. (See p. 13.)

Three simplified versions of schedule C (identified as C1, C2, and C3), were tested. All were limited to the food and nonalcoholic beverages sections of schedule C and requested only minimal information about family characteristics, specifically the number of persons in the family and the number of persons served each meal in the previous week.

Questionnaire C1 listed only the 28 major food and beverage categories (e.g., dairy products) and left space for the respondent to write in the quantity and cost of each specific item purchased.

Questionnaire C3 contained the complete checklist of food and nonalcoholic beverages included in the basic schedule 2648C.

Questionnaire C2 combined features of C1 and C3. It had a partial checklist of items and provided space for the respondent to write in all purchases in some categories (e.g., frozen vegetables).

Questionnaire C1 was mailed to one subsample of 150 new addresses, and questionnaire C2 to the other 150. Questionnaire C3, which was most similar to the schedule C used in personal interviews, was mailed to

² The decennial censuses of housing show that the national vacancy rate for available year-round sound housing in 1960 was more than double the 1950 rate. See U.S. Census of Housing 1960, United States Summary, Final Report HC(1) - 1, p. xxx.

³ These tabulations appear in *The Concept of Part-Year Families in Consumer Expenditure Surveys*, CES Research Note No. 1, U.S. Bureau of Labor Statistics, Division of Living Conditions Studies, October 1968, (mimeographed).

⁴ For a comparison of reported annual and weekly food expenditures, see p. 66.

183 families who were familiar with the schedule. These families had cooperated when initially interviewed in the spring of 1960, and they had not refused to cooperate in a second personal interview in which schedule C was used to collect information on their food purchases during a week in the period between October 17 and November 18, 1960.

All three types of questionnaires were mailed on April 30, 1961. Three weeks later, when response had practically ceased, a followup inquiry was mailed to all nonrespondents. The response for the three schedules is shown in table 5.

Table 5. Comparison of response rates for three types of weekly food schedules used in experimental mail survey, Cincinnati, Ohio, spring 1961

Schedule	Number of schedules			Percent of schedules mailed	
	Mailed ¹	Returned		Total returned	Usable
		Total	Usable		
Total-----	470	173	125	36.8	26.6
C1-----	145	49	37	33.8	25.5
C2-----	144	51	33	35.4	22.9
C3-----	181	73	55	40.3	30.4

¹ Thirteen of the 483 schedules mailed were returned by the Post Office.

On the basis of the response rates in the Cincinnati experiment, it was decided to rely on mail questionnaires to obtain information for seasonal adjustment of weekly food expenditures needed for the CPI weights.

Mail survey in selected cities

Successive mailings to families interviewed, regarding both their weekly food and other expenditures (2648B), was the preferred way to collect information for seasonal adjustment of weekly food expenditures. The reason was that the annual schedule contained family characteristics for evaluating the effect of non-response in the mail reports. Although the Cincinnati experiment showed that previously interviewed families returned the highest proportion of usable schedules in the mail survey (the C3 group in table 5) grave doubt remained about the "staying power" of such families over three quarterly mailing periods.

Therefore, a mail survey of seasonal food expenditures was undertaken, using two types of samples:

1. CES followup involved three successive mailings to about 4,500 families who had furnished weekly food data on schedule 2648C when interviewed in the spring of 1961 in all cities in the 1960 CES sample.
2. Independent consisted of approximately 16,000 addresses selected from the residual CHUS sample in 16 cities after the CES samples had been selected.

Schedules were mailed to these addresses for only one reporting period in the 12 months, October 1961-September 1962. The sample thus consisted of 12 independent subsamples.

The schedule, BLS 2648CM, was the same for both mail surveys, but the letters on the cover sheet differed. (See exhibits I and J.) Form 2648CM was a composite of the schedule formats used experimentally in Cincinnati; the instructions and questions on page 2 were from questionnaire C2 and the complete checklist of items from C3. After each mailing in both the followup and independent samples, a second request was mailed to all families who had not returned the 2648CM approximately 2 weeks after it had been sent.

Comparison of responses from the two types of samples showed that the CES followup group maintained a better rate of return than had been anticipated in planning the mail survey. To summarize, the comparison showed:

1. Over the entire period (October 1961-September 1962), the gross rate of return was about the same from both surveys. From every 100 schedules mailed, 38.6 were returned by families in the followup sample and 39.5 from the independent sample.
2. Families previously interviewed in the CES returned a higher proportion of usable schedules (32.1 percent) than did families approached only by mail in the independent survey (28.2 percent).
3. The rate of return of usable schedules varied more from month to month on the followup than on the independent survey. However, in all but 2 months, the rate of return was higher on the followup than the independent survey. Returns were lowest in the late summer months on both surveys. Low for the followup was 22.4 percent in September, and for the independent it was 23.2 percent in August.

Weekly food expenditures collected from both types of mail surveys were used for seasonal adjustments in deriving food weights for the CPI.⁵ Plans for collating family characteristics on the annual schedule with weekly data in the CES followup survey were not accomplished, mainly because of the shortage of programmers.

Characteristics of Families Cooperating in Cincinnati

Tabulations of families in the three collections of weekly food data in Cincinnati are indicative of sample

⁵ See *The Consumer Price Index: History and Techniques*, BLS Bulletin 1517, p. 50.

attrition over approximately 1 year. Of the 227 families reporting weekly food expenditures to an interviewer in spring 1960, 126 (about 56 percent) furnished data when reinterviewed in fall 1960, and 49 of these 126 (almost 40 percent) returned a usable mail questionnaire in spring 1961. (See appendix table B-6.) The 44-percent loss between 1960 spring and fall interviews was divided about equally between families who were contacted but did not give a usable schedule (25 percent) and those who were not reached for reinterview because they had moved, were not at home, etc. Nonrespondents to the spring 1961 mail survey cannot be classified by the reason of non-response.

Comparisons of characteristics of families cooperating in the three Cincinnati weekly food surveys suggest that the loss in response was greatest among the youngest (head under 25 years) and oldest (head 65 years or older) families, among one-person families, among those whose heads had completed less than 8 years of education, and among the nonwhite population. The average money income after taxes in 1959 was \$6,534 for the families still cooperating in spring 1961, or about \$1,000 higher than the 1959 income for the 227 families interviewed the previous

spring. The 49 families cooperating for all three periods reported higher weekly food expenditures than the families participating in only 1 or 2 weekly surveys.

This information is presented as illustrative—and not necessarily as typical or representative—of the differential nonparticipation that may be experienced over time among families with various characteristics. The 227 families had cooperated in providing a full account of their expenditures and income in 1959, but those who could not or did not wish to continue through the mail survey resembled the families who refused to be members of the M.S.U. Consumer Panel in Lansing, Mich., in 1951-58.⁶

⁶ "Studies of refusals (to be panel members) indicated that: (1) Housewives with lower education were more apt to refuse than housewives with higher educations, (2) high and low income families were less cooperative than medium income families, (3) size of family made no significant difference, (4) single person households and "all other" households were less cooperative than the husband-wife or husband-wife-children types, and (5) older housewives were less likely to accept panel membership than younger wives." See G. C. Quackenbush and J. D. Shaffer, *Collecting Food Purchase Data by Consumer Panel—A Methodological Report on the M.S.U. Consumer Panel, 1951-58*, Technical Bulletin 279, Michigan State University, Agricultural Experiment Station, Department of Agricultural Economics, East Lansing, Mich. (August 1960), pp. 11-12.

Maximum utilization of electronic data-processing equipment was the criterion for virtually all decisions in handling the CES schedules after they arrived in Washington from the field. Briefly, programs were written for using electronic equipment at all stages of checking, editing, coding, computing, and generating copy of tabulations for the printer. This required early and extended involvement not only of staff representing all organizational subdivisions of the Office of Prices and Living Conditions, but also of the Bureau's Office of Systems Analysis and Economic Growth, Division of Data Processing, and the then Division of Publications, and their organizational counterparts in the U.S. Department of Agriculture.

Pre-coded Schedules

The machine coding system for the 1960-61 CES followed the pattern developed for the 1950 survey. The classification codes may be summarized under three broad headings: (1) Family characteristics, (2) items measured in dollar values in family accounts, and (3) information items.

More than 40 characteristic codes, consisting of 1, 2, or 3 digits, were developed to classify families.¹ Codes for a few characteristics were printed on the schedule. (e.g., sex of family members in section A, item 4). Programs were written for mechanical coding of approximately a fourth of the characteristics (e.g., family income after taxes and family size). The remainder, such as occupation and industry, were coded by the clerical staff.

The classification system for the family accounts and information items is based on a 4-digit section code and a corresponding 3-digit item code. The code for each item was either printed on the schedules or has been written on the schedules facsimiles in exhibits E and F.²

The first digit of the section code indicated the major distinctions in the classification system, and successive digits identified lower levels of summarization or item detail. Thus, a zero (0) in the first digit of a section code indicated an information item, e.g., all items describing a family's housing pattern in section B.

Other numbers (1 through 7) in the first digit of a section code identified major categories of family accounts as follows:

1000	Income
2000	Assets and liabilities
3000	Expenditures for current consumption
4000	Insurance, gifts, and contributions
5000	Other money receipts
6000	Goods and services received as pay or gifts
7000	Food received through public or private assistance

The following example illustrates the application of the coding system for family accounts:

	Section code	Item
Expenditures for current consumption ----	3000	
Housing -----	3200	
Housefurnishings and equipment -----	3270	
Household textiles -----	3271	
Bedsprads ¹ -----	3271	038

¹ See schedule B, section I, item 57, p. 14.

Review of Schedules

Extensive mechanical tabulation of family expenditure schedules was introduced in the 1950 survey. That experience, and awareness of the variety of inter-related machine programs planned for the 1960-61 data, led to the decision to have all schedule 2648D's carefully reviewed in the Washington office prior to the clerical editing or coding outlined in the *Washington Coding and Editing Manual*. This so-called "professional review" was primarily to determine the conformity of the entries to the survey concepts and techniques. It also provided instruction for unusual situations that were not covered explicitly in the various manuals and training guides. This Washington review was done in two stages; initial review and detailed review.

Initial review

The initial reviewer examined all 2648B's received from the field (including those the field supervisor classified as incomplete or for part-year

¹ The characteristic codes used to classify families in the General Purpose Tabulation Program are described on p. 46. The complete family characteristic codes were assembled for internal use and for limited distribution in *Survey of Consumer Expenditures, 1960-61, Classification Codes* (revised December 1964 and with additions September 1965). Mimeographed, 31 pp. See also appendix table B-12.

² The item reference codes were listed in numerical order for internal use and for limited distribution in *Survey of Consumer Expenditures, 1960-61, Coding System—Classification and Coding of Item Detail in schedule 2648D* (November 1961, revised October 1962) Mimeographed, 48 pp.

families) to determine the completeness and general quality of the schedule and to detect problems requiring detailed review. The initial reviewer examined each schedule B, section by section, giving special attention to all notes made by interviewers and field editors. At this point, the initial reviewer removed schedules for part-year consumer units and incomplete schedules. These schedules were filed for further study, but were excluded from subsequent processing of the sample of complete schedules for full-year consumer units.

The initial reviewer decided which schedules could be sent directly for routine coding and editing and which should be routed for detailed review. Some items, with a history of reporting problems in previous surveys, were referred consistently to detailed review; others were referred, if, in the judgment of the initial reviewer, they required additional attention. Referral to detailed review was automatic for schedules on which reported receipts and disbursements were out of balance by more than 20 percent (page 32) and for schedules with entries relating to: Business use or rental of part of home; purchase or sale of home or other real estate; membership in certain types of plans for prepaid health care; business use, purchase, or sale of automobile; reimbursement for expenses for out-of-town travel; income from self-employment.

The initial reviewer attached a list of questionable sections and items, with a brief explanation to guide the detailed review to schedules requiring detailed review. Approximately 65 percent of the complete schedules in the 1960-61 urban sample were referred for detailed review. A somewhat larger fraction (77 percent) of the 1961 rural nonfarm sample in metropolitan areas was referred to detailed review. Possibly, this difference is attributable to large numbers of automatic referrals because of the higher incidence of self-employment and ownership and business use of home and autos in rural nonfarm compared with urban areas.

Detailed review

The staff assigned to detailed review consisted of four to eight persons, usually economists in grades GS-5, GS-7, or GS-9. They prepared written instructions for all changes to be made by the coding and editing staff, including an explanation of the basis for the change. These instructions (on a form identified as PB 721), were reviewed by a supervisory economist and became part of the permanent record filed with the schedule.

As the detailed review progressed and procedures for handling recurrent problems emerged, an informal manual was compiled for internal use to standardize procedures and to have a centralized record of decisions reached in review. All reviewers contributed to compiling this manual by submitting written statements and by participation in staff meetings. These procedural statements supplemented manuals and training materials used in the field or by the Washington coding and editing staff. In developing these specialized procedures, reviewers referred to official tables of real estate taxes; military pay scales; income tax rates; and deductions for social security or Federal retirement, etc., as guides to the reasonableness of entries.

Reviewers could request field supervisors to clarify doubtful entries on individual schedules or groups of schedules. To illustrate, the Washington staff questioned the lack of entries for real estate taxes on schedules of numerous homeowners in one community. The field clarified this by explaining that a homestead exemption law reduced or eliminated the tax liability of many families. The field staff's knowledge of local situations and personal contact with families was recognized, and unless there was a clear-cut basis for change, reviewers accepted the field editing. As shown in appendix table B-4, Washington reviewers rejected some 2 percent of the urban schedules because they had significant internal inconsistencies which could not be reconciled by the combined efforts of the Washington and field personnel.

Some examples will illustrate the types of changes made in the detailed review. Sorting out a variety of business-connected expenses to obtain a "clean" record of family expenditures and income accounted for a substantial volume of review work. This included review of reimbursed expenses in section Q. The guidelines for the principal transfers and adjustments of business expenses are indicated in the definitions of income in the glossary (page 215).

Frequently, a family's monthly home mortgage payment included principal, interest, taxes, insurance, and other items. Respondents were encouraged to refer to their personal records,³ but some could report only the total monthly payment. In the CES classification, some items included in these monthly mortgage payments were considered expenditures for current consumption (i.e., property taxes, interest, property insurance, and FHA mortgage guarantee insurance) and were in the 3000 series of the section codes. (See page 29.) Payments on the mortgage principal, however, were considered decreases in liabilities in the 2000 series. The Field Editing

³ See p. 43.

Manual contained guides for allocating these items when the respondent was unable or unwilling to furnish the detail. The field manual, however, did not cover all contingencies, particularly for properties bought, sold, or refinanced during the survey year. The Washington reviewers were responsible for decisions in these circumstances.

Washington reviewers also were responsible for an analogous type of distribution of combinations that involved only expenditures, i.e., items classified in the 3000 series.⁴ Often, families were unable to separate expenditures for two items or more, other than those for which entries of combinations were provided specifically, e.g., children's clothing in section K-V, item 28. Allocations were made if the codes of the combined categories differed in the second or third digit of their section codes. With few exceptions,⁵ no allocation was made if the differences were in the fourth digit only because of the time involved. Also, the allocation procedures were not refined enough to warrant this detailed level of estimation. The wide variety of nonfood articles routinely purchased in food supermarkets resulted in many instances of combined expenditures entered in section J. Following the rule of allocating if the second or third digits of the section code differed, a reviewer might distribute an entry in section J of expenditures in grocery stores among the following major expenditure categories:

	Section code	Expenditure category
Food purchased in grocery stores ---	3110	Food
Laundry and cleaning supplies, etc. -----	3260	Household operations
Tobacco -----	3810	Tobacco
Alcoholic beverages -----	3820	Alcoholic beverages
Toilet soap, cleansing tissues, etc. -----	3620	Personal care

The allocations involved a determination of the relative importance of expenditures of the same types as those in the combined group. In general, the relative importances were obtained from a test tabulation of 1960 CES data for Detroit.⁶ Expenditures at subcategory or section level for Detroit families classified by family size and income, were used to compute the relative importance ratios. In computing the ratios, certain income and family-size classes were combined to avoid computations based on too few families in a cell.

Another category of problem schedules requiring detailed review was "sharing families."⁷ These were families or individuals living in the same housing unit who were financially independent (i.e., did not pool their incomes), but each paid for part of shared food purchases and possibly other shared household

expenses. The Collection Manual instructed the interviewers on a few sharing situations. However, these rules did not cover the numerous variations in arrangements for sharing expenses encountered among families surveyed. In general, the presence of sharing families did not affect computations of average expenditures per family (computed by dividing aggregate expenditures by number of families). However, questionable price and quantity data resulted if, for example, half the price of a stove was reported on two schedules. The reviewer tailored instructions for shared items to fit the situation as realistically as possible. No counts were made of sharing families, but it is estimated that 8 to 9 percent of the nonfarm families shared their food expenses or had boarders (reported in section F-I).

Account balancing difference

If families kept complete household accounts and reported them accurately to BLS interviewers, the schedules would balance; i.e., total receipts would equal total disbursements. The long history of expenditure studies has shown that such accounting perfection is almost never attained. In early BLS studies, the difference between income and expenditures was shown as a surplus (savings) or deficit (dissavings). In its 1934-36 survey, the Bureau began its current practice of computing savings from reported changes in assets and liabilities and introduced the concept of "balancing difference" to represent the discrepancies arising from the inability of families to recall exactly every financial transaction of the year.⁸

The balancing difference is considered positive when reported receipts exceed disbursements and negative when disbursements are larger. Although both negative and positive differences are found among the schedules, excesses of disbursements predominate, historically. The balancing differences for average groups of families tend to be negative. The computation of the balancing difference is illustrated by the following averages from the report for all urban families in the United States in 1960-61:

⁴ Combined expenditures were transferred to section X of Schedule B during the coding and editing. On schedules reviewed in 1961, combined expenditures were returned to the reviewers for allocation in the first step of machine screening. (See discussion of program 1401-D, p. 34.) In 1962, to reduce the volume of punchcard corrections, combined expenditures listed in section X were returned for allocation after coding and editing but before the data were punched.

⁵ For technical reasons associated with the machine program, allocations were carried to the fourth digit for about 20 items. In the 1960-61 CES, 3.3 percent of the usable urban schedules required allocation of combined expenditures.

⁶ Detroit was the major CES city used to test programs and the first for which a set of machine tabulations was completed.

⁷ Families were classified as sharing if they answered "Yes" to section J, item 5.

⁸ Lamale, op. cit. (monograph), pp. 21-27.

Receipts		Disbursements	
Income after taxes ----	\$5,906	Expenditures for current consumption -----	\$5,390
+ Other money receipts --	82	Personal insurance -----	324
+ Decrease in assets -----	897	+ Gifts and contributions --	303
+ Increase in liabilities --	862	+ Increase in assets -----	1,423
Total -----	\$7,747	+ Decrease in liabilities---	514
		Total -----	\$7,954

Account balancing difference, \$7,954 - \$7,747 = -\$207

The "percent balancing difference" is the percent the difference is of receipts or disbursements, whichever is the larger. Thus, the average balancing difference for all cities in the 1960-61 urban sample was -2.6 percent, i.e., $-\$207 \div \$7,954 = -2.6$. The comparable average for cities in the 1950 sample was -3.8 percent.⁹

In most of the Bureau's expenditure surveys conducted in the 1930's and 1940's, schedules were rejected if the balancing difference exceeded a stipulated percentage. In the Memphis pilot survey in 1949, an experiment with the "revisit to balance" technique was conducted. Records of changes in the original entries were kept in order to analyze what items were changed and the amount and frequency of the change. "The Memphis test clearly indicated that the balancing difference reflects reporting errors in all three of the major categories—income, assets and liabilities, and expenditures—and cannot be assigned to any one category correctly. It also pointed up the danger of placing too much emphasis on a balancing criterion in the editing process."¹⁰

Use of the balancing difference in the 1960-61 survey followed the practice introduced in 1950. Sizable discrepancies were considered clues to the presence of errors in incomes, expenditures, or assets and liabilities, but no balancing difference percentage was specified as allowable or disallowable as such.

In the 1960-61 survey, the initial calculation of the balancing difference was made by the field editor on BLS 2648D, line 32. A large difference signaled possible errors or omissions (page 19), and was used to guide interviewers on revisits to the family to find the source of error. Similarly, a high balancing difference alerted Washington reviewers to reexamine the schedule and all explanatory notes. For example, a note in section D1 might explain that the family used an inheritance for the downpayment on their house. If there was no record of the inheritance on the "receipts" side of the family accounts, the reviewer would write instructions to enter the amount of the downpayment as an inheritance in T-19 to bring the schedule into better

balance. A distribution of approximately 3,200 schedules collected in 22 cities in the 1960 survey shows that about 7 out of 10 of the schedules accepted as usable after review in Washington balanced within plus or minus 10 percent. (See table 6.) On the majority of those with a larger balancing difference, disbursements exceeded receipts. This is in line with the usual survey experience of the BLS and others. People tend to underreport their income.¹¹ Moreover, in the Bureau's expenditure surveys, the primary emphasis is on a complete and reasonable record of family expenditures. If these conditions appear to be satisfied, the standards for completeness of the savings and income record are less rigorous. On schedules having notes giving some basis for estimating income or changes in assets and liabilities, these items were estimated in the Washington review. For example, if only take-home pay was recorded in section S-1, item 8, gross earnings could be approximated by adding deductions from pay estimated from tables for income tax and for social security rates.

To summarize, the balancing difference was one of several criteria used in the Washington review to determine whether schedules transmitted from the field as complete were usable, whether they required some

Table 6. Distribution of urban families completing usable schedules in the 1960 CES, by percent of account balancing difference

Account balancing difference (percent) ¹	Complete and usable schedules ²	
	Number	Percent
Total -----	3,188	100.0
+20.0 and over -----	68	2.1
+15.0 to +19.9 -----	61	1.9
+10.0 to +14.9 -----	140	4.4
+5.0 to +9.9 -----	403	12.6
0 to +4.9 -----	605	19.0
Total receipts greater than disbursements -----	1,277	40.1
0 to -4.9 -----	614	19.3
-5.0 to -9.9 -----	563	17.6
-10.0 to -14.9 -----	324	10.2
-15.0 to -19.9 -----	174	5.4
-20.0 and over -----	236	7.4
Total receipts less than disbursements -----	1,911	59.9

¹ The balancing percent for each schedule represents the difference between the total receipts and the total disbursements, divided by the larger of those two amounts.

² Compiled from records for 22 survey areas in the 1960 CES sample.

NOTE: Because of rounding, sums of individual items may not equal totals.

⁹ Lamale, op. cit. (monograph), p. 27.

¹⁰ Lamale, op. cit. (monograph), p. 25.

¹¹ See pp. 51 and 59.

adjustment, or whether they should be rejected. Some schedules were rejected, even though they showed a low balancing difference, if the schedule had inconsistent entries, the respondent had resorted to "estimates" for numerous items, family and business accounts were inextricable, or if there had been insufficient probing, unsatisfactory explanatory notes, or other evidence indicating a lack of care or interest in preparing the schedule. The balance of some schedules was improved by estimating income, assets and liabilities, or other money receipts, when the reviewer could determine the nature and approximate size of the missing item. Such estimates were made on only about 50 of the approximately 4,900 usable schedules from the 1961 urban survey. Many more schedules that were out of balance by 15 percent or more were accepted and tabulated if the schedules had a complete and reasonable account of expenditures, and the reviewer could not pinpoint the cause of the lack of balance as sufficiently serious to warrant rejecting the schedule.

Manual Editing and Coding

Despite extensive use of printed codes and of programs for mechanical editing and coding, some clerical editing and coding of the schedules was required. The Washington Coding and Editing Manual contained specific instructions for these operations. One of the first steps in this editing was to carry out the Washington reviewers' instructions on PB 721's. The manual also specified clerical verification of some field computations.

Priority was given to coding and editing the annual schedules, 2648B, but the manual also contained instructions for the weekly food schedules, 2648C, which were coded and edited as received from the field without the intensive review given to the 2648B's. The coding and editing of schedule C entailed adjusting quantities and sizes of many items to standard units (e.g., quarts, pounds) to permit mechanical summarization of data and to provide meaningful price/quantity relationships for the CPI revision and other tabulations.

Transfer of Data to Punch Cards

All information inside the heavy black lines of schedules 2648B and C was transferred to 80-column punch cards. Eleven types of cards were used for schedule B and three types for schedule C. An average of about 200 input punch cards were used for each family (160 for

schedule B and 40 for schedule C). Most information was recorded for the family as the spending unit. However, each family member was assigned a code (section A, item 1), starting with the head as number 01 and other members as 02, 03, etc. Wherever the "Family member No." (FM No.) was shown on the schedule (e.g., section K, Clothing, or section S, Family Earnings), information was punched for the individual member and could be combined for the family group.

Computer Editing, Coding, and Summarizing Programs

Computer editing, or screening, followed punching and was the final series of steps in getting the raw punched data ready to tabulate. Typically, reports that were indicated as questionable on the computer printouts underwent careful human review, and decisions were made for resolving questions. Specifically, screening of the schedule B data involved manual review of the listings produced by three machine programs¹² (referred to as 1401-1R, 1401-2R, and 1401-D). These programs provided checks on clerical computations and on coding and punching errors, as well as consistency checks on the reasonableness of the entries for individual schedules. Some errors were "flagged" mechanically, i.e., they had assigned error codes that were printed in specific card columns on the machine output listings. The 1401-1R program included approximately 25 such error codes. Others were detected manually; these required systematic comparison of machine input and output data for all schedules to determine the presence of errors. The principal phases of screening schedule B data are described briefly.

Screening and coding of family characteristics

Program 1401-1R was used for screening five types of characteristic cards, containing data from the sections of schedule B indicated below:

Card 10. Family characteristics, section A, column (m)

Card 11. Individual family member characteristics, section A, columns (b) - (1)

Card 12. Housing characteristics, section B, column (b)

¹² Initial programs for mechanical processing of the CES data were written for IBM 650 equipment which used punchcards only. Data for the first 20 cities in the 1960 sample were screened on the 650. Meanwhile, late in 1961, the Bureau added the IBM 1401 computer, and the programs were rewritten for this more advanced "hardware" that could use magnetic tape. The screening results were similar, but only procedures on the new equipment are described.

Card 13. Facilities included in rent, section C, column (b)

Card 14. Automobile characteristics, section P-1, column (b).

After extensive testing and experimentation, the 1401-1R program was used to:

1. Check the validity of the characteristics codes
2. Check the punching of cards 10 and 11 by comparing "hash"¹³ totals punched in card 10 with totals from card 11 for each family
3. Compute 12 averages or machine codes
4. Test the consistency of certain codes
5. Test for missing cards or duplicate cards
6. Move 20 family characteristic codes into family member cards (card 11) in the output deck.

Detailed instructions were prepared for detecting and correcting mechanically "flagged" and other errors. A few examples will illustrate how the screening program was used to detect errors.

Error codes flagged invalid codes for sex (only codes 1 or 2 were valid), marital status (codes 1 through 6 were valid), etc. Error codes also appeared if the sum of weeks at home and weeks away from home, or weeks working and not working, was greater than 52 weeks for any family member listed in section A.

Error codes indicated inconsistencies in the housing data. To illustrate, if a stove, refrigerator, garage, etc., was checked as included in the rent in section C, an error code appeared if the same item was not checked in the list of facilities available in the housing unit in section B.

Manual screening (i.e., without machine codes to flag errors) of the 1401-1R listings was used to verify clerical coding of occupation and to determine consistency in certain items listed, e.g., marital status and sex codes or housing tenure and rental or market value of occupied housing. To illustrate, in husband-wife families, the listings were scanned to make sure the husband was coded male and the spouse, female.

Screening data from schedule B, with its many interrelated items, was a pioneering operation that took advantage of the rapid advances in electronic data-processing techniques after 1950. To a degree, the choice between mechanical and manual screening of family characteristics was determined by expediency. Some consistency and other checks initially planned to be done mechanically were done manually, because programming them would have delayed getting the 1401-1R program operational.

The characteristics coded¹⁴ mechanically by program 1401-1R included: (a) Education of each family member, (b) family size based on the average number

of persons in the family during the year, (c) family type, (d) age of each family member, (e) market value of owner-occupied housing, (f) monthly rent paid by renters, and (g) change in housing occupancy during the year.

Checking dollars values on schedule B against schedule D

A computer program, referred to as 1401-D, provided the basic check of the punching of dollar values from schedule B against the balance sheet, schedule D. This 1401 computer program obtained about 100 totals from the dollar values punched from schedule B and had error codes to flag mismatched cards (i.e., cards that did not match the list of valid codes) or misfiled cards (i.e., cards out of numerical sequence in the coding system). Clerks compared the 1401-D listing and schedule D line-by-line, checked discrepancies against schedule B, and wrote instructions for card corrections. This combination of manual and mechanical checks detected a high proportion of punching errors, invalid item codes, and also some errors made in the field or in subsequent processing of the schedules. On schedules collected in 1961, allocations of combined expenditures were included with instructions for card corrections on program 1401-D, but in the following year, the allocations were made before the schedules were sent for punching. (See p. 31.)

Summarization and tests for reasonableness of expenditures

The next program (referred to as 1401-2R) summarized each family's expenditures to major group levels and computed the percentage of each group to total expenditures. It further summarized the family's accounts to higher levels—total receipts and total disbursements. At this stage, the totals and subtotals for individual families were developed to correspond with the summarization tables designed for publication. (See appendix table B-9.) On the basis of this summarization, the 1401-2R program also developed the following family characteristic codes:

- (a) Family income before taxes
- (b) Family income after taxes
- (c) Savings
- (d) Income-savings ratio
- (e) Family member income

¹³ "Hash" totals are sums of codes or other items for checking purposes only; these totals may be meaningless.

¹⁴ See also p. 29 for description of principal family characteristic codes.

The 1401-2R program also printed two types of error codes or "flags" for screening the individual family records. First, for housefurnishings (section I) and clothing (section K), error codes flagged items for which expenditures did not equal the product of quantity and price, with a 5-percent allowance for sales tax. If such errors had been introduced in punching, they were corrected routinely. However, if field entries were inconsistent, despite field verification and editing, it was difficult in the 1401-2R screening in Washington to determine whether the error lay in quantity, price, or the field multiplication. To minimize questionable price-quantity data in calculations for the CPI, the following rules were followed in screening these errors:

- a. If the difference between total expenditures on the schedule and the machine-computed product of quantity times price plus tax was greater than the cost of an additional unit, the expenditure on the schedule was accepted and price and quantity were deleted.
- b. If the difference was less than the cost of an additional unit, all three entries (quantity, price, and expenditure) were accepted.

The second type of error code compared the family accounts with predetermined "tolerance limits" on: (a) The quantities and prices of housefurnishing items (section I) and clothing (section K), and (b) the proportions of total expenditures reported for the following 11 major categories of goods and services:

	Lower limit (in percent)	Upper limit (in percent)
Food	10.0	50.0
Shelter	5.0	30.0
Fuel, light, refrigeration, and water	0	15.0
Household operations	1.0	15.0
Housefurnishings and equipment	1.0	20.0
Clothing and clothing services	1.0	25.0
Transportation	0	30.0
Medical care	1.0	10.0
Personal care	1.0	5.0
Recreation, reading and education	0	20.0
Other (including alcohol and tobacco)	0	15.0

These tolerance limits had been determined on the basis of experience in the 1950 family expenditure survey. They were reviewed after preliminary tabulations became available from the 1959 Cincinnati lead-city survey and the 1960 Detroit survey.

"Flagged" amounts were compared with the schedule, and, again, punching errors were corrected routinely. If the schedule had notes that housefurnishings or clothing items had been purchased second-hand, at wholesale, etc., this explanation was noted on the listing, and the entries were accepted. Occasionally, the

price tolerance "flag" caught an item miscoded because it had been written on the wrong line (e.g., ski boots listed as "rubbers and boots" rather than as "special sport shoes"). Such miscoding was corrected, but generally the flagged item was accepted after review.

Schedules flagged because the distribution of expenditures fell outside the tolerances were reexamined to establish the cause for the deviation, e.g., an elderly couple living in a mortgage-free home might have atypical distribution of expenditures because of large medical and funeral expenses. At this final stage of screening, before the individual family records were approved for tabulation, particular attention was given not only to "flagged" schedules, but also to those having large differences between income before and after taxes, to those having low incomes (including those with negative incomes from business losses), to those having unusually high incomes, or to those having large gifts or other money receipts. In brief, this screening was used as an opportunity for a final pretabulation review of the schedule B data, including changes introduced in the Washington review, coding, and editing.

In retrospect, both BLS and USDA participants were disappointed somewhat in the computer screening of the CES data. Primarily, these operations had not reduced the clerical load or speeded up data processing as much as anticipated. Expectations may have been unrealistic. Further, a mammoth screening program was undertaken without benefit of the "dry-run", using the Cincinnati lead-city schedules as originally planned. Nevertheless, CES experience would seem to warrant endorsement of the following evaluation:

"... it is obvious that we have just scratched the surface of the potential of computer review. The human review of enormous masses of data is not only inefficient, but is so deadening that it constructs a vicious circle resulting often in the overlooking of some very significant errors which would have been detected by any well-constructed computer routine. It also quite often results in the underutilization of highly experienced clerks who have developed a 'feel' for the data which should be focused on figures which have a high probability of error. The development of an integrated man-machine screening logic has the effect of designating human roles which require truly human skills, and mechanical processes which require unfeeling machine capabilities. Thus, it can be of advantage to data quality, cost reduction, machine utilization, and perhaps most importantly, the dignity of the human being."¹⁵

¹⁵ Walter J. Stuart, "Computer Editing of Survey Data—Five Years of Experience in BLS Manpower Surveys," *Journal of the American Statistical Association*, June 1966, p. 383.

The initial tabulations from the 1960-61 survey were directed towards determining expenditure weights for revising the CPI. Therefore, priority was given to averaging family expenditures for each item of consumption goods and services purchased by wage-earner and clerical-worker families in each metropolitan area or nonmetropolitan place in the urban sample. Such "index" families¹ numbered 4,860 of the total 9,476 urban consumer units giving usable schedules. However, earliest plans specified that the BLS should design and publish tabulations covering all families (regardless of index status) in each sample area. These city tabulations were the "building blocks" to be combined with population weights to obtain regional and U.S. urban averages. This program, later extended to include results of the rural surveys conducted in cooperation with the USDA, is referred to as the General Purpose Tabulations Program. Its objective was to provide tabulations to serve the great majority of needs for consumer expenditure data, as demonstrated from experience with earlier BLS and USDA surveys.

To release maximum information promptly and economically, the publication program was built around photo-offsets of printouts of standardized machine tabulations designed for use as copy for photo-offset reproduction. Success in such a program requires integration of data collecting, coding, tabulating, and publishing plans as early as possible. The Bureau's experience using machines in tabulating its 1950 data for publication by the Wharton School at the University of Pennsylvania greatly facilitated the 1960-61 operations. Under its General Purpose Tabulations program, the Bureau issued 182 reports and supplements (exhibit K). These, plus 15 USDA rural farm reports using the same table formats, contained nearly 6,300 pages of machine tabulations.

Classification of Items

In its General Purpose Tabulations, the Bureau continued to classify items into groups according to the nature of the goods and services rather than the purpose for which they were used. (See page 4.) Definitions of groups and subgroups of items, as used in the General Purpose Tabulations, appear at the end of supplement 3 to each regional and U.S. report. Selected definitions from Supplement 3 are reproduced in the Glossary. The item classifications for 1960-61 and 1950 are generally comparable; differences are listed in appendix A.

Computation of Averages

The averages and percentages in all tables were based on all families in each class, whether or not they reported receipts or disbursements for a particular item. Averages were calculated by dividing the aggregate amount of income, expenditures, or savings by the total number of families in the class. Since all averages for a class were based on a common divisor, they were additive.

The percent of families reporting was obtained by dividing the number of families reporting the specified item of income, expenditures, or savings by the total number of families in the class. Average amounts for families reporting a specified item can be calculated by dividing the average for all families by the corresponding percent of families reporting.

The urban sample for each SMSA or other urban place (i.e., the primary sampling unit) was designed to be self-weighting, and tabulations in the individual city reports are unweighted summaries of all usable schedules. Averages were shown for all classes of families for which any observations were available, even though only one reporting family fell in a class. This practice of eliminating no information had been adopted in 1950. In publishing results of earlier surveys,² it had been customary to eliminate from tabulations all averages based on fewer than three or four observations, or to combine classes until a sufficient number of observations for reliable averages was attained.

Before publishing data for individual metropolitan areas, any schedule representing an entire class in a tabulation was reexamined to make sure that nothing published would permit identification of the respondent and violate the Bureau's pledge of confidentiality of the information he furnished. For guidance to users of the data, the number of families included in each class was printed in every tabulation of the city reports, and it was assumed that analysts would recognize the limitations of averages computed for small numbers of families. An advantage of this procedure was that the inclusion of all observations in the tabulations allowed the analyst to regroup the data for his particular needs without loss of information and thus make maximum use of the data. Each report carried the warning that particular caution was required in using averages for families at the extremes of the income scale. These averages were based on small numbers of families that might differ sharply in their spending patterns.

¹ For criteria for "index" families, see appendix A, p. 77.
² The 1950 survey was the first in which printouts of machine tabulations were used for copy for photo-offset reproduction. Use of standardized machine printouts is more efficient if the tables are published without modification.

In November 1962, the Commissioner of Labor Statistics and the directors of the BLS regional offices held press conferences to release simultaneously reports on 1960 spending and income of families in the urban parts of the Washington, D.C. metropolitan area and of a major SMSA in each region. Earlier, staff from the regional offices had met in Washington for briefing on these reports and on the Bureau's overall plans for making CES data available.

Each "city" report³ contained brief analytical and interpretative text, definitions and statements on methods, and tables presenting averages for major components of family accounts for consumer units classified by five characteristics: Family income after taxes, family size, age of family head, occupation of the head, and housing tenure. Supplement 1 to each of these reports presented the same information classified by four additional characteristics: Education of the head, race, family type, and number of full-time earners. These characteristics are described on pages 46-51.

In supplement 2, data for eight-family characteristics in the above summaries were cross-classified (two variables) with each of the selected characteristics, as follows:

	In- come	Age	Fam- ily type	Loca- tion and place	Occu- pa- tion	Ten- ure	Race
Family size -----	X	X	X	X	-	-	-
Age of head -----	X	-	-	-	X	X	-
Occupation of head -----	X	-	-	-	-	X	X
Education of head --	X	-	-	-	X	-	-
Race -----	X	-	-	-	-	X	-
Number of full- time earners -----	X	-	-	-	-	-	-
Housing tenure -----	X	-	-	-	-	-	-
Family type -----	X	-	-	-	X	-	-

The standard table format used in the basic reports and supplements 1 and 2 is reproduced in appendix table B-9.

Supplement 3 presented in detail the components of consumer expenditures, income, and changes in savings, which were summarized in the basic reports and supplements 1 and 2. To illustrate, the category "automobile transportation" was broken down into 10 subgroups of expenditures. These detailed tabulations provided data for consumer units cross-classified by family size and income after taxes and by family size and location of the family's residence inside or outside SMSA's.

In addition, the BLS has published Clothing for Urban Families: Expenditures per Member by Sex and Age, 1960-61 (Bulletin 1556). This bulletin is unique in the

1960-61 report series in that it presents data for individual family members. In all other reports, the averages cover the entire family as an earning and spending unit.

Weighting Data to United States and Regional Averages

No attempt was made to have the urban samples proportionate or self-weighting except within each SMSA or urban place. Because the Bureau published Consumer Price Indexes for more than 20 individual areas or cities, a minimum sample size in each area⁴ was regarded as desirable. To describe the spending and saving of all families in the United States, data from the various CES samples were combined to regional and U.S. levels.⁵ Aside from differential sampling rates for strata representing the urban population, unequal overall sampling rates were used for the urban, rural nonfarm, and rural farm components. To compensate for disproportionate sampling and for response differences, a system of weights based on the 1960 Census of Population was used to summarize information for each of the three urbanizations and for the entire population.

Population adjustments

As a first step in deriving the weights, adjustments were made in the census total of persons in the population on April 1, 1960, to correct for definitional differences between the Census and the CES universe. The institutional population and on-post military personnel, which were not included in the CES, were deducted from the census population. The CES data apply to the full survey year, and family size is measured in year-equivalent persons. Therefore, the census total on April 1 was adjusted to take account of births, deaths, and net civilian migration during 1960. For the United States, the net effect of the adjustments was to lower the population total from 179,323,175 to 177,391,360.

Procedures for adjusting the 1960 census data in general paralleled those employed in 1950 and are described briefly.

³ These were designated as advance reports to distinguish them from the subsequent regional and U.S. reports in the publication series BLS Report 237 - . For a complete list of reports, see pp. 203-4.

⁴ See p. 8.

⁵ The sample was not designed to provide tabulations by State.

Births. The census count on April 1 included infants born in January, February, and March, and could not include births occurring after April 1. CES counted all infants born in 1960 in proportion to equivalent full-year family membership during 1960. Adjustments for births were based on *Vital Statistics of the United States, 1960, Volume 1*, published by the Department of Health, Education, and Welfare. This publication showed live births by month. Total live births in 1960 were adjusted for length of family membership in 1960 by applying the following ratios to the estimates for each of the 12 months: January 12/12, February 11/12, . . . December 1/12. The resulting estimates of full-year equivalent infants under 1 year of age were comparable to the "under 1 year of age" in the CES.

Deaths. Full-year equivalent family membership of persons who died during 1960 was estimated from vital statistics records by analogous procedures.

Military Personnel. The Department of Defense estimated that an average of 1,020,000 military personnel lived on-post during 1960. They based this estimate on the number of quarters available and average size of family for military personnel—4.0 persons.

In 1950, when the military population increased sharply because of the outbreak of hostilities in Korea, it was deemed necessary to adjust for this change. During 1960, the military establishment changed very little, and in view of the basis for the estimate, it was decided not to make any adjustment for change in the number of military living on-base. (Had such an adjustment been undertaken, the total civilian population would have been reduced by about 21,000).

Institutionalized Persons. The Bureau of the Census estimated 1,897,106 inmates of institutions.⁶ This total was accepted as the best estimate of institutionalized persons who were excluded from the CES universe.

Net Civilian Migration. Because of changes in the data available and in survey coverage, minor differences from the 1950 procedure were necessary for this component. Net migration figures no longer are compiled. Accordingly, the arrival (i.e., admitted for residence) data for 1960 supplied by the Immigration and Naturalization Service were accepted as the basis for calculation. An estimate of 83,005 full-year equivalent members was computed by procedures analogous to those used for births and deaths. On the basis of immigration and emigration figures for 1948-57, the estimated number of emigrants was slightly more than 10 percent of the number of immigrants per year. This factor was applied to the arrival data adjusted to full-year equivalent membership, reducing 83,005 to an estimated net immigration of 74,005.

Recapitulation. The effects of these adjustments are:

Census count as of April 1, 1960 -----	179,323,175
Births:	
Less births January, February, and March -----	-1,024,936
Plus full-year equivalent family membership of infants born in 1960 -----	+2,261,791
Deaths:	
Less deaths April through December -----	-1,235,398
Plus full-year equivalent family membership of persons who died in 1960 -----	+909,829
Military:	
Less estimated on-post military personnel -----	-1,020,000
Institutionalized persons:	
Less institutionalized persons -----	-1,897,106
Migration:	
Plus estimated net civilian migration -----	+74,005
Adjusted 1960 population total -----	177,391,360.

The total adjusted population was distributed among the sampling strata in accordance with the distribution of the unadjusted population. The adjusted 1960 population was used as urban weights for both 1960 and 1961.

Computation and application of weights

Weights were computed for 67 urban strata; including Anchorage, Alaska, which was surveyed for 1959 (appendix table B-8). Since all SMSA's having urban population of 1,400,000 or more were surveyed, each of these largest SMSA's was assigned its own adjusted population. The remainder of the adjusted urban population was divided equally among the sample of smaller SMSA's or other urban places in each regional city-size stratum. This assumption of equal area weights within a size stratum was derived directly from the sampling operation itself. As a result of using the method of probability proportionate to size (page 13), the sample cities represented equal numbers of their total regional city-size stratum.⁷

Rural nonfarm weights were computed for 42 strata—34 SMSA's and a farm operator⁸ and nonoperator stratum for each of the four regions. Since farm operators were sampled at a higher rate than nonoperators, adjusting the nonmetropolitan universe estimates was necessary to compensate for the oversampling of farm operators. Thereafter, the weight calculations were exactly the same as those for the urban segment.

⁶ U. S. Census of Population: 1960, General Population Characteristics, United States Summary. Final Report PC(1)-1B (U. S. Bureau of the Census), p. 157.

⁷ For a single year such as 1961, the city weights differed from the 1960-61 weights, since cities surveyed in that year carried the entire weight for their respective region city-size stratum in the 1961 tabulations. In combining 1960 and 1961, each year's sample represented approximately half of the adjusted population. The 1959 data for Anchorage were weighted into the combined 1960-61 tabulation for the West and the United States, but not into the tabulations for 1960 or 1961.

⁸ A farm operator in the rural nonfarm sample did not live on a farm but operated one elsewhere.

The rural farm sample was designed to be self-weighting within regions. To take care of differential response rates, weights consistent with those used in weighting the urban and rural nonfarm sample were applied to the rural farm averages for the four regions to obtain U.S. averages.

The estimated number of families or CU's in the universe were the ultimate weights. These weights were estimated by dividing the adjusted population in each sampling stratum by the average family size for the stratum as determined from the survey. Altogether, the stratum weights totaled 55,306,253 CU's in the universe for the United States. The effective weights ("blow-up" or "expansion factors") were the estimated number of CU's in the universe represented by each usable schedule in a sampling stratum; they were obtained by dividing the estimated number of CU's in the universe for each sampling stratum by the number of CU's in the stratum for which there were usable schedules. The expansion factors averaged 4,029 for the universe of urban and rural families (55,306,253 ÷ 13,728 usable schedules).

Data for selected urban areas in the Northeast illustrate steps in deriving the 1960-61 expansion factors.

	Adjusted 1960 population	Average family size (CU)	Estimated CU's in universe (1 + 2)	Number of usable schedules (4)	Expansion factor (3 ÷ 4)
Boston, Mass.-----	2,408,729	3.0	802,910	268	2,995.4
Buffalo, N. Y.-----	2,760,695	3.2	862,717	199	4,335.3
Hartford, Conn.---	2,760,695	3.3	836,574	175	4,780.4

The estimated number of CU's in the universe, the number of CU's giving usable schedules, and the expansion factors for each stratum are summarized in appendix tables B-7 and B-8.

Weights were applied mechanically. Preferably, all weighted tabulations should have been obtained by ap-

plying expansion factors to individual family data, aggregating the results to the desired level, and dividing the aggregates by the corresponding number of CU's in the universe. For a variety of reasons, this method was not followed for tables in the basic summary reports and supplements 1 and 2. Tabulations for individual city reports, based on self-weighting samples, were made before the weights had been computed. Also, they were run on an IBM 650 machine using cards, shortly before BLS replaced the 650 with computer equipment using magnetic tape. Adding weights to the cards would have been cumbersome. Since the city tabulations were available and because of the pressure to produce regional and U.S. urban summaries promptly, weights were applied to the city averages rather than to individual schedules in the urban sample. This procedure required multiplying the number of CU's in each family characteristic class of the city tabulations by the stratum expansion factor and then by the average expenditure, income, etc. for the class. The regional and U.S. averages were obtained by dividing the sum of the stratum aggregates by the number of consumer units in the universe for the class.

Since city averages had not been prepared in the format needed for supplement 3, aggregates for supplement 3 were obtained by applying the stratum expansion factors to the individual family records. For these and other reasons associated with variations in the machine programs for rounding and applying the weights, weighted averages in supplement 3 may differ slightly from those in other publications. Headnotes in the reports alert users to these discrepancies in the tabulations.⁹

⁹ Distributions of families similar to those in appendix table B-10 were included with each copy of the Supplement 3 so that users could see the actual number of individual family reports on which published estimates for the universe of families were based. Each such table carried the following caution: "Particular care is required in using the averages based on small numbers of families which may differ sharply in their spending patterns."

Chapter 8. Reliability of Information

The accuracy of statistics obtained from any sample survey is affected by two kinds of errors: Sampling errors, which result from conducting a partial, instead of a complete, enumeration of the population under study; and nonsampling errors, which occur whether the enumeration is partial or complete. Nonsampling errors include both: (a) nonresponse errors, i.e., the failure to obtain full cooperation of all units approached in a survey relying on voluntary cooperation; and (b) response errors, i.e., either accidental or deliberate inaccuracy in reporting or recording information. Techniques for measuring and controlling sampling errors have reached a relatively high level of development. Measurement of nonsampling errors is in a comparatively elementary stage.

Sampling Error

The Bureau originally planned a rather complete program of error computations relating to sampling errors both in individual city data and in regional and national averages. Limitations of personnel and computer facilities, however, prevented implementation of this program. A short-cut method of computing error estimates for the urban CES data was substituted. This procedure, which was similar to that used in the computation of sampling error in the CPI, compared estimates for "paired" cities.¹ The basis for pairing cities was similarity in stratum size and geographic location. This approach is a variation of the commonly used "ultimate cluster" procedure for estimating sampling error. No suitable pairing was possible for either Anchorage or Honolulu. Since Anchorage carried less than 0.1 percent weight in the CES and Honolulu about 0.3 percent, their omission could not significantly affect the results.

Table 7 shows the list of pairings for SMSA's and urban places in the CES. The list includes all cities surveyed in either year, and is applicable to estimates of error for the combined 1960-61 tabulations. A comparable procedure for the 1960 and 1961 tabulations would require pairing only cities surveyed for those particular years.² This pairing would be somewhat difficult for stratum B and C cities, since only five of each size group were surveyed each year. Thus, such pairings as the following would be required for 1960 B cities: Buffalo-Indianapolis, Dallas-Atlanta, with Seattle left unpaired. Similarly, in 1961, C pairings would be Lancaster-Green Bay, Durham-Baton Rouge, with Bakersfield unpaired.

Between-city variances were computed using all cities, because of an uneven number of cities in each survey year. These same variances can be used for 1960 and 1961 individually, adjusting the weights to take care of the half sample of cities. It might be argued that since the estimates for a single year are made from half the cities, the widely separated pairings are appropriate. It should be remembered, however, that it was necessary to collapse strata for the 1960-61 pairings. Since the half sample is used for an individual year, the collapsed strata are, in fact, the actual strata used for separate years. Conceptually, the collapsing for 1960-61 would cause some overstatement of the sampling variance, since the collapsed strata are larger than those effectively used. Since in any single year only one city was actually surveyed in each collapsed stratum, the conceptual overstatement is nonexistent. To collapse strata further would be to reintroduce this overstatement.

Most pairings involve comparisons between 1960 and 1961 data. For each of the 13 largest SMSA's (stratum A), the half samples for each year were paired. This procedure presumably would include any trends from one year to the next. Although this is appropriate for 1960-61 averages, the sampling error for a single year perhaps would be overstated. This method, however, appears to be the most acceptable of alternate expedients.

In the actual computations, which were performed with electronic computers, the averages for each expenditure item, group, subgroup, etc., had the values X_1 and X_2 for each pair of cities. It was necessary to derive an appropriate measure of the sampling variance for each stratum before computing the sampling variance for summary estimates across strata. The variance for the i -th stratum, σ_i^2 , is computed as follows:

(1) In paired cities,

$$\sigma_i^2 = \frac{(X_1 - X_2)^2}{2}$$

(2) In stratum A cities, which represent only themselves,

$$\sigma_i^2 = \frac{(X_1 - X_2)^2}{4}$$

¹ Marvin Wilkerson, "Measurement of Sampling Error in the Consumer Price Index: First Results," 1964 Proceedings of the Business and Economics Section—American Statistical Association (Washington, D.C.), pp. 220-230. See also *The Consumer Price Index: History and Techniques* (BLS Bulletin 1517) pp. 28-29.

² See appendix table B-2.

Table 7. Pairings of SMSA's and other places in the 1960-61 CES urban sample for computation of sampling error

Stratum	Paired SMSA's or cities	Region	
A	Boston, Mass. (1)	Northeast	
	New York, N.Y. (1)	Northeast	
	Northeastern New Jersey (1)	Northeast	
	Philadelphia, Pa. (1)	Northeast	
	Pittsburgh, Pa. (1)	Northeast	
	Chicago, Ill. (1)	North Central	
	Cleveland, Ohio (1)	North Central	
	Detroit, Mich. (1)	North Central	
	St. Louis, Mo. (1)	North Central	
	Baltimore, Md. (1)	South	
	Washington, D.C. (1)	South	
	Los Angeles-Long Beach, Calif. (1)	West	
	San Francisco-Oakland, Calif. (1)	West	
B ²	Hartford, Conn.	Buffalo, N.Y.	Northeast
	Dayton, Ohio	Indianapolis, Ind.	North Central
	[Dallas, Tex.]	Wichita, Kans.	North Central
	Dallas, Tex.	[Wichita, Kans.]	South
	Atlanta, Ga.	Nashville, Tenn.	South
	Denver, Colo.	Seattle, Wash.	West
	C ²	Lancaster, Pa.	Portland, Maine	Northeast
Champaign-Urbana, Ill.		Cedar Rapids, Iowa	North Central
Green Bay, Wis.		[Cedar Rapids, Iowa]	North Central
Durham, N.C.		Orlando, Fla.	South
Austin, Tex.		Baton Rouge, La.	South
[Austin, Tex.]		Bakersfield, Calif.	West
D ²		Southbridge, Mass.	Athol, Mass.	Northeast
	Kingston, N.Y.	Burlington, Vt.	Northeast
	Millville, N.J.	Lewistown, Pa.	Northeast
	Findlay, Ohio	Cambridge, Ohio	North Central
	Logansport, Ind.	LaSalle, Ill.	North Central
	Niles, Mich.	Menasha, Wis.	North Central
	Crookston, Minn.	Owatonna, Minn.	North Central
	Devils Lake, N. Dak.	Manhattan, Kans.	North Central
	Martinsville, Va.	Griffin, Ga.	South
	Union, S.C.	Sebring, Fla.	South
	Florence, Ala.	Cleveland, Tenn.	South
	Vicksburg, Miss.	Okmulgee, Okla.	South
	Mangum, Okla.	Reserve, La.	South
	McAllen, Tex.	Gainesville, Tex.	South
	Orem, Utah	Gallup, N. Mex.	West
	Klamath Falls, Oreg.	Eureka, Calif.	West

¹ Half samples for 1960 and 1961 paired.

² Each city in the first column is paired with opposite city in next column. City in brackets [] is used in special pairing to compute variance estimates for other city in pair.

If the average stratum expenditure is represented by \bar{X}_i , and the weight for the stratum by W_i , then the United States urban average expenditure and sample variance would be:

$$\bar{X} = \sum W_i \bar{X}_i$$

and

$$\sigma_{\bar{X}}^2 = \sum W_i^2 \sigma_i^2$$

No division was required for the United States, since the sum of the weights was 1.00. For the regional estimates, however, the cumulated values were divided by the sum of the stratum weights and the corresponding squares of these weights. The population weights used in combining the variances were uniform for all items.

Error estimates are presented in appendix table B-11 for miscellaneous items, groups of items, total expenditures, income, and net changes in assets and liabilities. For the United States, the sampling error (one sigma) for total expenditures for current consumption was \$46, or 0.9 percent of the total expenditures estimate of \$5,393. Money income after taxes had a slightly higher sampling error, \$59, or 1 percent of the average (\$5,890) for all families. Major groups of expenditure items, such as total food, housing, clothing, transportation, medical care, personal care, recreation, reading, and education had smaller absolute errors, but except for food, they had slightly higher relative errors. Items infrequently purchased, such as washing machines, small appliances, etc. showed higher relative errors.

This was also true of clothing for boys and girls in the 16- and 17-year age group and for children under 2 years, in which the samples of family members were small compared with those in other age categories. The largest relative error, 16.8 percent, was for net changes in assets and liabilities. This value can be expected to vary widely in both plus and minus directions.

In spite of the rough method of estimating error, the results appear to be reasonable. The total national sample for the urban CES was 9,476 schedules. Stratification by region, and particularly by city size, has improved considerably the efficiency of the CES sample. This factor would partially offset the losses due to cluster sampling elsewhere in the design.

Regional error estimates are less reliable than those for the United States and should be used with caution. They tend to be considerably higher in both absolute and relative terms, with the southern and western regions above the Northeast and North Central in almost all categories of current expenditures. Sampling variability in money income after taxes was similar to that of total expenditures for all regions except the Northeast, where between-city income differences were pronounced in spite of groupings by city-size and geographic proximity. These groupings, however, produced less variability in total expenditures for current consumption—\$81 compared with \$150 for income—since higher income families saved more, and lower income families often used past savings or increased their liabilities to meet living expenses.

Plus and minus values in the city averages influences the standard error for net changes in assets and liabilities. In regions where the between-city differences spread across plus and minus values, the lowest numerical average will produce the highest variability. This is shown by the sampling error of \$67 in the Northeast, where the average net change was \$89. In the North Central region, the sampling error was \$48, and the average net change \$326.

Characteristics of Nonrespondents

Nonresponse is an unavoidable feature of any sample survey relying on voluntary cooperation. After various tests to determine whether any significant bias resulted from nonresponse in the 1950 expenditure survey, it was decided not to attempt to introduce adjustments for nonresponse in the basic 1950 tabulations.³ At the first meeting of the advisory committee on the 1960-61 expenditure survey, the treatment of nonrespondents was discussed. Among other considerations, it was pointed out that any adjustments for nonresponse introduced in the basic distributions would affect the comparability of the extensive cross-tabulations planned for the 1960-61

expenditure survey. Although adjustments were ruled out as impractical,⁴ plans were made to use a Household Record (exhibit D) to obtain limited information on the family characteristics of nonrespondents for comparison with families furnishing usable schedules.

Earlier, it was noted that 79 percent of the urban consumer units eligible for the CES in 1960-61 furnished usable reports. (See page 25.) The remaining 21 percent was composed primarily of consumer units who refused to supply any information for the detailed schedule 2648B, and those who started but did not complete schedule B. The net nonresponse, after substitution of alternates described on page 16, is summarized below:

	Master sample	Alternate sample	Total	Some information obtained on family characteristics
Refusals -----	707	522	1,229	1,105
Incomplete schedules--	833	198	1,031	1,031
Rejected schedules ---	187	47	234	234
No contact ¹ -----	80	248	328	154
Total -----	1,807	1,015	2,822	2,524
Vacant units -----	5	225	228	-
Net total -----	1,812	1,238	3,050	-

¹ See footnote 5, appendix table B-4. If the family at an alternate address could not be reached, the interviewer attempted to complete the nonresponse section of the Household Record (except for questions on race and income) by talking with a neighbor, landlord, or apartment manager.

Characteristics of the nonrespondents and the families who gave usable schedules are compared in appendix table B-12. Entries on the Household Record, 2648A, were not uniformly complete, accounting for the variation in the number of nonrespondents on which the distributions by characteristics are based. Information on family income was obtained least frequently, both because of the family's reluctance to discuss income and because interviewers were instructed never to ask others about the family's income. The partial income information (from slightly more than half the nonrespondents) suggests that nonresponse was greatest among families having the lowest and the highest

³ See Lamale, op. cit. (monograph), pp. 94-95.

⁴ In surveys of family expenditures in the United Kingdom and Canada, no attempt has been made to adjust for differences in the family characteristics of nonrespondents, partly because their characteristics cannot be ascertained fully. See *Family Expenditure Survey Report for 1964*, Ministry of Labour, London (1965), p. 31; and *Urban Family Expenditure 1959*, Dominion Bureau of Statistics, Ottawa (1963), p. 8.

The section describing adjustments for nonresponse in the Current Population Survey, states: "We do not know of any unbiased or even consistent method of making adjustments for nonresponse. The magnitude of the biases resulting from the adjustment procedures used in CPS are not known . . ." *The Current Population Survey—A Report on Methodology*, Technical Paper No. 7, U.S. Department of Commerce, Bureau of the Census, Washington, D.C., (1963) p. 53.

incomes. Such differences would be offsetting, had the combined usable and nonresponse income distribution been used to adjust average family expenditures. However, schedule A contained only a global question on family income. The generally lower amounts reported on global income questions, compared with the itemized income questions in schedule B, are discussed in chapter 9.

Response Errors

Among families participating fully and giving usable schedules, inaccurate reporting is a source of error despite continued research in schedule design and intensive training of interviewers. Such inaccuracies result from memory errors, misunderstanding of a question or reluctance to answer it, and incorrect entries by the interviewer. Study of various aspects of response error has a long history.⁵ In recent years, numerous large-scale validation studies (i.e., checks of survey data against records of financial institutions, hospitals, etc.) have been carried out.⁶ Unlike sampling error, however, little theory on which to base estimates of response error has been formulated.

Utility record check

Because of the Bureau's policy of not putting the family's name on any CES records, opportunities for validating a family's report have been limited. However, in connection with research on CPI weights for fuels, BLS enlisted the cooperation of the Cincinnati Gas and Electric Company to obtain gas and electric bills for customers identified by address in the 1959 CES in Cincinnati. The comparison of CES entries and utility records was restricted to 133 residential customers paying for gas and/or electricity, who had lived at the same address throughout 1959, and were identifiable in utility records.⁷ Only 45 of the 133 reported separate expenditures for gas and 46 (including 1 using bottled gas) separate expenditures for electricity. The remainder reported expenses for gas and electricity combined. For the 133 families, expenditures for gas and electricity reported to the CES averaged 4 percent above the utility billings, with detail by type of fuel as follows:

Utility	Average annual expenditure reported to CES	Percent of average amount billed by utility company	Coefficient of correlation ¹
Gas only (45 families)-----	\$150	98.7	.5030
Electricity only (46 families)-----	84	105.0	.7888
Combined gas and electricity (133 families) --	206	104.0	.4868

¹ All correlations are significant at the 5 percent level.

This generally favorable comparison of overall survey average expenditures is in line with results of similar validation of utility bills for 1947-48.⁸ As would be expected, averages computed from reports for subgroups of families (e.g., classified by family size) differed from the utility records by wider margin than the averages shown.

Use of records

To reduce memory errors that are inherent in any survey depending on recall, interviewers were trained to encourage respondents to consult records in answering questions on schedule 2648B. Space was provided in the lower half of form PB 715 (exhibit H) for the interviewer to record after each visit whether the family referred to records (such as receipts, canceled checks, income tax returns, savings passbooks, etc.) for selected categories of family accounts.⁹

The PB 715's were not edited nor were they prepared for machine tabulation as originally planned, but records from 18 survey areas throughout the United States were hand tabulated and summarized in table 8. Crude and incomplete as these measures are, they show that the majority of families consulted records for those areas of family accounts in which it was customary either to bill the family, or to require the family to keep records for income tax or similar purposes.

To illustrate, table 8 shows that approximately one-half to two-thirds of the families reporting payments for mortgages, taxes, or insurance referred to some kind of record, and similar proportions consulted a W-2 form or other records in reporting income. On the other hand, fewer than one-fifth of the families referred to records of expenditures for

⁵ See Lamale, op. cit. (monograph), pp. 95-98. See also John Neter and Joseph Waksberg, *Response Errors in the Collection of Expenditures Data by Household Interviews: An Experimental Study*, U.S. Department of Commerce, Bureau of the Census, Technical Paper No. 11, Government Printing Office, Washington, D.C. (1965).

⁶ See papers and discussion on "Recent Research on Response Errors," 1965 Proceedings of the Social Statistics Section, American Statistical Association, Philadelphia, Pa., Sept. 8-11, 1965, American Statistical Association, Washington, D.C., pp. 181-197.

Also, Lawrence D. Haber, "Evaluating Response Error in the Reporting of the Income of the Aged: Benefit Income," 1966 Proceedings of the Social Statistics Section, American Statistical Association, Washington, D.C., pp. 412-419.

⁷ A total of 235 families and single consumers in Cincinnati furnished usable records of their 1959 expenditures and income.

⁸ Lamale, op. cit. (monograph), pp. 141 ff.

⁹ The Bureau introduced this type of report in the 1960-61 survey at the suggestion of the CES advisory council. It was modeled on forms used in studies of consumer savings carried out by the later-University Committee for Research on Consumer Behavior.

food¹⁰ or for expense when traveling. Such expenditures are accumulated over the year in "dribbles" and "dabs," and the small proportion of families consulting records for them is consistent with interviewers' reports that slightly more than one-tenth of the families kept a budget which they consulted during the interview. Table 8 also shows that the use of records for a given category of information varied little by city-size stratum. This consistency is of interest, since it reflects interviewing techniques and observations of numerous persons calling on families in various types of urban places throughout the country. However, such information—even if tabulated for all consumer units—is no more than suggestive of the accuracy of response. Another possible analytical use of the PB 715's—not explored—would be to correlate use of records and the number and length of visits to complete the schedules.

¹⁰ For comparison of annual and weekly food expenditures, reported on schedule 2648B and 2648C, respectively, see p. 66.

Processing Errors

Review procedures and checks instituted in the field and Washington offices to minimize processing errors have been discussed in chapters 4, 6, and 7. Preparation of statistical reports for each city resulted in another thorough review of the tabulations of unweighted family data, and provided a final opportunity to correct the data on punch cards. This intensive analytical review, and subsequent review of regional and U.S. tabulations, concentrated on classifications of families by the 10 characteristics selected for publication. (See page 37.) The Bureau also sold magnetic tapes containing selected CES data under arrangements discussed in chapter 11. Servicing users of these tapes has uncovered some mistakes in family characteristic codes that BLS had not used in its tabulations. When informed of questionable data on the tapes, the Bureau staff has attempted to track down the explanation and extent of the error. Periodically, BLS notifies all organizations having the tapes about errors, problems in programing, etc. encountered by other users.

Table 8. Percentage of urban families¹ using records in reporting specified types of information for the 1960-61 CES

Type of information	Urban United States	Population stratum			
		SMSA, 1,400,000 and over (Stratum A)	SMSA, 250,000-1,400,000 (Stratum B)	SMSA, 50,000-250,000 (Stratum C)	Urban places 2,500-50,000 (Stratum D)
		Percent of "applicables" ² referring to records			
Mortgages	59	62	53	62	58
Utilities	39	41	33	37	44
Major appliances	17	19	16	18	12
Food	18	19	13	21	18
Medical expenses	33	33	34	34	31
Automobile expenses	36	38	33	34	37
Out-of-home-city expenses ³	12	11	13	12	11
Family income	63	64	62	64	62
W-2 (income-tax withholding form)	57	63	61	36	53
Taxes and insurance	53	51	52	58	59
Assets and liabilities	32	33	26	30	29

¹ Based on information from approximately 2,700 of the 9,476 urban families and single consumers furnishing usable CES schedules. Information recorded on form PB 715 was tabulated for families in 18 survey areas selected from each city-size stratum and geographic region.

² The percentage of families for whom a specified type of information was applicable who referred to receipts or other records in reporting it.

³ Section Q, schedule 2648B. (See exhibit E.)

Chapter 9. Comparisons With Data From Other Sources

One approach to gaging the extent and nature of errors in sample surveys is to compare survey results with information from independent sources. The feasibility of this method of evaluating the CES results depends on the existence of independent statistics on family characteristics, income, spending, and saving for broad population groups. At best, such comparisons are limited by differences in timing, coverage, classification, definitions, and techniques of the various studies. The 1960 Census of Population provided the sampling frame for the CES,¹ and it is possible to compare distributions of families according to various characteristics as obtained in the CES with those in the 1960 Decennial Census and the Current Population Surveys (CPS) of the Bureau of the Census. Comparisons of aggregate income, expenditures, and savings have been made with the Department of Commerce's Office of Business Economics (OBE) estimates from the National Income and Products Accounts.

Differences in Definitions

All family characteristics series in the present comparison cover the civilian noninstitutional population in urban and rural areas, plus military personnel in the United States living off post. In defining the income-receiving unit, the 1960 census also includes all military personnel on military posts, and the CPS and OBE cover military personnel living with their families on military reservations, all of whom are excluded from the CES.²

In each series, a distinction is made between persons living as members of a family and persons living by themselves. These differences in definition are outlined below:

1960 Decennial Census

Families include: Two persons or more living together and related by blood, marriage, or adoption, plus:

Unrelated individuals include: Persons living alone or with persons to whom they are not related, including military personnel on post and unmarried children living away from home while attending school.

Current Population Survey

Families include: Same as 1960 census, but including children away from home at school, plus

Unrelated individuals include: Same as 1960 census but excluding the students and military personnel in barracks on post.

Office of Business Economics (consumer unit, or families and unattached individuals)

Families include: Same as CPS, plus

Unattached individuals include: Same as CPS unrelated individuals.

Bureau of Labor Statistics (all consumer units, or all families)

Families of two persons or more include: Usually related and usually living together who pool their income and draw from common fund for their major items of expense, plus

Single consumers: Persons living alone or with others with whom they do not pool income and expenditures.

The most inclusive decennial census data that are relevant for comparison with the CPS, OBE, and CES distributions of families (including one-person families or single consumers) relate to income distributions. The decennial census income distributions show the following totals:³

Families and unrelated individuals	58,305,007
Families	45,128,393
Unrelated individuals	13,176,614

The compilation in table 9 shows that the several series agree very closely with respect to the total number of families of two persons or more. Differences in the totals of families and single consumers combined are attributable to the larger number of unrelated individuals who were counted as separate

¹ See chapter 3.

² See Family Income Distribution Statistics Published by Federal Agencies, Office of Statistical Standards, Bureau of the Budget, Statistical Evaluation Report No. 5 (December 1964), pp. 10-11.

³ 1960 Census of Population, Vol. 1, Characteristics of the Population, Part 1, U.S. Summary, table 95, p. 1-225. Small variations in numbers of families and individuals are explained mainly by whether the information was based on the complete count or the 25-percent or 5-percent samples of the 1960 census.

units in the decennial census,⁴ and to distinctions between whether the individual was living in a household or in group quarters.

In 1960 census usage:⁵

An unrelated individual is either: (1) A member of a household who is living entirely alone or with one person or more all of whom are not related to him, or (2) a person living in group quarters who is not an inmate of an institution. Unrelated individuals who are household heads are called "primary individuals." Those who are not household heads are called "secondary individuals."

Group quarters are living arrangements for institutional inmates or for other groups containing five persons or more unrelated to the person in charge. Group quarters are located most frequently in institutions, lodging and boarding houses, military and other types of barracks, college dormitories, fraternity and sorority houses, hospitals, homes for nurses, convents, monasteries, and ships. Group quarters also are located in a house or an apartment in which the living quarters are shared by the person in charge and five persons or more unrelated to him.

Census detail⁶ for "unrelated individuals" is as follows:

In households -----	10,434,328
Primary individual -----	7,996,805
Secondary individual -----	2,437,523
In group quarters -----	4,901,676
Institution-inmate -----	1,886,967
Other -----	3,014,709
Rooming or boarding houses -----	633,732
Military barracks -----	867,803
College dormitory -----	829,112
Institution-resident staff -----	90,511
Other -----	593,551
Total unrelated individuals, except inmates --	13,449,037

By definition, the CES universe includes all unrelated individuals in households and part of those in group quarters—specifically those in shared apartments or houses and in rooming or boarding houses. The estimated total of 55,307,000 consumer units falls about midway between the decennial census totals for families and unrelated individuals on which the distributions in table 9 are based. The CES total is below the larger census figure which includes all of the on-post military and counts students in dormitories as unrelated individuals. It is somewhat higher than the census total of 53,024,000 families and the "primary individuals" in households. The latter total is

conceptually closer to the CES definition of total consumer units, which also would count as separate units for at least some of the "secondary individuals" in households and some living in group quarters, such as rooming or boarding houses. The CPS total of 56,335,000⁷ families and unrelated individuals as of March 1961 also falls between the two totals from the decennial census.

Distributions of Consumer Units by Characteristics

The BLS and USDA selected 10 family characteristics for classifying families in the General Purpose tabulations of consumer expenditures, incomes, and savings. CES classifications and codes and comparisons with census data for eight of these family characteristics are shown in table 9.⁸ Comparable census data are not available for the other two characteristics—money income after taxes and number of full-time earners. However, a special analytical comparison has been made of the distribution of census income and CES money income before taxes. (See page 51.)

Family size

Differences in definitions of the family and in the period to which the family composition referred are very important when comparing the CES distributions with those of the decennial census and the CPS. The time period to which the family composition relates is the date of the interview for the 1960 census and the CPS (in April and March, respectively). The CES measure of family size is the number of equivalent full-year family members. It is an average obtained by dividing 52 weeks into the total number of weeks during which both full- and part-year members belonged to the family, recorded in section A, item 8(m).⁹

⁴ See U. S. Department of Commerce, Bureau of the Census, *Income Distribution in the United States*, by Herman P. Miller (a 1960 census monograph). Government Printing Office, Washington, D.C., 1966, pp. 183-185.

⁵ See source cited in footnote 3, pp. LV and LIX.

⁶ Compiled from 1960 Census of Population, Vol. 1, *Characteristics of the Population, Part 1, U.S. Summary*, tables 181 and 182, pp. 1-444 and 1-453.

This detail is based on "sample data" and the total may differ from information derived from a complete-count basis. (See p. LXXXIX of volume cited in this footnote.)

⁷ This total was adjusted upward slightly after the 1960 census results became available. See footnote 1, table 9.

⁸ See also appendix table B-13 for greater detail for these characteristics and for classifications of nonfarm families by additional characteristics.

⁹ Unless otherwise noted, this and similar references are to section, line, and column in BLS 26488, reproduced in Exhibit E.

Table 9. Comparison of family characteristics data from 1960-61 CES and other sources, total urban and rural United States

CES code	Characteristic	Families and single consumers			Families of 2 persons or more			
		Consumer Expenditures Survey 1960-61	1960 Decennial Census		Current Population Survey ¹ 1961	Consumer Expenditures Survey 1960-61	1960 Decennial Census	Current Population Survey ¹ 1961
		Total	Families and primary individuals					
	Estimated number (in thousands) -----	55,307	² 58,305	³ 53,024	56,335	46,917	⁴ 45,149	45,435
	Average size (mean number of persons) -----	3.2	-	3.38	3.36	3.0	⁵ 3.65	3.71
		Percent						
	Family size:							
	Total -----	⁶ 100.0	² 100.0	⁷ 100.0	⁸ 100.0	-	-	-
1	1 person -----	15.2	22.6	15.0	19.3	-	-	-
2	2 persons or more -----	84.8	⁵ 77.4	85.0	80.7	100.0	⁴ 100.0	⁸ 100.0
3	2 persons -----	30.1	25.8	27.7	26.4	35.5	32.7	32.7
4	3 persons -----	17.9	16.7	18.4	16.9	21.1	21.6	20.9
5	4 persons -----	16.2	15.4	17.0	16.5	19.0	19.9	20.4
6	5 persons -----	10.5	9.9	10.8	10.5	12.3	12.8	13.0
7	6 persons or more -----	10.2	10.1	11.1	10.4	12.0	13.0	12.9
	Race:							
	Total -----	100.0	² 100.0	⁹ 100.0	¹⁰ 100.0	100.0	¹¹ 100.0	¹⁰ 100.0
1	White -----	89.3	89.7	90.3	89.7	89.7	90.6	90.5
2	Negro -----	9.6	10.3	9.7	10.3	9.3	8.8	9.5
3	Other -----	1.1	-	-	-	1.1	.7	-
	Housing tenure:							
	Total -----	100.0	-	⁹ 100.0	-	100.0	¹² 100.0	-
1	Owner -----	57.1	-	61.9	-	60.4	65.4	-
2	Renter -----	39.0	-	38.1	-	35.2	34.6	-
3	Other -----	3.9	-	-	-	4.4	-	-
	Years of education of family head:							
	Total -----	100.0	-	¹³ 100.0	-	100.0	¹⁴ 100.0	-
1	8 years or less -----	36.5	-	40.6	-	35.0	39.2	-
2	9 through 12 years (high school) -----	43.1	-	41.1	-	44.6	42.6	-
3	13 through 16 years (college) -----	16.4	-	18.3	-	16.3	18.3	-
4	Over 16 years (postgraduate) -----	4.0	-	-	-	4.0	-	-
	Age of family head:							
	Total -----	100.0	¹⁵ 100.0	¹⁶ 100.0	⁸ 100.0	100.0	¹⁷ 100.0	⁸ 100.0
1	Under 25 years -----	4.8	27.0	5.1	6.0	4.9	25.5	5.1
2	25 to 34 years -----	18.5	-	18.4	18.3	20.3	-	19.9
3	35 to 44 years -----	22.1	20.9	22.1	21.2	24.7	24.2	23.9
4	45 to 54 years -----	19.7	35.2	20.4	20.3	20.9	36.7	21.6
5	55 to 64 years -----	15.9	-	16.5	16.6	14.8	-	15.8
6	65 to 74 years -----	13.1	16.9	12.1	17.5	10.4	13.5	13.6
7	75 years and over -----	5.9	-	5.4	-	4.0	-	-
	Occupation of family head:							
	Total -----	100.0	-	¹³ 100.0	-	100.0	¹⁸ 100.0	¹⁹ 100.0
	Employed—							
0	a. Self-employed -----	11.0	-	-	-	12.0	-	-
1	b. Salaried professional, technical, etc. ---	15.6	-	-	-	16.5	-	-
2	c. Subtotal (a + b) -----	26.6	-	21.4	-	28.5	23.1	27.1
3	d. Clerical and sales -----	10.9	-	11.5	-	10.3	11.5	10.7
4	e. Skilled -----	14.8	-	¹³ 14.5	-	16.8	17.1	15.1
5	f. Semiskilled -----	14.1	-	14.5	-	15.5	16.7	14.3
6	g. Unskilled -----	13.2	-	10.9	-	12.8	11.6	10.9
7	h. Occupation not reported -----	.2	-	2.9	-	.2	2.8	-
8	i. Member of armed forces -----	.8	-	(13)	-	.9	1.7	-
9	Retired -----	13.7	-	24.3	-	11.1	15.4	21.9
	Others not working -----	5.9	-	-	-	3.9	-	-

See footnotes at end of table.

Table 9. Comparison of family characteristics data from 1960-61 CES and other sources, total urban and rural United States—Continued

CES code	Characteristic	Families and single consumers			Families of 2 persons or more			
		Consumer Expenditures Survey 1960-61	1960 Decennial Census		Current Population Survey 1961	Consumer Expenditures Survey 1960-61	1960 Decennial Census	Current Population Survey 1961
			Total	Families and primary individuals				
		Percent						
	Family type:							
	Total	100.0	20100.0	16100.0	21100.0	100.0	17100.0	21100.0
	Husband and wife	75.9	68.0	74.7	70.3	89.3	87.8	87.2
	All other	24.3	32.0	25.3	29.7	10.6	12.2	12.8
	Location:							
	Total	100.0	-	22100.0	-	100.0	23100.0	-
	Inside SMSA's	63.7	-	64.5	-	63.6	63.9	-
	Central city or cities	32.7	-	34.9	-	30.6	32.7	-
	Other cities with population of 50,000 or over	3.4	-	-	-	3.3	-	-
	Places with population under 50,000 in urbanized area	17.3	-	20.5	-	18.6	21.5	-
	Places with population of 2,500 to 50,000 outside urbanized area	4.0	-	2.5	-	4.2	2.5	-
	Rural nonfarm	5.6	-	5.8	-	6.1	6.2	-
	Rural farm	.6	-	.8	-	.7	.9	-
	Outside SMSA's	36.3	-	35.5	-	36.4	36.2	-
	Urban places with population of 2,500 to 50,000	15.1	-	14.4	-	14.4	14.0	-
	Rural nonfarm	15.5	-	15.2	-	15.8	15.6	-
	Rural farm	5.7	-	5.9	-	6.3	6.5	-

¹ Income of Families and Persons in the United States: 1960, Current Population Reports, Consumer Income, Series P-60, No. 37, January 17, 1962 (U.S. Bureau of the Census). Income is for calendar year 1960, but characteristics of families and individuals are as of March 1961. Subsequently, the number of CPS families was revised upward from 45,435,000 to 45,456,000 and of unrelated individuals from 10,900,000 to 11,081,000 (Series P-60, No. 47, Sept. 24, 1965, p. 3).

² Based on number of families and of all unrelated individuals except inmates of institutions Census of Population: 1960, United States Summary, General Social and Economic Characteristics, PC(1), 1C, (U.S. Bureau of the Census) table 95, p. 1-225.

³ Based on number of households (i.e. primary families and primary individuals). Census of Population: 1960, Families, PC(2), 4A (U.S. Bureau of the Census) p. xiii.

⁴ Based on number of families. Source, footnote 3, p. 21.

⁵ Distribution of families by size from Census of Population: 1960, United States Summary, Detailed Characteristics, PC(1), 1D (U.S. Bureau of the Census), p. 1-465.

⁶ The number of full-year equivalent persons corresponding to the 1-digit CES family size code is: Code 1 = 1.0 person; 2 = 1.1 to 2.9 persons; 3 = 3.0 to 3.9 persons; 4 = 4.0 to 4.9 persons; 5 = 5.0 to 5.9 persons; 6 = 6.0 persons or more.

⁷ Source, footnote 3, p. 11.

⁸ Source, footnote 1, p. 27.

⁹ Based on number of occupied housing units (households). Census of Housing: 1960, United States Summary, Final Report, HC(1), 1 (U.S. Bureau of the Census), p. XXVII.

¹⁰ Source, footnote 1, p. 25.

¹¹ Source, footnote 8, p. 1-463.

¹² Based on number of families. Source, footnote 3, p. 37.

¹³ Based on number of heads of households. Source, footnote 3, p. 195. In the distribution by occupation, the census classified members of the Armed Forces with craftsmen, foremen, and kindred workers.

¹⁴ Based on number of families. Source, footnote 8, p. 1-470.

¹⁵ Based on number of families and unrelated individuals. Source, footnote 8, p. 1-594.

¹⁶ Based on number of heads of households. Source, footnote 8, p. 1-444.

¹⁷ Based on number of families. Source, footnote 8, p. 1-463.

¹⁸ Based on number of families. Source, footnote 8, pp. 1-610 and 1-611.

¹⁹ Source, footnote 1, p. 30.

²⁰ Based on number of families and unrelated individuals. Source, footnote 8, pp. 1-459 and 1-465.

²¹ Source, footnote 1, p. 26.

²² Based on number of heads of households. Census of Population: 1960, Size of Place, PC(3) 1D (U.S. Bureau of the Census), pp. 1-3.

²³ Based on number of families. Source, footnote 22, pp. 10-12.

NOTE: Because of rounding, sums of individual items may not equal totals. Dashes indicate comparable data not available.

The average number of equivalent full-year family members was rounded to one decimal place and converted to the one-digit code for family-size class shown in table 9.

As already mentioned, the correspondence in data from the three sources is closer when the comparison is confined to families of two persons or more, and the differences in distribution of these families by size are in the direction expected from definitional difference. The CES splitting of related family members on the basis of their economic independence resulted in a greater number of families and relatively more small families and fewer large ones than the decennial census or CPS.

Age of family head

In the CES, age and several other characteristics were recorded for each family member, but families were classified by the characteristics of the family head. In husband-wife families, the husband was considered the head. In other types of families, the person recognized as the head by other family members was so designated.

Age was recorded on the CES schedule (section A, item 5) as number of years at the end of the survey year. If the respondent did not know or refused this information, the interviewer estimated age of family members. The comparatively minor differences between the CES and census distributions in table 9 are consistent with differences in family definitions. For example, elderly persons living with their married children would be counted as a separate consumer unit in CES if they did not pool their income and expenditures with those of the younger unit.

Years of education of family head

The number of grades completed during or before the survey year in schools offering an elementary or high school diploma or a college, university, or professional school degree was entered for each family member on the CES schedule (section A, item 7). Persons giving no information on the extent of their education were classified as having "8 years or less." Education beyond 4 years of college was recorded as 17 years, regardless of the number of years of post-graduate work. Attendance at specialized business, trade, vocational, and similar schools was noted on the schedule but not counted in the "years completed." The census defines years of school completed similarly.

Occupation of family head

The occupation of each family member was entered on the schedule when income from each job was recorded in sections S-I or S-II. The occupation of the family head was based on his major occupation, i.e., the occupation at which he was employed for the greatest number of weeks in the survey year, or, if equally long on two jobs or more, the occupation which paid the highest earnings. If the head was retired (as indicated by retirement income in section T or notes in section A, item 17) and also had some occupation, the occupation was coded only if the earnings were greater than the retirement income. Family heads who had no income from employment in sections S-I or S-II and no evidence of retirement were coded as "Others not working."

Occupations were classified in a three-digit code according to the 1960 Census of Population, Alphabetical Index of Occupations and Industries, except that the self-employed (including businessmen, farm operators, professionals, and artisans) were separated from salaried managers, officials, and professional workers. Members of the armed forces, living off base, were classified separately. In deriving the one-digit code for occupation of the family head, clerical and sales workers were combined. Wage earners were regrouped and identified by degree of skill: Craftsmen, foremen, and kindred workers were identified as skilled; operatives, as semiskilled; and private household workers, service workers, and laborers, as unskilled.

Comparisons of CES, census, and CPS distributions by occupation of the head (table 9) are affected by differences in the time references and labor force status used in the classifications. The decennial census distribution for families and single consumers refers to the job held during the week for which employment status was reported; the census distribution of families of two persons or more, however, refers to the occupational distribution of the "experienced civilian labor force," comprising the employed and the experienced unemployed. The distribution for heads of families from the Current Population Survey (CPS) referred to the civilian job held during the survey week. The CES classification, as noted above, was based on employment experience throughout the survey year.

Race of family head

The interviewer recorded the race of the family head on the basis of observation, not by direct questioning (section A, item 18). The one-digit code

classified the family heads in three groups: White, Negro, and other. "Other" included Japanese, Chinese, American Indians, and all other. The racial distributions of families in the CES sample and in the census are very similar.

Housing tenure

Entries on the family's tenure during all of the survey year (section B, item 3b) provided a one-digit code in which families were classified as owners, renters, or other (i.e., owner part-year, renter part-year). "Owner" included owner-occupants of cooperative apartments. "Renter" included consumer units receiving rent free. The census recorded occupants as owners or renters at the time of the decennial census. The CES and census definitions of a housing unit were generally comparable (page 14), but the census classified rooming or boarding houses which had five or more roomers as group quarters and thus excluded them from the count of occupied housing units. This, coupled with previously noted differences between the census' household and the CES consumer unit, would tend to explain the somewhat lower proportion of renters in the census than in the CES distribution in table 9.

Family type

CES families were classified in seven types on the basis of the relationship of family members and the age of the children of the head. Entries of relationship to head (section A, item 2) were combined into a one-digit code, as follows:

Code	Category
1	Single consumer
2	Husband and wife only
3	Husband and wife, own children, no other persons in family
4	Husband and wife, own children, other relatives
5	One parent (head), own children, no other persons in family
6	One parent (head), own children, and other relatives
7	Husband and wife, no own children, other relatives
8	Husband and wife, no own children, others not related
9	All other

"Own" children were sons and daughters of the head, including stepchildren and adopted children.

Families composed of a husband, wife, and one child or more, but no other persons living with the family (code 3 above), were subdivided into three groups, according to the age of the oldest child as recorded in section A, item 5. Codes for "relationship to head" and "age of children" (appendix table B-13) were combined into the following one-digit "family type" code:

Family type code	Relationship to head code	Category	Percent of CES families
1	2	Husband and wife only -----	22.5
	3	Husband and wife, own children only:	
2		Oldest child under 6 years -----	11.4
3		Oldest child 6 through 17 years -----	25.6
4		Oldest child 18 years and over -----	10.3
5	4, 7, 8	All other husband and wife families -----	6.1
6	5	One parent, own children only -----	5.1
7	1, 6, 9	All other families, including single consumers -----	19.2

The seven classes in the CES distribution have been combined into two broad classes for comparison with census data for families including both husband and wife and for all other families in table 9. Comparable census data for age-of-children subgroups are not available. The nearest approximation is CPS data on the proportion of husband and wife families with children under 18 years of age. CPS data for March 1960 showed that at least 58 percent of husband and wife families had some children under 18 years of age.¹⁰ This was in the CES range: About 48 percent of the CES husband-wife families had children all under 18, and the inclusion of families whose oldest child was 18 or over raised the CES percent of families with children to 62.

Location and size of place

At all stages of CES sampling, census definitions and boundaries relating to Standard Metropolitan Statistical Areas (SMSA's) and to degree of urbanization were followed. Except in New England, a standard metropolitan statistical area is a county or group of contiguous counties which contains at least one city of 50,000 inhabitants or more, or "twin cities" with a combined population of at least 50,000. Contiguous counties are included in an SMSA if, according to certain criteria, they are essentially metropolitan in character and are integrated socially and economically with the central city. Central cities are those appearing in the SMSA title and are the largest city or cities in the SMSA. Definitions and titles of SMSA's are established by the Bureau of the Budget.¹¹

In general, the urban population comprises all persons living in urbanized areas and in places of 2,500 inhabitants or more outside urbanized areas.

¹⁰ Household and Family Characteristics, March 1960, Current Population Reports, Population Characteristics, Series P-20, No. 106, January 9, 1961, U.S. Department of Commerce, Bureau of the Census, p. 16. This report did not show the proportion of husband-wife families with the husband 65 years and over who had children under 18.

¹¹ Census of Population: 1960, Selected Area Reports, Standard Metropolitan Statistical Areas, Final Report IC (3)-1D, U.S. Department of Commerce, Bureau of the Census, pp. viii-x.

The population not classified as urban constitutes the rural population. An urbanized area contains a central city or cities, as well as the surrounding closely settled incorporated places and unincorporated areas, referred to as the urban fringe. In most cases, urbanized areas are smaller than SMSA's and are contained in SMSA's.

The CES and census distributions by location or place of residence in table 9 match closely.

Number of full-time earners

Each family member in the CES sample who worked 35 hours or more a week, 48 weeks or more during the survey year in a wage or salary occupation (section S-I, items 4 and 5), or was self-employed at least 48 weeks (section S-II, item 3) was counted as a full-time earner. The number of full-time earners in a family was given a one-digit code, and families were distributed as follows:

Code	Category	Families and single consumers	Families of 2 persons or more
0	No full-time earners -----	30.8	25.2
1	1 full-time earner -----	57.5	61.1
2	2 full-time earners -----	10.8	12.7
3-9	3 full-time earners or more -----	.8	1.0

No comparable census data are available. The decennial census classified families by the number of persons in the labor force (employed or unemployed) in the week prior to the census inquiry. The Current Population Survey cross-classified families by the number of earners and money income in 1960; the number of earners included all persons in the family who earned at least \$1 from wages, salaries, or self-employment.¹²

Family income before taxes

A comparison of the 1960-61 CES distributions of families by income before taxes with those from the Census Bureau's decennial census and CPS and from the OBE national accounts is shown in table 10. The estimated number of families and average income for each series are also shown. Additional comparisons with census urban data and for the 1950 CES are shown in appendix tables B-14 and B-16.

The CES distributions of income and the averages and aggregates based upon them, differ significantly from those published by the Census Bureau and the OBE. Numerous studies have been made to identify the reasons for these differences and to measure

the effect of each contributing factor.¹³ Recognition of the fact that none of these sources was specifically designed to provide family income distribution statistics is essential to understanding the differences and to proper interpretation and the use of the income statistics from each source. Of the three household surveys, the 1960 Census was designed as a demographic survey; the CPS to obtain current labor force data; and the CES to obtain detailed information on the level and distribution of family expenditures. The OBE family income estimates and size distributions were derived from the national income accounts, reflecting the concepts and definitions appropriate for that system and utilizing data from tax returns, household surveys, and other sources. Thus, for each series the definitions and procedures used in collecting and summarizing the income data, in varying degrees, were dictated by the broader studies of which they were a part.

The differences observed in the income distributions and averages shown in table 10 are the net effect of variations among the sources in the definition of the "family," i.e., the income-receiving unit and the time reference used in determining its composition; in the definition of "income" and its time reference; and in the completeness of income-reporting.

Family definition. The 1960 census, CPS, and OBE use essentially the same demographic family definition. As explained at the beginning of this chapter, variations in the coverage of on-post military personnel and children away from home at school explains, in part, the higher total number of families in these series than obtained by use of the CES economic family definition. The CES definition which resulted in a greater number of families of two persons or more but relatively more small and fewer large families than in the other series, also contributed to variations among the series in the level and distribution of income. However, these effects cannot be isolated from those resulting from time-reference factors.

¹² See p. 29 of source cited in footnote 1, table 9.

¹³ See table footnote references. Also, Family Income Distribution Statistics Published by Federal Agencies, Office of Statistical Standards, Bureau of the Budget, Statistical Evaluation Report No. 5 (December 1964), reprinted in The American Statistician, February 1966, Vol. 20, No. 1, pp. 18-23.

Lenore A. Epstein, Measuring the Size of the Low-Income Population, in Studies in Income and Wealth, No. 33, Published by the National Bureau of Economic Research, Inc., New York, 1969, and other volumes in this series; Lamale, op. cit. (monograph), pp. 107-113.

Edward C. Budd and Daniel B. Radner, "The OBE Size Distribution Series: Methods and Tentative Results for 1964," American Economic Review, May 1969, pp. 435-449; and

The Distribution of Personal Income, Joint Economic Committee Print, 88th Congress of the United States, 2nd Session, December 1964, Government Printing Office, Washington, D.C., 1965.

Time reference. The time period to which the composition of the family and its income refer, relative to the date of the interview, differs significantly among the series and contributes both to differences in the estimated number of families and in the income levels and distributions. The 1960 census and CPS define the composition of the family as of a point in time (April and March, respectively) and record its income as of the preceding calendar year. OBE estimates families and their previous year's income as of December 31. BLS "reconstructs" the family as it was composed throughout the calendar year preceding the date of the interview and records the income which each family member received while they were in the family or consumer unit.¹⁴

The CES reconstruction procedure retrieves a considerable amount of income which is excluded from the census data and provides more appropriate income estimates for use in analyses of family expenditures. However, since the family size is based on full-year equivalent membership in the family, the reconstructed families may be fractional in size i.e., full-year families with part-year members, or part-year families. Families having more than 1 full-year member were classified as "families of two persons or more" for the CES income summaries.¹⁵ To be classified as "individuals not in families," the CES one-person

¹⁴ See discussion p. 15, and Epstein op. cit. pp. 167-170.
¹⁵ Consumer units ranging in size from 1.1 to 2.9 were classified as 2-person families. (See table B-13.)

Table 10. Comparison of distributions of families by income before taxes from 1960-61 CES and other sources, total urban and rural United States

Income before taxes ¹	1959 ² Decennial Census	Consumer Expenditures Surveys, 1960-61 ³	Current Population Survey, 1961 ⁴	Office of Business Economics 1961 ⁵
Families of 2 persons or more				
Estimated number (in thousands) -----	45,149	46,917	46,341	46,190
Percent distribution, total -----	100.0	100.0	100.0	100.0
Under \$1,000 -----	5.6	1.4	5.0	7.5
\$1,000-\$1,999 -----	7.5	6.5	7.7	
\$2,000-\$2,999 -----	8.3	9.0	8.7	6.7
\$3,000-\$3,999 -----	9.5	9.8	9.4	8.9
\$4,000-\$4,999 -----	11.0	11.0	10.5	10.5
\$5,000-\$5,999 -----	12.3	12.2	11.7	11.3
\$6,000-\$7,499 -----	30.7	16.1	31.0	16.2
\$7,500-\$9,999 -----	-	17.8	-	17.5
\$10,000-\$14,999 -----	10.5	12.0	11.3	13.5
\$15,000 and over -----	4.6	4.2	4.7	7.9
Average:				
Mean -----	\$5,976	\$6,813	\$6,616	\$7,797
Median -----	5,663	-	5,737	-
Individuals not in families				
Estimated number (in thousands) -----	13,171	8,390	11,163	11,100
Percent distribution, total -----	100.0	100.0	100.0	100.0
Under \$1,000 -----	37.6	16.5	32.4	35.6
\$1,000-\$1,999 -----	20.8	27.9	22.0	
\$2,000-\$2,999 -----	12.0	15.4	12.6	19.1
\$3,000-\$3,999 -----	9.5	13.1	9.7	16.5
\$4,000-\$4,999 -----	7.4	9.5	7.9	11.9
\$5,000-\$5,999 -----	5.0	7.4	6.0	6.8
\$6,000-\$7,499 -----	5.9	4.8	7.0	5.2
\$7,500-\$9,999 -----	-	3.6	-	2.7
\$10,000-\$14,999 -----	1.8	1.4	1.5	1.5
\$15,000 and over -----	-	.4	.9	.7
Average:				
Mean -----	\$2,351	\$3,070	\$2,734	\$3,321
Median -----	1,597	-	1,755	-

See footnotes at end of table.

Table 10. Comparison of distributions of families by income before taxes from 1960-61 CES and other sources, total urban and rural United States—Continued

Income before taxes ¹	1959 ² Decennial Census	Consumer Expenditures Surveys, 1960-61 ³	Current Population Survey, 1961 ⁴	Office of Business Economics 1961 ⁵
All families and individuals				
Estimated number (in thousands) -----	58,320	55,307	57,504	57,290
Percent distribution, total -----	100.0	100.0	100.0	100.0
Under \$1,000 -----	12.8	3.7	10.4	12.9
\$1,000-\$1,999 -----	10.5	9.8	10.5	
\$2,000-\$2,999 -----	9.2	10.0	9.4	9.1
\$3,000-\$3,999 -----	9.5	10.3	9.6	10.3
\$4,000-\$4,999 -----	10.2	10.8	10.0	10.8
\$5,000-\$5,999 -----	10.7	11.4	10.6	10.5
\$6,000-\$7,499 -----	25.1	14.3	26.1	14.1
\$7,500-\$9,999 -----	-	15.6	-	14.7
\$10,000-\$14,999 -----	12.0	10.4	9.4	11.1
\$15,000 and over -----	-	3.7	4.0	6.5
Average:				
Mean -----	\$5,696	\$6,246	\$5,896	\$6,930
Median -----	4,791	-	5,000	-

¹ As defined by each agency. Decennial census, CES, and CPS (Current Population Survey) data are family money income; OBE data are family personal income. Mean incomes for families and unrelated individuals for decennial census and CPS are from Herman P. Miller, *Income Distribution in the United States - A 1960 Census Monograph* (U.S. Department of Commerce, Bureau of the Census), table I-4, p. 11 and table II-3, pp. 43-46. The OBE 1961 average (mean) family money income was \$6,626, according to Miller, op. cit.

² Census of Population: 1960, *Sources and Structure of Family Income*. PC(2)-4C (U.S. Bureau of the Census), tables 1 and 6.

³ Frequency distributions derived from unpublished tabulations. For unweighted distributions of families in urban, rural nonfarm, and total nonfarm CES sample by income before taxes, see appendix table B-13; for weighted distributions of nonfarm families, see table 11.

⁴ *Income of Families and Persons in the United States: 1961, Current Population Reports, Consumer Income*, Series P-60, No. 39, February 28, 1963 (U.S. Department of Commerce, Bureau of the Census), p. 18; and *Trends in the Income of Families and Persons in the United States, 1947-1964*, Technical Paper 17 (Bureau of the Census), p. 171.

⁵ Jeanette M. Fitzwilliams, "Size Distribution of Income in 1963," *Survey of Current Business*, April 1964, pp. 5-6; and Miller, op. cit.

NOTE: Because of rounding, sums of individual items may not equal totals.

families had to have lived as single consumer units throughout the survey year. Families with no full-year members were classified as part-year families and excluded from the CES statistical summaries, although individual members of part-year families were included as part-year members of full-year families if they had had that status for part of the survey year, and the full-year family was in the sample.

The net effect of these time and definitional differences was that the 1960-61 CES reported more multiperson families, but a significantly smaller percent of such families at the lower end of the income distribution than were reported by the 1960 census and CPS: 7.9 percent under \$2,000, compared with 13.1 and 12.7 percent, respectively. The CES average (mean) income for multiperson families was \$6,813, compared with \$5,976 for the decennial census and \$6,616 for CPS. These comparisons in table 10 refer to all urban and rural families; a similar comparison for urban families is presented in appendix

table B-14. As compared with the OBE, the CES percent of multiperson families with incomes under \$2,000 was about the same, but the CES average income of all multiperson families was substantially lower, primarily because of the OBE definition of income as discussed on page 54.

More importantly, however, the CES reconstruction procedure resulted in an estimated 8.4 million full-year single consumer units, compared with about 11 million in the CPS and OBE and over 13 million in the decennial census. Furthermore, as expected, the proportion of CES one-person families reporting incomes under \$1,000 (16.5 percent) was very much smaller than the census and CPS showed for individuals not in families, 37.6 and 32.4 percent, respectively. The average income for CES single consumers was \$3,070, compared with \$2,351 for the census and \$2,734 for the CPS.

The exclusion of part-year families from the CES and their inclusion in the other series contributes

to these differences in the distribution of families by income, but the specific effect is practically impossible to quantify. In the 1960-61 CES, information was collected from part-year families but not included in the statistical summaries.¹⁶ However, appendix table B-15 provides a summary of the characteristics of such families in the urban sample, including their average income before taxes for that part of the year when they existed as independent consumer units.

In general, part-year units were about 3 percent of the total usable schedules obtained from full-year and part-year urban families in the 1960-61 CES. On the average they existed for half of the year; contained 1.7 persons compared with 3.1 for full-year families; were headed by a person 29 years old, compared with 47 years for head of full-year families; and had income which averaged \$2,740 for 26 weeks, compared with \$6,691 for 52 weeks for full-year families. They were classified in five categories of reasons for their part-year status. More than one-third were couples married during the year, both of whom had previously been members of other consumer units. About one-fifth were persons who set up one-person households during the year. The remainder was made up of consumer units that formed or broke up during the year, returned from military services, or were outside the survey coverage during part of the year.¹⁷

Income definition. Variations in the definition of "income" which also contribute to differences in the income levels and distributions in the four series compared in table 10 may be summarized as follows:

Wages and salaries, including commissions, bonuses, and tips, before payroll deductions.

Included in all series, but in CES are net of occupational expenses, and in OBE are net of employee contributions to social security.

Net income from self-employment in business or profession.

Included in all, but in OBE are net of contributions to social security.

Income other than earnings: From rent, interest, dividend, social security, pensions, disability insurance, trust funds, private and public assistance or other governmental payments, and regular contributions from persons outside the family.

Included in all, but in OBE inter-personal transfers, such as alimony, contributions from persons outside the family, etc., are excluded.

Other money receipts, such as inheritances, lump-sum settlements, gifts, receipts from sale of assets (e.g., house), and withdrawal of bank deposits or money borrowed, etc.

Excluded from all.

Nonmoney items.

Excluded from census, CPS, and CES except that food and housing received as pay is included in CES; OBE includes wages received in kind, net rental value of owner-occupied homes, an allowance for the return on the value of a person's equity in life insurance, and value of services of banks and other financial intermediaries rendered to persons without specific charges.

Essentially, the census, CPS, and CES use a family money income definition, and the OBE uses a family personal income definition in their income-distributions. The inclusion of nonmoney items in the OBE series results in the major portion of the difference between the OBE and CES average incomes.¹⁸

Completeness of income reporting. Of the three household surveys, the CES achieved more complete reporting of income than the decennial census or the CPS both in 1960-61 and in 1950. This has been attributed to the fact that the CES obtained: (1) A detailed report of income by source for each income-receiving member of the consumer units, and (2) a complete account of receipts and disbursements from each unit which permitted internal consistency checks and return visits to the family to clarify and complete reports. The decennial census and CPS used much less detailed questioning and recorded only totals for broadly defined types of income, e.g., wage and salary, nonfarm self-employment, etc. The 1960-61 CES average annual income of all families and individuals was 8 percent higher than CPS, and the CES estimated aggregate income was 5 percent higher. (See appendix table B-16.) These are somewhat narrower differences than were observed in the 1950 CES covering urban families, for which the comparable percentages were 11 and 7 percent, respectively.

Since the OBE reports of total money income used in the family personal income series are obtained from records of business and government transactions, they are the most complete record of aggregate family money income available. However, the

¹⁶ In deriving the population weights used in the national and regional statistical summaries of the 1960-61 CES (see p. 37), the estimated number of CU's in the universe resulted from a conversion of the total noninstitutional population (including members of part-year families) in 1960 to "equivalent full-year families." When these estimated numbers of CU's are used as multipliers with average family expenditures to obtain aggregate income and expenditures, there is an implicit assumption that the average incomes and expenditures of part-year units are the same as those of equivalent full-year families. Thus, for example, aggregates so derived would be overstated for classes of expenditures for which part-year units spend less than full-year units and understated for the opposite situation. The effect with respect to income averages and aggregates would be similar.

¹⁷ The Concept of Part-Year Families in Consumer Expenditure Surveys, CES Research Note No. 1, October 1968. (Available on request from the Office of Prices and Living Conditions, BLS.)

¹⁸ See also pp. 58-59.

OBE personal income distributions are based on tabulations of Federal tax returns and other source data which may contribute to over- and under-statements in these estimates.

Family income before and after taxes

In the preceding comparison families have been distributed according to their total income before deductions of income taxes, because the decennial census and CPS household surveys ask only for before-tax income. The BLS introduced the "after tax" or "disposable income" refinement of income to classify families for expenditures analyses in reports based on its Survey of Prices Paid by Consumers in 1944.¹⁹ The Bureau's previous survey had shown that in 1941 the average urban family paid income and other personal taxes of \$37 on a before-tax money income of \$2,409. Rural nonfarm families paid \$11 on income of \$1,311.²⁰ The shift to the after-tax concept followed the increase in Federal income tax rates early in 1942, shortly after the United States entered World War II. Income after the deduction of income and other personal taxes was considered a better classifying variable because such taxes reduce the amount of income the recipient is free to use as he sees fit.

The spread between before- and after-tax income widened in subsequent expenditure surveys, as family incomes climbed. Also, State and local governments turned increasingly to income taxes as a source of revenue.

Tabulations from the 1960-61 CES provided for the first time a comparison of spending patterns of families classified by their total money income and

the income remaining after payment of income and other personal taxes. The shifting of families between income classes was greater in the higher income classes, but the boxed figures in table 11 show that throughout the income range the majority of families remained in the same broad income class after tax payments were deducted. This explains, in part, the close correspondence of the before- and after-tax "pairs" of expenditure distributions in each successive income class, shown in appendix table B-17.²¹ This table of spending patterns of the estimated 51,795,000 nonfarm families and single consumers, classified on the alternative income bases, is presented to facilitate relating the Bureau's periodic consumer expenditure information to distributions of families by income before taxes compiled by other agencies.

The comparison of consumer spending patterns related to before- and after-tax classes indicates that within each broad income class throughout the entire income range:

1. The level of average income and total expenditures for current consumption as well as the level for each subgroup of expenditures, is higher for the after-tax group of families than for the corresponding before-tax group, but
2. The percent distribution of total expenditures among the major categories are very similar for each pair of before- and after-tax groups.

¹⁹ See Wartime Food Purchases (BLS Bulletin 838, 1945), p. 25.
²⁰ See Family Spending and Saving in Wartime (BLS Bulletin 822, 1945), pp. 73 and 102.

²¹ Minor differences between the distributions for total families in table 11, and the percentage distributions of families at the top of appendix table B-17 result from the inclusion of the 1960 segment of the entire urban sample in table B-17, while table 11 includes only the 1961 segment.

Table 11. CES families cross-classified by income before and after taxes, all nonfarm families and single consumers, United States, 1961

Money income after taxes	Total	Money income before taxes					
		Under \$3,000	\$3,000 to \$4,999	\$5,000 to \$7,499	\$7,500 to \$9,999	\$10,000 to \$14,999	\$15,000 and over
		Percent distribution					
Total -----	100.0	22.7	20.1	25.7	16.6	11.1	3.8
Under \$3,000 -----	24.2	22.7	1.5	-	-	-	-
\$3,000 to \$4,999 -----	23.9	1.1	18.4	5.4	-	(2)	-
\$5,000 to \$7,499 -----	28.4	-	1.1	20.3	8.0	(2)	-
\$7,500 to \$9,999 -----	14.1	-	-	-	8.6	5.5	-
\$10,000 to \$14,999 -----	7.4	-	-	-	-	5.5	1.8
\$15,000 and over -----	2.0	-	-	-	-	-	2.0

¹ The apparent inconsistency of income after taxes being higher than before taxes may be explained by the fact that part of the tax paid in the survey year and tax refunds in the survey year are based on income received in earlier years.

² Less than 0.05 percent.

NOTE: Because of rounding, sums of individual items may not equal totals.

Chapter 10. Reconciliation of Aggregates From CES, OBE, and Other Sources

The CES furnishes the only complete compilation of family expenditures that permits comparisons of how different sizes and types of families living in different localities use their income. As stated earlier, the CES statistical reports show this information as average expenditures per family for different categories of goods and services. However, for such purposes as forecasting the tax yield of excise or sales taxes or the consumer market for a product, or for distributing the Office of Business Economics (OBE) national aggregates of consumption expenditures among regions or smaller areas, users¹ may want to convert the average expenditures per family into totals or aggregates for specific types of families. Frequently the next step is to compare the estimated CES totals with aggregates from other sources.

Aggregate Income, Expenditures, and Savings

The National Income and Product Accounts, compiled by OBE, include estimates of aggregate income, expenditures, and savings, which are more nearly appropriate than other independent estimates for comparison with aggregates derived from the CES. However, major differences in concept, coverage, and method require a number of adjustments of both OBE and CES data to facilitate a comparison.² Despite these adjustments, certain differences remain and their effects cannot be measured in reconciling the two sets of data. Within the relatively narrow residual differences, however, a comparison provides a reasonably sound basis for evaluating their validity and gives clues to the nature of reporting errors in the CES data.³

One difference is that the relevant OBE data relate to the entire personal sector of the national economy.⁴ In addition to the CES universe, the national accounts include transactions of nonprofit organizations, inmates of institutions, and military personnel on post. OBE data cannot be adjusted to eliminate completely these sources of noncomparability, the most important of which are the expenditures of nonprofit organizations.

Another difference is that for OBE purposes imputed values for certain items provide a better estimate than exclusive reliance on money receipts and disbursements. The most important imputations are: (1) Rental value of owned homes, and (2) services furnished without payment by financial intermediaries.

In both cases, the OBE and CES concepts and definitions differ so fundamentally that no basis for comparison seems valid.

Derivation of aggregates from CES averages

Determining the most appropriate method for expanding the CES averages per family into national aggregates to compare with OBE aggregates involved reconsideration of three procedures followed in developing the weighted averages published for the 1960-61 CES and described in chapter 7. In brief, they were whether to use: (1) The combined 1960 and 1961 samples of urban families; (2) the estimated total of 55,306,000 consumer units in 1960 as weights; or (3) the distribution of consumer units by income after taxes as determined in the survey. The unadjusted survey aggregates in tables 12 and 13, developed by multiplying published survey averages by 55,306,000 consumer units, reflect the earlier decisions.

In terms of comparison with OBE data, these procedures involved actual or potential bias. Failure to take into account the increase in number of consumer units from 1960 to 1961 clearly would understate the survey aggregates. To the extent that average incomes, expenditures or savings changed significantly between 1960 and 1961, the survey aggregates might be over- or understated. Moreover, only urban data were available for 1960, which would require estimating the proportion of OBE aggregates appropriate for the urban segment. A clean-cut 1961 comparison seemed preferable. The comparison of 1950 survey data with independent estimates⁵ and evaluations of the 1960-61 survey

¹ See chapter 11 for uses of CES data.

² Problems of comparing the OBE time series and the CES cross section data are analyzed and discussed in detail by H. S. Houthakker and Lester D. Taylor in ch. 6, "Evidence from the 1960-61 Household Survey," of their book *Consumer Demand in the United States* (second and enlarged edition), scheduled for publication by the Harvard University Press, Summer 1970.

³ For a summary of earlier comparisons and a detailed report on the comparison of the 1950 BLS survey with independent sources, see Lamale, *op. cit.* (monograph), pp. 113-136.

⁴ OBE's official descriptions of the pertinent segments of national accounts relied on in this comparison are published by the U. S. Department of Commerce in the *Survey of Current Business*, August 1965, pp. 6-22, and as a series of supplements to the *Survey of Current Business* under the following titles: *National Income, 1954 Edition* (1954), *U. S. Income and Output* (1958), *The National Income and Product Accounts of the United States, 1929-1965, Statistical Tables* (1966).

⁵ Lamale, *op. cit.* (monograph), pp. 107-113.

suggested that the CES distribution by income classes of the income distribution, especially in the higher income classes, might understate consumer units at the extremes.

Table 12. Comparison of income, expenditures, and changes in savings as reported in the 1960-61 CES with estimates based on CES reports adjusted by Office of Business Economics income distribution of families and unrelated individuals, total urban and rural United States

Category	Average per CU		Percent distribution of expenditures		Aggregate (millions)		
	1960-61 unadjusted	1961 ¹ adjusted	Unadjusted	Adjusted	Unadjusted (U)	Adjusted (A)	Difference (A) - (U)
Money income before taxes -----	\$6,246	\$7,054	-	-	\$345,425	\$395,054	\$49,629
Other money receipts -----	81	96	-	-	4,495	5,380	885
Money income after taxes -----	5,557	6,181	-	-	307,362	340,178	38,816
Expenditures for current consumption, totals -----	5,054	5,398	100.0	100.0	279,497	302,289	22,792
Food -----	1,234	1,201	24.4	23.9	68,274	72,295	4,021
Alcoholic beverages -----	78	83	1.5	1.5	4,306	4,627	321
Tobacco -----	91	92	1.8	1.7	5,032	5,141	109
Shelter -----	658	700	13.0	13.0	36,398	39,175	2,777
Other real estate -----	6	8	.2	.1	338	453	115
Fuel, light, and refrigeration -----	249	262	4.9	4.9	13,787	14,686	899
Household operations -----	268	319	5.7	5.9	15,954	17,860	1,906
Household furnishings and equipment -----	266	279	5.3	5.2	14,695	15,652	957
Clothing, clothing materials, and services -----	518	570	10.3	10.6	28,673	31,949	3,276
Transportation -----	770	813	15.2	15.1	42,581	45,545	2,964
Medical care -----	340	365	6.7	6.8	18,802	20,452	1,650
Personal care -----	145	154	2.9	2.8	8,034	8,601	567
Recreation, reading, and education -----	298	332	5.9	6.1	16,443	18,605	2,162
Miscellaneous -----	111	129	2.2	2.4	6,132	7,244	1,112
Gifts and contributions -----	280	320	-	-	15,490	17,923	2,433
Personal insurance -----	299	330	-	-	16,523	18,463	1,940
Net change in assets and liabilities -----	199	386	-	-	10,993	21,614	10,621
Account balancing difference -----	-186	-156	-	-	-10,287	-8,744	1,543

¹ Adjusted to (a) exclude 1960 urban data; (b) reflect increase from 1960 to 1961 in estimated number of consumer units (from 55,306,000 to 56,003,000); and (c) reflect OBE distribution of families and unattached individuals among income classes. See text, pp. 56-58.

² Excludes occupational expenses (averaging \$39) and includes gifts of cash from persons outside the consumer unit (averaging \$46), which account for difference in average money income before taxes from that shown in table 13.

NOTE: Because of rounding, sums of individual items may not equal totals.

The specific decisions affecting derivation of the CES aggregates can be summarized briefly. The increase in the number of households from March 1960 to March 1961, as measured in the Current Population Survey,⁶ was adjudged the most realistic estimator of increases in consumer units from 1960 to 1961. The increase of 1.26 percent applied to 55,306,000 consumer units resulted in an estimate of 56,003,000 units—an addition of 697,000.

The decision to exclude the urban data for 1960 rested primarily on considerations of presenting a clear-cut comparison for 1961 and avoiding the potential source of error noted above. OBE data for the entire population indicated that from 1960 to 1961 per capita disposable personal income increased 2.4 percent; personal consumption expenditures, 1.3

percent; and personal savings, 22.7 percent. The CES averages per urban family showed increases of 2.2 percent in income after taxes, of 0.2 percent in total expenditures for current consumption, and of 44.1 percent in net changes in assets and liabilities. Although the change in CES estimates of total expenditures was clearly within sampling error, as were changes in most of the major components of expenditures, it appeared that including the 1960 data would tend to understate the income and savings aggregates. (See appendix table B-11.)

⁶ *Households and Families, by Type: 1965, Current Population Reports, Population Characteristics, Series P-20, No. 140, July 2, 1965, U. S. Department of Commerce, Bureau of the Census, p. 4.*

Table 13. CES 1961 estimates of average and aggregate family money income before taxes distributed by source of income and compared with estimates derived from OBE National Accounts, total urban and rural United States

Source of income	Consumer Expenditures Survey estimates						Family money income estimates from Office of Business Economics data - 1961 ³		
	Unadjusted - 1961 ¹			Adjusted - 1961 ²			Average income (per family)	Aggregate income (millions)	Percent of total income
	Average income (per family)	Aggregate income (millions)	Percent of total income	Average income (per family)	Aggregate income (millions)	Percent of total income			
Money income before taxes, total -----	\$6,286	\$352,045	100.0	\$7,047	\$394,049	100.0	\$6,697	\$383,645	100.0
Wage and salary earnings ⁴ -----	4,743	265,633	75.5	5,145	288,118	73.0	4,727	270,792	70.6
Self-employment and business income -----	682	38,195	10.8	963	53,952	13.7	764	43,781	11.4
Income from rent (including roomers and boarders) -----	84	4,704	1.3	95	5,304	1.3	112	6,408	1.7
Military pay, allotments, pensions, etc -----	80	4,470	1.3	81	4,554	1.2	119	6,792	1.8
Interest -----	81	4,536	1.3	98	5,470	1.4	258	14,755	3.8
Dividends -----	98	5,488	1.6	149	8,347	2.1	237	13,594	3.5
Income from all other sources ⁵ -----	518	29,019	8.2	516	28,904	7.3	480	27,523	7.2
Estimated number of families and single consumers (thousands) -----	56,003	-	-	56,003	-	-	57,290	-	-

¹ Averages as reported in the survey before deduction of occupational expense from wage and salary earnings and excluding gifts of cash from persons outside the consumer unit. Aggregates are reported averages multiplied by the estimated number of consumer units in the 1961 survey universe.

² See footnote 1, table 12.

³ Family personal income estimate of the OBE, adjusted to the CES family money income definition. Derived from unpublished data furnished by the OBE.

⁴ CES estimates include food and rent received as pay; OBE includes farm and nonfarm nonmoney wages.

⁵ Includes income from public unemployment and social security benefits and pensions; private pensions and retirement benefits; private insurance annuities and trust funds; public social assistance and private relief; contributions for support from persons outside the family, including alimony (CES only); and all income not elsewhere classified.

NOTE: Because of rounding, sums of individual items may not equal total.

The OBE distribution of consumer units by income after Federal tax liability, as shown in table 14, was substituted for the CES distribution. The OBE distribution is integrated both statistically and definitionally with the personal income series in National Accounts, as explained in the footnote to table 14. Although this total includes imputed income, no substitute for after-tax income was available. (See pages 53-54.) CES average values for all families were classified only by income after taxes.⁷ The OBE and 1961 CES, and 1960-61 CES percent distributions of income before taxes are compared in table 10.

Effect of adjustments to CES

Table 12 summarizes aggregates of the CES data for major components of family accounts, before

and after adjustment. The adjustment of the components of expenditures does not alter the percentage distribution significantly, but the increases in dollar terms, shown in the last column, are substantial.

Although conceptually distinct, the three adjustments were performed in a single operation. However, during consideration of the problem, calculations were made separately to appraise the effect of each adjustment. These calculations are shown in table 15.

Clearly, the substitution of the OBE income distribution was the dominant factor in the adjustments shown in table 15. For income and expenditures, taking account of the increase in consumer units was considerably more important than restricting the urban data to 1961. The reverse was true for

⁷ Average expenditures for all nonfarm families, classified by income before taxes, based on the 1960-61 CES, were published by the National Industrial Conference Board in *Expenditure Patterns of the American Family*, New York, (1965). See also table B-17.

Table 14. Comparison of CES and OBE distributions of families by income after taxes, 1961

Income after taxes	Percent of families and unattached individuals		
	Office of Business Economics 1961 ¹	Consumer Expenditures Survey	
	1961	1961	1960-61
Total -----	100.0	100.0	100.0
Under \$2,000 -----	13.7	14.2	13.9
\$2,000-\$2,999 -----	10.0	11.0	11.1
\$3,000-\$3,999 -----	11.5	11.5	11.8
\$4,000-\$4,999 -----	12.1	12.6	13.3
\$5,000-\$5,999 -----	11.7	12.7	12.7
\$6,000-\$7,499 -----	14.0	15.2	15.1
\$7,500-\$9,999 -----	12.8	13.7	13.4
\$10,000-\$14,999 -----	9.6	7.2	6.8
\$15,000 and over -----	4.6	2.0	2.0

¹ Family personal income after Federal individual income tax liability. OBE derived aggregate family personal income from personal income by making two sets of subtractions, the first for the personal income of institutions and the second for the personal income of the institutional population.

The former consists of property income of nonprofit institutions—religious organizations, nonprofit schools and hospitals, charitable and welfare organizations, and other nonprofit organizations serving individuals—of transfer payments (grants and gifts) to such institutions from government and business (net of transfers by nonprofit institutions to individuals), and of the undistributed income of private trust, pension and welfare funds.

The income of the institutional population consists of the income of military personnel on post (net of family allowances and allotments) and of the income of the civilian institutional population.

SOURCE: *Income Distribution in the United States, By Size, 1944-1950* (U.S. Department of Commerce, Office of Business Economics, 1953), pp. 17-18. Distribution for 1961 from Jeannette M. Fitzwilliams, "Size Distribution of Income in 1963," *Survey of Current Business*, April 1964, p. 10.

Table 15. Effect of adjustments on aggregates of major components of 1961 CES family accounts

Category	Total adjustment	Effect of adjusting for—		
		Office of Business Economics income distribution	Increase in consumer units	Exclusion of 1960 urban
In millions				
Income after taxes ---	\$38,816	\$32,897	\$3,899	\$2,020
Expenditures -----	22,792	19,693	3,511	-412
Savings -----	10,621	8,795	160	1,666
Percent distribution				
Income after taxes ---	100.0	84.8	10.0	5.2
Expenditures -----	100.0	86.4	15.4	-1.8
Savings -----	100.0	82.8	1.5	15.7

net changes in savings: The very substantial difference between the averages for 1960 (\$152) and

1961 (\$219), an increase of 44 percent, probably overstates the actual gain. Per capita personal savings, as derived by OBE, rose 23 percent from 1960 to 1961.

Although OBE data reflect savings of the total population (including on-post military and the institutionalized) and are derived as a residual subject to various reservations,⁸ the discrepancy suggests that the CES data overstate the actual increase.

Although each year's urban sample was designed to yield reliable national estimates, use of only half the total sample obviously increases the sampling error. For savings as for all other components, however, nonsampling errors (in reporting by respondent, recording by the interviewer, processing, etc.) may be of greater importance than the sampling error.

A number of relatively minor adjustments of either the OBE or CES data might have enhanced comparability of the two sets of data. Some involved estimating OBE data not available publicly and possibly introducing unnecessary error. For various minor survey components, the possible improvement did not warrant the onerous hand calculation of adjusted survey aggregates. In terms of the large aggregates involved, the additional possible adjustments apparently would not have reduced or increased discrepancies between the two sets of data significantly.

Family money income before taxes

Table 13 provides a comparison of the OBE estimate of family money income by source with the CES average and aggregate income before taxes by source, as reported in the survey and after the adjustments described for table 12. For this comparison, the OBE provided unpublished data for two adjustments of their estimates of personal income before taxes to agree with the CES definition of family money income. The first involved primarily the elimination of income received by nonprofit organizations and such military pay as would not accrue to civilian families covered by the CES. This adjustment reduced the OBE personal income estimate for 1961 from \$417,377 million to \$396,992 million for family personal income. The second adjustment eliminated all nonmoney (imputed) income except farm and nonfarm nonmoney wages to conform with the CES definition of family money income before taxes which includes the value of food and rent received as pay. The 1961 OBE estimate of family money income obtained by this adjustment was \$383,645 million, including \$1,970 million for nonmoney wages.

⁸ For a more thorough discussion of the two estimates of changes in savings, see pp. 65-66.

The survey estimate for food and rent received as pay was \$1,512 million.

The adjustments of the CES data tended to bring the OBE and CES distributions of 1961 income by source closer together. The net effect was to reduce the proportion from wage and salary earnings from 75.5 to 73.0 percent, compared with 70.6 in the OBE estimates. The survey proportion from self-employment and business income, the second largest component, was raised from 10.8 to 13.7 percent, compared with OBE's 11.4 percent. The adjustments increased the levels of CES interest and dividend income although the relative importance of these two sources of income in the survey estimates was still substantially below the OBE estimates.

The CES unadjusted average income per family of \$6,286 was 6 percent below the OBE average of \$6,697. After adjustment, the CES average was \$7,047, or 5 percent higher than the OBE average. The survey averages for two of the three major sources (wage and salary earnings; and income from social security, pensions, etc.) were equal to or higher than the comparable OBE averages both before and after adjustment. For the third major source (self-employment and business income), adjustments shifted the CES average from 11 percent below to 26 percent above the OBE estimate for such income.

Adjustments to the CES increased the average income from dividends from \$98 to \$149, and from interest from \$81 to \$98, but the income from these sources was still only half of the OBE average dividend and interest income.

The comparisons of the aggregate income estimates derived from the CES and OBE averages, shown in table 16, are affected by the difference in the estimated number of consumer units in 1961 as defined for the two sets of data—56,003,000 in the CES and 57,290,000 in the OBE. The OBE uses the census definition of "demographic" family, while the CES uses the "economic" family definition.⁹

The differences in the CES and OBE aggregates of income in 1961 exhibit the same pattern as was observed in the 1950 CES and in earlier BLS surveys. There is rather close agreement for the major sources after allowance is made for differences in definitions and coverage, but the survey estimates are substantially below the OBE estimates for income from rent, interest, dividends, and military pay, etc. Part of the understatement in the CES rental income may account for the overstatement in the self-employment and business income component. Although some attempt was made to eliminate military pay which would not be received by families in the CES,

⁹ See discussion p. 45.

Table 16. Comparison of CES and OBE National Accounts estimates of average and aggregate family money income by source of income, 1961 and 1950

Source of income	Total urban and rural United States - 1961 ¹				Urban - 1950 ²			
	Percent: Consumer Expenditures Survey of Office of Business Economics		Aggregate (millions)		Percent: Consumer Expenditures Survey of Office of Business Economics		Percent: Consumer Expenditures Survey of Office of Business Economics	
	Unadjusted ¹ Consumer Expenditures Survey	Adjusted ² Consumer Expenditures Survey	Unadjusted ¹ Consumer Expenditures Survey	Adjusted ² Consumer Expenditures Survey	Unadjusted ¹ Consumer Expenditures Survey	Adjusted ² Consumer Expenditures Survey	Unadjusted ¹ Consumer Expenditures Survey	Adjusted ² Consumer Expenditures Survey
Money income before taxes, total	94	105	\$-31,600	\$+11,004	92	103	88	94
Wage and salary earnings -- Self-employment and business income	100	109	-5,159	+17,326	98	106	93	95
Income from rent (including roomers and boarders)	89	126	-5,586	+10,171	87	123	92	121
Military pay, allotments, pensions, etc.	75	85	-1,704	-1,104	73	83	50	55
Interest	67	68	-2,322	-2,238	66	67	82	80
Dividends	31	38	-10,219	-9,285	31	37	21	26
Income from all other sources	41	63	-8,106	-5,247	40	61	37	55
Estimated number of families and single consumers	108	108	+1,496	+1,381	105	105	95	106
	-	-	-1,287,000		98	-	-1,045,000	

¹ Derived from table 13.

² Lamale, *op. cit.*, pp. 129-130.

the adjustment may not have been sufficient. The CES and OBE estimates for interest and dividend income are substantially closer in 1961 than in 1950. The 1961 CES adjusted estimates were 37 and 61 percent, respectively, of the OBE estimates, while in 1950 they were 26 and 55 percent.

Regrouping of expenditure categories

Adjustments of personal consumption expenditures (PCE) required for optimum comparability with the CES estimates for each category shown in table 17 are:¹⁰

Category	Line number
Food	1, footnote 1, minus 4 and 6
Alcoholic beverages	1, footnote 1
Tobacco	6
Clothing, clothing materials, and services	7, minus 13 and minus 1/3 of 14 and 15 combined
Shelter, fuel, light, and refrigeration	23 plus 34

To exclude food furnished government (including military) and commercial employees, alcoholic beverages, and tobacco. For comparability, the CES estimates were adjusted to exclude meals as pay and to include food produced and consumed on farms.

To exclude standard clothing issued to military personnel and to transfer estimated expense for laundry sent out and for cleaning and dyeing to household operations.

The OBE housing component is made up of: Space-rental value of owner-occupied nonfarm dwellings (line 22), space rent of tenant-occupied nonfarm dwellings including lodging houses (line 23), rental value of farmhouses (line 24), and other, i.e., transient hotels, motels, clubs, schools, and institutions (line 25). Space rent covers the living quarters, heating, plumbing, lighting fixtures, etc., but excludes furniture, stoves, refrigerators, fuel, and utilities that may be included in contract rent.

The CES housing component includes expenditures for contract rent by tenants of all kinds of living quarters and the expenditures of owners for current consumption items, such as taxes, insurance, interest on mortgage, and repairs and replacements. Mortgage principal payments, cash purchases and down payments, and expenditures for improvements are not classified as expenditures but as savings (i.e., changes in assets or liabilities).

The basic definitions of expenditures for owner-occupied housing in the two sets of data are so different that there is no basis for comparing estimated aggregates. However, since the OBE definition of rent for tenant-occupied quarters differs from the CES definition primarily in the treatment of fuel and utilities, a comparison is made for rent (line 23) plus household utilities (line 34).

Lodging out of home city	25
Housefurnishings and equipment	27, 28, 29, 30, 31
Household operations	1/3 of 14 and 15 combined, plus 32, 33, 39, 40, 41, and 84 (flowers, seeds, and potted plants)

Medical care	42
Personal care	18
Transportation	60 plus 1/3 of 81 (wheel goods, boats, aircrafts, etc.) plus 1/4 of 99 (foreign travel) plus line 5 of table 3.3 (motor vehicle licenses)

To include estimate of aircraft, boats, etc.; of transportation involved in personal foreign travel; and of motor vehicle license fees.

Recreation, reading, and education	77 plus 93, plus 1/8 of 99, minus 1/3 of 81, and minus 84
------------------------------------	---

To include estimate of recreation involved in personal foreign travel; and to transfer estimate of aircraft, boats, etc., to transportation, and flowers, seeds, and potted plants to household operations.

Miscellaneous	53, 54, 57, 58, 59, and line 25 of table 2.1 (interest paid by consumers)
---------------	---

To include interest paid by consumers.

Of OBE's \$335,152 million total personal consumption expenditures, \$51,075 million or 15.2 percent were excluded. In addition to the exclusions indicated above, totalling \$1,354 million, other accounts deemed noncomparable with the CES estimates were:

Line number	Total (in millions)
Lines 22 and 24, rental value of owned homes	\$34,498
Lines 55 and 56, services furnished without payment by financial intermediaries and expenses of handling life insurance	9,001
Line 97, expenditures made by religious and welfare activities	4,926
5/8 of line 99, foreign travel and other, net, which was assumed to be government and business travel, with no effort to net for remittances to foreigners versus expenditures by foreigners in the United States	1,296

The two items not included in PCE by OBE but equivalent to items included in CES total expenditures add \$8,465 million to PCE: Interest paid by consumers, \$7,624 million, and motor vehicle licenses, \$841 million. The total (in millions) for comparing PCE with CES is therefore \$292,542 (i.e., \$335,152 less \$51,075 plus \$8,465).

Comparisons of expenditures

For obvious reasons, agreement of two independent estimates usually is accepted as tending to validate both as approximating the true values involved, barring compensating errors. In the present case,

¹⁰ Unless otherwise specified, line numbers refer to table 2.5, *The National Income and Product Accounts of the United States, 1929-1965*, Statistical Tables.

such errors could have had little effect, since most components for which fairly wide differences were found were relatively small percents of the aggregates.

Table 17 presents the salient data for major expenditure categories. The first five columns relate to the 1961 comparison. The remaining columns refer to the 1950 comparison and are divided into two parts; before and after OBE revisions. The previously published¹¹ ratios of CES to OBE aggregates employed OBE data as reported in the 1954 edition of *National Income*. Subsequently, OBE revised the

1950 data several times; the 1958 revision in particular resulted in very large changes, especially for food. Recomputed ratios for 1950, substituting OBE's revised estimates for 1950, are shown in the last two columns of table 17.

The 1950 CES covered only the urban population, but it was such a large proportion of total population (about 67 percent of all consumer units) that comparison of 1950 and 1960-61 ratios of CES to OBE aggregates casts considerable additional light.

¹¹ Lamale, *op. cit.* (monograph), table 11, p. 126.

Table 17. Comparison of CES and OBE National Accounts estimates of aggregate expenditures for current consumption, excluding owned housing, 1961 and 1950

Category	Total urban and rural United States, 1961					Urban, 1950			
	Aggregate (millions)			Percent: Consumer Expenditures Survey of Office of Business Economics		Percent: Consumer Expenditures Survey of Office of Business Economics			
	Consumer Expenditures Survey estimates		Office of Business Economics estimates 1961 ³	Unadjusted	Adjusted	Before Office of Business Economics revisions ⁴		After Office of Business Economics revisions ⁵	
	1960-61 unadjusted ¹	1961 adjusted ²				Unadjusted Consumer Expenditures Survey	Adjusted Consumer Expenditures Survey	Unadjusted Consumer Expenditures Survey	Adjusted Consumer Expenditures Survey
Expenditures for current consumption, excluding owned housing, plus goods and services given to persons outside family -----	\$264,052	\$284,846	\$292,542	90.3	97.4	(6)	-	-	-
Expenditures for current consumption -----	259,591	280,009	292,542	88.7	95.7	95.3	98.6	(7)	(7)
Food ⁸ -----	68,751	72,799	70,774	97.1	102.9	108.3	110.1	121.1	123.1
Alcoholic beverages -----	4,306	4,627	10,805	39.9	42.8	37.5	38.6	38.5	39.4
Tobacco -----	5,032	5,141	7,248	69.4	70.9	71.2	70.2	74.0	72.9
Rented dwelling, fuel, light, and refrigeration -----	28,248	29,012	26,102	108.2	111.1	103.6	103.1	102.1	101.5
Lodging out of home -----	1,940	2,522	1,517	127.9	166.2	(6)	-	-	-
Household operations -----	15,954	17,860	16,964	94.0	105.3	89.9	98.5	89.9	98.5
Household furnishings and equipment -----	14,695	15,652	18,581	79.1	84.2	92.3	95.8	83.9	87.1
Clothing, clothing materials, and services -----	28,673	31,949	32,796	87.4	97.4	92.9	97.8	88.9	93.6
Transportation -----	42,581	45,545	43,586	97.7	104.5	97.4	100.9	91.9	95.1
Medical care -----	18,802	20,452	20,321	92.5	100.6	109.2	112.0	103.2	105.8
Personal care -----	8,034	8,601	5,792	138.7	148.5	171.7	175.7	160.3	164.0
Recreation, reading, and education -----	16,443	18,605	22,412	73.4	83.0	86.4	90.9	86.4	91.0
Miscellaneous -----	6,132	7,244	14,642	41.9	49.5	50.2	54.7	45.8	49.9
Goods and services given to persons outside family -----	4,461	4,837	(9)	-	-	(6)	-	-	-

¹ Averages as reported for 1960-61 in CES multiplied by the estimated number of consumer units—55,306,000.

² See footnote 1, table 12.

³ From *The National Income and Product Accounts of the United States, 1929-1965, Statistical Tables*, a Supplement to the *Survey of Current Business*, adjusted to conform with CES coverage and definitions. See text, pp. 56-58.

⁴ Lamale, *op. cit.*, p. 126. These ratios were based on OBE (here referred to as NID) estimates published in 1954 *National Income Edition of Survey of Current Business*. (See source for details of derivation.)

⁵ Developed from 1950 data reflecting revisions in 1958 and 1966 as published in source cited in footnote 3.

⁶ Not included in 1950 comparison.

⁷ Data not available to re-calculate total expenditures for current consumption of urban consumer units.

⁸ Survey estimates exclude meals as pay and include value of food produced and consumed on farms.

⁹ OBE includes such expenditures in respective categories; CES estimates were made only for total.

NOTE: Because of rounding, sums of individual items may not equal total.

Because available data do not provide a basis for estimating total expenditures of the urban population in the OBE accounts in the same manner as Lamale estimated them, her estimate (\$111,534 million) was retained so that no change in ratio for the total is shown after OBE revision of National Accounts.

Gifts of goods and services to persons outside the family were not taken into account in the 1950 comparison, primarily because the CES data could not be allocated among OBE categories of personal consumption expenditures (PCE). The same difficulty applies to the 1960-61 survey data. Nevertheless, such gifts (unlike gifts of cash) are included in PCE by OBE which uses data that make no distinction between purchases for family use and for gifts to other families. Accordingly, CES gifts of goods and services—\$4,461 million unadjusted and \$4,837 million adjusted—have been added to the survey total expenditures, increasing both the unadjusted and adjusted ratios to OBE data by about 2 percentage points. Again, data available did not provide a basis for calculating an adjusted aggregate for 1950, preventing addition of gifts to the earlier comparison.

Because gifts are relatively more important for some categories of expenditures (clothing, housefurnishings, food, tobacco, and alcoholic beverages) than for others, it is unfortunate that these expenditures cannot be allocated among the various CES components as they necessarily are in the National Accounts. To some extent, therefore, CES estimates for each component are understated by the amount of these gifts.

The CES estimate of total 1961 expenditures, excluding gifts, falls more than 10 percent short of OBE on an unadjusted basis and 4.3 percent after adjustment. Each is somewhat lower than the corresponding 1950 ratios. Including gifts, the 1961 CES estimates are 90.3 percent of OBE unadjusted and 97.4 percent adjusted. On the assumption that the adjusted data constitute the better estimates of the CES aggregate, such close correspondence with the OBE estimate indicates that the survey covered virtually all consumption expenditures of families since, as pointed out earlier, OBE includes non-profit organizations and persons not in the CES universe.

The adjusted CES aggregates are within 5 percent of the OBE aggregates for food, clothing, medical care, and transportation, and barely over this criterion for household operations. The survey aggregate for fuel, light and refrigeration, not shown separately in table 17, but itemized in appendix table B-18, was 102 percent of the OBE data. These components were 67 and 71 percent of the OBE and CES totals, respectively.

The 1961 CES adjusted food aggregate is 2.9 percent higher than OBE. For 1950, BLS was 10 percent higher before OBE revised its data and 23 percent higher after revision. OBE reduced its figure for 1950 by about \$5 billion on the basis of the 1954 Census of Retail Trade, which indicated that use of annual retail sales figures as an extrapolator was faulty because of shifting proportions of food and nonfood items sold in food stores.¹² That the CES estimate is substantially closer to OBE in 1961 than in 1950 no doubt reflects considerably greater effort in the 1960-61 survey to assist respondents in distinguishing between food and nonfood expenditures in food stores. Like all other components, of course, differences in the two aggregates for food cannot be explained fully; and it cannot be assumed that differences result only from weaknesses in the survey data. As OBE indicates in all major reports on its national income and product accounts, weaknesses in data available to them and the highly complicated estimating procedures required throughout their computations may result in considerable error.

Transportation is another component for which the 1950 comparison was affected significantly by an OBE revision in 1958. At that time, OBE changed its ratio for allocating personal and business use of automobiles from 70-30 to 83-17, respectively.¹³ The change affected automobile purchases, gasoline and motor oil, repairs, etc. For 1950, this increased the PCE transportation aggregate by about \$1.5 billion. For the comparison of the two sets of data, it reduced the CES/OBE ratio from 100.9 to 95.1. For 1961, the adjusted CES transportation aggregate is 4.5 percent higher than OBE. Although reasons for the difference cannot be quantified, several are known. For example, OBE includes only the gross margin on sales of used cars, whereas BLS reflects total expenditure for purchase of used cars. Also, presumably OBE does not include trucks in PCE; BLS would reflect expenditures for their purchase and operation to whatever extent families reported they used trucks for camping or other nonbusiness transportation.

It seems only fair to point to medical care as an example of close agreement in the aggregates in the face of fundamental differences between CES and OBE coverage and definitions. The CES gives the out-of-pocket expense of private households for health insurance premiums and medical care goods and services not covered by insurance. The OBE component is defined as the value of medical care consumed by the total population including institutionalized persons and care paid for by insurance. Claims are netted from premiums paid for insurance.

¹² U.S. *Income and Output*, p. 76.

¹³ *Ibid.*, pp. 80-82.

Similar but less weighty reservations might be noted for the other components showing small differences between OBE and adjusted BLS aggregates. Consideration of expenditure categories showing substantial differences (all exceeding 15 percent), however, seems more important.

Housefurnishings and equipment aggregates from the CES fell short of OBE data significantly for 1950, especially after the OBE revisions. The 1961 CES data indicate a larger discrepancy, the ratio being 84.2 percent of OBE compared with 87.1 percent for 1950. A partial explanation is that OBE includes all sales of stoves, refrigerators, washers, and similar appliances in its housefurnishings aggregate. For dwellings in which any of these appliances or other furnishings are included in the contract rent or in the sale price of a house, the CES housefurnishings aggregate would not reflect their cost. This was a factor in 1950 and probably a more important element in 1960-61 because of the trend toward built-in kitchen and laundry facilities. Indirectly, it could account for part of the apparent overstatement of rent in the CES aggregate for reasons noted earlier in the definition of contract rent. Another consideration, mentioned in the discussion of gifts, is that housefurnishings are an important category of gifts which are not reflected in the CES expenditure aggregates.

Also, the housefurnishing and equipment group is affected more seriously than other components by exclusion of data for expenditures reported by part-year consumer units from calculation of the CES averages.¹⁴ Special tabulations of part-year units (about 35 percent of whom were couples married during the survey year but who had been members of full-year consumer units prior to their marriage) indicated that the inclusion of all part-year units would have increased the aggregates for housefurnishings and equipment by 2.5 percent but would have added only 1.4 percent to total consumption expenditures.¹⁵ There is a more subtle survey problem if either the bride or groom purchased housefurnishings while still living with parents prior to marriage. Such expenditures might have been completely unknown to the parents (i.e., the full-year unit) or forgotten by the time they were interviewed for the CES.

The adjusted CES aggregate for recreation, reading, and education is 83 percent of the 1961 OBE aggregate. Both the unadjusted and adjusted BLS aggregates for 1961 are appreciably lower than corresponding data for 1950. Adjustments listed on page 61 show allowances for some differences in the CES and OBE recreation, reading, and education category that could

be identified. However, the greater problem of reconciliation in this component probably lies in the spending by nonprofit organizations for library, educational, and other cultural activities that OBE includes in its personal consumption expenditures. On the other hand, toys, books and magazines, records, and photographic equipment are popular gifts, and, for reasons stated earlier, gift items could not be included in the expenditure categories in deriving the CES aggregates. Further, the CES "Miscellaneous" category includes all-expense tours, fees for camps, and allowances to children, which unquestionably contained some spending for recreation that could not be distinguished and quantified in the family accounts.

The two sets of data differ radically for five relatively minor categories, which makeup only 10 percent of the CES and 14 percent of the OBE aggregates. They are personal care, alcoholic beverages, tobacco, lodging out of home city, and miscellaneous. Except for lodging, which was not shown separately in the 1950 comparison, both the magnitude and direction of the differences are quite similar for 1950 and 1961.

Unquestionably, household surveys here and abroad consistently find that families tend to underreport expenditures for alcohol and tobacco. The underreporting of alcohol probably is related to the overreporting of food away from home in the CES aggregate. (See appendix table B-18.) In the CES, if families could not separate the cost of food and beverages when eating out, the total was recorded as expenses for meals. In general, however, nothing can be added to Lamale's¹⁶ exhaustive treatment of survey techniques for collecting expenditures for alcohol. There is the additional consideration that the OBE data may overstate such expenditures. Their estimates are based on tax records, which permit no differentiation between purchases by consumer units eligible for the survey and by individuals or organizations outside the CES universe.

Personal care, for which the original 1950 comparison indicated the survey aggregate was 76 percent higher than OBE, remained 64 percent higher after OBE's revisions. For 1961, the comparable figure was down to 48 percent. Personal care consists of both supplies and services; and the reporting of toilet soap, toothpaste, and other personal care supplies could be affected sharply by the change in

¹⁴ See pp. 53 and 102 for definition and classification of part-year consumer units. In effect, the part-year units are included in the weighting system, which was applied to averages for full-year units only.

¹⁵ This comparison was developed in CES Research Note No. 1, cited in footnote 17, p. 54.

¹⁶ Lamale, *op. cit.* (monograph), pp. 124 and 137-141.

handling food store sales referred to earlier. However, Lamale had found that the 1950 BLS estimates for personal care supplies and for personal care services exceeded OBE by about the same percentages,¹⁷ and the same phenomena were observed in 1961. The CES was 45 percent more than OBE for supplies and 53 percent more for services. The higher CES aggregates for services might be attributed partly to tips. Families included tips in reporting their personal care expenses, but tips received by employees would not be included in receipts of barber shops or beauty parlors reported in the Census of Retail Trade and similar sources used by OBE in deriving their estimates.

For both the CES and OBE, "miscellaneous" is a catchall for items that need to be included in comparing the respective total expenditures. Regrettably, the components of the two miscellaneous categories differ markedly. About half of the \$14,642 million shown under "miscellaneous" for OBE in 1961 is nonmortgage interest paid by consumers. (See page 61 and table 17.) In the CES, however, finance charges for installment credit on automobiles and other consumer goods were recorded in the purchase price and would be classified as expenditures for transportation, housefurnishings, etc. Only interest on personal loans was in the "miscellaneous" category of CES. Approximately one-fourth of the OBE "miscellaneous" consisted of expenses for legal services and for funerals and burials. These are also classified as "miscellaneous" in the CES but such expenditures necessarily are underreported in household surveys to the extent that they cannot include consumer units that disappeared because of death during the survey year or prior to the survey in the following year. Many legal fees would be part of settlement of estates¹⁸ and, unquestionably, nonprofit organizations are responsible for some of the legal fees and also of charges for bank, brokerage, and investment services combined into the "miscellaneous" category for OBE. To summarize, the "miscellaneous" category is included to complete the accounting of consumer expenditures in both sets of data, but for a variety of reasons the CES aggregate falls far short of the OBE total.

Saving

Reconciliation of the CES aggregates of saving with independent estimates is even more difficult and less definitive than the comparisons of income and expenditures. As Lamale¹⁹ pointed out, saving data in BLS expenditure surveys are of secondary importance. Her observations on surveys through

1950 are equally pertinent to the 1960-61 CES. Savings, measured as net change in assets and liabilities, are obtained primarily to supplement the expenditure data. Individual classes of saving were defined and grouped to agree with family accounting practices to facilitate reporting and balancing the family account of receipts and disbursements. Partly to avoid incomplete schedules from families who cooperated in reporting detailed expenditures but were reluctant to disclose their financial position, the CES schedule did not require the detailed and specialized treatment desirable for a high order of accuracy on saving.

Personal saving, as estimated by OBE, is a residual obtained by subtracting personal outlays from disposable personal income. The residual obviously poses the same definitional and other problems of reconciliation that have been discussed in the preceding sections on expenditures and income. OBE's estimate of personal saving in 1961 was \$21,151 million, compared with the adjusted CES aggregate of net change in assets and liabilities of \$21,614 million. (See table 12.)

Lamale carried the analysis of saving as reported in BLS expenditure surveys through 1950, comparing them with data from independent sources including the Federal Reserve Board (FRB) Survey of Consumer Finances for 1950. The Board of Governors of the Federal Reserve System has published a technical paper that includes a comparison of saving aggregates derived from the 1960-61 CES and from FRB's 1963 Survey of Changes in Family Finances with the FRB's flow of funds data for 1960-61 and 1963. The FRB comparison is reproduced in appendix table B-19. In her analysis of this table, Projector stated:

"... With respect to the total of saving in the form of increases in assets, both sets of survey data are in good agreement with the flow of funds aggregates. However, as has been found in comparisons before, the components that make up these totals are in such substantial disagreement as to suggest that the agreement of the totals is accidental. Saving in the form of additions to demand deposits and currency and savings accounts was \$12 billion in 1960 and \$18 billion in 1961 according to flow of funds estimates. The Survey of Consumer Expenditures average for 1960-61 results in an aggregate of less than \$1 billion. In 1963 demand

¹⁷ Lamale, *op. cit.* (monograph), p. 125.

¹⁸ See "Other money receipts," Glossary, p. 215.

¹⁹ Lamale, *op. cit.* (monograph), pp. 130-135. See also, "Who Saves?" by Irwin Friend and Stanley Schor in *Proceedings of the Conference on Consumption and Saving*, edited by Irwin Friend and Robert Jones, Wharton School of Finance and Commerce, University of Pennsylvania, Philadelphia (1960).

deposits and currency and savings accounts increased by about \$27 billion compared to the Survey of Changes in Family Finances estimate of \$13 billion. In both cases the absolute discrepancy is of the order of \$14 to \$15 billion, but the relative discrepancy is much greater for the Survey of Consumer Expenditures.

On the debt side the increase of \$17 billion shown by the Survey of Consumer Expenditures is in close agreement with the increase shown by flow of funds data. The debt increase of \$14 billion shown by the Survey of Changes in Family Finances is \$11 billion less than the flow of funds figure. In particular the Survey of Changes in Family Finance data for debt on automobiles and other consumer durable goods are in substantial disagreement with flow of funds figures.

On the basis of this comparison it is difficult to argue that the data on asset changes from one survey are preferable to those from the other. On the other hand, the comparison indicates that debt on consumer durable goods was underreported in the Survey of Changes in Family Finances.²⁰

Projector's finding that the most substantial difference between the BLS survey aggregates and flow of funds estimates is in the demand deposits and currency and savings accounts is consistent with all previous appraisals of the Bureau's CES change in saving data. In view of the vast differences in the concepts, coverage, and methods underlying the two sets of estimates, there is real question as to the meaning

and relevance of such comparisons with respect to the design and methods of future household surveys.

Other Comparisons

In addition to the comprehensive comparisons of CES and widely used statistical compilations of the Department of Commerce, a few comparisons for selected categories are presented.

Annual and weekly food expenditures

As noted in chapter 4, detail of weekly expenditures for food prepared at home was collected primarily for derivation of CPI food weights. However, limited comparisons of the average weekly totals and the published annual average food expenditures can be made.

The annual estimate developed from the weekly expenditures was about 9 percent higher than the reported annual expenditures for food prepared at home. (See table 18.) Some of this difference is inherent in the derivation of the two sets of data.

²⁰ Dorothy S. Projector, *Survey of Changes in Family Finances*, Board of Governors of the Federal Reserve System, Washington, D. C., November 1968, pp. 6-13. The author points out that some of the discrepancies between survey estimates and the flow of funds aggregates used for comparison result from differences in concepts and coverage. In most of the flow of funds statistics, estimates for the household sector are derived as residuals rather than made directly; that is, the amounts attributed to households are what is left after subtracting estimates for all other sectors from totals for the entire economy. Moreover, in the flow of funds accounts, the household sector covers the activities of personal trusts and of nonprofit organizations, which are excluded from the survey aggregates shown in table 12.

Table 18. Comparison of annual expenditures for food prepared at home, as reported and as estimated from weekly expenditures by families in the 1960-61 CES nonfarm sample

Family size	Percent distribution		Average expenditures for food prepared at home			Ratio, annual estimate for housekeeping families to annual expenditures of all families Col. (e) ÷ (c)
	All families	Housekeeping families	All families (annual)	Housekeeping families		
				(Weekly)	Col. (d) x 52	
	(a)	(b)	(c)	(d)	(e)	(f)
Total	100.0	100.0	\$1,006	\$21.17	\$1,101	1.09
1 person ¹	17.4	14.3	378	9.00	468	1.24
2 persons	28.6	28.9	835	16.47	856	1.03
3 persons	17.9	18.7	1,887	22.52	1,171	1.08
4 persons	16.2	16.9	1,290	26.46	1,376	1.07
5 persons or more	20.0	21.2	1,495	30.40	1,581	1.06

¹ Includes families of 1.0 to 1.9 full-year equivalent persons, but 91 percent had only 1.0 person throughout the survey year.

SOURCE: *Expenditure Patterns of the American Family*, prepared by the National Industrial Conference Board, based on a survey conducted by the U. S. Department of Labor, New York (1965), pp. 17 and 25.

The annual data are averages based on all families and single consumers in the nonfarm sample. The schedule of weekly expenditures for food prepared at home were collected only for housekeeping families, that is, consumer units having at least one member eating 10 meals at home during the week.

About 96 percent of the nonfarm CU's in the CES sample were housekeeping families. (See appendix table B-13.) Adjusting the annual average for all families to represent expenditures for housekeeping families (\$1,006 ÷ 96.3) raises it to \$1,045, or within 5 percent of the \$1,101 estimated from the weekly reported from housekeeping families. Table 18 shows that "all families" (column a) include a larger percentage of one-person families than housekeeping families (column b), and the disparity between the two averages is greatest (24 percent) for these small families, many of whom eat most of their meals in restaurants, etc.

Another consideration is the time lag of the weekly data and the generally rising food prices during the CES. The weekly reports covered food purchases in the week preceding the interviews which took place several months after the end of the calendar year covered by the annual data. (See appendix table B-2.)

Housing and household durables

In addition to the homeownership comparisons in appendix table B-9, a further comparison of the proportions of family with home mortgages is possible.

In its survey of consumer wealth and saving as of the end of 1962, the Federal Reserve Board found that 57 percent of all consumer units reported equity in owned homes and 33 percent of the total reported mortgage debt.²¹ In the 1960-61 CES sample, 57 percent of all CU's were homeowners and 34 percent reported paying interest on home mortgages.

In the same report, the Federal Reserve Board reported that 73 percent of all consumer units owned at least one automobile and 27 percent reported automobile debt.²² Seventy-six percent of the CES families reported that they owned cars and 24 percent that they had purchased or were making payments on cars during the survey year.

Ownership of television sets, radios, and a limited number of household appliances reported in the CES sample compared very favorably with data obtained by the Bureau of the Census from larger samples of households. (See appendix table B-20.) The correlation between the two sets of data was especially close for food freezers, clothes dryers, air conditioners, and television sets.²³

²¹ Dorothy S. Projector and Gertrude S. Weiss, *Survey of Financial Characteristics of Consumers*, Board of Governors of the Federal Reserve System, Washington, D. C., 1966, p. 10.

²² *Ibid.*, p. 11.

²³ Thomas R. Tibbetts, "Expanding Ownership of Household Equipment," *Monthly Labor Review*, October 1964, pp. 1131-1132. Also published as BLS Report 238-7 (1964).

Chapter 11. Uses of Survey Data

Because the CES 1960-61, was a multipurpose inquiry, the results were tabulated and released in a variety of forms. The purposes can be divided into two broad categories: (1) To provide the basis for revising and expanding BLS statistical measurements, and (2) to make available maximum information for broader types of analytical and policy determination purposes both within the BLS and elsewhere.

Updating BLS Statistical Measures

Consumer price index

The Bureau's primary use of the 1960-61 consumer expenditure information was for another of its periodic revisions of the Consumer Price Index. Although the survey covered a cross-section of all United States consumers, the index reflects spending patterns of urban wage-earner and clerical-worker consumers only. Top priority was given to tabulating expenditures of "index" families to obtain a new sample of items representative of the kinds of goods and services these families bought in 1960-61 and to derive expenditure weights for the new list. Information on inventories of household durable goods and prices paid for selected items was tabulated to develop pricing specifications and to supplement expenditure data in determining the weighting pattern. Uses of the expenditure data for the revised index (introduced in the January 1964 CPI report) are described in greater detail in the BLS Bulletin 1517, The Consumer Price Index: History and Techniques.

Family budgets

The Bureau used additional special tabulations of the 1960-61 expenditure data for selected groups of urban consumers to revise and expand its work in deriving budgets for different standards of living. Such budgets measure the total costs or amounts of income required to maintain a specified level of living (e.g., intermediate) according to prevailing standards. The survey data, along with other information, have been used to translate a generalized concept of an intermediate budget and budgets lower and higher than that level into lists and quantities of commodities and services which can be priced.

Prices collected in selected urban areas throughout the United States in the fall of 1966 were updated and annual costs of the budgets at three levels were calculated at spring 1967 and at spring 1969 prices. In addition to their use as a measure of income adequacy and changes in the standard of living, they provide a basis for comparing intercity or place-to-place differences in living costs. Revised budgets for two types of families—four-person, husband-wife family which has two school-age children and a retired couple—are described in a series of BLS bulletins and articles.¹

Since it has not been feasible to prepare separate budgets for the many different sizes and types of families for which they are needed, the BLS and others have used expenditure data to derive "family equivalence scales" for estimating budget costs for other family types. Following techniques developed to utilize its detailed 1950 expenditure survey data, the BLS made special analyses of income and food expenditures reported by urban families in the 1960-61 survey to update its "scale of equivalent income." The scale assumes that families spending the same proportion of income on food have attained equal levels of living. When applied to costs of the City Worker's Family Budget, this scale provides the basis for estimating budget costs for families of different size, age, and type. Concepts and methods of the latest revision of the scale are discussed in another bulletin on budget research.²

Availability of Data for Other Purposes

Statistical reports

Publications based on the Bureau's General Purpose Tabulations Program and comparable rural farm reports published by the USDA's Agricultural Research Service (chapter 7) were designed to provide family

¹ See Three Standards of Living for an Urban Family of Four Persons, Spring 1967 (BLS Bulletin 1570-5, 1969), and "Measuring Retired Couples' Living Costs in Urban Areas," in Monthly Labor Review, November 1969, pp. 3-16. See also Three Budgets for a Retired Couple in Urban Areas of the United States, 1967-68 (BLS Bulletin 1570-6, 1970).

² See Revised Equivalence Scale for Estimating Equivalent Income or Budget Costs by Family Type (BLS Bulletin 1570-2, 1968).

accounts tabulations that both agencies' experience had indicated were needed most frequently. Despite this extensive publication program, the Bureau received numerous requests for additional information. A variety of arrangements were devised to permit maximum use of the data, compatible with the Bureau's resources of staff and facilities and with its nondisclosure regulations.

For requests that could be filled from unpublished machine tabulations, the Bureau arranged through its regional offices to provide photocopies of tables at a nominal cost. In general, this service made available for the urban segment of each of the 34 metropolitan areas in the sample detail similar to that published in supplements 2 and 3 to the regional and national reports, described on page 37.

At the request of the National Industrial Conference Board, the Bureau also made some special tabulations which combined for the total nonfarm family universe some information that the BLS and USDA had published for the urban and rural nonfarm segments separately. The NICB planned their tabulations to supplement BLS publications and issued them³ in two reports, the first entitled, Expenditure Patterns of the American Family and the second, Market Profiles of Consumer Products. The NICB volumes concentrated entirely on expenditures, which were shown in somewhat finer detail than in the Bureau's supplement 3's, and with different family characteristic classifications. They also included previously unpublished data on weekly expenditures for almost 200 items of food, beverages, tobacco, and household supplies recorded on BLS schedule 2648C.⁴

Magnetic tapes for electronic data processing

Difficulties and delays in completing its General Purpose Tabulations Program demonstrated that the Bureau had neither staff nor computer facilities to undertake special tabulations of the survey data as originally contemplated. The desirability and the problems of making disaggregated family expenditure and income information available for microeconomic analysis were discussed with the CES advisory committee, the committee for the Preservation and Use of Economic Data of the Social Science Research Council, and other groups and individuals. Various means of disseminating data were considered—including supplying the records on magnetic tapes to a university-affiliated service center which would tabulate the data as requested.

Ultimately, the Bureau decided to prepare a General Purpose Tape containing selected information for each of the 13,728 urban and rural consumer units giving usable schedules. Since BLS had no

funds for such work, the sale of each tape had to cover all costs to the Bureau in preparing and servicing the tape. Purchasers of the set of three standard-length (2,400 feet) reels of magnetic tape were provided binders of descriptive material on use of the tape, and experienced staff was made available for consultation.

Before undertaking this experiment in making its basic records available for others to analyze with electronic data-processing equipment, the BLS prepared a preliminary proposal on the content of the General Purpose Tape. This proposal was circulated by the Bureau in answer to inquiries, and by the Social Science Research Council and the Federal Statistics Users Conference. After reviewing comments on this preliminary proposal, the BLS determined the content of the General Purpose Tape. In the tape's final form, the item detail was nearly doubled over that proposed initially, more family characteristics were included, and records for consumer units in rural areas were added with the USDA's cooperation. As is customary in all its basic data collection operations, the BLS had obtained the CES information from each family with the understanding that the information would not be made available outside the BLS in a form that identified the family with the data. Observance of the Bureau's nondisclosure rules restricted the amount of detail that could be included on the tape; for cities which have populations of fewer than 50,000 the city identification code was deleted.

Early in 1970, 28 universities and business organizations had purchased the tape. In addition, BLS made available copies of the master tapes used by BLS and USDA in their tabulation programs to six Federal agencies on a long-term loan basis for the cost of preparation. These agencies agreed to enforce the Bureau's nondisclosure regulations and not to make the tapes available to others.

Analytical reports

Historically, expenditure survey data have been used with other economic and demographic data to describe and evaluate the living conditions of American families and to compare the economic status and consumption patterns of various groups in the population. Such interpretative reports of the

³ The NICB supplied machine programs which the BLS ran on a reimbursable cost basis with the understanding that the data would be made available to others.

⁴ Although initially included in its General Purpose Tabulations Program, the BLS tabulated this weekly information from schedule C (p. 177) only in the form and to the extent needed for revising the CPI.

1960-61 findings, prepared by BLS staff, were published in BLS Report Series 238 (page 205). Some of these reports evaluated changes that had occurred since the Bureau's previous large-scale survey in 1950 and probed for fundamental changes in family living arrangements, in prices, in population movements, and other economic and demographic developments that have influenced family spending and are road signs to future trends. Other reports, prompted by intensified interest during the 1960's in improving the lot of the poor, discussed the analytical methods appropriate for using the 1960-61 expenditure data to define poverty and to describe the level and manner of living of the poor. Approaching the definition of poverty from the consumption side focused attention on the limitations of current money income as a measure of the total resources of families in the low-income classes.

The Agricultural Research Service (ARS) of the Department of Agriculture also augmented its series of basic statistical reports on expenditures of rural farm consumers with a number of analytical reports covering both urban and rural families. Many of these appear in its quarterly publication, Family Economics Review. ARS also used the family expenditure reports to develop a series of estimates of the cost of raising a child from birth to age 18 years.⁵

Uses of Data Outside BLS and USDA

Publication of statistical reports, initiated in the fall of 1962, was completed in the summer of 1966. Delivery of magnetic tapes began in 1965; the majority went to other Federal agencies or to universities. These data dissemination methods give the BLS less specific knowledge of uses of the CES than would have been the case if the Bureau had established a central service to provide special purpose tabulations. However, the price of tapes included consultative services that gave BLS staff some "feedback," and they have accumulated some information on planned or completed projects using the 1960-61 CES tabulations or tapes which are summarized below.

Economic analysis

Family expenditure surveys provide the sole source of information for benchmark estimates of many components of personal consumption expenditures used in estimates of the gross national product. The

1960-61 expenditure data for an extensive list of items (concentrated in the areas of housing, transportation, recreation, and such services as appliance repairs, moving and storage, and postage) were made available in advance of publication to the U.S. Department of Commerce, Office of Business Economics (OBE), for their latest comprehensive benchmark revision. Results of this large-scale effort were summarized in an article, "The National Income and Product Accounts of the United States: Revised Estimates, 1924-64," in the August 1965 issue of Survey of Current Business. OBE also has underway a feasibility study of the use of regional detail from the 1960-61 CES to distribute their national estimates of personal consumption expenditures by State. This would complete the extension of a major component of the national income and product accounts to a regional basis.

In addition to using CES data in its national and regional estimates of personal consumption expenditures, the Department of Commerce obtained unpublished CES detail for individual metropolitan areas and smaller urban places for several special research projects to assist in policy formulation and evaluation. Among these were studies of the demand for passenger transportation in the Washington-Boston corridor as part of a broader investigation requested by the Congress on the feasibility of high-speed railway facilities along this corridor. Another use was to develop improved estimates of the secondary effects of Area Redevelopment Administration activities on various communities throughout the Nation, information also requested by the Congress.⁶

The U.S. Treasury Department relied on family expenditure detail for two major projects. The Internal Revenue Service (IRS) used average expenditures of families classified by income and family size in its 1964 revision of the "Average State Sales Tax Tables" which taxpayers may use in filing individual income tax returns, Forms 1040 and 1040W. These tables reduce the taxpayer's burden of itemizing and substantiating sales tax deductions and provide standards for IRS agents in auditing. The second project was undertaken by the Treasury's Office of Tax Analysis (OTA) following the 1964 excise tax hearing before the House Ways and Means Committee. OTA obtained CES data in advance of publication to implement a suggestion made at the hearing that Treasury undertake studies of consumption of taxed items by families of different income levels. The expenditures surveys also have potential value in Treasury

⁵ Jean L. Pennock, "Cost of Raising a Child," Family Economics Review, March 1970, pp. 13-17.

⁶ This work is now under the new Department of Transportation, which also is using CES data as background for its study of the probable relative costs to families of the use of electric motor vs. internal combustion engine automobiles.

studies of proposals for other types of taxes, e.g., negative income tax.

Privately sponsored studies of national taxes using information from the 1960-61 surveys included: Economic Aspects of the Social Security Tax and Tax Burdens and Benefits of Government Expenditures by Income Class, 1961 and 1965, published by the Tax Foundation, Inc. (1966 and 1967, respectively); and Joseph A. Pechman, Federal Tax Policy, published by the Brookings Institution (1966).

The Bureau's data have been used in formulating models for consumer demand. The National Planning Association, under contract with the Office of Emergency Planning, Executive Office of the President, originated a personal consumption model using 1950 CES data to compute regressions of expenditures on income for groups of related items by family size.⁷ They used the 1960-61 data to make the regression analysis necessary to check the preliminary equations derived from the 1950 analysis. The Battelle Memorial Institute also used the Bureau's 1950 and 1960-61 consumer expenditure studies to develop projections of consumer spending.⁸

In his book, The American Economy to 1975: An Interindustry Forecast,⁹ Clopper Almon, Jr. cited use of two basic bodies of data: The 1960-61 survey to determine the effect of income increases on consumption; and the time series in OBE's national accounts to determine the influence of prices, the rate of growth of income, and other trends.

The Board of Governors of the Federal Reserve Board regards the CES as a basic source for its projected studies of consumers' ability to use consumer credit to purchase automobiles and household durables. In a related area of inquiry, the National Planning Association was applying CES data to the question, "How much can a nonfarm family at a given income level afford to pay for shelter?" Other articles and books that have drawn extensively on survey data include:

Carolyn Shaw Bell, Consumer Choice in the American Economy, New York, Random House, 1967.

Marguerite C. Burk, Consumption Economics: A Multidisciplinary Approach, New York, John Wiley & Sons, Inc., 1968.

Betty G. Fishman, Economic Effects of Internal Migration - An Exploratory Study, West Virginia University (Morgantown), Bureau of Business Research, Business and Economic Studies, Vol. 10, No. 4, June 1968.

Elizabeth Gilboy, A Primer on the Economics of Consumption, New York, Random House, 1968.

Lester C. Thurow, "The Optimum Lifetime Distribution of Consumption Expenditures," American Economic Review, June 1969, pages 324-30.

These uses, though diverse, had in common a national or regional orientation. Individual city data have been studied in connection with similar economic problems at the State and local level. These included studies of tax structures by State tax commissions, projections of retail sales under various assumptions, plans for urban renewal, and justifications for grants under programs of the Office of Economic Opportunity and other Federal agencies. Local utilities have used expenditures for telephone, gas, and electricity by families at different income levels in hearings before public utility commissions.

Individual area data also have been referred to in studies of pay differentials. For example, the U.S. Department of State referred to data for Washington, D.C., in reviewing its cost-of-living indexes for overseas personnel.¹⁰ The CES also was cited as a source in Geographical Wage Standards for Reclassification of Work Locations in the Telephone Industry, a report prepared by Robert R. Nathan Associates, Inc., for Communications Workers of America, AFL-CIO, January 1965.

The potential of CES area data in a relatively new field of economic analysis—the costs of air pollution—is being explored. For example, Helen H. Lamale presented a paper, "The Uses of Consumer Expenditure Data in Air-Pollution Control," at a seminar held at American University (Washington, D.C.) with the support of the U.S. Public Health Service.¹¹

Social welfare research

Many social welfare research studies have used family expenditure data—both at the national and city level. Foremost among these are projects of the Social Security Administration and the Welfare Administration in the U.S. Department of Health, Education, and Welfare (HEW). Expenditures for medical care and spending patterns of the aged and of low-income families with children have been especially relevant in HEW studies. Also, the Social Security Administration used tabulations of transfer payments

⁷ Eleanor M. Snyder and J. Harvey Edmonston, "Personal Consumption Model," NREC Technical Report No. 15, National Planning Association, Washington, D.C., October 1963.

⁸ Joseph W. Duncan, "A Framework for Forecasting Socio-Economic Change," Battelle Technical Review, Vol. 15, September 1966, pp. 12-13.

⁹ Published by Harper & Row, New York (1966).

¹⁰ "U.S. Department of State Indexes of Living Costs Abroad (Excluding Quarters)," Labor Developments Abroad, October 1966, p. 17.

¹¹ See The Economics of Air Pollution - A Symposium, edited by Harold Wolozin, New York, W.W. Norton and Company, Inc. (1966), pp. 115-26.

and taxes from the CES tapes in a study of the redistributive effects of old-age income assurance programs for a Joint Economic Committee compendium.¹²

The Office of Economic Opportunity's far-reaching attack on poverty multiplied uses of CES statistics as both Washington policymakers and local planning organizations sought objective criteria for defining and measuring poverty. One such study¹³ undertaken for OEO was to construct poverty cut-off levels that take into account size of family, farm-nonfarm differences, and age of the family head. Another was Eleanor M. Snyder's, Measures of the Dimensions of Poverty in New York City. This paper was part of a larger study which the Urban Medical Economics Research Project conducted on the indigent and their relation to planning and financing health services in New York City. The New York City Department of Health and the Urban Research Center of Hunter College jointly sponsored this project. The Community Council of Greater New York also used New York City CES tabulations for revising its standard budget.

The National Council on the Aging reported extensive use of CES information, and Sidney Goldstein drew heavily on it in two articles: "Changing Income and Consumption Patterns of the Aged, 1950-1960," published in the October 1965 issue of Journal of Gerontology, and "Urban and Rural Differentials in Consumer Patterns of the Aged, 1960-61," in Rural Sociology, September 1966. The California State Scholarship Commission found the survey helpful in a study of student aid. The U.S. Department of Agriculture used the individual city reports to compare cities under consideration for testing the Food Stamp Plan.

Marketing research

Expenditure Patterns of the American Family, published by the National Industrial Conference Board in 1965, exemplifies the value which business groups attach to the BLS expenditure surveys for marketing research. The foreword to this 175 page report, financed by Life magazine, contains the following appraisal:

"Based on a broad nationwide survey conducted by the Bureau of Labor Statistics of the United States Department of Labor, it (the report) provides a statistical profile of how America lives. . . . There are market demand statistics for some 700 individual products and services. For many years to come this book will be an indispensable source of information, both for observers of the social scene and for those sections of the business

community that are involved in any aspect of marketing consumer products and services."

The U.S. Chamber of Commerce based an article, "Preview of Your Markets in '75," on the CES and data from other Federal agencies. This article appeared in the November 1964 issue of Nation's Business.

The Stanford Research Institute (SRI) made extensive use of the survey data in Upper Income Families, a report published by its Long Range Planning Service for industrial and financial clients. The SRI also used CES individual area reports in projections of retail trade in specific communities.

The Super Market Institute, Inc. of Chicago cited the expenditure surveys in A Guide to Source Material for Store Location Research.

The U.S. Department of Commerce has used family expenditure data to estimate markets for particular commodities and for selected groups of consumers. To illustrate, they have studied trends in clothing expenditures for what they may reveal about the market for textiles. Andrew F. Brimmer, while Deputy Assistant Secretary of Commerce, drew upon the CES for a speech on "Economic Trends in the Negro Market" before the National Association of Market Developers. A Guide to Negro Marketing Information, issued in 1966 by Commerce's Business and Defense Services Administration (BDSA), shows expenditure trends based on the 1950 and 1960-61 CES tabulations. Facts for Marketers, a regional compilation of marketing information for major metropolitan areas, also issued in 1966 by BDSA, includes summaries of family spending patterns for individual SMSA's in the CES sample.

A chapter on "Fact-Finding about Consumers" in a book of readings on marketing entitled, Consumer Behavior and the Behavioral Sciences—Theories and Applications,¹⁴ includes data from the CES which the author characterized as "a true benchmark survey."

Advertising agencies, newspapers, and other business firms have used the published CES reports. Some also have indicated interest in the CES data for market analysis through their purchases of the General Purpose Tapes or photocopies of tables.

¹² Benjamin Bridges, Jr., "Current Redistributive Effects of Old-Age Income Assurance Programs," Old-Age Income Assurance: A Compendium of Papers on Problems and Policy Issues in the Public and Private Pension System, Joint Economic Committee, U.S. Congress, Part II: The Aged Population and Retirement Income Programs, 1967, pp. 95-176.

¹³ Elliot Wetizer, Determination of Poverty Lines and Equivalent Welfare, Research Paper P-277, Institute for Defense Analysis, September 1966, p. 23.

¹⁴ Edited by Stuart Henderson Britt and published by John Wiley and Sons, Inc., New York (1967).

Consumer information and counseling

Newspapers, magazines, and institutional publications have drawn freely on published CES reports for material on popular-style articles about typical spending and saving patterns of American families. Sylvia Porter referred repeatedly to BLS reports to substantiate observations in her syndicated column, "Your Money's Worth."

The Pittsburgh National Bank initiated a new computer service called "Family Money Profile" in 1966. Families were invited to fill out a confidential application giving monthly income, age, family size, and occupation. Computer analysis, based on CES averages for similar families in the Pittsburgh area, prepared a guide to spending and saving for the individual family. The bank provided this service "to encourage greater restraint and prudence in borrowing and spending."

Changing Times—The Kiplinger Service for Families published several articles based on information from the 1960-61 survey. Typical of these were

"Why You Feel Pinched" in the November 1964 issue and "How Much to Raise a Child?" in the February 1965 issue. In the April 1967 issue of Changing Times, Kiplinger offered on a nationwide scale a computer analysis of CES data to prepare individual family spending guides similar to those introduced by the Pittsburgh National Bank. Also, a Kiplinger book, Make Your Paycheck Pay Your Way, organized as a handbook for a family budgeting program, included family expenditures in selected cities in the CES sample to illustrate typical spending patterns.

Uses listed in this chapter are illustrative rather than exhaustive. They suggest the variety of users and range of inquiries that are served by the Bureau's periodic surveys of consumer expenditures and income. The Bureau hopes to extend its analytical and procedural studies based on the 1960-61 survey and to follow closely the results of research undertaken by purchasers of magnetic tapes containing the disaggregated CES data.

Appendix A. Comparability of the Survey of Consumer Expenditures in 1960-61 and in 1950

Essentially data from the 1960-61 and 1950 expenditure surveys are comparable. In designing the codes and planning the tabulations for the 1960-61 CES, comparability with 1950 was a primary consideration. The following comparison is restricted to data compiled from Schedule 2648B for the urban segment of the 1960-61 sample and published in BLS reports in Series 237 and the Supplements 1 and 2 to these reports. Within these limits, it may be assumed that data from the two surveys are comparable except as noted below. The comparison does not cover classification codes not used in the 1960-61 published reports nor the detail published in the Supplement 3's. In general, the 1950 data were published in greater detail than appears in the Supplement 3's.

Guides for comparing surveys of consumer expenditures for 1960-61 and for 1950

Survey of consumer expenditures, 1960-61 (CES)	Survey of consumer expenditures, 1950 (CES)
Agencies responsible	
U. S. Department of Labor, Bureau of Labor Statistics (urban families and rural nonfarm families living inside SMSA's) in cooperation with U. S. Department of Agriculture, Agricultural Research Service (rural farm families and rural nonfarm families outside SMSA's).	U. S. Department of Labor, Bureau of Labor Statistics.
Purpose of study	
The primary purpose of the survey of urban families was to collect information on family purchases needed to revise the Bureau's Consumer Price Index. As was true in 1950 and earlier surveys, the data meet many other needs, particularly in analyses of the relationship between level of living and general economic and social conditions.	Purposes were the same as for the 1960-61 survey of urban families.
The 1961 coverage was extended to rural areas so that for the first time since 1941 information was available on spending habits for a cross-section of the total noninstitutional population in urban and rural areas of the U. S.	
Nature and size of the universe	
Civilian noninstitutional population living in the U. S. (including Alaska and Hawaii) plus military personnel not living on posts or bases.	Civilian noninstitutional population plus off-post military personnel living in urban areas of the conterminous U. S.
Survey period	
The calendar years 1960 and 1961. Urban parts of all of the 12 largest SMSA's were surveyed in both years with data collected from half the sample of families each year. Half of the remaining sample of smaller SMSA's and urban places was surveyed each year, i. e., for 1960 and 1961. The rural farm and nonfarm sample was surveyed for 1961. Also, food purchases in a 7-day period were collected at the time urban and rural nonfarm families were interviewed in the spring-summer of 1961 and 1962. USDA did not collect weekly food purchases from rural farm families. (The collection period extended from late February through mid-August 1961 and from January through August, 1962 see table 2, p.20).	The calendar year 1950. Also food purchases in a 7-day period in the spring of 1951. (The total collection period extended from January through May 1951, with interviews in most cities during the period February through April.)

Guides for comparing surveys of consumer expenditures for 1960-61 and for 1950—Continued

Survey of consumer expenditures, 1960-61 (CES)	Survey of consumer expenditures, 1950 (CES)
Size and coverage of the sample	
Complete and usable questionnaires were obtained from 9,476 families and single consumers in the 67 SMSA's or other urban places (including Anchorage, Alaska, surveyed for 1959) selected to represent all urban places in the U. S., and from 1,967 rural farm and 2,285 rural nonfarm families and single consumers selected to represent the entire rural population. The national sample was designed to permit tabulation by region, degree of urbanization, and SMSA, cross-classified by income and other family characteristics.	Complete and usable interviews were obtained from 12,489 families and single consumers in the 91 survey cities selected to be representative of all urban places in the U. S. The sample allows for tabulation by community (city or urban area), cross-classified by income and family characteristics.
Area sampling methods were used in the selection of the survey families.	Area sampling methods were used in the selection of the survey families.
Survey report forms	
The schedule forms used in interviews were: (a) "Household record" form for determining eligibility of the consumer unit and recording minimum information for nonrespondents; (b) detailed questionnaire for obtaining an annual record on family composition, housing arrangements, expenditures, income, and savings; and (c) schedule with detailed listing of items of food and beverages, household supplies, tobacco, and personal care purchased in 7-day period preceding interview. Facsimiles of these and other forms used in the survey are shown in exhibits, pp.	The schedule forms used were: (a) "Household record" form for determining the eligibility of the consumer unit, (b) expenditure schedule carrying detailed questions on family composition, income, expenditures, and savings in 1950, (c) schedule covering items of food, household supplies, tobacco, drugs and personal care purchased in a 7-day period, and (d) schedule similar to that described in "c" which was left with respondent for self recording.
Collection methods	
Respondents furnished information voluntarily during personal interviews in their homes.	Same as in 1960-61.
Definitions of family and household	
The <u>family</u> , or <u>consumer unit</u> (CU), referred to: (1) A group of people usually living together (including children temporarily away from home at school or college) who pooled their income and drew from a common fund for their major items of expense, or (2) a person whose income and expenditures were not pooled with others, whether living alone or in a household. However, never-married children living with parents always were considered as members of the parents' CU.	Same as in 1960-61.
The <u>household</u> consists of all persons residing in the sample living quarters. In addition to family members a household may contain boarders, roomers, guests, or paid help.	Same as in 1960-61.
Eligibility requirements for total sample	
Information was recorded for the family as composed in the survey year, including part-year members. Family members were not eligible for periods in the survey year that they lived in military camps, posts, or reservations; in institutions; abroad (except on vacation, etc.); or were members of another CU.	Same as in 1960-61 for full-year units.
To qualify as a <u>full-year</u> consumer unit, the family must include at least one member who was eligible over the entire 52 weeks of the survey year.	
<u>Part-year</u> consumer units, i. e., those with no full-year member, were interviewed on their expenditures, income, etc., for that part of the survey year they were eligible, but their schedules were used only for special analytical research and were not included in the basic tabulations of complete and usable schedules.	Any family identified on the "Household Record" form as having no full-year member was not eligible for further interviewing.

Survey of consumer expenditures, 1960-61 (CES)	Survey of consumer expenditures, 1950 (CES)
Metropolitan areas in areas in urban samples	
<p>In 1960 and 1961: Baltimore, Md. Boston, Mass. Chicago-Northwestern Indiana Standard Consolidated Area. Cleveland, Ohio. Los Angeles-Long Beach, California. New York-Northeastern New Jersey Standard Consolidated Area. Philadelphia, Pa.-N.J. Pittsburgh, Pa. St. Louis, Mo.-Ill. San Francisco-Oakland, Calif.</p> <p>In 1960: Atlanta, Ga. Indianapolis, Ind. Portland, Maine. Seattle, Wash.</p> <p>In 1961: Bakersfield, Calif. Hartford, Conn. Wichita, Kans.</p>	Same as in 1960-61.
Classification of cities in urban sample	
<p>A. Primary sampling unit (PSU). The SMSA in the metropolitan segment of the U. S. and the individual urban place over 2,500 population in nonmetropolitan areas. Includes entire urban part of SMSA.</p> <p>NOTE: The urban part is usually slightly more extensive than the urbanized area, encompassing some small non-contiguous urban places not included in the urbanized area.</p> <p>B. 1. Geographic region. Four major regions as defined by the Bureau of the Census: Northeast, North Central, South, and West. 2. City size. Four population size strata: A. SMSA's of over 1,400,000 population. B. SMSA's of 250,000-1,400,000. C. SMSA's of 50,000-250,000. D. Urban places of 2,500-50,000. 3. Places inside SMSA's. Coded by population from listing of BLS block numbers in CIUS (from which CES sample was selected): Central city or cities. Other cities of 50,000 and over. Cities under 50,000 and unincorporated places in urbanized area. Small urban places of 2,500-50,000 outside urbanized area.</p>	<p>A. Primary sampling unit (PSU). The census urbanized area for all places of 50,000 or more and the individual urban place (over 2,500 population) for smaller places.</p> <p>B. 1. Geographic region. Three regions as defined by BLS: North, South, and West. 2. City type. Three types as defined by BLS: Large city. Generally central city and other cities with population of 50,000 and over. Suburb. Cities and other urban places with population below 50,000, predominantly residential, within easy commuting distance of large city. Small city. Cities and places urbanized areas, with population of 2,500-50,000, not close to a large retail marketing center.</p>

Survey of consumer expenditures, 1960-61 (CES)	Survey of consumer expenditures, 1950 (CES)
Differences between 1960-61 and 1950 in family characteristics used as classifying variables in 1960-61 general purpose tabulations	
(For complete 1960-61 codes, see table B 13)	
<p>A. Income after taxes: 1. Highest classes: \$10,000-\$14,999 } may be combined \$15,000 and over.</p> <p>B. Occupation of head: 1. Members of Armed Forces (not living on military post or reservation) coded separately. 2. Occupation not reported. 3. Retired (including partially retired). 4. Others not working.</p> <p>C. Tenure: 1. Owner all year. 2. Renter all year 3. Other, i. e., owner part of year, renter part of year. 2 and 3 may be combined into "Renter all or part of year."</p> <p>D. Family type: 1. Husband and wife, own children, no other persons in family. Oldest child 6-17 years.</p> <p>2. All other husband and wife families (includes husband and wife families with or without own children but with other persons in family). 3. One parent (the head), own children only. 4. All other families (includes 1-person families). 2 would be split between 2 and 4 in 1950, depending on whether any persons under 18 were in family. 2, 3, and 4 in both years may be combined to include all families except those composed of husband and wife and husband and wife and own children only.</p> <p>E. Codes were the same in both surveys for the following family characteristics: Family size Age of family head Education of family head Race Number of full-time earners</p>	<p>A. Income after taxes: 1. Highest class. \$10,000 and over.</p> <p>B. Occupation of head: 1. Members of Armed Forces (not living on military post or reservation) included with skilled wage earners. 2. 3. Combined into "Not gainfully employed." 4.</p> <p>C. Tenure: 1. Owner all year—shown separately for 3 classes according to year home bought, but may be combined. 2. Owner end of year, renter earlier. 3. Renter at end of year (includes renters all year and renters at end of year who were owners earlier). 2 and 3 may be combined into "Renter all or part of year."</p> <p>D. Family type: 1. Husband and wife, no other adults in family. Oldest child, 6-15 } May be combined; assume Oldest child, 16 or 17 } difference between "no other adults" and "no other persons in family" not significant. 2. All other (includes families with children with other adults present and may include other types of families not classified elsewhere). 3. One parent (the head), oldest child under 18. 4. Other adults only (18 and over), no children of any age (includes 1-person families).</p>
Eligibility for Consumer Price Index (CPI)	
<p>CPI families (2 or more persons, but also including 1-person families). Criteria: 1. At least 1 family member (FM) earning wages and salaries in following occupational groups: Clerical or sales; craftsmen, operatives, or kindred workers; service workers (except household) or laborers; enlisted personnel in Armed Forces. 2. Total income from above occupations equal to at least one-half total family income before taxes. 3. At least 1 FM employed at least 17 weeks in survey year, regardless of occupation.</p>	<p>CPI families (2 or more persons only) Criteria: 1. Family head whose longest employment in 1950 was in same occupational groups as in 1960-61. 2. No restriction on sources of income, but families whose total 1950 income after taxes exceeded \$10,000 were excluded. 3. No limitation, except families whose heads were unemployed entire survey year were excluded.</p>

Survey of consumer expenditures, 1960-61 (CES)	Survey of consumer expenditures, 1950 (CES)
Summary categories used in general purpose tabulations	
(for complete 1960-61 summary categories, see page 99)	
A. Personal insurance: Includes disability income insurance (i. e. protection against loss of income because of disability) when not part of a general health policy; and other personal insurance, excluding comprehensive (homeowners' policies).	A. Personal insurance: Excludes disability income insurance (see "Medical care" below); and other personal insurance (see "Other expenditures, miscellaneous").
B. Housing, total: Includes expenses on real estate not used for family business and not occupied or rented.	B. Housing, total: See "Other expenditures."
C. Clothing, clothing materials, and services: Includes all apparel and footwear.	C. Clothing, clothing materials, and services: Excludes athletic clothing and special athletic shoes. See "Recreation."
D. Medical care: "Prepaid care" does not include disability income insurance. See "Personal insurance."	D. Medical care: "Group plans and insurance" includes disability income insurance.
E. Recreation: Does not include athletic clothing or shoes for participation in sports. See "Clothing."	E. Recreation: Includes athletic clothing and shoes.
F. Other expenditures (miscellaneous): Does not include expenses on real estate not used for family business, etc. (see "Housing"); and does not include other personal insurance (see "Personal insurance").	F. Other expenditures (miscellaneous): Includes taxes, interest, insurance, maintenance, etc. on real estate not used for family business and not occupied or rented, and other personal insurance.

Appendix B. Contents

	Page
B-1. Summary of samples from Comprehensive Housing Unit Survey used in selecting 1960-61 CES urban samples -----	80
B-2. Summary of data collection in individual survey areas in the 1960-61 CES urban sample -----	82
B-3. Summary of BLS time records for daily rates in field collection of 1960-61 CES data in urban and rural nonfarm areas -----	83
B-4. Analysis of returns for the 1960-61 CES urban sample -----	84
B-5. Analysis of returns for the 1961 CES rural nonfarm sample, inside and outside metropolitan areas -----	85
B-6. Comparison of weekly food expenditures of CES housekeeping families who responded in 3 surveys with those who responded in 1 or 2 surveys, Cincinnati, Ohio, 1960 and 1961 -----	86
B-7. Estimated number of consumer units in universe, number giving usable 1960-61 CES schedules, and effective weights or expansion factors, all urbanizations, by region -----	87
B-8. Estimated number of consumer units in universe, number giving usable 1960-61 CES schedules, and effective weights or expansion factors, urban and rural nonfarm population, by region and sampling stratum -----	88
B-9. Summary of family expenditures, income, and savings, by income class, all urban and rural families and single consumers, United States, 1960-61 -----	90
B-10. Number of consumer units giving usable CES schedules, by income class, family size, and region, total urban and rural United States, 1960-61 -----	92
B-11. Estimates of absolute and relative sampling errors for selected items reported by consumer units in the 1960-61 CES urban sample -----	94
B-12. Comparison of consumer units giving usable schedules and other consumer units in the 1960-61 CES urban sample, by selected family characteristics -----	98
B-13. Distribution of consumer units giving usable schedules in the 1960-61 CES nonfarm sample, by detailed family characteristics -----	99
B-14. Comparison of distribution of families by money income before taxes from 1960 CES and Census, Urban United States -----	102
B-15. Selected characteristics of full-year and part-year families in urban United States, 1960-61 -----	102
B-16. Comparison of CES and Census (CPS) estimates of money income before taxes, 1960-61 and 1950 -----	103
B-17. Comparison of expenditures of CES families classified by income before and after taxes, all nonfarm families and single consumers, United States, 1960-61 -----	104
B-18. Comparison of CES and OBE national accounts estimates of aggregate expenditures for selected sub-categories of current consumption, 1961 -----	106
B-19. Comparison of survey estimates of change in assets and liabilities with flow of funds aggregates for the household sector, 1960-61 and 1963 -----	107
B-20. Comparison of data on ownership of selected household durables, reported in CES and Census, United States, 1960-64 -----	108

Appendix B. Supplementary Tables

B-1. Summary of samples from Comprehensive Housing Unit Survey used in selecting 1960-61 CES urban samples

Population stratum, ¹ SMSA, or other urban place	Survey year	Block	Separate living quarter addresses ²	Sampling ratio for CES	Assignment addresses in CES sample	Assignments requiring alternate addresses
United States, total urban ³ -----					12,205	2,772
Areas with CES sample selected from CHUS-----			⁴ 130,726	1:12.24	10,645	2,405
Other areas-----			⁵ 12,000		1,560	367
Stratum A-SMSA 1,400,000 and over-----						
Baltimore, Md-----	1960-61	422	6,127	1:16.34	375	86
Boston, Mass-----	1960-61	276	3,459	1:9.22	375	114
Chicago, Ill ⁶ -----	1960-61	418	4,087	1:8.18	500	103
Cleveland, Ohio-----	1960-61	255	4,554	1:12.14	375	60
Detroit, Mich-----	1960-61	656	8,078	1:21.54	375	78
Los Angeles-Long Beach, Calif-----	1960-61	235	5,041	1:11.13	500	95
New York, N.Y-----	1960-61	430	3,786	1:5.95	625	200
Northeastern New Jersey ⁷ -----	1960-61	95	1,256	1:2.92	500	131
Philadelphia, Pa-----	1960-61	472	7,039	1:18.77	375	80
Pittsburgh, Pa-----	1960-61	291	5,031	1:13.42	375	71
St. Louis, Mo-----	1960-61	392	4,445	1:11.86	375	87
San Francisco-Oakland, Calif-----	1960-61	288	4,280	1:11.43	375	107
Washington, D.C-----	1960-61	473	3,627	1:9.67	375	71
Stratum B-SMSA 250,000-1,400,000-----						
Atlanta, Ga-----	1960	292	4,043	1:16.17	250	25
Buffalo, N.Y-----	1960	220	4,091	1:16.36	250	84
Dallas, Tex-----	1960	225	3,437	1:14.09	250	30
Indianapolis, Ind-----	1960	256	4,406	1:17.62	250	54
Seattle, Wash-----	1960	338	5,231	1:20.88	250	33
Dayton, Ohio-----	1961	385	4,453	1:17.83	250	61
Denver, Colo-----	1961	254	3,481	1:13.93	250	59
Hartford, Conn-----	1961	240	3,060	1:12.25	250	87
Honolulu, Hawaii-----	1961	319	3,698	1:14.78	250	78
Nashville, Tenn-----	1961	302	4,079	1:16.30	250	39
Wichita, Kans-----	1961	268	3,522	1:14.09	250	57
Stratum C-SMSA 50,000-250,000-----						
Austin, Tex-----	1960	117	⁴ 1,121	1:7.00	160	29
Cedar Rapids, Iowa-----	1960	180	2,557	1:15.98	160	24
Champaign-Urbana, Ill-----	1960	88	1,253	1:7.83	160	34
Orlando, Fla-----	1960	229	3,472	1:21.87	160	36
Portland, Maine-----	1960	116	1,567	1:9.83	160	38
Bakersfield, Calif-----	1961	236	⁴ 1,057	1:10.32	160	31
Baton Rouge, La-----	1961	146	1,659	1:10.40	160	38
Durham, N.C-----	1961	88	1,245	1:7.76	160	25
Green Bay, Wis-----	1961	146	1,843	1:11.52	160	40
Lancaster, Pa-----	1961	230	2,063	1:12.89	160	32
Stratum D-urban places 2,500-50,000 (in CPI)⁸-----						
Devils Lake, N.Dak-----	1960				65	15
Findlay, Ohio-----	1960				65	12
Kingston, N.Y-----	1960				65	26
Klamath Falls, Oreg-----	1960				65	18
McAllen, Tex-----	1960				65	18
Niles, Mich-----	1960				65	6
Union, S.C-----	1960				65	14
Vicksburg, Miss-----	1960				65	14
Crookston, Minn-----	1961	68	646	1:9.94	65	12
Florence, Ala-----	1961	125	782	1:12.02	65	10
Logansport, Ind-----	1961	73	769	1:11.83	65	17
Mangum, Okla-----	1961	109	780	1:12.00	65	7
Martinsville, Va-----	1961	55	419	1:6.45	65	16
Milville, N.J-----	1961	84	951	1:14.63	65	18
Orem, Utah ⁹ -----	1961	86	1,545	1:23.77	65	17
Southbridge, Mass-----	1961	30	342	1:5.26	65	22
Anchorage, Alaska-----	1959	241	1,744		275	69

See footnotes at end of table.

B-1. Summary of samples from Comprehensive Housing Unit Survey used in selecting 1960-61 CES urban samples—Continued

Population stratum, ¹ SMSA, or other urban place	Survey year	Block	Separate living quarter addresses ²	Sampling ratio for CES	Assignment addresses in CES sample	Assignments requiring alternate addresses
Not in CPI⁵						
Burlington, Vt-----	1960				65	12
Cleveland, Tenn-----	1960				65	16
Gallup, N.Mex-----	1960				65	13
Griffin, Ga-----	1960				65	11
LaSalle, Ill-----	1960				65	12
Lewistown, Pa-----	1960				65	17
Owatonna, Minn-----	1960				65	13
Reserve, La-----	1960				65	8
Athol, Mass-----	1961				65	13
Cambridge, Ohio-----	1961				65	19
Eureka, Calif-----	1961				65	29
Gainsville, Tex-----	1961				65	20
Manhattan, Kans-----	1961				65	9
Menasha, Wis-----	1961				65	13
Okmulgee, Okla-----	1961				65	14
Sebring, Fla-----	1961				65	25

¹ Classified on basis of estimated urban population as of Jan. 1, 1959.

² Includes units in public housing projects.

³ Includes Anchorage, Alaska, surveyed for 1959.

⁴ Does not include 389 addresses in Austin, Tex., and 802 addresses in Bakersfield, Calif., which were selected to augment the CHUS after the CES sample was drawn; also does not include CHUS addresses for 8 cities listed in footnote 8.

⁵ The CES sample for each Stratum D city not in the CPI, and for those CPI cities listed in footnote 8 was a subsample of 65 addresses drawn from a sample of approximately 500 addresses per city selected from records of the 1960 Census of Housing and Population.

⁶ Standard Consolidated Area, Chicago-Northwestern Indiana.

⁷ Standard Consolidated Area, New York-Northeastern New Jersey.

⁸ In Stratum D cities in the CPI, but for which the 1960 CES sample had been drawn from Census records, it later was necessary to conduct Comprehensive Housing Unit Surveys to obtain samples for CPI rent pricing. The total of 5,289 living quarter addresses obtained in the CHUS for these 8 cities was distributed as follows: Devils Lake, 557; Findlay, 685; Kingston, 646; Klamath Falls, 713; McAllen, 711; Niles, 734; Union, 648; and Vicksburg, 587.

⁹ Orem is now classified by the Bureau of the Budget as part of the Provo-Orem SMSA, but was not at the time the CES sample of cities was selected.

B-2. Summary of data collection in individual survey areas in the 1960-61 CES urban sample

Region, SMSA, or other urban place	Year survey conducted	Date ¹		Assignment addresses	Assignment requiring alternatives	Part-year consumer units	Usable schedules, full-year consumer units	Response rate (percent usable) ²
		Collection began	Survey completed					
United States ³				11,930	2,703	456	9,342	
Northeast				3,460	915	89	2,677	
Boston, Mass	1961	Feb. 22	Apr. 21	188	48	4	131	71.2
	1962	Jan. 26	Apr. 3	187	66	10	137	72.1
New York, N.Y.	1961	Feb. 28	June 2	313	93	8	212	65.6
	1962	Jan. 26	Apr. 25	312	107	10	236	75.2
Northeastern New Jersey	1961	Mar. 2	May 15	250	58	4	168	64.9
	1962	Jan. 27	Apr. 10	250	73	5	188	70.9
Philadelphia, Pa	1961	Mar. 3	May 4	188	49	5	155	78.7
	1962	Jan. 26	Apr. 20	187	51	2	158	79.8
Pittsburgh, Pa	1961	Feb. 28	Apr. 18	188	25	5	153	78.9
	1962	Jan. 30	Apr. 17	187	46	5	170	84.6
Buffalo, N.Y.	1961	May 23	July 19	250	84	6	199	79.0
Hartford, Conn	1962	Apr. 19	July 10	250	87	3	175	66.8
Portland, Maine	1961	May 3	July 7	160	38	4	135	84.9
Lancaster, Pa	1962	May 9	June 23	160	32	3	151	90.4
Burlington, Vt	1961	May 12	June 28	65	12	0	52	76.5
Kingston, N.Y.	1961	July 1	Aug. 18	65	26	3	47	71.2
Lewistown, Pa	1961	June 5	July 25	65	17	1	41	63.1
Athol, Mass	1962	June 16	Aug. 3	65	13	0	60	84.5
Millville, N.J.	1962	May 10	June 30	65	18	2	56	84.9
Southbridge, Mass	1962	July 19	Aug. 17	65	22	3	53	84.1
North Central				3,505	726	103	2,722	
Chicago, Ill	1961	Feb. 23	Apr. 26	250	52	4	182	70.8
	1962	Jan. 19	Apr. 13	250	51	5	189	72.2
Cleveland, Ohio	1961	Feb. 27	Apr. 29	188	21	3	155	80.3
	1962	Jan. 29	Apr. 4	187	39	5	139	69.5
Detroit, Mich	1961	Feb. 23	Apr. 7	188	29	2	141	71.6
	1962	Jan. 23	Mar. 23	187	49	4	149	76.9
St. Louis, Mo	1961	May 16	July 14	188	31	5	157	83.5
	1962	Jan. 17	Apr. 13	187	56	3	162	81.8
Indianapolis, Ind	1961	May 9	July 13	250	54	4	173	68.1
Dayton, Ohio	1962	Apr. 18	July 9	250	61	6	180	66.7
Wichita, Kans	1962	Apr. 5	June 1	250	57	10	189	76.5
Cedar Rapids, Iowa	1961	May 1	June 30	160	24	3	125	76.8
Champaign-Urbana, Ill	1961	May 1	July 14	160	34	10	126	84.6
Green Bay, Wis	1962	Apr. 24	July 7	160	40	3	130	79.3
Devils Lake, N.D.	1961	May 4	June 9	65	15	3	49	77.8
Findlay, Ohio	1961	May 5	June 23	65	12	4	55	84.7
LaSalle, Ill	1961	May 11	June 23	65	12	0	55	79.8
Niles, Mich	1961	May 31	Aug. 2	65	6	4	61	87.2
Owatonna, Minn	1961	May 10	June 16	65	13	5	48	76.2
Cambridge, Ohio	1962	May 1	June 22	65	19	2	43	57.3
Crookston, Minn	1962	Apr. 25	June 1	65	12	1	61	87.2
Logansport, Ind	1962	May 7	June 18	65	17	1	50	69.4
Manhattan, Kans	1962	Apr. 26	June 22	65	9	16	45	75.0
Menasha, Wis	1962	Apr. 26	June 7	65	13	0	58	85.3
South				4,920	552	76	2,307	
Baltimore, Md	1961	Mar. 1	Apr. 24	188	35	3	142	70.6
	1962	Jan. 30	Apr. 20	187	51	3	171	83.0
Washington, D.C.	1961	Mar. 2	May 19	188	40	8	152	74.9
	1962	Feb. 1	May 10	187	31	6	171	82.6
Atlanta, Ga	1961	Mar. 1	Apr. 28	250	25	6	198	73.3
Dallas, Tex	1961	Mar. 3	May 3	250	30	8	178	71.2
Nashville, Tenn	1962	Apr. 20	June 15	250	39	4	201	74.4
Austin, Tex	1961	May 17	July 20	160	29	8	110	70.1
Orlando, Fla	1961	May 17	July 28	160	36	10	106	69.3

See footnotes at end of table.

B-2. Summary of data collection in individual survey areas in the 1960-61 CES urban sample—Continued

Region, SMSA, or other urban place	Year survey conducted	Date ¹		Assignment addresses	Assignment requiring alternatives	Part-year consumer units	Usable schedules, full-year consumer units	Response rate (percent usable) ²
		Collection began	Survey completed					
South—Continued								
Baton Rouge, La	1962	Jan. 26	Mar. 30	160	38	4	112	68.4
Durham, N.C.	1962	Jan. 31	Apr. 19	160	25	6	135	78.5
Cleveland, Tenn	1961	July 10	Aug. 18	65	16	0	43	65.2
Griffin, Ga	1961	May 17	June 17	65	11	0	61	89.7
McAllen, Tex	1961	May 22	June 28	65	18	1	38	62.4
Reserve, La	1961	June 22	Aug. 10	65	8	0	64	90.2
Union, S.C.	1961	May 8	June 20	65	14	3	50	75.8
Vicksburg, Miss	1961	May 22	July 13	65	14	1	55	78.6
Florence, Ala	1962	June 5	July 7	65	10	0	54	80.6
Galveston, Tex	1962	June 18	July 17	65	20	2	56	85.0
Mangum, Okla	1962	May 8	June 14	65	7	0	50	74.6
Martinsville, Va	1962	Apr. 18	May 21	65	16	3	55	83.4
Okmulgee, Okla	1962	July 9	Aug. 24	65	14	0	48	71.6
Sebring, Fla	1962	May 11	June 22	65	25	0	57	86.4
West ³				2,045	480	88	1,636	
Los Angeles-Long Beach, Calif	1961	Feb. 21	Apr. 26	250	50	16	179	72.2
	1962	Jan. 27	Apr. 10	250	45	12	209	79.2
San Francisco-Oakland, Calif	1961	Feb. 27	May 12	188	58	12	156	81.3
	1962	Jan. 26	May 8	187	49	11	146	79.4
Seattle, Wash	1961	Feb. 24	May 5	250	33	7	209	83.6
Denver, Colo	1962	Apr. 23	July 18	250	59	5	204	77.9
Honolulu, Hawaii	1962	May 7	Aug. 14	250	78	9	215	83.7
Bakersfield, Calif	1962	Apr. 24	July 11	160	31	5	120	75.9
Callup, N.Mex	1961	May 17	June 30	65	13	2	58	86.6
Klamath Falls, Oreg	1961	May 11	June 14	65	18	5	44	77.2
Eureka, Calif	1962	July 24	Aug. 28	65	29	1	42	61.8
Orem, Utah	1962	June 29	Aug. 10	65	17	3	54	84.4

¹ See footnote 3, table 2.

² Method of computation shown in appendix table B-4.

³ Does not include Anchorage, Alaska.

B-3. Summary of BLS time records for daily rates¹ in field collection of 1960-61 CES data in urban and rural nonfarm areas

Item	Assignments addresses	Daily rates trained	Daily rates hours paid ²
1961, U.S.: All urban	6,085	644	130,610
: Rural nonfarm inside metropolitan areas	465	534	116,495
1960, U.S.: All urban	5,845		(³)
: Rural nonfarm inside metropolitan areas	271	27	(³)
Total	12,395	1,178	247,105
1960, U.S.: Rural nonfarm inside metropolitan areas	271	27	(³)
1959, Anchorage, Alaska	275	19	(⁴)
Total	⁵ 12,941	1,224	(⁴)

¹ Daily rates were interviewers and field editors hired in each survey area at a daily rate of pay.

² Total number of hours for which daily rates were paid while being trained, interviewing families, traveling to and from assignments, in office consultation, editing, etc.

³ This information is not available for assignments in the rural nonfarm segments of the 10 metropolitan areas in Strata B and C in the 1960 urban sample. Data for 1961 were collected for these nonfarm families as supervisors completed their assignments in the survey areas in the 1961 sample.

⁴ Comparable data not available.

⁵ This total, plus the 1,761 rural nonfarm assignments outside metropolitan areas for which USDA was responsible, equal the 14,702 urban and rural nonfarm assignments in appendix tables B-4 and B-5.

B-4. Analysis of returns for the 1960-61 CES urban sample¹

Item	1960			1961			1960-61 combined ¹		
	Master sample	Alternate sample ²	Effective total sample ³	Master sample	Alternate sample ²	Effective total sample ³	Master sample	Alternate sample ²	Effective total sample ³
Number									
Assignment addresses-----	5,845	1,181		6,085	1,524		12,205	2,772	
Vacant units-----	269	90		361	126		651	223	
Requiring alternates-----	267			358			646		
Others-----	2	90		3	126		5	223	
No contacts-----	513	119		571	120		1,129	248	
Requiring alternates-----	487			522			1,049		
Other ⁴ -----	26	119		52	120		80	248	
Contacted addresses-----	5,063	972		5,150	1,276		10,425	2,301	
Additional CU's at contacted addresses-----	306	58		437	120		753	182	
Total CU's at contacted addresses-----	5,369	1,030		5,587	1,396		11,178	2,483	
Ineligible CU's ⁵ -----	58	20		78	38		164	64	
Part-year CU's ⁶ -----	143	40		136	37		305	81	
Effective sample of full-year CU's-----	5,168	970	5,711	5,373	1,321	6,052	10,799	2,338	11,970
Usable schedules-----	3,824	639	4,463	3,974	905	4,879	7,905	1,571	9,476
Incomplete schedules-----	473	89	562	339	103	442	833	198	1,031
Refusals-----	795	224	951	284			1,784	522	
Requiring alternates-----	427		642				1,077		
Others ⁷ -----	368	224	592	309	284	593	707	522	1,229
Rejected schedules ⁸ -----	76	18	94	109	29	138	187	47	234
Percent									
Assignment addresses-----	100.0	100.0		100.0	100.0		100.0	100.0	
Vacant units-----	4.6	7.6		5.9	8.3		5.3	8.0	
No contacts-----	8.8	10.1		9.4	7.9		9.3	8.9	
Effective sample of full-year CU's-----	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Usable schedules-----	74.0	65.9	78.2	74.0	68.5	80.6	73.8	67.2	79.2
Incomplete schedules-----	9.2	9.2	9.8	6.3	7.8	7.3	7.8	8.5	8.6
Refusals-----	15.4	23.1	16.4	17.7	21.5	9.8	16.7	22.3	10.3
Rejected schedules-----	1.4	1.8	1.6	2.0	2.2	2.3	1.7	2.0	1.9

¹ Includes Anchorage, Alaska, which was surveyed for 1959.

² The sampling procedure provided that a specific substitute address was to be drawn from an alternate sample, if the unit in the master sample was vacant or the address could not be located, no contact could be made with the occupants, or the occupants refused or were unable to give the minimum information required to complete a nonresponse sheet.

³ The potential number of consumer units (CU's) from whom a schedule could be expected after alternate assignment addresses were substituted, e.g., for 1960, 5,168 + 970 - 427 = 5,711.

⁴ Vacant units recorded here for the master sample were unoccupied second living quarters found at address from which a schedule was obtained from occupants of first living quarters and therefore no alternate was drawn.

⁵ No contacts with occupants at alternate assignment addresses or with additional consumer units found at addresses in master sample; no further substitution possible.

⁶ All CU's residing at a sample address were eligible for inclusion in the survey except for the time in the survey year during which they were living in military camps, posts, or reservations (other than periods of 45 days or less in a reserve or National Guard unit); in institutions; in rural communities (applicable only for 1960 and dropped for the 1961 survey which was extended to rural areas); abroad (except on vacation, etc.); or were members of another consumer unit. For purposes of tabulation, however, the sample included only full-year consumer units, i.e., units with at least 1 member who was eligible for the entire survey year.

⁷ Respondents in the master sample who gave the minimum information to complete a nonresponse sheet but refused or were unable to participate further in the survey; and all respondents at alternate assignment addresses who refused to participate, regardless of whether they gave complete information for the nonresponse sheet.

⁸ Schedules counted as complete in the field but rejected after review in Washington.

B-5. Analysis of returns for the 1961 CES rural nonfarm sample, inside and outside metropolitan areas

Item	Inside metropolitan areas ¹	Outside metropolitan areas ¹	Total rural nonfarm
	Number		
Assignment addresses in master sample ² -----	736	1,761	
Net transfers of addresses ³ -----	10	134	
Assignment addresses requiring alternates ² -----	187	132	
Additional CU's at contacted addresses-----	25	58	
Total CU's visited or attempted-----	958	2,085	
Ineligible CU's ⁴ -----	10		
Addresses requiring alternates-----	187	132	
Vacant units in alternate sample ⁵ -----	24		
No contacts in alternate sample ⁵ -----	10	9	
Part-year CU's ⁶ -----	8	27	
Total not effective sample-----	239		
Usable schedules-----	608	1,677	2,285
Incomplete schedules-----	40	58	98
Refusals ⁷ -----	61	96	157
Rejected schedules ⁷ -----	10	86	96
Total effective sample of full-year CU's-----	719	1,917	2,636
Percent			
Effective sample of full-year CU's-----	100.0	100.0	100.0
Usable schedules-----	84.5	87.5	86.7
Incomplete schedules-----	5.6	3.0	3.7
Refusals-----	8.5	5.0	6.0
Rejected schedules-----	1.4	4.5	3.6

¹ The Bureau of Labor Statistics was responsible for collecting data from consumer units (CU's) in rural nonfarm areas inside Standard Metropolitan Statistical Areas (SMSA) and the U.S. Department of Agriculture from those in rural nonfarm areas outside SMSA's.

² The sampling procedure provided that a specific substitute address was to be drawn from an alternate sample if the unit in the master sample was vacant or the address could not be located, no contact could be made with the occupants, or the occupants refused or were unable to give the minimum information required to complete a nonresponse sheet. Data were not available to BLS to classify the schedules requiring alternates in the USDA sample in the same detail as was done for the BLS sample.

³ Some assignments were made incorrectly on the basis of the housing unit surveys. If BLS interviewers found a farm operator at an address, the assignment was transferred to USDA; similarly, if an address originally assigned to USDA did not include a farm operator, it was returned to BLS. Within USDA, transfers were made between their samples of rural nonfarm and rural farm families.

⁴ All CU's residing at a sample address were eligible for inclusion in the survey except for time in the survey year during which they were living in military camps, posts, or reservations (other than periods of 45 days or less in a reserve or National Guard unit); in institutions; abroad (except on vacation, etc.); or were members of another CU. For purposes of tabulation, however, the sample included only full-year CU's, i.e., units with at least 1 member who was eligible for the entire survey year.

⁵ Vacant units or no contacts with occupants at alternate assignment addresses or with additional consumer units found at addresses in master sample; no further substitution possible.

⁶ Respondents in the master sample who gave the minimum information to complete a nonresponse sheet but refused or were unable to participate further in the survey; and all respondents at alternate assignment addresses who refused to participate, regardless of whether they gave complete information for the nonresponse sheet.

⁷ Schedules counted as complete in the field but rejected after review in Washington.

B-6. Comparison of weekly food expenditures of CES housekeeping families who responded in 3 surveys with those who responded in 1 or 2 surveys, Cincinnati, Ohio, 1960 and 1961

Reporting period	Number of families in sample	Average weekly expenditures		
		Per family	Per person ¹	Per meal
June 8-July 7, 1960: Interview—				
Total reporting	227	\$21.80	\$7.70	\$0.366
Cooperating in fall	126	21.82	7.74	.368
Nonresponse in fall	101	21.78	7.64	.363
Cooperating in spring 1961	49	22.76	8.04	.382
Nonresponse in spring 1961	178	21.53	7.61	.362
Oct. 17-Nov. 18, 1960: Reinterview—				
Total reporting	126	20.29	6.90	.327
Cooperating in spring 1961	49	22.96	7.78	.370
Nonresponse in spring 1961	77	19.05	6.31	.300
Apr. 26-June 6, 1961: Mail—				
Total reporting	49	26.52	9.14	.463

¹ Based on average household size.

B-7. Estimated number of consumer units in universe, number giving usable 1960-61 CES schedules, and effective weights or expansion factors, all urbanizations, by region

Urbanization and location inside and outside SMSA's	Total United States	Northeast	North Central	South	West
Ultimate weights (estimated number of consumer units in universe)					
Total urban and rural	55,306,253	14,198,451	15,774,941	16,566,576	8,766,285
Inside SMSA's	35,237,347	11,440,698	9,382,425	8,073,283	6,340,931
Outside SMSA's	20,068,906	2,757,753	6,392,506	8,493,293	2,425,354
Urban	40,130,895	11,705,292	11,135,161	10,324,457	6,965,985
Inside SMSA's ¹	31,804,152	10,397,504	8,488,754	7,060,484	5,857,410
Outside SMSA's ¹	8,326,743	1,307,788	2,646,407	3,263,973	1,108,575
Rural nonfarm	11,663,237	2,250,515	3,273,325	4,656,454	1,482,941
Inside SMSA's ¹	3,094,529	971,239	781,144	911,659	430,287
Outside SMSA's	8,568,708	1,279,276	2,491,981	3,744,795	1,052,656
Farm operators	97,521	7,032	34,888	40,069	14,632
Nonoperators	8,471,187	1,271,344	2,457,093	3,704,726	1,038,024
Rural farm	3,512,121	242,644	1,366,455	1,585,665	317,357
Inside SMSA's	338,666	71,955	112,337	101,140	53,234
Outside SMSA's	3,173,455	170,689	1,254,118	1,484,525	264,123
Number of consumer units giving usable schedules					
Total urban and rural	13,728	3,228	4,092	4,150	2,228
Inside SMSA's	8,476	2,565	2,432	1,911	1,568
Outside SMSA's	5,252	663	1,660	2,239	660
Urban	9,476	2,677	2,722	2,307	1,770
Inside SMSA's ¹	7,679	2,368	2,197	1,676	1,438
Outside SMSA's ¹	1,797	309	525	631	332
Rural nonfarm	2,252	406	628	948	303
Inside SMSA's ¹	608	154	174	176	104
Outside SMSA's	1,644	252	454	772	199
Farm operators	48	4	16	21	7
Nonoperators	1,679	248	438	751	192
Rural farm	1,967	145	742	925	155
Inside SMSA's	189	43	61	59	26
Outside SMSA's	1,778	102	681	866	129
Effective weights (expansion factors)					
Urban		(¹)	(¹)	(¹)	(¹)
Rural nonfarm					
Inside SMSA's		(¹)	(¹)	(¹)	(¹)
Outside SMSA's					
Farm operators		1,983.0	2,180.5	1,908.0	2,090.3
Nonoperators		5,126.4	5,609.8	4,913.1	5,406.4
Rural farm		1,673.4	1,841.6	1,714.2	2,047.5

¹ See appendix table B-8 for sampling strata representing this population segment.

B-8. Estimated number of consumer units in universe, number giving usable 1960-61 CES schedules, and effective weights or expansion factors, urban and rural nonfarm population,¹ by region and sampling stratum

Region, population stratum, location SMSA, or city	City code	Urban, 1960-61			Rural nonfarm, 1961		
		Estimated number of CU's in universe	Number of usable schedules	Expansion factor	Estimated number of CU's in universe ¹	Number of usable schedules	Expansion factor
Northeast—inside SMSA's		10,397,504	2,368		971,239	154	
Population 1,400,000 and over—							
Boston, Mass	07	802,910	268	2,995.9	39,281	9	4,364.6
New York, N. Y.	36	3,552,389	448	7,929.4	67,718	15	4,647.9
Northeastern New Jersey	37	1,240,402	356	3,484.3	44,382	11	4,034.7
Philadelphia, Pa	41	1,203,885	313	3,846.3	116,232	12	9,086.0
Pittsburgh, Pa	42	628,007	323	1,944.3	111,767	14	7,983.4
Population 250,000 to 1,400,000—							
Buffalo, N. Y.	08	862,117	199	4,335.3	165,344	21	7,873.5
Hartford, Conn	23	836,574	175	4,780.4	139,237	21	6,030.3
Population 50,000 to 250,000—							
Lancaster, Pa	28	624,542	151	4,136.0	142,639	25	5,705.6
Portland, Maine	43	646,078	135	4,785.8	142,639	26	5,486.1
Northeast—outside SMSA's		1,307,788	309				
Population 2,500 to 50,000—							
Burlington, Vt	53	198,109	52	3,809.8	-	-	-
Kingston, N. Y.	26	243,827	47	5,187.8	-	-	-
Lewistown, Pa	61	218,603	41	5,331.8	-	-	-
Athol, Mass	52	243,827	60	4,063.8	-	-	-
Millville, N. J.	34	192,106	56	3,430.5	-	-	-
Southbridge, Mass	47	211,316	53	3,987.1	-	-	-
North Central—inside SMSA's		8,488,754	2,197		781,344	174	
Population 1,400,000 and over—							
Chicago, Ill	11	1,927,371	371	5,195.1	85,061	12	7,088.4
Cleveland, Ohio	12	511,912	294	1,741.2	13,327	11	1,211.5
Detroit, Mich	17	1,068,644	290	3,685.0	56,982	13	4,383.2
St. Louis, Mo	44	545,701	319	1,710.7	44,647	11	4,058.8
Population 250,000 to 1,400,000—							
Indianapolis, Ind	25	975,922	173	5,641.7	74,985	23	3,260.2
Dayton, Ohio	15	914,927	180	5,082.9	81,412	25	3,256.5
Wichita, Kans	51	887,202	189	4,694.2	74,985	19	3,946.6
Population 50,000 to 250,000—							
Cedar Rapids, Iowa	09	557,426	125	4,459.4	102,287	22	4,649.4
Champaign-Urbana, Ill	10	576,007	126	4,571.5	137,981	17	8,116.5
Green Bay, Wis	22	523,642	130	4,028.0	109,677	21	5,222.7
North Central—outside SMSA's		2,646,407	525				
Population 2,500 to 50,000—							
Devils Lake, N. Dak	18	236,150	49	4,819.4	-	-	-
Findlay, Ohio	20	268,722	55	4,885.9	-	-	-
LaSalle, Ill	60	251,385	55	4,570.6	-	-	-
Niles, Mich	38	268,722	61	4,405.3	-	-	-
Owatonna, Minn	65	268,722	48	5,598.4	-	-	-
Cambridge, Ohio	54	311,718	43	7,249.3	-	-	-
Crookston, Minn	13	288,628	61	4,731.6	-	-	-
Logansport, Ind	29	278,320	50	5,566.4	-	-	-
Manhattan, Kans	62	251,385	45	5,586.3	-	-	-
Menasha, Wis	63	222,655	58	3,838.9	-	-	-
South—inside SMSA's		7,060,484	1,676		911,659	176	
Population 1,400,000—							
Baltimore, Md	05	408,342	313	1,496.3	64,994	12	5,416.2
Washington, D. C.	50	585,345	323	1,812.2	42,365	13	3,258.8
Population 250,000 to 1,400,000—							
Atlanta, Ga	02	1,226,024	198	6,192.1	86,652	19	4,560.6
Dallas, Tex	14	1,266,891	178	7,117.4	128,580	20	6,429.0
Nashville, Tenn	35	1,266,891	201	6,302.9	170,787	16	7,549.2
Population 50,000 to 250,000—							
Austin, Tex	03	593,250	110	5,393.2	136,561	19	7,187.4
Orlando, Fla	40	574,113	106	5,416.2	128,285	25	5,131.4
Baton Rouge, La	06	523,456	112	4,673.7	92,030	21	4,382.4
Durham, N. C.	19	556,172	135	4,119.8	111,405	31	3,593.7

See footnote at end of table.

B-8. Estimated number of consumer units in universe, number giving usable 1960-61 CES schedules, and effective weights or expansion factors, urban and rural nonfarm population,¹ by region and sampling stratum—Continued

Region, population stratum, location SMSA, or city	City code	Urban, 1960-61			Rural nonfarm, 1961		
		Estimated number of CU's in universe	Number of usable schedules	Expansion factor	Estimated number of CU's in universe ¹	Number of usable schedules	Expansion factor
South—outside SMSA's		3,263,973	631				
Population 2,500 to 50,000—							
Cleveland, Tenn	55	286,626	43	6,665.7	-	-	-
Griffin, Ga	59	237,490	61	3,893.3	-	-	-
McAllen, Tex	31	730,893	38	6,076.1	-	-	-
Reserve, La	66	237,490	64	3,710.8	-	-	-
Union, S. C.	48	244,475	50	4,889.5	-	-	-
Vicksburg, Miss	49	258,755	55	4,722.8	-	-	-
Florence, Ala	21	268,134	54	4,965.4	-	-	-
Gainesville, Tex	57	307,857	56	5,497.4	-	-	-
Mangum, Okla	32	307,857	50	6,157.1	-	-	-
Martinsville, Va	33	277,072	55	5,031.7	-	-	-
Okmulgee, Okla	64	319,698	48	6,660.4	-	-	-
Sebring, Fla	67	286,626	57	5,028.5	-	-	-
West—inside SMSA's		5,857,410	1,438		430,287	104	
Population 1,400,000—							
Los Angeles-Long Beach, Calif	30	2,191,678	388	5,648.7	24,597	10	2,459.7
San Francisco-Oakland, Calif	45	965,626	302	3,197.4	40,479	12	3,373.2
Population 250,000 to 1,400,000—							
Seattle, Wash	46	978,430	209	4,681.5	125,721	22	5,714.0
Denver, Colo	16	946,868	204	4,641.5	90,191	16	5,636.9
Honolulu, Hawaii	24	136,783	215	636.2	37,886	17	2,228.6
Population 50,000 to 250,000—							
Bakersfield, Calif	04	638,025	120	5,316.9	111,413	27	4,126.4
West—outside SMSA's		1,108,575	332				
Population 2,500 to 50,000—							
Anchorage, Alaska	01	26,513	134	197.9	-	-	-
Callup, N. Mex	58	245,674	58	4,235.8	-	-	-
Klamath Falls, Oreg	27	342,189	44	7,777.0	-	-	-
Eureka, Calif	56	290,342	42	6,912.9	-	-	-
Orem, Utah	39	203,857	54	3,775.1	-	-	-

¹ Inside SMSA's only.

B-9. Summary of family expenditures, income, and savings, by income class, all urban and rural families and single consumers, United States, 1960-61

Family characteristics, income, and expenditures	Money income after taxes									
	Under \$1,000	\$1,000 to \$1,999	\$2,000 to \$2,999	\$3,000 to \$3,999	\$4,000 to \$4,999	\$5,000 to \$5,999	\$6,000 to \$6,999	\$7,000 to \$7,999	\$8,000 to \$8,999	\$9,000 to \$15,000 and over
Family characteristics:										
Estimated number of families in universe (in thousands).....	3,052	5,630	6,112	6,523	7,338	7,012	6,352	7,421	3,742	1,118
Percent of families.....	3.7	10.2	11.1	11.8	13.3	12.7	15.1	13.4	5.8	2.0
Average:										
Family size.....	1.6	2.0	2.6	2.9	3.2	3.6	3.7	3.9	4.1	3.8
Money income before taxes.....	\$573	\$1,545	\$2,618	\$3,746	\$4,922	\$6,045	\$7,499	\$9,716	\$13,583	\$27,753
Net change in assets and liabilities.....	\$-722	\$-201	\$-181	\$-193	\$-4	\$69	\$210	\$524	\$1,095	\$2,158
Number of full-time earners.....	2	2	4	6	8	10	11	12	13	14
Age of head.....	66	61	54	48	44	43	43	44	47	51
Education of head.....	6	7	8	9	10	11	11	12	13	14
Number of children under 18 years.....	1.2	.5	.9	1.1	1.3	1.6	1.6	1.6	1.5	1.2
Percent:										
Homeowners, all year.....	51	46	46	45	41	56	67	71	78	87
Auto owners, end of year.....	25	33	33	33	32	39	42	45	46	56
Nonwhite.....	11	17	18	15	10	6	6	4	4	1
Reporting savings increase.....	42	50	49	49	43	40	36	32	30	19
Decrease.....	6	24	11	7	3	2	2	2	1	2
No change.....	51	20	33	45	55	63	67	67	64	54
With children under 18 years.....	13	20	33	45	55	63	67	67	64	54
With persons 65 years and over.....	24	57	38	25	16	12	10	13	15	19
Average income, expenditures, and savings:										
Total income.....	\$7,397	\$1,774	\$3,439	\$4,823	\$5,974	\$7,134	\$8,939	\$11,024	\$15,292	\$29,434
Money income after taxes.....	5,557	535	2,507	3,515	4,504	5,491	6,707	8,554	11,723	21,925
Other money receipts.....	81	71	71	71	122	87	70	45	101	340
Decrease in assets.....	947	510	608	754	650	668	921	1,130	1,970	5,092
Increase in liabilities.....	812	106	253	502	658	885	1,241	1,305	1,498	2,075
Account balancing difference.....	-185	-27	-130	-179	-239	-229	-253	-245	-112	-14
Total disbursements:	7,383	1,861	3,569	5,002	6,213	7,363	9,192	11,279	15,464	29,448
Increase in assets.....	1,470	359	523	745	966	1,147	1,686	2,131	3,486	10,854
Decrease in liabilities.....	487	47	146	317	358	477	688	828	1,081	3,473
Personal insurance.....	259	31	89	149	236	302	388	503	688	1,178
Gifts and contributions.....	280	48	131	155	205	265	307	401	628	1,735
Expenditures for current consumption.....	5,247	1,781	2,670	3,636	4,428	5,172	6,125	7,416	9,521	14,208
Food, total.....	1,235	370	533	753	954	1,291	1,480	1,766	2,100	2,720
Food prepared at home.....	989	309	465	628	783	1,078	1,199	1,382	1,540	1,848
Food away from home.....	246	61	125	171	205	213	281	384	560	872
Tobacco.....	91	22	36	79	94	103	115	125	121	140
Alcoholic beverages.....	76	17	29	49	67	76	100	121	123	259
Housing, total.....	1,461	462	847	1,090	1,271	1,508	1,756	2,042	2,581	4,205
Shelter.....	658	225	304	408	505	579	684	786	902	1,171
Rented dwelling.....	269	131	258	318	337	316	322	252	255	240
Owned dwelling.....	354	86	142	142	173	224	264	294	347	931
Other shelter.....	35	8	6	8	18	25	40	54	106	284
Fuel, light, refrigeration, water.....	249	118	174	201	228	263	293	326	381	489
Household operations.....	286	71	105	148	205	277	335	407	572	1,180
Household furnishings and equipment.....	266	48	72	117	179	225	284	340	407	522
Clothing, clothing materials, services.....	145	79	119	222	226	258	284	330	411	536
Personal care.....	340	130	156	218	267	293	341	399	469	600
Medical care.....	200	27	38	53	61	73	84	97	111	141
Recreation.....	45	14	23	31	37	45	55	65	80	121
Reading.....	53	14	20	20	26	37	45	55	65	90
Education.....	770	85	139	294	426	526	626	726	826	926
Transportation.....	693	113	251	465	664	768	892	1,117	1,389	2,046
Automobile.....	77	18	26	43	62	78	90	103	124	159
Other travel and transportation.....	111	37	55	64	79	90	103	124	159	207
Other expenditures.....										

B-9. Summary of family expenditures, income, and savings, by income class, all urban and rural families and single consumers, United States, 1960-61—Continued

Family characteristics, income, and expenditures	Money income after taxes									
	Under \$1,000	\$1,000 to \$1,999	\$2,000 to \$2,999	\$3,000 to \$3,999	\$4,000 to \$4,999	\$5,000 to \$5,999	\$6,000 to \$6,999	\$7,000 to \$7,999	\$8,000 to \$8,999	\$9,000 to \$15,000 and over
Value of items received without expense:										
Food.....	170	178	159	171	174	208	208	219	250	297
Shelter.....	15	24	20	13	13	13	12	10	13	15
Other.....	12	26	14	17	10	15	5	6	5	5
Total.....	168	123	125	143	151	182	191	203	242	277
Percent distribution:										
Expenditures for current consumption.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Food, total.....	24.5	29.9	28.2	26.2	25.4	25.0	24.2	23.8	22.1	19.1
Shelter.....	19.6	24.2	23.5	21.5	20.8	20.9	19.6	18.6	16.4	12.0
Other.....	4.9	4.8	4.7	4.7	4.6	4.1	4.6	5.2	5.7	6.1
Food away from home.....	1.8	1.7	2.0	2.2	2.1	2.0	1.9	1.7	1.3	1.0
Tobacco.....	1.5	1.0	1.1	1.3	1.5	1.5	1.6	1.5	1.3	1.6
Alcoholic beverages.....	48.9	36.2	31.7	30.0	28.7	29.1	28.7	27.5	27.1	25.6
Housing, total.....	13.0	17.1	15.3	13.7	13.1	13.2	12.9	12.5	11.6	11.7
Shelter.....	5.3	10.3	9.7	8.7	7.6	6.1	6.1	6.4	6.4	6.8
Rented dwelling.....	7.0	6.7	5.3	4.8	5.1	6.6	6.1	6.0	6.1	6.8
Owned dwelling.....	1.7	3.6	3.3	3.9	2.5	3.5	3.7	3.7	1.1	2.0
Other shelter.....	4.9	9.2	6.4	6.5	5.1	5.1	4.8	4.4	4.0	3.2
Fuel, light, refrigeration, water.....	5.7	5.5	5.5	5.5	5.4	5.4	5.5	5.5	5.5	5.4
Household operations.....	5.3	3.8	4.0	4.4	5.1	5.5	5.5	5.5	5.5	5.4
Household furnishings and equipment.....	10.3	6.2	6.7	9.0	9.5	9.8	10.5	11.2	11.9	12.3
Clothing, clothing materials, services.....	2.9	2.5	3.2	3.1	2.9	3.0	2.9	2.9	2.7	2.4
Personal care.....	6.7	10.2	8.8	7.3	6.6	6.6	6.5	6.3	6.3	6.2
Medical care.....	4.0	2.1	2.7	3.3	3.6	3.7	4.1	4.4	4.9	4.7
Recreation.....	.9	.9	.9	.9	.8	.9	.9	.9	.9	.9
Reading.....	1.0	1.1	1.4	1.6	1.8	1.8	1.8	1.8	1.9	1.9
Education.....	15.2	5.7	7.8	11.0	15.4	16.0	15.8	15.1	14.9	14.4
Transportation.....	13.7	5.3	7.4	12.8	15.0	14.8	14.6	15.1	14.6	11.2
Automobile.....	1.5	1.4	1.5	1.5	1.4	1.4	1.2	1.4	1.5	3.2
Other travel and transportation.....	2.2	2.9	2.1	1.8	1.8	1.7	2.0	2.1	2.5	4.9
Other expenditures.....										
Total.....	100.0	100.0	100.0	100.0	99.9	100.1	100.1	100.0	99.9	100.1

B-10. Number of consumer units giving usable CES schedules, by income class, family size, and region, total urban and rural United States, 1960-61¹

Family size and geographic region	Money income after taxes					
	Total	Under \$1,000	\$1,000 to	\$2,000 to	\$3,000 to	\$4,000 to
			\$1,999	\$2,999	\$3,999	\$4,999
All consumer units:						
United States	13,728	535	1,406	1,509	1,580	1,799
Northeast	3,228	74	240	281	342	448
North Central	4,092	153	363	426	464	560
South	4,180	268	635	635	572	511
West	2,228	40	168	167	202	274
1 person:						
United States	1,956	320	563	357	268	212
Northeast	490	60	144	94	74	59
North Central	560	93	170	110	72	55
South	537	137	152	97	58	46
West	369	30	97	56	64	52
2 persons:						
United States	4,084	139	528	630	556	559
Northeast	945	13	79	127	137	143
North Central	1,206	37	125	189	176	177
South	1,294	83	267	244	173	161
West	639	6	57	78	70	78
3 persons:						
United States	2,486	24	143	201	292	303
Northeast	618	-	12	24	59	99
North Central	732	7	33	52	79	122
South	783	17	90	115	126	106
West	353	-	8	10	28	56
4 persons:						
United States	2,241	17	66	111	201	280
Northeast	558	-	3	18	39	76
North Central	676	6	16	37	64	87
South	637	11	44	47	86	81
West	370	-	3	9	12	36
5 persons:						
United States	1,449	12	43	73	106	184
Northeast	347	-	1	9	16	41
North Central	441	3	11	15	30	56
South	401	6	31	39	48	62
West	260	3	-	10	12	25
6 persons or more:						
United States	1,512	23	63	129	157	181
Northeast	270	1	1	9	17	30
North Central	477	7	8	23	43	69
South	528	14	51	93	81	55
West	237	1	3	4	16	27
2 persons or more:						
United States	11,772	215	843	1,152	1,312	1,587
Northeast	2,738	14	96	187	268	389
North Central	3,532	60	107	316	392	511
South	3,643	131	483	538	514	465
West	1,859	10	71	111	138	222

See footnote at end of table.

B-10. Number of consumer units giving usable CES schedules, by income class, family size, and region, total urban and rural United States, 1960-61¹—Continued

Family size and geographic region	Money income after taxes				
	\$5,000 to	\$6,000 to	\$7,500 to	\$10,000 to	\$15,000 and over
	\$5,999	\$7,499	\$9,999	\$14,999	
All consumer units:					
United States	1,777	2,061	1,857	971	293
Northeast	445	549	500	260	89
North Central	550	621	592	276	81
South	445	472	397	196	49
West	277	419	368	239	74
1 person:					
United States	94	83	39	17	3
Northeast	18	26	8	4	3
North Central	31	18	6	5	-
South	24	12	7	4	-
West	21	27	18	4	-
2 persons:					
United States	504	504	399	183	74
Northeast	150	120	107	43	26
North Central	158	150	130	51	13
South	114	122	77	38	15
West	82	112	85	51	20
3 persons:					
United States	355	417	394	218	59
Northeast	104	118	117	63	22
North Central	117	123	120	57	22
South	91	98	84	50	6
West	43	78	73	48	9
4 persons:					
United States	338	486	447	228	67
Northeast	79	135	120	75	13
North Central	104	142	140	64	16
South	96	110	106	41	15
West	59	99	81	48	23
5 persons:					
United States	218	301	298	162	52
Northeast	52	89	86	40	13
North Central	71	94	93	46	22
South	56	63	57	34	5
West	39	55	62	42	12
6 persons or more:					
United States	208	270	280	163	38
Northeast	42	61	62	35	12
North Central	69	94	103	53	8
South	64	67	66	29	8
West	33	48	49	46	10
2 persons or more:					
United States	1,623	1,978	1,818	954	290
Northeast	427	523	492	256	86
North Central	519	603	586	271	81
South	421	460	390	192	49
West	256	392	350	235	74

¹ Entries for the West and U.S. include total for Anchorage, Alaska, which was surveyed for 1959.

B-11. Estimates of absolute and relative sampling errors for selected items reported by consumer units in the 1960-61 CES urban sample

Group or item ¹	United States	Northeast	North Central	South	West
Total expenditures for current consumption:					
Average	\$5,393.00	\$5,834.00	\$5,272.00	\$4,769.00	\$5,777.00
Sampling error	46.00	81.00	61.00	114.00	116.00
Relative error (percent)	.9	1.4	1.2	2.4	2.0
Food, total:					
Average	1,309.00	1,493.00	1,263.00	1,112.00	1,366.00
Sampling error	10.00	18.00	7.00	21.00	40.00
Relative error (percent)	.8	1.2	.6	1.9	2.9
Food away from home:					
Average	274.00	303.00	253.00	239.00	311.00
Sampling error	5.00	8.00	10.00	12.00	11.00
Relative error (percent)	1.9	2.6	4.1	4.9	3.4
Housing, total:					
Average	1,594.00	1,746.00	1,563.00	1,408.00	1,664.00
Sampling error	18.00	39.00	23.00	44.00	20.00
Relative error (percent)	1.1	2.2	1.5	3.1	1.2
Shelter, fuel, light, etc.:					
Average	991.00	1,119.00	995.00	820.00	1,025.00
Sampling error	10.00	25.00	12.00	22.00	14.00
Relative error (percent)	1.0	2.2	1.2	2.7	1.3
Rented dwelling, total:					
Average	324.00	401.00	304.00	245.00	345.00
Sampling error	5.00	12.00	6.00	9.00	13.00
Relative error (percent)	1.5	2.9	2.0	3.8	3.7
Owned dwelling, total:					
Average	380.00	388.00	399.00	325.00	419.00
Sampling error	8.00	16.00	10.00	20.00	16.00
Relative error (percent)	2.1	4.2	2.6	6.1	3.8
Taxes due in survey year, on owned dwelling:					
Average	111.00	137.00	124.00	67.00	110.00
Sampling error	3.00	4.00	5.00	6.00	8.00
Relative error (percent)	2.4	2.8	3.7	9.2	6.9
Household operations, total:					
Average	319.00	338.00	291.00	316.00	338.00
Sampling error	5.00	9.00	8.00	13.00	5.00
Relative error (percent)	1.5	2.7	2.6	4.1	1.5
Local telephone:					
Average	69.00	81.00	68.00	57.00	70.00
Sampling error	1.00	1.00	1.00	2.00	2.00
Relative error (percent)	1.1	1.0	1.5	3.9	2.6
Housefurnishings and equipment:					
Average	277.00	285.00	272.00	265.00	292.00
Sampling error	4.00	7.00	7.00	11.00	12.00
Relative error (percent)	1.6	2.3	2.7	4.1	4.0
Household textiles, total:					
Average	36.00	41.00	33.00	32.00	37.00
Sampling error	1.00	2.00	2.00	2.00	2.00
Relative error (percent)	2.4	3.9	5.0	5.8	4.7
Towels:					
Average	2.00	3.00	2.00	2.00	2.00
Sampling error	.08	.19	.12	.13	.15
Relative error (percent)	3.4	7.4	5.4	6.3	6.2
Furniture, total:					
Average	83.00	86.00	84.00	77.00	86.00
Sampling error	2.00	4.00	2.00	5.00	4.00
Relative error (percent)	2.4	4.6	2.5	6.6	5.0
Major appliances, total:					
Average	76.00	59.00	65.00	75.00	73.00
Sampling error	1.00	2.00	4.00	3.00	3.00
Relative error (percent)	1.8	3.1	3.7	3.9	3.9
Washing machines:					
Average	13.00	12.00	13.00	12.00	15.00
Sampling error	1.00	(²)	1.00	1.00	2.00
Relative error (percent)	4.6	3.9	9.0	10.0	13.8

See footnotes at end of table.

B-11. Estimates of absolute and relative sampling errors for selected items reported by consumer units in the 1960-61 CES urban sample—Continued

Group or item ¹	United States	Northeast	North Central	South	West
Small appliances, total:					
Average	\$7.00	\$7.00	\$7.00	\$9.00	\$7.00
Sampling error	.25	.33	.45	.67	.54
Relative error (percent)	3.4	5.0	6.3	7.4	7.8
Housewares, total:					
Average	14.00	15.00	13.00	13.00	17.00
Sampling error	1.00	1.00	1.00	1.00	2.00
Relative error (percent)	3.9	6.0	5.2	7.3	10.2
Clothing, materials, services:					
Average	558.00	620.00	539.00	506.00	561.00
Sampling error	7.00	12.00	10.00	19.00	12.00
Relative error (percent)	1.3	2.0	1.8	3.8	2.2
Men, 18 years and over—					
Clothing, total:					
Average	144.00	163.00	139.00	127.00	148.00
Sampling error	2.00	3.00	4.00	5.00	6.00
Relative error (percent)	1.5	2.1	2.7	4.0	3.9
Suits, sports coats, and trousers:					
Average	43.00	50.00	40.00	38.00	42.00
Sampling error	1.00	1.00	2.00	2.00	3.00
Relative error (percent)	2.1	2.9	4.3	4.5	6.2
Hosiery:					
Average	6.00	7.00	6.00	5.00	7.00
Sampling error	.10	.13	.18	.20	.35
Relative error (percent)	1.6	1.9	3.0	3.9	5.2
Boys, 16 and 17—					
Clothing, total:					
Average	7.00	8.00	8.00	6.00	5.00
Sampling error	.48	.91	.98	1.04	.61
Relative error (percent)	7.0	11.8	12.9	17.4	12.1
Suits, sports coats, and trousers:					
Average	2.00	2.00	2.00	1.00	1.00
Sampling error	.11	.21	.23	.25	.19
Relative error (percent)	7.1	10.5	13.0	17.0	19.6
Hosiery:					
Average	.30	.30	.36	.27	.25
Sampling error	.02	.02	.05	.04	.05
Relative error (percent)	6.6	7.3	13.2	13.9	21.2
Boys, 2 to 15—					
Clothing, total:					
Average	47.00	47.00	47.00	43.00	52.00
Sampling error	1.00	3.00	2.00	2.00	3.00
Relative error (percent)	2.6	6.0	4.3	4.7	5.2
Suits, sports coats, and trousers:					
Average	8.00	9.00	8.00	7.00	7.00
Sampling error	.29	.67	.59	.47	.33
Relative error (percent)	3.6	7.1	7.4	6.7	4.7
Shoes:					
Average	10.00	9.00	10.00	9.00	12.00
Sampling error	.26	.57	.41	.46	.65
Relative error (percent)	2.6	6.1	4.1	5.4	5.2
Women, 18 years and over—					
Clothing, total:					
Average	216.00	253.00	206.00	191.00	206.00
Sampling error	4.00	8.00	5.00	8.00	7.00
Relative error (percent)	1.6	3.1	2.3	4.1	3.3
Dresses:					
Average	37.00	43.00	35.00	34.00	34.00
Sampling error	1.00	1.00	1.00	2.00	2.00
Relative error (percent)	2.0	3.2	2.8	5.8	4.8
Hosiery:					
Average	17.00	22.00	17.00	14.00	16.00
Sampling error	.31	.63	.44	.78	.43
Relative error (percent)	1.8	2.9	2.6	5.4	2.7

See footnotes at end of table.

B-11. Estimates of absolute and relative sampling errors for selected items reported by consumer units in the 1960-61 CES urban sample—Continued

Group or item ¹	United States	Northeast	North Central	South	West
Girls, 16 and 17—					
Clothing, total:					
Average	\$10.00	\$12.00	\$11.00	\$9.00	\$8.00
Sampling error	1.00	1.00	2.00	2.00	1.00
Relative error (percent)	7.6	10.2	13.2	22.7	16.0
Dresses:					
Average	1.00	1.00	1.00	1.00	1.00
Sampling error	.10	.22	.18	.21	.17
Relative error (percent)	6.2	15.3	12.6	20.5	18.6
Hosiery:					
Average	.67	.87	.90	.40	.38
Sampling error	.06	.15	.12	.08	.05
Relative error (percent)	8.8	17.1	13.2	20.3	12.5
Girls 2 to 15—					
Clothing, total:					
Average	54.00	57.00	53.00	49.00	60.00
Sampling error	1.00	1.00	2.00	3.00	5.00
Relative error (percent)	2.5	2.6	4.4	5.9	8.0
Dresses:					
Average	7.00	6.00	6.00	7.00	8.00
Sampling error	.23	.18	.48	.47	.75
Relative error (percent)	3.3	3.0	7.4	6.2	9.2
Shoes:					
Average	9.00	9.00	9.00	9.00	12.00
Sampling error	.24	.31	.36	.50	.86
Relative error (percent)	2.6	3.5	4.1	5.8	7.3
Children under 2—					
Clothing, total:					
Average	6.00	6.00	7.00	4.00	7.00
Sampling error	.22	.53	.34	.37	.47
Relative error (percent)	3.7	8.9	4.9	8.3	6.9
Clothing upkeep, total:					
Average	58.00	62.00	54.00	60.00	57.00
Sampling error	1.00	1.00	2.00	3.00	1.00
Relative error (percent)	1.8	1.6	3.4	5.5	2.1
Transportation, total:					
Average	792.00	749.00	802.00	743.00	924.00
Sampling error	11.00	10.00	23.00	24.00	15.00
Relative error (percent)	1.4	1.3	2.9	3.2	3.7
Automobile purchase:					
Average	309.00	283.00	327.00	292.00	348.00
Sampling error	9.00	12.00	20.00	18.00	27.00
Relative error (percent)	3.0	4.4	6.2	6.1	7.7
Gasoline:					
Average	165.00	132.00	175.00	168.00	201.00
Sampling error	2.00	2.00	4.00	6.00	9.00
Relative error (percent)	1.5	1.3	2.2	3.4	4.4
Local public transportation:					
Average	18.00	62.00	33.00	25.00	21.00
Sampling error	1.00	2.00	2.00	2.00	2.00
Relative error (percent)	2.8	3.6	4.8	9.2	10.8
Medical care, total:					
Average	355.00	367.00	341.00	319.00	411.00
Sampling error	4.00	10.00	7.00	5.00	7.00
Relative error (percent)	1.1	2.7	2.1	1.6	1.8
Prepaid care and hospitalization:					
Average	91.00	88.00	99.00	82.00	97.00
Sampling error	2.00	3.00	4.00	4.00	2.00
Relative error (percent)	1.9	3.5	3.7	4.7	1.7

See footnotes at end of table.

B-11. Estimates of absolute and relative sampling errors for selected items reported by consumer units in the 1960-61 CES urban sample—Continued

Group or item ¹	United States	Northeast	North Central	South	West
Physicians, etc., not in hospital:					
Average	\$58.00	\$64.00	\$57.00	\$50.00	\$64.00
Sampling error	1.00	2.00	2.00	2.00	3.00
Relative error (percent)	1.9	3.1	3.7	3.8	4.7
Personal care, total:					
Average	155.00	157.00	150.00	157.00	157.00
Sampling error	2.00	3.00	2.00	4.00	2.00
Relative error (percent)	1.0	2.2	1.6	2.2	1.2
Hair cuts, men and boys:					
Average	33.00	34.00	33.00	32.00	33.00
Sampling error	(²)	1.00	1.00	1.00	1.00
Relative error (percent)	1.2	1.7	2.0	3.1	3.1
Personal care supplies:					
Average	83.00	83.00	80.00	84.00	88.00
Sampling error	1.00	2.00	1.00	2.00	2.00
Relative error (percent)	1.0	2.1	1.3	2.3	2.6
Recreation, total:					
Average	217.00	220.00	214.00	187.00	262.00
Sampling error	3.00	5.00	6.00	6.00	11.00
Relative error (percent)	1.6	2.4	3.0	3.4	4.1
Movies:					
Average	18.00	21.00	16.00	14.00	19.00
Sampling error	.37	.78	.55	.85	.63
Relative error (percent)	2.1	3.6	3.5	5.9	3.4
Reading, total:					
Average	49.00	57.00	50.00	40.00	48.00
Sampling error	1.00	1.00	2.00	2.00	2.00
Relative error (percent)	1.7	2.5	3.2	4.8	4.2
Education, total:					
Average	60.00	70.00	58.00	56.00	54.00
Sampling error	3.00	7.00	5.00	5.00	4.00
Relative error (percent)	4.7	9.8	8.1	9.5	8.1
Personal insurance:					
Average	323.00	341.00	330.00	292.00	329.00
Sampling error	4.00	8.00	7.00	8.00	15.00
Relative error (percent)	1.3	2.3	2.0	2.7	4.5
Gifts and contributions:					
Average	302.00	341.00	277.00	276.00	320.00
Sampling error	7.00	12.00	9.00	13.00	23.00
Relative error (percent)	2.2	3.4	3.2	4.8	7.3
Money income before taxes:					
Average	6,678.00	7,212.00	6,708.00	5,752.00	7,112.00
Sampling error	72.00	183.00	76.00	132.00	152.00
Relative error (percent)	1.1	2.5	1.1	2.3	2.1
Wage and salary earnings:					
Average	5,192.00	5,591.00	5,378.00	4,396.00	5,409.00
Sampling error	53.00	111.00	95.00	92.00	129.00
Relative error (percent)	1.0	2.0	1.8	2.1	2.4
Money income after taxes:					
Average	5,890.00	6,291.00	5,933.00	5,154.00	6,251.00
Sampling error	59.00	150.00	64.00	109.00	125.00
Relative error (percent)	1.0	2.4	1.1	2.1	2.0
Net change in assets and liabilities					
Average	176.00	89.00	326.00	128.00	155.00
Sampling error	30.00	67.00	48.00	59.00	52.00
Relative error (percent)	16.0	75.4	14.7	46.1	33.4
Dividends:					
Average	100.00	153.00	65.00	97.00	71.00
Sampling error	9.00	24.00	13.00	14.00	11.00
Relative error (percent)	8.9	15.7	20.8	14.0	15.0

¹ Average expenditures, income, etc. may differ slightly from those published in CES reports because of the omission of Anchorage, Alaska, and Honolulu, Hawaii from the computations of sampling error.
² Less than \$0.50.

B-12. Comparison of consumer units giving usable schedules and other consumer units in the 1960-61 CES urban sample, by selected family characteristics

Characteristic	Total	Giving usable schedules	Other ¹ (nonresponse)
Total, consumer units	12,298	9,476	2,822
Income before taxes:			
Number reporting	11,062	9,476	1,586
Percentage distribution	100.0	100.0	100.0
Under \$1,000	2.7	2.3	5.7
\$1,000 to \$1,999	8.0	7.8	9.4
\$2,000 to \$2,999	8.3	8.4	7.7
\$3,000 to \$3,999	9.4	9.1	10.6
\$4,000 to \$4,999	10.4	10.3	10.8
\$5,000 to \$5,999	11.4	11.6	10.7
\$6,000 to \$7,499	15.4	15.6	13.7
\$7,500 to \$9,999	16.9	17.8	11.3
\$10,000 to \$14,999	12.4	12.5	11.9
\$15,000 and over	5.1	4.6	8.2
Family size:			
Number reporting	11,982	9,476	2,506
Percentage distribution	100.0	100.0	100.0
Single consumer	17.3	16.5	20.4
2 persons	29.2	29.7	27.2
3 persons	17.6	18.2	15.3
4 persons	16.6	16.5	17.0
5 persons	10.4	10.4	10.6
6 persons or more	8.9	8.7	9.5
Age of family head:			
Number reporting	11,897	9,476	2,421
Percentage distribution	100.0	100.0	100.0
Under 25	5.0	5.2	4.3
25 to 34	18.9	19.5	16.4
34 to 44	22.4	22.6	21.5
45 to 54	20.2	19.9	21.6
55 to 64	16.3	15.6	19.0
65 to 74	11.7	11.9	10.9
75 and over	5.5	5.3	6.3
Occupation of family head:			
Number reporting	11,366	9,476	1,890
Percentage distribution	100.0	100.0	100.0
Self-employed	6.8	6.4	9.2
Salaried professionals, officials	17.9	17.9	18.0
Clerical, sales	13.0	12.8	14.0
Wage earners:			
Skilled and semiskilled	29.2	30.2	24.2
Unskilled	13.0	13.0	13.2
Occupation not reported	.2	.2	.3
In Armed Forces	1.0	1.1	.5
Not working:			
Retired	12.9	13.0	12.1
Others	6.0	5.4	8.5
Race:			
Number reporting	11,718	9,476	2,242
Percentage distribution	100.0	100.0	100.0
White	86.7	86.5	88.2
Negro	11.1	11.1	10.7
Other	2.2	2.4	1.1
Number of full-time earners:			
Number reporting	11,726	9,476	2,250
Percentage distribution	100.0	100.0	100.0
None	28.7	29.3	26.2
1	58.4	58.5	57.5
2	12.0	11.5	14.4
3 or more	.9	.7	1.9
Housing tenure:			
Number reporting	11,823	9,476	2,347
Percentage distribution	100.0	100.0	100.0
Owner all year	55.5	54.0	62.0
Renter all year	41.5	42.3	38.0
Other	3.0	3.7	-

¹ Compiled from information recorded on the back of Schedule 2648-A. (See p. 115). The classifications are not strictly comparable with those for consumer units giving usable schedules. For example, the number of family members was recorded on 2648-A as of the date of the interview. The number of persons in families giving usable schedules represents the number of equivalent, full-year members. (See explanation on p. 17).

B-13. Distribution of consumer units giving usable schedules in the 1960-61 CES nonfarm sample,¹ by detailed family characteristics

Code	Characteristic	Number of consumer units			Percent distribution		
		Total nonfarm	Urban 1960-61	Rural nonfarm 1961	Total nonfarm	Urban 1960-61	Rural nonfarm 1961
	All consumer units	11,627	9,342	2,285	100.0	100.0	100.0
	Headed by:						
1	Male	9,468	7,490	1,978	81.4	80.2	86.6
2	Female	2,159	1,852	307	18.6	19.8	13.4
	Education of head						
11	Less than 8 years	11,627	9,342	2,285	100.0	100.0	100.0
12	8 years	1,857	1,313	544	16.0	14.1	23.8
13	9 through 11 years	1,904	1,450	454	16.4	15.5	19.9
24	12 years (high school graduate)	2,143	1,725	418	18.4	18.5	18.3
35	13 through 15 years	2,946	2,458	488	25.3	26.3	21.4
36	16 years (college graduate)	1,099	952	147	9.5	10.2	6.4
47	More than 16 years (postgraduate)	897	790	107	7.7	8.5	4.7
18	Not reported	490	423	67	4.2	4.6	2.9
	Family size						
11	1.0 person	291	231	60	2.5	2.3	2.6
22	1.1 to 1.9 persons	11,627	9,342	2,285	100.0	100.0	100.0
23	2.0 to 2.9 persons	1,814	1,545	269	15.0	16.5	11.8
34	3.0 to 3.9 persons	181	150	31	1.6	1.7	1.3
45	4.0 to 4.9 persons	3,276	2,614	662	28.1	28.0	29.0
56	5.0 to 5.9 persons	2,086	1,703	383	17.9	18.2	16.8
67	6.0 to 6.9 persons	1,905	1,545	360	16.4	16.5	15.8
68	7.0 to 7.9 persons	1,232	971	261	10.6	10.4	11.4
69	8.0 persons and over	612	450	162	5.3	4.8	7.1
	Family membership						
1	Full-year members only	11,627	9,342	2,285	100.0	100.0	100.0
2	Full-year and part-year members	10,038	8,082	1,956	86.3	86.5	85.6
3	Part-year members only	1,589	1,260	329	13.7	13.5	14.4
	Relationship of family members						
1	Single consumer	11,627	9,342	2,285	100.0	100.0	100.0
2	Husband and wife only	1,809	1,541	268	15.6	16.5	11.7
3	Husband and wife, own children, no other persons in family	2,560	2,016	544	22.0	21.6	23.8
4	Husband and wife, own children, other relatives	5,489	4,326	1,163	47.1	46.2	50.9
5	One parent (head), own children, no other persons in family	480	373	107	4.1	4.0	4.7
6	One parent (head), own children, other relatives	624	542	82	5.4	5.8	3.6
7	Husband and wife, no own children, other relatives	123	97	26	1.1	1.0	1.1
8	Husband and wife, no own children, others not related	201	164	37	1.7	1.8	1.6
9	All other	6	5	1	.1	.1	(3)
	Age of children of head						
0	No children	335	278	57	2.9	3.0	2.5
1	Oldest child under 6 years	11,627	9,342	2,285	100.0	100.0	100.0
2	Oldest child 6 through 11, youngest under 6 years	4,889	3,984	905	42.0	42.7	39.6
3	All children 6 through 11	1,489	1,224	265	12.8	13.1	11.6
4	Oldest child 12 through 17, youngest under 6	1,012	797	215	8.7	8.5	9.4
5	Oldest child 12 through 17, youngest 6 through 11	531	430	101	4.6	4.6	4.4
6	Oldest child 12 through 17, youngest 12 through 17	705	571	134	6.1	6.1	5.9
7	Oldest child 18 and over, youngest under 6	544	401	143	4.7	4.3	6.3
8	Oldest child 18 and over, youngest 6 through 11	684	519	165	5.9	5.6	7.2
9	Oldest child 18 and over, youngest 12 through 17	139	104	35	1.2	1.1	1.5
	Number of earners						
0	No family member employed	687	535	152	5.9	5.7	6.7
1	1 family member employed	947	777	170	8.1	8.3	7.4
2	2 family members employed	11,627	9,342	2,285	100.0	100.0	100.0
3	3 family members employed	1,526	1,151	375	13.1	12.3	16.4
4	4 family members employed	5,795	4,696	1,099	49.8	50.4	48.1
5-9	5 or more family members employed	3,391	2,769	622	29.2	29.6	27.2

See footnotes at end of table.

B-14. Comparison of distribution of families by money income before taxes from 1960 CES and Census, Urban United States

Money income before taxes	Families of 2 persons or more			Individuals not in families			All families and individuals		
	CES 1960 ¹	1959 Decennial census ²	CPS 1960 ³	CES 1960 ¹	1959 Decennial census ²	CPS 1960 ³	CES 1960 ¹	1959 Decennial census ²	CPS 1960 ⁴
Estimated number (in thousands).....	33,406	31,940	(⁵)	6,725	10,434	(⁵)	40,131	42,374	(⁵)
Percent distribution, total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under \$1,000.....	.4	3.8	3.1	12.1	35.2	28.9	2.4	11.5	9.5
\$1,000-\$1,999.....	4.3	5.6	6.6	25.1	19.9	21.2	7.8	9.2	10.2
\$2,000-\$2,999.....	7.3	7.0	8.2	17.0	12.3	13.6	8.9	8.3	9.5
\$3,000-\$3,999.....	9.1	8.5	9.3	15.3	10.2	11.6	10.1	8.9	9.9
\$4,000-\$4,999.....	11.0	10.5	10.5	12.3	8.2	10.1	11.2	10.0	10.4
\$5,000-\$5,999.....	13.1	12.7	13.5	7.7	5.6	6.1	12.2	10.9	11.7
\$6,000-\$7,499.....	17.5	34.1	33.2	5.5	6.6	7.2	15.5	27.5	26.7
\$7,500-\$9,999.....	19.2	3.3	3.3	3.3	16.6	16.6	16.6	16.6	16.6
\$10,000-\$14,999.....	13.4	12.3	11.5	1.0	1.2	.9	11.3	9.6	8.9
\$15,000 and over.....	4.7	5.5	4.1	.7	.8	.4	4.0	4.3	3.2
Average:									
Mean.....	\$7,260	\$7,272	\$6,805	\$3,289	\$2,572	\$2,752	\$6,595	\$6,115	\$5,807
Median.....	6,411	6,166	5,911	2,753	1,745	1,992	5,951	5,199	(⁵)

¹ Frequency distributions derived from unpublished tabulations from the 1960 portion of the Survey of Consumer Expenditures, 1960-61. Medians calculated from the distributions.

² Compiled from Census of Population: 1960, Sources and Structure of Family Income, PC(2)-4C, tables 6 and 7; and General Social and Economic Characteristics, PC(1)-1C, table 95 (U.S. Department of Commerce, Bureau of the Census).
³ Income of Families and Persons in the United States: 1960, Current Population Reports, Consumer Income, Series P-60, No. 37, Jan. 17, 1962, p. 25; and Trends in Income of Families and Persons in the United States: 1947 to 1960, Technical Paper No. 8, p. 37 (U.S. Department of Commerce, Bureau of the Census).

⁴ Distribution for families and individuals combined was calculated by applying the CPS distributions to the decennial census estimates of number of families (31,940,000) and individuals (10,434,000).

⁵ Not available.

NOTE: Because of rounding, sums of individual items may not equal totals.

B-15. Selected characteristics of full-year and part-year families in urban United States, 1960-61¹

Family classification	Number of CU's	Average			
		Number of weeks CU existed	Family size	Age of head	Money income before taxes
Part-year families or consumer units (CU's):					
Total found at sample addresses.....	386	-	-	-	-
Moved from rural areas.....	22	-	-	-	-
Total, excluding those from rural areas.....	364	-	-	-	-
Number giving usable schedules, total.....	2,293	26	1.7	29	\$2,740
Classified by reason for part-year status:					
1. Married in survey year; ineligible for full-year because both had been members of existing CU's.....	104	26	2.0	23	3,380
2. Became independent CU in survey year; ineligible for full-year because of membership in existing CU.....	61	27	1.0	25	1,915
3. Independent before marriage or joining another CU during the survey year.....	47	26	1.4	35	2,707
4. Split of a CU, with or without break-up of marriage by separation or divorce in survey year.....	44	24	1.6	38	2,363
5. Returned from military service, institution, or abroad in survey year.....	37	27	2.4	32	2,789
Full-year families (CU's) giving usable schedules.....	9,476	52	3.1	47	6,691

¹ Includes Anchorage, Alaska, surveyed for 1959.

² The number of part-year families giving usable schedules differs from the number found at sample addresses because some schedules were misclassified, incomplete, or from families who moved from rural areas.

B-16. Comparison of CES and Census (CPS) estimates of money income before taxes, 1960-61 and 1950

Item	Families of 2 persons or more			Individuals not in families			All families and individuals		
	Number in millions	Average annual income	Aggregate income (billions)	Number in millions	Average annual income	Aggregate income (billions)	Number in millions	Average annual income	Aggregate income (billions)
Total U.S. urban and rural 1960-61:									
Census-(CPS) ¹	45.9	\$6,510	\$298.8	11.0	\$2,659	\$29.4	56.9	\$5,791	\$329.5
BLS-(CES).....	46.9	6,813	319.6	8.4	3,070	25.8	55.3	6,246	345.4
Percent: CES of census.....	102	105	107	76	115	88	97	108	105
Urban U.S. 1950: ²									
Census-(CPS).....	25.8	4,381	113.0	6.9	1,745	12.0	32.7	3,826	125.0
BLS-(CES).....	27.3	4,572	124.8	4.2	2,069	8.8	31.5	4,237	133.6
Percent: CES of census.....	106	104	110	61	119	73	96	111	107

¹ Data for all families and unrelated individuals combined from Herman P. Miller, Income Distribution in the United States (U.S. Department of Commerce, Bureau of the Census), table 1-4, p. 11; average income for families and for unrelated individuals from unpublished tabulations furnished by the Bureau of the Census.

² Helen H. Lamale, Study of Consumer Expenditures, Incomes and Savings—Methodology of the Survey of Consumer Expenditures in 1950, (monograph). (Wharton School of Finance and Commerce, University of Pennsylvania, Philadelphia, 1959).

NOTE: Because of rounding, sums of individual aggregates may not equal total.

B-17. Comparison of expenditures of CES families classified by income before and after taxes, all nonfarm families and single consumers, United States, 1960-61

Item	Money income									
	Under \$3,000	\$3,000 to \$4,999	\$5,000 to \$7,499	\$7,500 to \$9,999	\$10,000 to \$14,999	\$15,000 and over	Before taxes	After taxes	Before taxes	After taxes
Total	100.0	100.0	100.0	100.0	100.0	100.0	10.7	6.9	3.7	2.0
Percent of families:										
Before taxes	22.4	20.8	26.2	16.1	10.7	3.7				
After taxes	-	-	-	-	-	-				
Average family size	4.1	3.0	3.5	3.7	3.9	4.0				
Average:										
Money income before taxes	\$1,804	\$4,018	\$6,178	\$8,569	\$11,740	\$22,734				
Money income after taxes	1,767	3,771	5,593	7,590	10,167	18,060				
Personal taxes	37	247	585	979	1,573	4,674				
Expenditures for current consumption:										
Food, total	2,043	3,859	5,315	6,788	7,493	9,677				
Food prepared at home	1,260	1,015	1,318	1,408	1,786	2,135				
Food away from home	1,007	512	1,997	2,380	2,707	3,542				
Tobacco	93	54	33	33	39	46				
Alcoholic beverages	81	84	111	123	124	134				
Housing, total	1,504	1,152	1,209	1,928	2,078	2,640				
Rented dwelling	280	337	309	288	260	1,128				
Owned dwelling	366	190	369	554	606	790				
Other shelter	35	7	27	43	52	81				
Fuel, light, refrigeration, and water	153	208	263	311	326	348				
Household operations	118	122	216	216	314	375				
Household furnishings and equipment	269	84	185	202	284	315				
Clothing, clothing materials, and services	525	150	348	375	528	720				
Personal care	148	63	118	156	167	241				
Medical care	342	174	373	425	470	539				
Recreation	205	48	201	144	228	291				
Reading	46	19	34	35	46	61				
Education	54	8	22	23	32	41				
Transportation	781	176	848	629	905	1,023				
Automobile	700	143	501	568	783	836				
Other travel and transportation	81	33	65	61	69	89				
Other expenditures	113	47	93	110	155	201				
Expenditures as percent of income before taxes	81	96	86	79	74	56				

See footnote at end of table.

B-17. Comparison of expenditures of CES families classified by income before and after taxes, all nonfarm families and single consumers, United States, 1960-61—Continued

Item	Money income									
	Under \$3,000	\$3,000 to \$4,999	\$5,000 to \$7,499	\$7,500 to \$9,999	\$10,000 to \$14,999	\$15,000 and over	Before taxes	After taxes	Before taxes	After taxes
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Percent distribution:										
Food, total	24.5	26.3	24.7	23.9	23.8	22.1				
Food prepared at home	19.6	21.6	20.5	19.0	18.6	17.1				
Food away from home	4.9	4.7	4.3	4.9	5.2	5.0				
Tobacco	1.8	2.1	1.9	1.8	1.7	1.5				
Alcoholic beverages	29.2	34.4	29.1	28.4	27.3	27.3				
Housing, total	13.2	14.0	13.3	12.6	12.3	11.6				
Rented dwelling	5.4	8.7	5.0	3.8	3.5	2.4				
Owned dwelling	7.1	5.3	8.3	8.8	8.8	9.1				
Other shelter	.7	.3	.5	.6	.7	.9				
Fuel, light, refrigeration, and water	4.9	5.4	4.9	4.6	4.4	4.0				
Household operations	5.8	5.6	5.5	5.5	5.5	5.5				
Household furnishings and equipment	5.2	4.8	5.3	5.5	5.5	5.5				
Clothing, clothing materials, and services	10.2	9.0	9.9	10.6	11.1	11.8				
Personal care	2.9	3.1	2.9	2.9	2.9	2.7				
Medical care	6.6	6.4	6.6	6.3	6.3	6.2				
Recreation	4.0	2.3	3.8	4.0	4.4	5.0				
Reading	.9	.9	.9	.9	.9	.9				
Education	1.0	.5	.8	1.0	1.1	1.9				
Transportation	15.2	9.0	16.0	16.1	16.4	16.7				
Automobile	13.6	7.3	13.0	14.8	15.0	14.9				
Other travel and transportation	1.6	1.7	1.5	1.3	1.4	1.8				
Other expenditures	4.2	2.2	1.7	2.2	2.1	2.3				

Includes expenses on real estate not used for family business, not occupied or rented, which are not listed separately in this table.

NOTE: Because of rounding, sums of individual items may not equal totals.

SOURCE: Survey of Consumer Expenditures, 1960-61; Consumer Expenditures and Income, Total United States, Urban and Rural, 1960-61, BLS Report 237-93 (1965), p. 21; and Expenditure Patterns of the American Family, prepared by the National Industrial Conference Board based on a survey conducted by the U.S. Department of Labor and U.S. Department of Agriculture 1965, pp. 18, 58, and 142; and unpublished tabulations.

B-18. Comparison of CES and OBE national accounts estimates of aggregate expenditures for selected sub-categories of current consumption, 1961

Sub-category	Aggregate (millions)			Percent: CES of OBE	
	CES estimates		OBE estimates 1961 ¹	Unadjusted	Adjusted
	1960-61 unadjusted ¹	1961 adjusted ²			
Food prepared at home	\$54,693	\$57,286	\$57,395	95.3	99.8
Food away from home	13,581	15,010	12,271	110.6	122.3
Rent, tenant-occupied dwellings	14,461	14,324	12,702	113.8	112.8
Fuel, light, and refrigeration	13,787	14,686	14,400	95.7	102.0
Gas and electricity	8,790	9,095	8,755	100.4	103.9
Major appliances	3,791	3,918	4,821	78.6	81.6
Telephone and telegraph	4,321	4,658	4,822	89.6	96.6
Clothing, men's and boys', except footwear	8,414	9,451	8,228	102.2	114.9
Clothing, women's and children's, except footwear	11,696	13,270	15,115	77.4	87.8
Footwear	4,065	4,364	4,510	90.1	96.8
Jewelry and watches	787	878	2,155	36.5	40.7
Automobile purchase	16,552	17,146	15,991	103.5	107.2
Gasoline and motor oil	10,179	10,743	12,386	82.2	86.7
Personal care supplies	4,426	4,640	3,199	138.4	145.0
Personal care services	3,608	3,961	2,593	139.1	152.8
Spectator admissions	1,334	1,456	1,625	82.1	89.6
Television, radio, and musical instruments	3,934	4,332	4,507	87.3	96.1
Reading, total	2,467	2,635	3,744	65.9	70.4
Education, total	2,908	3,676	4,028	72.2	91.3

¹ Averages as reported for 1960-61 in CES multiplied by the estimated number of consumer units—55,306,000.
² See footnote 1, table 12.
³ From *The National Income and Product Accounts of the United States, 1929-1965, Statistical Tables, a Supplement to the Survey of Current Business*, adjusted to conform with CES coverage and definitions. See text, p. 57.
⁴ OBE estimates for food and beverages adjusted to food only by BLS estimate of ratio of expenditures for alcoholic beverages for consumption at home vs. away from home.
⁵ Excluding repairs paid by tenant and special fees.

B-19. Comparison of survey estimates of change in assets and liabilities with flow of funds aggregates for the household sector, 1960-61 and 1963

(In billions of dollars)

Flow of funds transaction category	1960-61			1963		
	Survey of consumer expenditures	Flow of funds ¹	Survey less flow of funds	Survey of changes in family finances	Flow of funds	Survey less flow of funds
Net increase in assets	30.3	28.4	1.9	45.5	39.8	5.7
1 Residential construction	22.2	18.6	3.6	26.4	19.0	7.4
2 Net investment in noncorporate business ²	3.6	-4.7	8.3	3.3	-6.2	9.5
3 Demand deposits and currency .....	.4	-1	-14.4	2.2	4.3	-2.1
4 Savings accounts				10.8	23.0	-12.2
5 U.S. savings bonds ³	4.1	-0	4.4	1.8	.5	1.3
6 U.S. government securities other than savings bonds .....				.1	2.3	-2.2
7 State and local obligations .....	.1	-2	.4	.9	.7	.2
8 Corporate and foreign bonds .....				.1	-1.0	1.1
9 Corporate stock .....	.1	.1	.4	.4	-2.5	3.0
10 Mortgages .....				.6	-3	-3.3
Net increase in liabilities	17.0	16.1	.9	13.7	24.9	-11.2
11 1-4 family mortgages	10.2	11.2	-1.0	11.1	14.8	-3.7
12 Installment automobile paper ⁴ .....	.4	.4	.0	.8	2.9	-3.7
13 Installment credit other than automobile ⁵	3.1	1.7	1.4	.8	3.2	-4.0
14 Noninstallment credit excluding charge accounts ⁵	3.5	.7	.5	1.9	1.0	.5
15 Bank loans n.e.c. .....				.7	.4	.1
16 Security credit .....	.6	.7	.2	2.1	2.0	.1
17 Other loans .....				.6	.6	-.4

¹ Average of flow of funds data for 1960 and 1961.
² For flow of funds figures, net investment in noncorporate business less the liability category "other mortgages."
³ For flow of funds figures, accrued interest has been deducted.
⁴ Less than .05. NOTE: N.e.c.—not elsewhere classified.
⁵ In flow of funds accounts included in the transaction category "consumer credit"; shown separately in consumer credit series.

NOTE: For purposes of this comparison changes in assets and liabilities are grouped as follows:

Survey of Consumer Expenditures		Survey of Changes in Family Finances
Line 1	Purchase, improvement, and sale of own nonfarm dwelling	Own home gross of debt
Line 2	Investment in business, other real property; improvements to farm dwellings; less mortgage on other real property	Business, profession (unincorporated only); business not managed by the unit (unincorporated only); equity in investment real estate
Line 3	Cash in bank, on hand, money owed to family	Checking accounts
Line 4		Savings accounts
Line 5	Stocks and bonds	U.S. savings bonds
Line 6		U.S. government marketable securities gross of debt
Line 7	Mortgage assets	State and local government marketable securities gross of debt
Line 8		Corporate and foreign government marketable securities other than stock gross of debt
Line 9	Debt secured by own home	Publicly traded stock gross of debt
Line 10		Mortgage assets
Line 11	Mortgage on own nonfarm dwelling	Debt secured by own home
Line 12	Money owed on the purchase of automobile	Automobile installment debt
Line 13	Money owed on the purchase of housefurnishings and equipment; money owed on the purchase of other goods and services	Other installment debt
Line 14	Money owed to banks, insurance companies, etc.	Noninstallment debt
Line 15		Debt secured by stock; debt secured by marketable securities other than stock
Line 16	Debt on life insurance	Debt secured by stock; debt secured by marketable securities other than stock
Line 17		Debt on life insurance

NOTE: This is a reprint from *Projector*, op. cit., table 6, p. 14.

SOURCE: 1960-61 data from "Survey of Consumer Expenditures," *Consumer Expenditures and Income, Total United States, Urban and Rural, 1960-61*, Supplement 3—Part A to BLS Report 237-93 (USDA Report CES-15), 1966.

B-20. Comparison of data on ownership of selected household durables, reported in CES and Census, United States, 1960-64

Source and year	Percent of families ² owning specified items							
	Home food freezer	Clothes washing machine	Clothes dryer	Air conditioner ⁴	Television set ⁵	Radio ⁶	Refrigerator	Dishwasher
Survey of consumer expenditures (CES) ----- 1961	15.3	70.0	18.4	18.8	91.4	781.3	82.7	5.7
1960	13.0	66.2	17.9	13.4	89.3	779.1	79.9	5.7
Census of housing ----- 1960	13.0	70.4	17.0	14.2	89.4	92.4	(⁸)	(⁸)
Census quarterly survey of consumer buying intentions ⁹ ----- 1964	(⁸)	72.2	23.6	15.1	90.5	(⁸)	85.1	8.8
1963	(⁸)	72.9	21.6	13.5	89.3	(⁸)	84.9	7.7
1962	(⁸)	71.6	19.9	12.4	88.8	(⁸)	84.4	6.7
1961	(⁸)	73.6	18.7	11.9	88.2	(⁸)	85.1	6.1
1960	(⁸)	74.5	17.4	12.8	86.7	(⁸)	86.1	4.9

¹ CES and Census of Housing data are for the urban population; information from the Survey of Consumer Buying Intentions is for the entire urban and rural population represented in the sample of the Current Population Survey.
² Census of Housing data represent percents of occupied housing units with specified items, except that clothes washing machines and dryers were to be reported only if owned by a member of the household. Machines such as those provided by the management of an apartment building were not to be reported. Data from the CES and Survey of Consumer Buying Intentions represent percents of families owning the equipment.
³ Includes combination washer-dryers.
⁴ Includes demountable room units and central air-conditioning systems. The Census of Housing showed 2.1 percent of the housing units equipped with central air-conditioning and 12.1 percent with 1 room unit or more.
⁵ Includes television combination sets.
⁶ The census counted all households having radios, whether separate or in combination with another item. The CES recorded separately families who had radios and those who had radio-phonograph sets. Since some families had both, the sum of the percentages of the families who had each type exceeded 100 percent. The CES also obtained separate counts for washing machines and washer-dryer combinations, central air-conditioning and demountable room units, and TV and TV combination sets. However, for purposes of comparison with census data, the combined percentages for these items are shown here since the possible double counting of families having these items seemed negligible.
⁷ Does not include radio-phonograph sets.
⁸ Not available.
⁹ Data are for January 1 of each year.

NOTE: This is a reprint from Monthly Labor Review, October 1964, table 1, p. 1132.

SOURCE: Census of Housing: 1960, Vol. I, States and Small Areas, United States Summary, Final Report HC(1)-1 (U.S. Bureau of the Census), p. XLIII; and Current Population Reports, Series P-65, No. C, Consumer Buying Indicators (U.S. Bureau of the Census), February 28, 1964, p. 11.

Appendix C. Exhibits

Exhibit A

BLS 2549
 Rev. 5-1-60
 BLOCK BOUNDARIES.

REPORTS WILL BE HELD IN CONFIDENCE
 U.S. DEPARTMENT OF LABOR
 Bureau of Labor Statistics
 Washington 25, D.C.

Budget Bureau No. 44-R1081.2

Block No. _____ Page _____ of _____ Pages

North _____

East _____

South _____

West _____

COMPREHENSIVE HOUSING UNIT SURVEY Listing Form

(City and State)

(Suburban Area)

In-Block Ratio 1 _____

Not for field use	City	Area	Block	Page No

IDENTIFICATION				ALL LIVING QUARTERS	ALL HOUSING UNITS (Col. 5, code 1 or 2)				ALL VACANT HOUSING UNITS	ALL OCCUPIED HOUSING UNITS (Col. 5, code 1 or 2 and no entry in Col. 10)			
STREET NAME	STREET NO.	APT. NO. OR BOX	LINE NO.	TYPE OF HOUSING UNIT ^{**}	TYPE	NUMBER OF UNITS	YEAR BUILT	CONDITION	1. No room? 2. Rented-out? 3. For sale? 4. Sold-out? 5. Held for investment? 6. Under construction? 7. Other or unknown	1. Owner? 2. Tenant? 3. Commission? 4. Rent free?	RACE	NUMBER OF PERSONS IN UNIT	TELEPHONE NUMBER
				1. Single detached 2. Single detached (no separate kitchen facilities and unfinished) 3. No kitchen facilities 4. Kitchen facilities 5. Other (Specify)	1. Single detached 2. Single attached 3. Multi-unit 4. Other (Specify)		10 Before 1920 20 1920-1929 30 1930-1939 40 1940-1949 After 1949 Enter last 2 digits of year	1. Sound 2. Deteriorating 3. Dilapidated		1. White 2. Negro 3. Other		Enter "1" if no phone available in unit. Enter "2" if phone number is shared.	
			1										
			2										
			3										
			4										
			5										
			6										
			7										
			8										
			9										
			10										
			11										
			12										
			13										
			14										
			15										

*Code
 Floor Number-1st Fl., 2d Fl., etc. F-Front Rt-Right
 B-Basement L-Left R-Rear

**If column 5, code 1, complete reverse side.
 Interviewer _____ Date _____

EXPLANATIONS

LINE NO.	COLUMN NO.	COMMENT

LINE NO.	NUMBER OF ROOMS IN UNIT	BATHROOM FACILITIES 1. No. complete 2. Tub only 3. Shower only 4. Electricity 5. Coat 6. Oil 7. Other	Bathroom Facilities				REFRIGERATION 1. None 2. Gas 3. Electric 4. Ice 5. Oil 6. Other	COOLING 1. None 2. Gas 3. Electric 4. Oil 5. Other	HEATING EQUIPMENT 1. None 2. Coal 3. Oil 4. Gas 5. Electric 6. Other	HEATING FUEL 1. None 2. Coal 3. Oil 4. Gas 5. Electric 6. Other	AIR CONDITIONING 1. None 2. Central 3. Window 4. Other	LAUNDRY EQUIPMENT 1. No washer or dryer 2. Washer 3. Dryer 4. Washer-dryer 5. Coin-operated 6. Other	GARAGE 1. None 2. Attached 3. Detached 4. Other	CENTRAL SERVICES AVAILABLE 1. Elevator 2. Switchboard 3. Elev. S.S.B. 4. Other (Specify in Remarks) 5. None	DATE OF PURCHASE (Date first 2 digits of year.)	PURCHASE PRICE (Complete if 1957 or other in Col. 28.) (To nearest \$100)	ESTIMATED CURRENT MARKET VALUE (To nearest \$100)
			COMPLETE BATHROOM FACILITIES	OTHER BATHROOM FACILITIES	REFRIGERATION	COOLING											
1																	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	

EXPLANATIONS

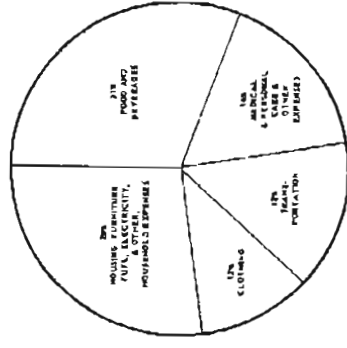
LINE NO.	COLUMN NO.	COMMENT

LINE NO.	NUMBER OF ROOMS IN UNIT	FURNISH-ING 1. Appliances, etc. 2. Part of unit 3. Full	STALLED EQUIP- CODE 1. No 2. Yes	HEATING EQUIP- CODE 1. No 2. Yes	AIR CONDIT- IONING CODE 1. No 2. Yes	LAUNDRY EQUIP- MENT CODE 1. No 2. Yes	SERVICES INCLUDED IN RENT IN COL. 44 OR 45					RENT		ALL OCCUPIED HOUSING UNITS		
							WATER	SEWER	GAS	HEAT	GARAGE	CENTRAL SERVICES	RENT CODE		PER MONTH	PER YEAR	ANNUAL FAMILY INCOME
1																
2																
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																
14																
15																

U.S. DEPARTMENT OF LABOR
BUREAU OF LABOR STATISTICS
WASHINGTON 25, D.C.

FAMILY SPENDING IN 1950

A similar survey made by the Bureau of Labor Statistics in 1950 found that, on the average, families living in cities of 2500 population and over spent their dollars in the following way:



or put another way, for each dollar they spent -
31¢ went for food and beverages
28¢ went for housing, furniture, fuel, etc.
12¢ went for clothing
13¢ went for transportation
16¢ went for medical and personal care and other goods and services

IMPORTANT NOTICE FROM YOUR GOVERNMENT

The U.S. Department of Labor is making a SURVEY OF CONSUMER EXPENDITURES in your city to find out what kinds of goods and services people buy and how much they pay for them. The last survey of this type was made 10 years ago. Since 1950, there have been many changes in how people live which have had considerable effect on the cost of living. Up-to-date information is needed for the calculation of the CONSUMER PRICE INDEX, which is the official measure of change in living costs published by the BUREAU OF LABOR STATISTICS in Washington.

Soon you will be visited by a Bureau of Labor Statistics interviewer who will ask you questions about purchases you have made and other things about your family budget. Your address (and the address of many other households in your city) has been carefully selected for this purpose. Since we have only your address, we cannot send this letter to you by name. Your name positively will not be used in connection with the survey, and the information you give will be held in the strictest confidence. Any data you furnish will be used for statistical purposes only, in conjunction with similar information for many other households.

This survey is important to you in a very personal way. The Consumer Price Index is used in the adjustment of wages and salaries of millions of workers, and it is an important economic factor in decisions made by government, professional, business, and labor groups. The index not only measures changes in the prices you pay, but through its many uses it has a direct bearing on the cost of the things you buy. Therefore, we want it to be as accurate as possible. Your participation in this survey will help make it so.

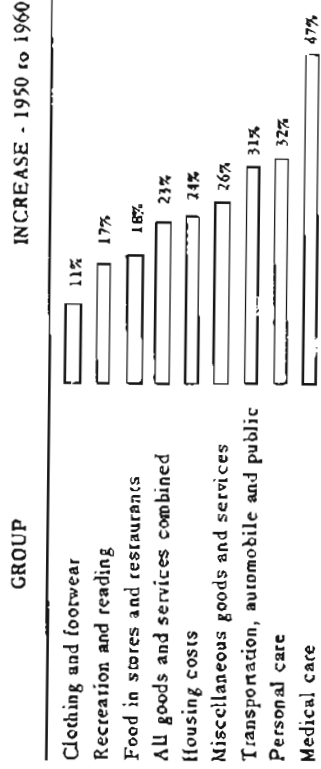
I earnestly request that you give our interviewer your wholehearted cooperation in this important effort.

Very truly yours,

Ewan Clague
Ewan Clague
Commissioner of Labor Statistics

Exhibit C

From 1950 to 1960 consumer prices increased 23%. Different groups of items increased more or less than this. For example, food prices increased 18% during this period, while personal care items increased 32%.



The Bureau of Labor Statistics calculates these figures by collecting thousands of prices from retail stores and service establishments, and combining them according to their importance in family spending.

To continue to measure these price changes accurately, the Bureau must find out how people are now spending their money.

The survey we are currently making is designed to get these facts.

BLA 244-A
Bureau Form No. 44-703.1
Approval Expires 9-30-62.

U.S. DEPARTMENT OF LABOR
BUREAU OF LABOR STATISTICS
WASHINGTON 25, D.C.

SURVEY OF CONSUMER EXPENDITURES IN 19.....
HOUSEHOLD RECORD

Assignment No.
Block No.
Telephone No.

(City) (State) (Apartment number or location)

(1) How many people live here, counting children, infants, roomers, servants, and so on?..... Number of Consumer Units Found

Who lives here now? Not their names, just their relationship to the head of the house (wife, son, daughter-in-law, roomer, servant, etc.)	HOUSEHOLD MEMBERSHIP AND DESCRIPTION		FULL- AND PART-YEAR MEMBERSHIP		CONSUMER UNIT DETERMINATION		
	(3) Relationship to head of household	(4) Age in years during 1951	(5) Persons over age 18	(6) Was everyone living together as a household during entire 5Y? Yes <input type="checkbox"/> No <input type="checkbox"/>	(7) Did any part of year spent during rest of year (with own money) (a) Yes <input type="checkbox"/> No <input type="checkbox"/>	(8) Potential Consumer Unit (C.U.) (b) Separate family in 5Y	(9) Consumer Unit No.
1. HEAD OF HOUSEHOLD.....							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							

Did anyone live with you in 5Y who is not here now? Yes No If yes, who?

Line number of head of the Potential Consumer Unit	Check clothing with your own money?		If NO, what items did you pay for yourself?	
	Yes	No	Food	Clothing
11.				
12.				
13.				
14.				

Do not ask questions about roomers, boarders, or servants listed under (2B).

If 2 or more arrangements, enter each of the applicable codes in (c). Also indicate how the number of weeks in each.

Code weeks
Code weeks
Code weeks

Specify here the number of persons in the unit and whether it still exists

Exhibit D

INELIGIBLE UNITS AND OTHER NONRESPONSE

1. First unsuccessful visit—Date: _____ Time: _____

(a) Occupied Occupants expected to be present: Informant: _____ Schedule second visit _____
 (b) Closed for 2 or more weeks Occupants expected to be present: Informant: _____ Report to supervisor _____
 (c) Vacant Informant: _____ Report to supervisor _____

2. Second unsuccessful visit—Date: _____ Time: _____
 No contact in two visits Informant: _____ 4-11 below Report to supervisor _____
 3. Refusal—Date: _____ Reason: _____ Enter: 4-13 below

	C.U. No.	C.U. No.	C.U. No.	C.U. No.
4. Number of members in your family				
5. Number of family members employed 48 weeks or more in SY				
6. Number of family members employed 13 to 48 weeks in SY				
7. Approximate age of family head				
8. Sex of family head (M—F)				
9. Occupation of family head				
10. Home owned (O) or rented (R) by family				
11. Rent or market value of dwelling				\$
12. (Ask of members of unit only):				
				Under \$1,000
				\$1,000-\$1,999
				\$2,000-\$2,999
				\$3,000-\$3,999
				\$4,000-\$4,999
				\$5,000-\$5,999
				\$6,000-\$7,499
				\$7,500-\$9,999
				\$10,000-\$14,999
				\$15,000 and over
13. (By observation) Race of family head. White—1 Negro—2 Other (specify)—3				

Exhibit E

DLS 9648-B
 Budget Bureau No. 44-5603.1
 Approval 8/18/59 9-30-59

U.S. DEPARTMENT OF LABOR
 BUREAU OF LABOR STATISTICS
 WASHINGTON 25, D.C.

SCHEDULE No.

City

Address

B

(For editor)

YEAR	REGION	CITY	SCHEDULE NO.	LOCATION IN SNISA CARD NO.	
1 DIG	1 DIG	2 DIG	1 DIG	4 - DIG	1 - DIG
1	2	3-4	5	6-9	76

← CARD COL.

THIS INFORMATION WILL BE HELD IN CONFIDENCE
 IT WILL NOT BE USED FOR TAXATION OR REGULATORY PURPOSES

Survey of Consumer Expenditures in 19__

ANNUAL INCOME, SAVINGS, AND EXPENDITURES RECORD

(1)