

## Consumer Expenditure Survey (CEX) Technical Notes

The Consumer Expenditure Survey (CEX) collects information from the Nation's households and families on their buying habits (expenditures), income, and characteristics. The strength of the survey is that it allows data users to relate the expenditures and income of consumers to the characteristics of those consumers.

Data from the CEX are used in a number of different ways by a variety of users. Market researchers find the data useful in analyzing the demand for groups of goods and services. The data allow them to track spending trends of different types of consumer units. Government and private agencies use the data to study the welfare of particular segments of the population, such as of consumer units with a reference person age 65 and over or under age 25, or for low-income consumer units. Economic policymakers use the data to study the impact of policy changes in the welfare of different socioeconomic groups. Researchers use the data in a variety of studies, including those that focus on the spending behavior of different family types, trends in expenditures on various expenditure components including new types of goods and services, gift-giving behavior, consumption studies, and historical spending trends. An important use of the survey by BLS is for the periodic revision of the Bureau's Consumer Price Index (CPI). Survey results are used to select new market baskets of goods and services for the CPI, to determine the relative importance of CPI components, and to derive new cost weights for the market baskets.

Region of residence is one of the standard variables by which expenditure data are classified. Region tables, which show the data for the Northeast, Midwest, South, and West, are included in many CEX publications.

Consumer expenditure data for selected Metropolitan Statistical Areas (MSAs) also are published. The MSA tables show annual averages over a 2-year period for 26 MSAs. Two years of data are used so as to have sufficiently large samples for publication.

The CEX does not show cost-of-living differences among areas. The CEX data in published tables show average expenditures and incomes of consumer units. The expenditure levels may vary across areas for a number of reasons. These include demographic and economic differences such as differing age levels, income levels, size of consumer units, tastes, and personal preferences. A commonly used method of comparing the cost of living among areas is to compare the cost in those areas of a similar bundle of goods and services. The CEX makes no attempt to measure a standard bundle of goods and services but rather shows actual expenditure levels of consumer units.

The data shown in the published tables are averages for all consumer units, or for all the consumer units in a particular demographic group. Because not all consumer units purchase each item during the survey period, the average expenditure for an item is generally considerably lower than the expenditure by those consumer units that purchased that item. The less frequently an item is purchased, the greater the difference between the average for all consumer units and the average of those purchasing the item.

Data users may notice that in the income tables, average annual expenditures exceed income before taxes for the lower income groups. The primary reason for that is believed

to be the underreporting of income by respondents, a problem common to most household surveys. The average incomes shown in the published tables are derived from complete income reporters (consumer units that provide information for at least one of the major sources of their income, such as wages and salaries, self-employment income, or retirement income.) However, even complete income reporters may not provide a full accounting of all income from all sources. Research has shown that some consumer units classified in the lower income classes have expenditure levels that are more typical of upper income consumer units. Their expenditures raise the average expenditure levels of the income class in which they are classified.

There are other reasons why expenditures exceed income for the lower income groups. Consumer units whose members experience a spell of unemployment may draw on their savings to maintain their expenditures. Self-employed consumers may experience business losses that result in low or even negative incomes but they are able to maintain their expenditures by borrowing or relying on savings. Students may get by on loans while they are in school, and retirees may rely on savings and investments.

Average expenditures on the most detailed items may not be as reliable as at the published level because there may be so few reports of expenditures on those items. A small number of unusually large purchases of infrequently reported items or an increase in the number of consumer reporting such expenditures may cause a large change in the average expenditure from one period to the next. The tables published in the bulletins show the expenditure component level at which the estimates are considered to be reliable. However, even in those tables, data in some cells are footnoted as being likely to have large sampling errors due to so few reports.

The survey consists of two components, a quarterly Interview Survey and a weekly Diary Survey, each with its own questionnaire and

sample. The Interview and Diary Surveys are sample surveys and are subject to two types of errors, nonsampling and sampling. Nonsampling errors can be attributed to many sources, such as differences in the interpretation of questions, inability or unwillingness of the respondent to provide correct information, mistakes in recording or coding the data obtained, and other errors of collection, response, processing, coverage, and estimation for missing data. The full extent of nonsampling error is unknown. Sampling errors occur because the survey data are collected from a sample and not from the entire population. Tables with coefficients of variation and other reliability statistics are available on request.

Caution should be used in interpreting the expenditure data, especially when relating averages to individual circumstances. The data shown in the published tables are averages for demographic groups of consumer units. Expenditures by individual consumer units may differ from the average even if the characteristics of the group are similar to the individual consumer unit. Income, family size, age of family members, geographic location, and individual tastes and preferences all influence expenditures.