

CE and Other Data Sources

In the past, USDA conducted comprehensive household surveys of food consumption approximately every 10 years. The last such survey was the 1987-88 Nationwide Food Consumption Survey (NFCS). The NFCS differs in several respects from the CE. The most notable difference, other than the survey years, is that the NFCS measured food consumption during the survey period, whereas the CE measures purchases.

Consequently, differences in the data collected in the two surveys stem from a number of conceptual (measurement) issues. For example, the value of nonpurchased foods, such as homegrown food and food received as a gift or as pay, are included in the NFCS but not in the CE. The time lag between purchase and consumption also causes differences in the data sets. The CE does not measure consumption out of household food stocks, and expenditures may include purchases used to build up inventories of staple foods, such as flour and sugar. However, the disparities among households due to inventory changes tend to average out when tabulations cover large groups of consumers.

The two surveys also differ in the unit of observation. USDA uses the household as the observational unit, whereas BLS uses the consumer unit. Although definitions of the units show similarities, differences between units classified by living arrangements and economic consuming units will exist, as in the instance of unrelated, economically independent individuals living together.

Population coverage also differs between the two surveys. The NFCS excludes individuals in group dwellings, such as college students living in dormitories, whereas the CE includes them.

Many USDA tabulations of the NFCS data include only housekeeping households—those in which at least one member consumed 10 or more meals from home food supplies during the 7-day survey period. Because housekeeping households consume more home food supplies than nonhousekeeping households, food expenditure estimates based solely on housekeeping households tend to overestimate at-home consumption and underestimate away-from-home consumption. Survey estimates suggest that about 6 percent of the U.S. civilian noninstitutional population covered by the NFCS are nonhousekeeping households.

The CE has a major advantage over the NFCS in that it provides a continuous picture of consumption expenditures over time. In contrast, the NFCS provides a snapshot of expenditures about every 10 years.

The personal consumption expenditures (PCE) data are a component of the gross national product accounts, prepared quarterly by the U.S. Department of Commerce and published in *Survey of Current Business*. The PCE series measures personal expenditures on a national level for all newly produced goods and services.

PCE estimates are based on business and government sources rather than household interviews. The source and derivation of the PCE estimates thus hardly resemble the CE estimates.

Benchmark estimates for the PCE series are developed approximately every 5 years based on the flow of goods and services through the economy. Personal consumption expenditures for food, for example, are derived by adding transportation costs and wholesale and retail trade markups to manufacturers' prices. Additional adjustments are made for exports, imports, and changes in inventories. Between benchmark years, the various components of the PCE series are updated using survey information on sales of eating and drinking establishments and estimates of grocery store sales. Other minor adjustments are also made. The primary data are from the Censuses of Manufactures, Transportation, and Business.

When placed on an annual per capita expenditure basis, estimates from the CE are consistently lower than those reported in each of the following PCE food components: total food, food consumed at home, and food consumed away from home. The relative difference is greater for food consumed away from home than for food consumed at home, probably because the diary component of the CE does not include expenditures on food when the respondent is away from home overnight or longer. Disparities between the estimates for expenditures on alcoholic beverages are even larger, but this result is expected because full disclosure of alcoholic beverage consumption is extremely difficult to obtain in household surveys.

The PCE and CE estimates of per capita annual income also differ, with the CE income estimates being lower. This difference is consistent with the notion that income generally is underreported in household surveys.

ERS develops and reports data on food disappearance in the United States with the *Food Consumption Data System* on the ERS Web site. These data measure the quantity of food available for human consumption based on records of commodity flows from production to end uses. The series are developed from estimates of production with adjustments for trade flows in and out of the country, changes in beginning and ending inventories, and removal of nonfood uses. While not a direct measure of human consumption, the series are often used to monitor levels and year-to-year trends in commodity consumption and use, estimate nutrient availability in the Nation's food supply, and estimate statistical relationships among commodity supply, demand, and prices.

Food disappearance is often used as a proxy for human consumption. Used in this manner, the data represent an upper bound on the amount of food available for consumption. Food disappearance data can overstate actual consumption because the data include spoilage and other losses in the food processing and marketing system, and losses in the household due to such factors as preparation and plate waste. However, the data remain useful as indicators of consumption if these losses in the system remain stable.

The ERS food disappearance data differ from the CE diary expenditure data in several ways. First, the ERS data conceptually include both food consumed at home and food consumed away from home. While the CE

diary data also include both categories of food expenditures, the food item detail is only available for food consumed at home. The CE reports food away from home as aggregate expenditures without any commodity or food item detail. Thus, the CE ground beef category does not include hamburgers consumed at schools or full-service or limited-service food establishments. Second, and perhaps most obvious, is the difference in the unit of observation. The CE data are based on a survey of consumer units and their expenditures while the disappearance data are based on aggregate production quantities with adjustments for imports, exports, nonfood uses, and inventories. The aggregate disappearance data are divided by the U.S. population to place disappearance on a per capita basis for comparability with the CE, which is standardized in this report by household size. It is possible that expenditures for a commodity in the CE may trend upwards while quantity trends from the disappearance data decline due to price effects.

ERS has also developed the Food Expenditure Series, which contributes to the analysis of food production and consumption by constructing a comprehensive measure of the total value of all food expenditures by all final purchasers in the United States. The ERS Food Expenditure Series annually measures total U.S. food expenditures, including purchases by consumers, governments, businesses, and nonprofit organizations. Because the term "expenditure" is often associated with household decisionmaking, it is important to recognize that this series also includes nonhousehold purchases. For example, the series includes the value of food purchased by the U.S. Government for domestic military personnel; the value of school meals, including the National School Lunch Program's "free" lunches for which eligible households make no expenditure; and the value of food purchased by airlines to serve during flights.

ERS developed this series in 1987, and annual data are available from 1929 through 2004. While the series is labeled "Food Expenditures," it also constitutes a measure of total sales through different food outlets, such as supermarkets, full-service and limited-service restaurants, mass merchandisers, hotels, and schools. In an accounting sense, production value, or sales, equals total expenditures.

The ERS Food Expenditure Series provides estimates of food eaten away from home and food eaten at home, as well as the share of the two food spending categories relative to two income series—disposable personal income and disposable personal money income. Food-away-from-home spending is mainly for food purchased at eating and drinking places, but it is also for food purchased at such outlets as hotels and motels, recreational places, vending machines, schools and colleges, and military facilities. ERS estimates of food at home and food away from home may not equal estimates of similar food categories in other data series. The ERS series differs from the CE in the sense that it attempts to capture total sales of all food, both at home and away from home, rather than the expenditures of households. The CE also disaggregates food expenditures into component parts, such as cereal and bakery goods, under food at home.