

# Comparisons with Other Data Sources

As part of the evaluation of the Consumer Expenditure Survey results, BLS compares its estimates of aggregate consumer expenditures with independent sources of data. Consumer Expenditure Survey data in these comparisons are integrated data from both the Interview and Diary surveys, unless otherwise noted. To facilitate comparison, some adjustments are made to the Consumer Expenditure Survey data and the independent sources, to account for differences in concept and coverage. The degree of comparability varies by component, as noted in the tables. Data are not shown when differences in concept or content are so great that comparison would be meaningless. Because most agencies have revised their estimates since publication of data in the last Consumer Expenditure Survey bulletin, readers should avoid comparing these ratios with those in earlier BLS publications. The Consumer Expenditure Survey data and several of the independent source data are subject to both sampling and non-sampling error. Comparisons allow monitoring of the estimates for consistency over time.

*Personal Consumption Expenditures.* The principal source of independent estimates used in comparisons with the Consumer Expenditure Survey is the Personal Consumption Expenditures (PCE) component of the National Income and Product Accounts (NIPA), published by the Bureau of Economic Analysis (BEA) of the U.S. Department of Commerce. PCE estimates of aggregate expenditures represent the market value of goods and services purchased by all persons. PCE estimates are derived by complex methods which trace the flow of goods and services through the economy. Total expenditures of persons comprise expenditures of the civilian population of the United States, including persons living abroad, persons in the military, and nonprofit institutions. (Expenditures of nonprofit institutions are not distributed among individual goods. Instead, they are included in specific service categories, primarily medical care, education and research, and religious and welfare activities—categories which are not compared with Consumer Expenditure Survey data.) PCE estimates are not directly subject to the quantifiable sampling errors found in household surveys; they are subject to sampling and non-sampling errors in the source data from which they are derived. PCE estimates are also subject to difficulties in applying complex procedures for allocating these data among final demand sectors.

BEA conducts comprehensive revisions of the NIPA at approximately 5-year intervals, primarily to update the series with new results from the Census Bureau's quinquennial censuses and other sources used in the accounts.

This kind of revision is referred to as benchmarking. Such revisions may also include changes to selected methods of estimation. PCE estimates based on different benchmarks sometimes differ by large amounts; and, as a result, revisions to PCE can have a substantial effect on comparisons with the Consumer Expenditure Survey. In addition, BEA conducts annual revisions to PCE that affect 3 years of data and may also include changes in estimation methods. Therefore, due to benchmarking and annual revisions to PCE, the Consumer Expenditure Survey-to-PCE ratios in this report should not be compared with previously published ratios.

Text table 10 shows Consumer Expenditure Survey estimates of aggregate expenditures for selected expenditure categories for 1992 through 1995, adjusted for comparability with PCE and ratios to PCE. The ratios indicate that the Consumer Expenditure Survey estimates for the major categories of consumption are lower than PCE. For several items, the relationship between these two series over time has been generally about the same. These items include the expenditure categories of food; alcoholic beverages; rent, utilities, fuels, and public services; apparel; and transportation.

*Detailed food comparisons.* Consumer expenditure estimates for food at home are compared with PCE and two published sources of trade association data, *Supermarket Business* and *Progressive Grocer* magazines. Supermarket Business, Inc. annually conducts independent mail and

Text table 10.

Comparison of aggregate expenditures for selected expenditure categories: Consumer Expenditure (CE) Survey and Personal Consumption Expenditures (PCE), 1992-95

Expenditure category	Consumer Expenditure Survey (in billions)				Ratio of CE to PCE			
	1992	1993	1994	1995	1992	1993	1994	1995
Food, total .....	\$420	\$431	\$444	\$454	0.72	0.71	0.70	0.68
At home .....	264	273	279	287	.74	.74	.73	.73
Away from home <sup>1</sup> .....	156	158	165	167	.68	.65	.64	.62
Alcoholic beverages .....	30	27	28	28	.40	.34	.35	.34
Rent, utilities, and public services <sup>2</sup> .....	328	336	358	357	.98	.97	.99	.95
Rented dwellings, total .....	192	191	205	204	1.04	1.01	1.03	.97
Utilities, fuels, and public services .....	136	146	153	153	.92	.91	.94	.92
Telephone .....	62	66	71	73	.89	.89	.88	.85
Household operations <sup>3</sup> .....	24	24	26	25	.84	.80	.83	.77
Household furnishings and equipment .....	121	127	140	149	.66	.65	.65	.66
Apparel and services .....	172	168	168	175	.62	.57	.55	.56
Transportation .....	400	420	477	453	.72	.71	.74	.68
Vehicle purchases <sup>4</sup> .....	194	208	246	225	1.08	1.05	1.14	1.04
Gasoline and motor oil .....	97	98	101	104	.93	.92	.94	.92
Other vehicle expenses <sup>5</sup> .....	80	84	95	90	.36	.35	.36	.32
Maintenance and repairs, total .....	62	63	68	60	.31	.30	.29	.24
Vehicle rental and other charges .....	18	21	26	30	.84	.83	.91	.94
Public transportation .....	28	30	36	34	.58	.60	.69	.61
Entertainment .....	139	153	153	159	.58	.58	.53	.51
Fees and admissions .....	38	42	45	45	.53	.52	.51	.47
Televisions, radios, sound equipment .....	50	61	57	58	.65	.71	.61	.57
Pets, toys and playground equipment .....	27	29	29	33	.62	.63	.59	.63
Other entertainment supplies, equipment .....	46	42	41	44	.50	.42	.37	.37
Personal care products and services .....	39	38	40	41	.66	.63	.64	.63
Reading .....	21	22	22	22	.53	.52	.50	.46
Tobacco products and smoking supplies .....	27	27	26	28	.55	.57	.55	.59
Miscellaneous <sup>6</sup> .....	34	32	37	36	.27	.23	.26	.24

<sup>1</sup> Excludes school lunches and meals as pay.

<sup>2</sup> Includes rent for tenant-occupied dwelling units and lodging away from home and at school. Rent in the CE is contract rent, which includes utilities for some renters. The CE covers direct costs of utilities and fuels by homeowners and renters. In PCE, data are for space rent, which excludes charges for utilities. PCE data cover total expenditures for utilities and fuels, even if paid by landlords.

<sup>3</sup> Excludes amounts for baby-sitting, daycare centers and care of invalids or the elderly.

<sup>4</sup> PCE estimates are derived using estimates of dealer margin (a concept which cannot be matched to CE) and wholesale value of net transactions between persons and government, foreigners, and non-dealer businesses. CE data on vehicle purchases and trade-ins were combined to approximate total value of new vehicle purchases. CE data on used vehicle purchases, trade-ins, sales and losses were combined to approximate the value of net

transactions of used vehicles.

<sup>5</sup> Includes vehicle rentals, maintenance and repairs, and other vehicle charges. Estimates exclude aircraft rentals, vehicle licenses, vehicle inspection, and vehicle registration.

<sup>6</sup> CE estimates exclude expenditures for other properties.

NOTE: Sums may not equal totals, due to rounding. Expenditure estimates for home ownership, insurance, capital improvements, health care, finance charges, education, and cash contributions are excluded from comparisons.

SOURCE: PCE data used in comparisons are from detailed tabulations of the National Income and Product Accounts of the U.S. Department of Commerce, Bureau of Economic Analysis, as of August 1996.

telephone surveys of food manufacturers, packers, wholesalers, and retailers. Focusing on measuring total industry sales, this study reports estimates of the total value of retail food sales, covering all types of food stores. Results from the surveys are reported in *Supermarket Business* (FM Business Publications, Inc., New York), usually in September of each year. Progressive Grocer, Inc. annually conducts an independent study of supermarket sales that focuses on the supermarket performance in relation to other kinds of retail outlets, comparing changes in sales by product and by category. Supermarkets, that is, grocery stores with annual food sales of \$2 million or more, account for about 75 percent of grocery store food sales. Detailed national estimates of the value of food sales in supermarkets, representing 30,750 supermarkets, are reported in *Progressive*

*Grocer* (Richard K. Hofler Publisher, Stamford, CT) in July of each year.

Text table 11 shows detailed annual estimates of food-at-home expenditures from the Consumer Expenditure Diary survey compared to PCE and the trade association data. In general, the relationship among consumer expenditure estimates and estimates from the other three sources is as expected and is consistent over the period shown. Differences between the Consumer Expenditure Diary survey estimates and the three sources of food-at-home data are most likely due to differences in the methods of data collection and estimation. These variations reflect fundamental differences in the purposes for which the data are collected. Relatively low ratios may reflect underreporting in the Consumer Expenditure Survey.

**Text table 11.** Comparison of aggregate expenditures for food: Consumer Expenditure (CE) Diary Survey and Personal Consumption Expenditures (PCE), and trade association data, 1994-95

Food category	CE Diary survey (In billions)		Ratio of CE to PCE		Ratio of CE to <i>Supermarket Business</i>		Ratio of CE to <i>Progressive Grocer</i>	
	1994	1995	1994	1995	1994	1995	1994	1995
Total .....	\$274.0	\$282.6	.72	.72	1.09	1.10	1.17	1.19
Cereals and cereal products .....	16.0	17.0	.73	.74	1.11	1.15	1.19	1.24
Bakery products .....	27.2	28.4	.72	.72	.99	1.01	1.14	1.16
Beef, pork, other meat, poultry .....	62.5	64.2	.77	.77	1.11	1.14	1.14	1.14
Fish and seafood .....	12.1	12.7	1.16	1.21	1.37	1.49	3.22	3.52
Eggs .....	3.1	3.1	1.18	1.17	2.20	2.12	1.57	1.51
Fresh milk and cream .....	13.0	12.6	.97	.88	1.68	1.66	1.40	1.38
Other dairy products .....	16.5	17.8	.88	.90	1.28	1.35	1.11	1.16
Fresh fruits and vegetables .....	27.3	28.9	.92	.94	.74	.74	.90	.92
Processed fruits and vegetables .....	16.5	14.5	.62	.52	1.09	1.12	1.42	1.42
Sugar and other sweets .....	10.7	11.5	.37	.39	1.39	1.46	2.10	2.19
Fats and oils .....	8.1	8.5	.79	.81	1.23	1.24	1.54	1.60
Nonalcoholic beverages .....	23.7	24.7	.55	.56	1.00	.97	1.13	1.10
Miscellaneous prepared foods .....	36.9	38.7	.67	.66	1.13	1.15	1.01	1.03

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, Consumer Expenditure Survey, annual. PCE estimates are shown in U.S. Department of Commerce, Bureau of Economic Analysis, "National Income and Product Accounts," *Survey of Current Business*, August 1996. Supermarket

Business, Inc., "Consumer Expenditure Study," *Supermarket Business*, FM Business Publications, Inc., September issues, 1995, 1996. *Progressive Grocer* Company, "The [year] Supermarket Sales Manual," *Progressive Grocer*, Maclean Hunter Media, Inc., July issues, 1995, 1996.

Comparisons show that Diary survey estimates of food-at-home expenditures for 1994 and 1995 are usually lower than PCE, which is based on administrative data and covers a larger population. In contrast, the Diary survey estimates are generally higher than *Supermarket Business* estimates, which may reflect the difference in data collection methods. Consumer expenditure estimates are higher than *Progressive Grocer* estimates. This difference is expected, since this trade source only covers supermarkets, as noted above. Consumer Expenditure survey estimates for fruits and vegetables, which are close to 10 percent below *Progressive Grocer* estimates, may reflect underreporting in the CE Diary survey.

**National Health Expenditures.** The Health Care Financing Administration (HCFA) of the U.S. Department of Health and Human Services publishes annual data on total aggregate health care expenditures of the United States, referred to as National Health Expenditures (NHE). Total health care expenditures include expenditures for health care by all sources in the United States economy, including public and private sources. The NHE data cover U.S. citizens living abroad, military personnel, inhabitants of U.S. territories, and parts of the institutional population—a larger population than covered by the Consumer Expenditure Survey. In particular, the NHE is designed to cover nursing home residents, while the Consumer Expenditure Survey is not.

Estimates of out-of-pocket personal health care expenditures from NHE are compared with the Consumer Expenditure Survey. Out-of-pocket money spent for health

care include expenditures for medical care that are not covered by insurance. Such expenses may include co-payments and deductible amounts that are required by health insurance plans. To derive its out-of-pocket estimates, HCFA uses data from administrative and industry sources, as well as some Consumer Expenditure Survey data. The NHE estimates used for these comparisons reflect several updates in data sources since the last consumer expenditure bulletin comparisons.

Text table 12 shows Consumer Expenditure Survey estimates of aggregate expenditures for health care (excluding health insurance and nursing home care) and ratios to NHE estimates of out-of-pocket health care expenditures. As reported in the Consumer Expenditure Survey, aggregate medical care expenditures, excluding health insurance, were \$89 billion in 1995, or 58 percent of the NHE estimate of \$141 billion. Of the Consumer Expenditure Survey total, \$37 billion were spent on medical commodities and \$53 billion on medical services. These amounts were 65 percent and 54 percent of the NHE estimates, respectively. Data show variations in the Consumer Expenditure Survey-to-NHE ratios over the 1992-95 period for both medical commodities and medical services. Declines in medical care commodities primarily reflect lower estimates for hearing aids in the Consumer Expenditure Survey and fluctuations in medical services may reflect volatility in spending on personal health care, due to changes in health insurance plans. In addition, comparison of health care expenditures may reflect underreporting in the Consumer Expenditure Survey or undetectable administrative error.