

Consumer Expenditure Survey, 2004-2005



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U.S. Department of Labor
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Preface

This report presents detailed information from the Consumer Expenditure Survey for 2004 and 2005, using combined—or integrated—data from the Diary and Interview components of the survey. Integrated data provide a complete accounting of consumer expenditures and income that neither component alone was designed to do.

The Consumer Expenditure Survey program provides a continuous and comprehensive flow of data on the buying habits of American consumers for use in a variety of economic research and in support of periodic revisions of the Consumer Price Index (CPI). The U.S. Bureau of Labor Statistics (BLS) makes data available in news releases, reports, bulletins, and articles in the *Monthly Labor Review*; on CD-ROMs; and on the Internet. Appendix D of this report presents a list of BLS publications and other resources, along with information on how to obtain them.

This report was prepared in the Office of Prices and Living Conditions, Division of Consumer Expenditure Surveys, under the general direction of Steve Henderson, Chief of the Branch of Information and Analysis. Natalie Blum, Meaghan Duetsch, William Passero, John Rogers, Mark Vendemia,

and Nick Zwileneff made major contributions in preparing tables and text. Processing of data was completed under the direction of Jay Ryan, Chief of the Branch of Production and Control, and Lavern James, Chief of the Division of Consumer Expenditure Information Systems. Gurinder Saini assisted in data processing. David Swanson, Chief of the Statistical Methods Division, provided statistical assistance on data reliability. Sylvia Johnson-Herring and Sharon Krieger contributed to the description of survey methods in appendix B. The U.S. Census Bureau, under contract with BLS, carried out data collection for both the Interview and Diary components of the survey. Monica Gabor, of the Office of Publications and Special Studies, edited this report; and Phyllis Lott, of the same office, provided typesetting and layout services.

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Introduction

How much do Americans spend in a year and how do they allocate those expenditures? In 2005, on average, consumer units¹ spent \$46,409, an increase of 6.9 percent from 2004. This followed a 6.3-percent increase in spending in 2004 and a 0.3-percent increase in 2003. (See text table 1). These spending increases occurred during a period of moderate inflation and strong economic growth. The Consumer Price Index (CPI) rose 2.7 percent in 2004 and 3.4 percent in 2005.² The civilian unemployment rate declined slightly from 5.5 percent in 2004 to 5.1 percent in 2005.³ Gross domestic product (GDP), measured in current dollars, rose 6.9 percent in 2004 and 6.3 percent in 2005. Disposable personal income, in current dollars, rose 6.4 percent in 2004 and 4.1 percent in 2005.⁴

The major components of spending—food, housing, apparel and services, transportation, health care, entertainment, and personal insurance and pensions—account for about 90 percent of consumer units' average annual expenditures. Per the Consumer Expenditure Survey (CE), in 2005, changes in expenditures varied among the major components, although all major components showed an increase in expenditures. These ranged from a 9.0-percent increase for housing, the largest increase, to a 2.6-percent increase for food, the smallest increase. The other major components of spending all showed increases in expenditures.

Expenditures on food increased 8.3 percent in 2004, and 2.6 percent in 2005. However, because of increased spending in other areas, the share of average annual expenditures spent on food fell from 13.3 percent in 2004 to 12.8 percent in 2005. (See text table 2.) Spending on food at home increased by 7.0 percent in 2004, but then decreased by 1.5 percent in 2005. In 2004, expenditures on cereals and bakery products increased 4.3 percent, those on meats, poultry, fish, and eggs increased 6.7 percent, and dairy products experienced the largest increase, 13.1 percent, of all the food at home subcomponents. The decrease in 2005 was largely due to a 3.5-percent decrease in expenditures on cereals and bakery

products and a 13.2-percent decrease in expenditures on meats, poultry, fish, and eggs. The share of expenditures spent on food at home also declined from 7.7 percent in 2004 to 7.1 percent in 2005. Expenditures on food away from home increased by 10.1 percent in 2004, and by 8.2 percent in 2005. The share of expenditures spent on food away from rose slightly from 5.6 percent in 2004 to 5.7 percent in 2005.

Housing expenditures in 2005 represented almost 33 percent of all expenditures, a slight increase over the 32 percent they represented in 2004. Expenditures on housing increased by 9.0 percent in 2005, after an increase of 3.6 percent in 2004. Expenditures in the housing subcomponents of shelter; utilities, fuels, and public services; household operations; housekeeping supplies; and household furnishings and equipment all increased in 2004 and 2005. Shelter expenditures increased by 10.1 percent in 2005, following a 1.4-percent increase in 2004. Shelter includes items such as mortgage interest, property taxes, maintenance and repair, insurance expenses, rent, and vacation homes. Spending on shelter accounted for almost 60 cents of every housing dollar. Expenditures on utilities, fuels, and public services increased 8.7 percent in 2005, about twice the increase of 4.1 percent a year earlier. The 2005 increase was driven by an 11.7-percent increase in expenditures on natural gas and an 8.5-percent increase in expenditures on electricity. Spending on utilities, fuels, and public services accounted for about 21 cents of every housing dollar. Household furnishings and equipment expenditures rose 7.4 percent in 2005, after rising 10.0 percent in 2004. This subcomponent includes such items as linens and draperies, furniture, floor coverings, small and major appliances, and other miscellaneous equipment. Expenditures on household operations increased 6.4 percent in 2005, close to the 6.5-percent increase in 2004.

Spending on apparel and services increased 3.9 percent in 2005, after increasing 10.7 percent in 2004. The subcomponent with the largest increase in 2005 was other apparel products and services, which rose 9.9 percent over 2004. This subcomponent includes items such as jewelry, watches, shoe repair, alterations, and dry cleaning. The subcomponent with the second largest expenditure increase was men's and boys' apparel, which rose 8.3 percent in 2005. Spending on apparel for children under 2 and on women's and girls' apparel both rose, by 4.8 and 2.0 percent respectively. Spending on footwear declined by 2.6 percent in 2005.

Transportation expenditures rose 7.0 percent in 2005, following just a 0.3-percent increase in 2004. In both 2004 and 2005, expenditures on gasoline and motor oil rose significantly, 19.9 percent and 26.0 percent respectively. This followed an increase of 7.9 percent in 2003, whereas in

¹A consumer unit comprises either: (1) all members of a particular household who are related by blood, marriage, adoption, or other legal arrangements; (2) a person living alone or sharing a household with others or living as a roomer in a private home or lodging house or in permanent living quarters in a hotel or motel, but who is financially independent; or (3) two or more persons living together who use their income to make joint expenditure decisions. Financial independence is determined by the three major expense categories: Housing, food, and other living expenses. To be considered financially independent, at least two of the three major expense categories have to be provided entirely, or in part, by the respondent.

²U.S. Bureau of Labor Statistics, www.bls.gov/cpi/home, 2007

³U.S. Bureau of Labor Statistics, www.bls.gov/cps/home, 2007

⁴Bureau of Economic Analysis, www.bea.gov/national/index.htm#gdp, and www.bea.gov/national/nipaweb/TableView.asp#Mid, 2007

2002, gasoline and motor oil spending declined 3.4 percent. In 2004, gasoline and motor oil spending was 20.5 percent of total transportation spending, whereas in 2005 it rose to 24 percent of total transportation spending. Public transportation spending, which includes such items as airplane and train fares, as well as intra-city transit fares, rose by 14.5 percent from 2003 to 2004, but only 1.6 percent in 2005. Spending on vehicle purchases declined by 9.0 percent in 2004, but then rose 4.3 percent in 2005. However, the share of total annual expenditures spent on vehicle purchases has declined from a share of 9.1 percent in 2003, to 7.8 percent in 2004, and 7.6 percent in 2005.

Health care expenditures, out-of-pocket only, rose 3.5 percent in 2005 and 6.5 percent in 2004, after rising 2.8-percent in 2003. The drugs subcomponent of health care rose 8.5 percent in 2005, following a 2.8 percent increase in 2004. This subcomponent includes non-prescription drugs, non-prescription vitamins, and prescription drugs. The other subcomponents of health care showed smaller increases in 2005. Health insurance expenditures rose 2.2 percent in 2005, following a 6.4-percent increase in 2004. These expenditures include only what the consumer unit paid for health insurance, not any amount paid for by a third party, such as an employer. Health insurance expenditures represent just over half of total health care spending, a proportion that has been about the same since 2003. Spending on medical services, which includes such items as dental and eye-care services, lab tests and x-rays, and physician's services, rose 4.4 percent in 2005, after a rise of 9.6 percent in 2004. Expenditures on medical supplies declined 7.9 percent in 2005, after rising 6.5 percent in 2004. (Medical supplies represented about 4 percent of total health care spending in both 2004 and 2005.)

Entertainment expenditures rose by the same amount, 7.7 percent, in both 2004 and 2005. This followed a 0.9-percent decline in spending on entertainment in 2003. Expenditures on audio and visual equipment and services, which includes televisions, rose 12.7 percent in 2005, 7.9 percent in 2004, and 5.5 percent in 2003. This subcomponent represents about 35 to 37 percent of total entertainment spending. Fees and admissions, the second largest subcomponent, showed expenditure increases of 11.4 percent in 2005 and 6.9 percent in 2004. The subcomponent of other supplies, equipment, and services includes such items as recreational vehicles, boats,

campers, and sports and exercise equipment. Because some of these items tend to be large and are purchased infrequently, this category tends to show expenditure fluctuations across years. Thus, spending declined 5.7 percent in 2005, after rising 14.2 percent in 2004; it declined 4.0 percent in 2003. This subcomponent represents a little over a fifth of total entertainment expenditures.

Spending on personal insurance and pensions rose 7.9 percent in 2005, after rising 18.9 percent in 2004. Both increases were largely due to expenditure increases in pensions and Social Security, which rose 8.8 percent in 2005 and 21.2 percent in 2004. However, in 2004, the CE implemented multiple imputation of income, in which missing income data were replaced with estimated values. Consequently, previously missing Social Security deductions, from wages and salaries, can now be calculated, based on the estimated values that income imputation provides. A full explanation of income imputation can be found in the Changes to the 2004 and 2005 Consumer Expenditure Survey Published Tables and Selected Highlights section. This more robust data in the personal insurance and pensions category caused the large expenditure increase in 2004. In both 2005 and 2004, the rise in expenditures in pensions and Social Security was slightly offset by declines of 2.3 and 1.8 percent, respectively, in spending on life and other personal insurance. This continued a trend from 2002, when spending on life and other personal insurance declined 1.0 percent, and 2003, when spending declined 2.2 percent.

Expenditure shares, which show the percent distribution among components, do not fluctuate much over time and are more useful for identifying long-term spending trends than is examining percent changes in expenditures from one year to the next. Of the major components of spending, the shares for housing, apparel and services, health care, and personal insurance and pensions changed only slightly in 2005 from those in 2004. For example, the share for housing was 32.7 percent in 2005 and 32.1 percent in 2004, while the share for health care was 5.7 percent in 2005 and 5.9 percent in 2004. Shares for transportation and entertainment were the same in both years, 18.0 and 5.1 percent, respectively. Only the share for food, 12.8 percent, in 2005, seemed to diverge more than the long-term trend; shares for the years 2002–2004 were 13.2, 13.1, and 13.3 percent, respectively.

Summary of data tables

Text table 1 shows consumer unit⁵ (CU) characteristics; income; and expenditures for 2003, 2004, and 2005, and percent changes over the periods 2003–2004 and 2004–2005. Text table 2 shows expenditure shares for 2002 through 2005. Data shown are integrated data from the Diary and Interview Surveys, unless otherwise noted. (See appendix B.) Integrated data from the current, ongoing survey have been published since 1984.

Integrated data are presented in 75 reference tables that show average annual expenditures for 2004 and 2005 for the total population, tabulated by selected socioeconomic characteristics. Included in this report are 13 tables classifying data by 13 standard characteristics for 2004 and 2005. Also included are 4 tables for selected metropolitan areas in each of the 4 regions of the country; 16 tables that cross-tabulate the data by income before taxes and: age of the reference person, region of residence, or size of the consumer unit; 4 tables that show data for single persons cross-tabulated by sex and age or by sex and income; 13 tables showing shares of total expenditures for 13 standard characteristics; and 13 tables showing aggregate expenditure shares for 13 standard characteristics. Cross-tabulations and metropolitan area tables include data that are annual averages over the 2 years, 2004 and 2005, to provide reliable estimates. Also, for the cross-

⁵The terms consumer unit and household are used interchangeably throughout the text for convenience.

tabulations, some classes are combined to make estimates reliable. For example, the standard age classification includes data for age classes 65 to 74 years and 75 years and older; but for the cross-tabulations, these classes are combined into one class—ages 65 years and older. Appendix A provides a glossary of terms used in this report. Appendix B contains a detailed description of survey procedures, including methods used to integrate the data from the Diary and Interview components of the survey. Appendix C shows the survey source—Diary or Interview—for expenditure items. Appendix D provides information on Consumer Expenditure Survey resources.

Introduction of multiple imputation of income in 2004

In 2004, as part of a continuous effort to produce high quality data, the CE implemented multiple imputation of income data. Prior to 2004, the CE only published income data from complete income reporters. A noticeable change in the published tables is the elimination of the incomplete reporting of income column in the quintiles of income before taxes tables, and the elimination of the total complete reporting column in the income before taxes tables. All published tables now show the all consumer units column. See the “Changes to the 2004 and 2005 Consumer Expenditure Survey Published Tables and Selected Highlights” section for a full explanation of the introduction of multiple imputation of income.

Text table 1. Average annual expenditures of all consumer units and percent changes, Consumer Expenditure Survey, 2003–2005

Item	2003	2004	2005	Percent change	
				2003–2004	2004–2005
Number of consumer units (in thousands).....	115,356	116,282	117,356		
Income before taxes ¹	\$51,128	\$54,453	\$58,712		
Income after taxes ¹	48,596	52,287	56,304		
Age of reference person	48.4	48.5	48.6		
Number in consumer unit:					
Persons	2.5	2.5	2.5		
Children under 18 .....	.6	.6	.6		
Persons 65 and over .....	.3	.3	.3		
Earners	1.3	1.3	1.3		
Vehicles	1.9	1.9	2.0		
Percent homeowner	67	68	67		
Annual expenditures	\$40,817	\$43,395	\$46,409	6.3	6.9
Food	5,340	5,781	5,931	8.3	2.6
At home	3,129	3,347	3,297	7.0	-1.5
Cereals and bakery products	442	461	445	4.3	-3.5
Meats, poultry, fish, and eggs	825	880	764	6.7	-13.2
Dairy products	328	371	378	13.1	1.9
Fruits and vegetables	535	561	552	4.9	1.6
Other food at home	999	1,075	1,158	7.6	7.7
Away from home	2,211	2,434	2,634	10.1	8.2
Alcoholic beverages	391	459	426	17.4	-7.2
Housing	13,432	13,918	15,167	3.6	9.0
Shelter	7,887	7,998	8,805	1.4	10.1
Utilities, fuels, and public services	2,811	2,927	3,183	4.1	8.7
Household operations	707	753	801	6.5	6.4
Housekeeping supplies	529	594	611	12.3	2.9
House furnishings and equipment	1,497	1,646	1,767	10.0	7.4
Apparel and services	1,640	1,816	1,886	10.7	3.9
Transportation	7,781	7,801	8,344	.3	7.0
Vehicle purchases (net outlay)	3,732	3,397	3,544	-9.0	4.3
Gasoline and motor oil	1,333	1,598	2,013	19.9	26.0
Other vehicle expenses	2,331	2,365	2,339	1.5	-1.1
Public transportation	385	441	448	14.5	1.6
Health care	2,416	2,574	2,664	6.5	3.5
Entertainment	2,060	2,218	2,388	7.7	7.7
Personal care products and services	527	581	541	10.2	-6.9
Reading	127	130	126	2.4	-3.1
Education	783	905	940	15.6	3.9
Tobacco products and smoking supplies	290	288	319	-7	10.8
Miscellaneous	606	690	808	13.9	17.1
Cash contributions	1,370	1,408	1,663	2.8	18.1
Personal insurance and pensions	4,055	4,823	5,204	18.9	7.9
Life and other personal insurance	397	390	381	-1.8	-2.3
Pensions and Social Security	3,658	4,433	4,823	21.2	8.8

¹In 2003, income values were derived from complete income reporters only. In 2004, income imputation was introduced, and incomes were estimated for all consumer units. (See "Changes to

the 2004 and 2005 Consumer Expenditure Survey published tables and selected highlights." p.15.)

Text table 2. Component shares of total annual expenditures, Consumer Expenditure Survey, 2002–2005

Item	2002	2003	2004	2005
Total expenditures	100.0	100.0	100.0	100.0
Food	13.2	13.1	13.3	12.8
At home	7.6	7.7	7.7	7.1
Away from home.....	5.6	5.4	5.6	5.7
Alcoholic beverages.....	.9	1.0	1.1	.9
Housing	32.7	32.9	32.1	32.7
Apparel and services	4.3	4.0	4.2	4.1
Transportation.....	19.1	19.1	18.0	18.0
Vehicle purchases	9.0	9.1	7.8	7.6
Gasoline and motor oil.....	3.0	3.3	3.7	4.3
Other vehicle expenses.....	6.1	5.7	5.5	5.0
Public transportation.....	1.0	.9	1.0	1.0
Health care	5.8	5.9	5.9	5.7
Entertainment	5.1	5.0	5.1	5.1
Personal care products and services	1.3	1.3	1.3	1.2
Reading .....	.3	.3	.3	.3
Education.....	1.8	1.9	2.1	2.0
Tobacco products and smoking supplies.....	.8	.7	.7	.7
Miscellaneous.....	1.9	1.5	1.6	1.7
Cash contributions.....	3.1	3.4	3.2	3.6
Personal insurance and pensions	9.6	9.9	11.1	11.2
Life and other personal insurance	1.0	1.0	.9	.8
Pensions and Social Security	8.6	9.0	10.2	10.4

Consumer Expenditure Survey compared with Personal Consumption Expenditures

The U.S. Bureau of Labor Statistics (BLS) Consumer Expenditure Survey (CE) routinely compares its expenditure estimates with outside sources to assess the integrity and reliability of CE data. The Personal Consumption Expenditures (PCE) component of the National Income and Product Accounts produced by the Bureau of Economic Analysis (BEA) is the principal independent source of comparable aggregate spending data. While the two sources obtain their estimates in dissimilar ways and serve distinct purposes, they both ultimately measure expenditures made by consumers, and thus serve as a valuable check on each other's data at any given point in time. It is to be expected that differences in survey methodology, definitions, and scope would lead to different expenditure estimates. Indeed, CE values are generally less than the corresponding PCE estimates, often by a wide margin. If, however, the ratio of CE-to-PCE estimates is relatively stable, it reflects favorably on survey consistency over a period of time. Frequent data comparisons have been made between the CE and PCE since the early 1980s, when the CE became an ongoing survey. Initially CE-to-PCE ratios were believed to be stable, but recent studies by BLS economists showed that ratios decreased from 1992 to 2002. An article in a 2006 CE report⁶ determined the CE/PCE ratio of all comparable goods (among durables, nondurables, and services) was 0.88 in 1992 and 0.86 in 1997. By 2002, the CE/PCE ratio had fallen to 0.83. This divergence could be attributable to any number of factors in either or both sources, and more research is needed to determine the causes. The purpose of this article is to look at the latest CE-to-PCE ratios using the most recent data available and determine if the trend is continuing. It appears that the downward trend is abating; the CE ratio for all comparable goods leveled off at 0.83 for all years from 2002 to 2005.

Survey Comparability

The CE and PCE have the same goal—to measure personal consumption expenditures—but accomplish this objective in very different ways. The CE is a household survey, while the PCE is derived from sources that focus on industries. The CE gathers data from consumer units that represent the civilian, non-institutional population of the United States, while the PCE covers all persons resident in the United States, as well as non-profit institutions. As such, there are

widespread differences in definitions and scope, so it is to be expected that total estimates may differ. Some expenditure categories are defined differently by the CE and PCE. The CE collects out-of-pocket expenditures, such as for education or contributions to retirement plans, whereas the PCE estimates these expenditures using data from institutional sources, such as the operating expenses of private educational institutions or the administrative expenses of pension plan managers. Differences in scope between the CE and PCE include, for example, that the PCE captures expenditures made by third parties for the consumer unit, such as employer-paid health benefits, while the CE only collects those expenditures made directly by the consumer unit. Additionally, the CE collects spending on used vehicles, whereas the PCE excludes purchases of used vehicles. New methodology developed by BLS researchers has isolated comparable categories between the surveys. Minor dissimilarities may still exist amongst comparable items, but these differences do not to have a significant impact on the estimates.

Detailed Results

Text table 3 displays aggregate CE and PCE estimates and CE-to-PCE ratios for all major PCE categories for 2002 through 2005, the most recent years for which published data are available. The PCE values are annual updates based on 2002 benchmark estimates. Text table 4 shows the specific categories for which the CE and PCE have been determined conceptually comparable. As mentioned previously, the CE/PCE ratio for total comparable durables, nondurables and services has been steady at 0.83 for the last 4 years (2002–2005).

Durables

Durables include the very broad categories of motor vehicles and parts; furniture and household equipment; and other durable goods. Each of the three major categories is comprised of many smaller groups, as shown in text table 3. The comparable items as listed in text table 4 are: new autos; furniture, including mattresses and bedsprings; kitchen and other household appliances; video and audio goods, including musical instruments and computer goods; and wheel goods (including bicycles and motorcycles), sports (also includes guns) and photographic equipment, boats, and pleasure aircraft. From 2002 to 2005, the CE/PCE ratio for total comparable durables is 0.75, 0.75, 0.68, and 0.71 respectively.

⁶ *Consumer Expenditure Survey, 2002–2003*, Report 990. U.S. Department of Labor, U.S. Bureau of Labor Statistics, March 2006.

Durables is a category for which the ratios are generally higher, as auto purchases are typically higher in the CE. New autos, a category for which the CE traditionally reports higher values than the PCE, with ratios well above 1, has shown volatility in its ratio recently. The ratio for new autos was 1.10 in 2002, 1.23 in 2003, then fell to 0.94 in 2004, but rose to 1.06 in 2005. An explanation for this variability may be that only about 3.5–4 percent of CE survey respondents list new car purchases each year. This low response rate, coupled with the CE's random sample may account for recent fluctuations in this category. The combination of low percent reporting and a large expenditure, in a particular category, means that small changes in the percent reporting that expenditure can cause fluctuations. As for other durables, wheel goods saw decreasing ratios, dropping from 0.72 in 2002 to 0.52 in 2005. Ratios for the three remaining comparable groups rose slightly over the same period.

Nondurables

Nondurables is comprised of four major categories: food; clothing and shoes; gasoline, fuel oil, and other energy goods; and other nondurables. The comparable items within these broad categories are: food purchased for off-premise consumption; alcoholic beverages purchased for off-premise consumption; purchased meals and beverages; alcoholic beverages in purchased meals; shoes; women's and children's clothing and accessories except shoes (also includes clothing for infants); men's and boys' clothing and accessories except shoes; gasoline, fuel oil, and other energy goods; tobacco products; and toilet articles and preparations. The CE/PCE ratio for total nondurable goods oscillated slightly from 2002 to 2005: it was 0.63 in 2002, 0.61 in 2003, 0.64 in 2004, and 0.62 in 2005. Ratios for alcoholic beverages in purchased meals, as well as for tobacco, both increased slightly over the four year period. The ratio for alcoholic beverages in purchased meals rose steadily every year, beginning at 0.40 and ending at 0.51. The ratio for alcoholic beverages purchased for off-premise consumption fell by 7 percentage points over the same period. The tobacco products CE-to-PCE ratio actually dropped in 2003, but in 2005 it was 0.41, just a trace higher than it was in 2002. The remaining comparable categories exhibited slight fluctuations with no major changes.

Services

Services make up a large part of total expenditures and include eight major categories: housing and household

operations; transportation; medical care; recreation; personal care; personal business; education and research; and religious and welfare activities. Due to conceptual differences between CE and PCE, most of these categories are not comparable. Housing, household operations, and transportation contain comparable items, all of which are listed in table 2. The CE/PCE ratio for total comparable services rose slightly; it was 1.03 in 2002, 1.04 in 2003 and 2004, and increased to 1.05 in 2005. Two sub-categories had CE-to-PCE ratios above 1—owner-occupied dwellings and other household operations (i.e., moving and storage, household insurance, rug and furniture cleaning, electrical repair, reupholstery and furniture, postage, household operation services not elsewhere classified). The owner occupied nonfarm dwelling ratio did not change significantly; other household operations increased slightly every year. The telephone and telegraph ratio increased more than any other services item, rising from .83 in 2002 to .90 in 2005, with increases every year. Additionally, the rent and utilities ratio rose by 4 percentage points over the period. The ratio for other lodging decreased from 0.68 in 2002 to 0.60 in 2005. The transportation ratio fell as well, dropping 6 percentage points over the 4-year period. The cleaning, storage, and repair of clothing and shoes ratio decreased 4 percentage points. None of the remaining comparable categories changed appreciably over the period.

Summary

The CE and PCE both measure consumer expenditures; but even when accounting for comparability, discrepancies in survey methodology, scope, and concepts lead to unequal CE-to-PCE ratios. There has been a decreasing trend in ratios since the 1990s, but recent data show that this trend may have run its course. The CE/PCE ratio for total comparable items has been steady at 0.83 from 2002-2005. Ratios for comparable durable goods have decreased slightly, while services ratios have increased and nondurable goods have remained mostly unchanged. Questions on discrepancies between the CE and PCE remain even with the steady ratios of recent years. BLS staff continue to examine the issue of CE and PCE comparability. For further discussion of differences in coverage and methodology between the CE and PCE, see the Monthly Labor Review article "The CE and the PCE: a Comparison" in the September 2006 issue.⁷

⁷Garner, Thesia I., George Janini, William Passero, Laura Paszkiewicz, Mark Vendemia – "The CE and the PCE: a Comparison," *Monthly Labor Review*, Vol. 129 No. 9, pp 20-46, September 2006.

Text Table 3. Comparison of 2002-2005 Aggregate Consumer Expenditures vs. Personal Consumption Expenditures based on 2002 PCE benchmark (\$ millions)

PCE categories	2002			2003			2004			2005		
	Aggregates		CE/ PCE ratio	Aggregates		CE/ PCE ratio	Aggregates		CE/ PCE ratio	Aggregates		CE/ PCE ratio
	PCE	CE		PCE	CE		PCE	CE		PCE	CE	
Total durables, nondurables, and services	7,350,721	4,457,246	0.61	7,703,634	4,637,379	0.60	8,211,504	4,933,388	0.60	8,742,350	5,271,179	0.60
Durable goods	923,940	693,653	.75	942,663	731,483	.78	986,260	725,419	.74	1,033,072	779,874	.75
Motor vehicles and parts	429,264	436,625	1.02	431,709	471,579	1.09	437,940	441,508	1.01	448,218	468,669	1.05
New autos ¹	101,703	111,924	1.10	97,175	119,911	1.23	97,653	91,625	.94	103,661	109,714	1.06
Net purchases of used autos	60,355	112,513	1.86	54,848	84,314	1.54	54,924	82,256	1.50	58,539	84,960	1.45
Other motor vehicles	216,911	195,506	.90	227,648	251,005	1.10	231,010	250,221	1.08	227,292	255,471	1.12
Trucks, new and net used	204,602	183,394	.90	214,168	231,479	1.08	216,294	232,218	1.07	211,075	231,771	1.10
Recreational vehicles	12,309	12,112	.98	13,480	19,526	1.45	14,716	18,003	1.22	16,217	23,700	1.46
Tires, tubes, accessories and other parts	50,295	16,682	.33	52,038	16,349	.31	54,353	17,406	.32	58,726	18,524	.32
Furniture and household equipment	323,095	180,432	.56	331,507	185,954	.56	356,499	200,756	.56	377,195	227,115	.60
Furniture, including mattresses and bedsprings ¹	68,913	46,171	.67	70,187	47,692	.68	75,461	49,807	.66	79,040	56,021	.71
Kitchen and other household appliances ¹	31,987	33,666	1.05	32,786	35,140	1.07	34,866	38,946	1.12	37,216	40,853	1.10
China, glassware, tableware, and utensils	32,346	8,660	.27	33,124	7,511	.23	34,946	9,579	.27	36,493	9,421	.26
Video and audio goods, including musical instruments and computer goods ¹	120,010	51,134	.43	123,096	51,639	.42	133,400	53,306	.40	141,186	63,568	.45
Video and audio goods incl. musical instruments ¹	75,413	33,617	.45	76,477	33,788	.44	81,790	35,422	.43	85,782	43,060	.50
Computers, peripherals, and software ¹	44,597	17,517	.39	46,619	17,851	.38	51,610	17,864	.35	55,404	20,508	.37
Other durable house furnishings (i.e. floor coverings, lamps, blinds, writing equipment, hand tools, and supplies)	69,839	40,801	.58	72,314	43,972	.61	77,826	49,118	.63	83,260	57,252	.69
Other durable goods	171,581	76,596	.45	179,447	73,950	.41	191,821	83,155	.43	207,659	84,090	.40
Ophthalmic products and orthopedic appliances	21,895	8,122	.37	22,360	8,147	.36	23,359	8,132	.35	24,974	8,231	.33
Wheel goods, including bicycles and motorcycles, sports and photographic equipment, boats and pleasure aircraft ¹	61,399	43,976	.72	65,578	37,461	.57	71,402	45,985	.64	81,538	42,248	.52
Jewelry and watches	51,228	11,577	.23	52,835	15,837	.30	56,470	15,725	.28	58,913	19,285	.33
Books and maps	37,059	12,921	.35	38,674	12,505	.32	40,590	13,313	.33	42,234	14,326	.34
Nondurable goods	2,079,633	1,212,863	.58	2,190,197	1,231,571	.56	2,345,180	1,378,620	.59	2,539,295	1,455,393	.57
Food	1,001,902	659,973	.66	1,045,969	679,381	.65	1,114,782	746,620	.67	1,201,390	763,496	.64
Food purchased for off-premise consumption ¹	612,237	389,640	.64	636,018	407,852	.64	677,906	444,202	.66	733,995	432,243	.59
Alcoholic beverages purchased for off-premise ¹	75,283	25,497	.34	78,491	27,642	.35	86,172	32,306	.37	96,459	25,901	.27
Purchased meals and beverages ¹	379,461	267,770	.71	399,018	268,497	.67	425,484	299,575	.70	455,088	328,110	.72
Alcoholic beverages in purchased meals ¹	40,728	16,487	.40	42,790	17,386	.41	44,874	20,986	.47	47,680	24,080	.51
Food supplied to civilians	9,052	2,563	.28	9,557	3,032	.32	10,033	2,843	.28	10,520	3,193	.30
Food supplied to military	676	0	.00	907	0	.00	865	0	.00	1,298	0	.00
Food produced and consumed on farms	476	0	.00	469	0	.00	495	0	.00	489	0	.00
Clothing and shoes	303,501	170,775	.56	310,922	160,942	.52	325,137	183,306	.56	341,809	189,542	.55
Shoes ¹	49,526	34,960	.71	50,333	33,823	.67	51,943	38,138	.73	54,245	37,536	.69
Women's and children's clothing and accessories except shoes ¹	149,993	87,889	.59	153,689	82,418	.54	161,438	94,829	.59	170,221	98,009	.58
Men's and boys' clothing and accessories except shoes ¹	92,874	45,769	.49	95,256	42,800	.45	99,742	47,147	.47	104,850	51,561	.49
Standard clothing issued to military personnel	358	0	.00	546	0	.00	343	0	.00	350	0	.00
Sewing good for males and females	6,467	1,486	.23	6,649	1,188	.18	7,073	2,422	.34	7,359	1,629	.22
Luggage for males and females	4,283	671	.16	4,449	713	.16	4,598	771	.17	4,784	807	.17

Text Table 3. Comparison of 2002-2005 Aggregate Consumer Expenditures vs. Personal Consumption Expenditures based on 2002 PCE benchmark (\$ millions)—Continued

PCE categories	2002			2003			2004			2005		
	Aggregates		CE/ PCE ratio	Aggregates		CE/ PCE ratio	Aggregates		CE/ PCE ratio	Aggregates		CE/ PCE ratio
	PCE	CE		PCE	CE		PCE	CE		PCE	CE	
Gasoline, fuel oil, and other energy goods ¹	178,768	148,800	.83	209,607	166,716	.80	248,792	200,124	.80	302,138	253,297	.84
Other nondurable goods.....	595,462	233,315	.39	623,699	224,532	.36	656,469	248,569	.38	693,598	242,095	.35
Tobacco products ¹	89,156	35,668	.40	88,033	33,255	.38	87,523	33,270	.38	90,036	37,163	.41
Toilet articles and preparations ¹	54,401	31,144	.57	55,971	31,292	.56	58,230	37,011	.64	61,667	32,332	.52
Semi durable house furnishings.....	37,805	16,258	.43	39,011	14,168	.36	41,157	20,368	.49	43,475	17,203	.40
Cleaning and polishing preparations and miscellaneous household supplies.....	66,262	46,275	.70	68,983	45,707	.66	72,928	51,105	.70	77,700	53,445	.69
Drug preparations and sundries.....	213,118	57,980	.27	233,643	57,666	.25	251,338	60,373	.24	265,724	65,151	.25
Nondurable toys and sport supplies.....	59,231	16,107	.27	60,642	14,214	.23	63,505	14,053	.22	67,233	13,168	.20
Stationery and writing supplies.....	18,333	14,609	.80	18,431	15,056	.82	18,820	18,832	1.00	19,619	17,470	.89
Net foreign remittances.....	4,035	0	.00	4,784	0	.00	5,044	0	.00	5,024	0	.00
Magazines, newspapers, and sheet music.....	35,111	9,108	.26	36,292	8,480	.23	39,596	8,696	.22	43,751	7,736	.18
Flowers, seeds, and potted plants.....	18,010	6,166	.34	17,909	4,694	.26	18,329	4,862	.27	19,738	5,388	.27
Services.....	4,347,148	2,550,730	.59	4,570,774	2,674,325	.59	4,880,064	2,829,349	.58	5,169,983	3,035,912	.59
Housing and Household operations ¹	1,530,788	1,647,839	1.08	1,591,191	1,743,165	1.10	1,686,073	1,830,483	1.09	1,787,064	1,965,864	1.10
Owner occupied nonfarm dwellings ¹	809,035	1,014,126	1.25	846,353	1,079,220	1.28	910,117	1,135,957	1.25	963,343	1,215,065	1.26
Rent and utilities, excluding telephone ¹	455,358	424,634	.93	470,397	451,468	.96	486,176	466,250	.96	520,946	507,667	.97
Tenant occupied nonfarm dwellings ¹	247,773	240,872	.97	245,288	250,031	1.02	248,881	255,095	1.02	256,999	273,639	1.06
Electricity ¹	111,748	109,987	.98	115,596	118,577	1.03	121,066	123,772	1.02	134,242	135,543	1.01
Gas ¹	40,734	36,967	.91	51,689	45,221	.87	55,487	49,305	.89	65,525	55,562	.85
Water and other sanitary services ¹	55,103	36,808	.67	57,824	37,639	.65	60,742	38,078	.63	64,180	42,923	.67
Rental value of farm dwellings ¹	11,678	0	.00	12,206	0	.00	12,013	0	.00	13,812	0	.00
Other lodging ¹	54,627	37,333	.68	57,961	33,992	.59	64,151	39,027	.61	69,913	41,720	.60
Telephone and telegraph ¹	128,752	107,258	.83	129,721	110,246	.85	132,932	115,144	.87	135,955	122,946	.90
Domestic service ¹	16,732	8,958	.54	18,474	10,743	.58	19,592	10,332	.53	19,894	10,813	.54
Other household operations (moving and storage, insurance, furniture cleaning, electrical repair, postage, household operation services not elsewhere classified) ¹	54,606	55,530	1.02	56,079	57,496	1.03	60,192	63,771	1.06	63,201	67,653	1.07
Transportation ¹	288,430	252,818	.88	297,308	244,558	.82	307,781	262,908	.85	320,429	263,838	.82
Repair, greasing, washing, parking storage, and leasing ¹	185,951	107,196	.58	186,818	93,441	.50	189,498	96,869	.51	195,560	101,565	.52
Bridge, tunnel, ferry tolls ¹	5,270	1,624	.31	5,510	1,928	.35	5,734	2,232	.39	6,006	2,218	.37
Insurance ¹	45,842	100,168	2.19	49,233	104,428	2.12	53,695	112,139	2.09	58,141	107,187	1.84
Mass transit systems ¹	9,000	7,266	.81	9,519	7,036	.74	10,166	6,990	.69	10,826	7,977	.74
Taxicab ¹	3,336	2,833	.85	3,500	2,485	.71	3,648	3,372	.92	3,886	2,862	.74
Railway ¹	573	1,804	3.15	563	1,854	3.29	568	2,074	3.65	578	2,278	3.94
Bus ¹	2,353	1,287	.55	2,322	1,033	.44	2,254	1,087	.48	2,175	1,420	.65
Airline ¹	28,319	27,306	.96	31,216	29,135	.93	33,070	32,087	.97	33,834	33,422	.99
Other including water passenger, passenger transportation arrangement, limousine service, other local transportation ¹	7,786	3,334	.43	8,627	3,218	.37	9,149	6,058	.66	9,424	4,908	.52
Medical care.....	1,206,198	197,331	.16	1,300,531	212,917	.16	1,395,745	230,901	.17	1,493,411	239,348	.16
Physicians.....	277,204	16,539	.06	300,550	16,569	.06	322,204	17,044	.05	342,431	18,057	.05
Dentists.....	72,162	25,447	.35	74,601	26,214	.35	80,163	27,978	.35	85,492	29,848	.35
Other professional services.....	188,238	13,164	.07	201,788	13,961	.07	217,151	15,613	.07	232,045	17,456	.08
Hospitals.....	475,061	9,875	.02	509,268	8,006	.02	541,182	10,607	.02	579,782	11,083	.02
Nursing homes.....	96,960	1,397	.01	101,496	3,784	.04	104,620	4,806	.05	111,496	3,213	.03
Health insurance.....												
Medical care and hospitalization health insurance.....	80,138	130,909	1.63	95,015	144,383	1.52	111,209	154,854	1.39	121,633	159,691	1.31
Income loss insurance.....	1,999	0	.00	2,167	0	.00	2,353	0	.00	2,572	0	.00
Workers' compensation.....	14,436	0	.00	15,646	0	.00	16,863	0	.00	17,962	0	.00
Recreation.....	299,055	151,663	.51	317,705	161,789	.51	341,552	170,882	.50	360,632	194,587	.54
Admissions to all events ¹	34,777	21,888	.63	36,032	21,312	.59	37,392	22,390	.60	38,324	25,566	.67
Motion picture theater, theatre, opera, and entertainment.....	21,276	16,129	.76	21,773	15,688	.72	22,248	16,336	.73	22,468	18,300	.81

Text Table 3. Comparison of 2002-2005 Aggregate Consumer Expenditures vs. Personal Consumption Expenditures based on 2002 PCE benchmark (\$ millions)—Continued

PCE categories	2002			2003			2004			2005		
	Aggregates		CE/ PCE ratio	Aggregates		CE/ PCE ratio	Aggregates		CE/ PCE ratio	Aggregates		CE/ PCE ratio
	PCE	CE		PCE	CE		PCE	CE		PCE	CE	
Spectator sports	13,501	5,759	.43	14,259	5,624	.39	15,144	6,054	.40	15,856	7,266	.46
Radio and television repair ¹	4,089	360	.09	4,109	401	.10	4,601	459	.10	4,754	446	.09
Clubs and fraternal organizations	21,117	12,098	.57	22,209	10,966	.49	22,271	11,417	.51	23,453	14,645	.62
Commercial participant amusements ...	83,725	21,032	.25	91,205	19,575	.21	100,713	21,548	.21	107,307	23,160	.22
Pari-mutual net receipts	5,312	5,491	1.03	5,235	5,000	.95	5,644	8,250	1.46	6,180	9,448	1.53
Other including pets and pet services, veterinarians, cable TV, film developing, lotteries, video rental, commercial amusements not elsewhere classified	150,035	90,794	.61	158,914	104,535	.66	170,932	106,818	.62	180,613	121,323	.67
Personal care	94,590	43,015	.45	99,459	43,415	.44	108,898	44,400	.41	114,607	45,819	.40
Cleaning, storage, and repair of clothing and shoes ¹	15,797	13,501	.85	15,169	12,570	.83	15,743	12,317	.78	15,763	12,786	.81
Barbershops, beauty parlors, and health clubs	42,330	27,893	.66	44,432	29,549	.67	48,409	30,709	.63	50,515	31,401	.62
Other including watch, clock, and jewelry repair, miscellaneous personal services	36,463	1,621	.04	39,858	1,296	.03	44,746	1,373	.03	48,329	1,632	.03
Personal business	546,990	40,022	.07	559,662	32,063	.06	612,448	37,097	.06	647,862	38,282	.06
Brokerage charges and investment counseling	76,516	0	.00	77,373	0	.00	88,630	0	.00	90,461	0	.00
Bank service charges, trust services, and safe deposit box rental	75,929	3,652	.05	81,807	2,980	.04	89,294	2,829	.03	99,856	3,091	.03
Services furnished by financial intermediaries except life insurance carriers	186,482	0	.00	180,921	0	.00	197,435	0	.00	203,709	0	.00
Expense of handling life insurance and pension plans	84,869	0	.00	85,869	0	.00	98,724	0	.00	106,932	0	.00
Legal services	71,249	14,910	.21	78,127	12,469	.16	81,988	14,826	.18	85,579	14,637	.17
Funeral and burial expenses	14,780	10,534	.71	15,885	8,165	.51	15,570	9,217	.59	15,990	9,321	.58
Other personal business including union expenses, professional association expenses, employment agency expenses, money orders, classified ads, tax return services, personal business services not elsewhere classified	37,165	10,926	.29	39,680	8,449	.21	42,808	10,224	.24	45,335	11,232	.25
Education and research	190,179	93,658	.49	203,096	97,770	.48	213,567	110,890	.52	226,497	121,967	.54
Higher education	103,147	52,716	.51	112,566	59,115	.53	119,573	68,629	.57	126,844	70,956	.56
Nursery, elementary, and secondary schools	38,421	38,080	.99	40,473	36,191	.89	42,472	39,107	.92	44,763	47,127	1.05
Elementary and secondary schools	28,323	14,455	.51	29,844	14,409	.48	31,404	16,605	.53	33,218	20,720	.62
Nursery schools	10,098	23,625	2.34	10,629	21,782	2.05	11,068	22,502	2.03	11,545	26,407	2.29
Other education and research	48,611	2,862	.06	50,057	2,464	.05	51,523	3,154	.06	54,890	3,885	.07
Commercial and vocational schools	33,319	0	.00	34,552	0	.00	35,580	0	.00	38,124	0	.00
Foundations and nonprofit research	15,292	0	.00	15,505	0	.00	15,943	0	.00	16,766	0	.00
Religious and welfare activities	200,090	124,384	.62	207,142	138,648	.67	218,958	141,789	.65	224,473	166,207	.74
All contributions including religion (CE) .....	...	110,900	...	...	126,569	...	...	129,440	...	...	154,864	...
Political organizations	3,626	...	...	962	...	...	4,674	...	...	812	...	...
Museums and libraries	8,501	...	...	8,980	...	...	9,070	...	...	9,432	...	...
Foundations to religion and welfare	11,838	...	...	12,218	...	...	12,693	...	...	13,141	...	...
Social welfare	30,280	7,107	.23	32,151	6,926	.22	33,789	7,350	.22	35,297	8,244	.23
Child care .....	...	...	...	...	...	...	...	...	...	...	...	...
Social welfare including membership organizations, job training, residential care, individual and family services, social services not elsewhere classified, and civic-social-fraternal associations	94,897	6,377	.07	100,967	5,153	.05	103,774	4,999	.05	108,404	3,099	.03
Religion	50,948	0	.00	51,864	0	.00	54,957	0	.00	57,387	0	.00
Net foreign travel	-9,172	0	.00	-5,320	0	.00	-4,958	0	.00	-4,993	0	.00

¹ Indicates comparable CE and PCE items.

Text Table 4. Summary Comparison of Aggregate Consumer Expenditures vs. Personal Consumption Expenditures for 2002-2005 (\$ millions)
 Restricted to Most Comparable Based on Concepts and Comprehensiveness

PCE categories	2002			2003			2004			2005		
	Aggregates		CE/ PCE ratio	Aggregates		CE/ PCE ratio	Aggregates		CE/ PCE ratio	Aggregates		CE/ PCE ratio
	PCE	CE		PCE	CE		PCE	CE		PCE	CE	
Total Durables, Nondurables, and Services (Comparable).....	3,980,320	3,306,901	0.83	4,141,837	3,427,180	0.83	4,405,576	3,655,812	0.83	4,725,354	3,901,136	0.83
All items (including those not comparable).....	7,350,721	4,457,246	.61	7,703,634	4,637,379	.60	8,211,504	4,933,388	.60	8,742,350	5,271,179	.60
Ratio of most comparable to all items	54	.74		.54	.74		.54	.74		.54	.74	
Durable Goods												
Total comparable	384,012	286,871	.75	388,822	291,843	.75	412,782	279,669	.68	442,641	312,404	.71
All durables (including those not comparable).....	923,940	693,653	.75	942,663	731,483	.78	986,260	725,419	.74	1,033,072	779,874	.75
Ratio of most comparable to all durables .....	.42	.41		.41	.40		.42	.39		.43	.40	
New autos.....	101,703	111,924	1.10	97,175	119,911	1.23	97,653	91,625	.94	103,661	109,714	1.06
Furniture, including mattresses and bedsprings	68,913	46,171	.67	70,187	47,692	.68	75,461	49,807	.66	79,040	56,021	.71
Kitchen and other household appliances.....	31,987	33,666	1.05	32,786	35,140	1.07	34,866	38,946	1.12	37,216	40,853	1.10
Video and audio good, including musical instruments, and computer goods	120,010	51,134	.43	123,096	51,639	.42	133,400	53,306	.40	141,186	63,568	.45
Wheel goods (including bicycles and motorcycles), sports (also includes guns) and photographic equipment, boats and pleasure aircraft	61,399	43,976	.72	65,578	37,461	.57	71,402	45,985	.64	81,538	42,248	.52
Nondurable Goods												
Total comparable	1,722,427	1,083,624	.63	1,809,206	1,111,681	.61	1,942,104	1,247,588	.64	2,116,379	1,320,232	.62
All nondurables (including those not comparable).....	2,079,633	1,212,863	.58	2,190,197	1,231,571	.56	2,345,180	1,378,620	.59	2,539,295	1,455,393	.57
Ratio of most comparable to all nondurables .....	.83	.89		.83	.90		.83	.90		.83	.91	
Food purchased for off-premise consumption	612,237	389,640	.64	636,018	407,852	.64	677,906	444,202	.66	733,995	432,243	.59
Alcoholic beverages purchased for off-premise consumption.....	75,283	25,497	.34	78,491	27,642	.35	86,172	32,306	.37	96,459	25,901	.27
Purchased meals and beverages	379,461	267,770	.71	399,018	268,497	.67	425,484	299,575	.70	455,088	328,110	.72
Alcoholic beverages in purchased meals	40,728	16,487	.40	42,790	17,386	.41	44,874	20,986	.47	47,680	24,080	.51
Shoes	49,526	34,960	.71	50,333	33,823	.67	51,943	38,138	.73	54,245	37,536	.69
Women's and children's clothing and accessories except shoes (also includes clothing for infants)	149,993	87,889	.59	153,689	82,418	.54	161,438	94,829	.59	170,221	98,009	.58
Men's and boys' clothing and accessories except shoes.....	92,874	45,769	.49	95,256	42,800	.45	99,742	47,147	.47	104,850	51,561	.49
Gasoline, fuel oil, and other energy goods	178,768	148,800	.83	209,607	166,716	.80	248,792	200,124	.80	302,138	253,297	.84
Tobacco products	89,156	35,668	.40	88,033	33,255	.38	87,523	33,270	.38	90,036	37,163	.41
Toilet articles and preparations.....	54,401	31,144	.57	55,971	31,292	.56	58,230	37,011	.64	61,667	32,332	.52
Services.....												
Total comparable	1,873,881	1,936,406	1.03	1,943,809	2,023,656	1.04	2,050,690	2,128,555	1.04	2,166,334	2,268,500	1.05
All services (including those not comparable).....	4,347,148	2,550,730	.59	4,570,774	2,674,325	.59	4,880,064	2,829,349	.58	5,169,983	3,035,912	.59
Ratio of most comparable to all services.....	.43	.76		.43	.76		.42	.75		.42	.75	
Owner occupied nonfarm dwellings.....	809,035	1,014,126	1.25	846,353	1,079,220	1.28	910,117	1,135,957	1.25	963,343	1,215,065	1.26
Rent and utilities, excluding telephone.....	455,358	424,634	.93	470,397	451,467	.96	486,176	466,250	.96	520,946	507,667	.97
Rental value of farm dwellings.....	11,678	0	.00	12,206	0	.00	12,013	0	.00	13,812	0	.00
Other lodging	54,627	37,333	.68	57,961	33,992	.59	64,151	39,027	.61	69,913	41,720	.60
Telephone and telegraph	128,752	107,258	.83	129,721	110,246	.85	132,932	115,144	.87	135,955	122,946	.90
Domestic service	16,732	8,958	.54	18,474	10,743	.58	19,592	10,332	.53	19,894	10,813	.54
Other household operations (i.e., moving and storage, household insurance, rug and furniture cleaning, electrical repair, reupholstery and furniture, postage, household operation services not elsewhere classified)	54,606	55,530	1.02	56,079	57,496	1.03	60,192	63,771	1.06	63,201	67,653	1.07
Transportation.....	288,430	252,818	.88	297,308	246,209	.83	307,781	262,908	.85	320,429	263,838	.82
Admissions to all events	34,777	21,888	.63	36,032	21,312	.59	37,392	22,390	.60	38,324	25,566	.67
Radio and television repair	4,089	360	.09	4,109	401	.10	4,601	459	.10	4,754	446	.09
Cleaning, storage, and repair of clothing and shoes.....	15,797	13,501	.85	15,169	12,570	.83	15,743	12,317	.78	15,763	12,786	.81

Consumer Expenditure Survey comparisons with National Health Expenditures and the Current Population Survey

N*ational Health Expenditures.* The Centers for Medicare and Medicaid Services (CMS) of the U.S. Department of Health and Human Services publish 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. There are three major conceptual reasons for differences between Consumer Expenditure Survey (CE) and NHE estimates; populations covered by the surveys, service category definitions, and the scope of included covered services. 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 CE. In particular, the NHE is designed to cover the nursing home population, whereas the CE is not. In addition, NHE categories are defined according to the type of establishment that collected the revenue, whereas, CE categories are defined by the type of services provided. For example, NHE physicians services category includes outpatient care expenditures, while the CE classifies these types of expenditures as other professional services. The CE and NHE also differ with respect to the covered services included as health care expenditures, whereby NHE captures expenditures not collected in the CE. These services are considered in scope in the NHE but not in the CE, such as non-patient revenue (parking lot revenue, for example). U.S. Bureau of Labor Statistics staff compared estimates of out-of-pocket personal health care expenditures from NHE with those from the CE. Out-of-pocket expenditures for health care include expenditures for medical care that are not covered by personal health insurance or other sources of payment. Such expenditures can include co-payments and deductible amounts required by health insurance plans. To derive its out-of-pocket estimates, CMS uses data from administrative and industry sources, as well as CE data.

Text table 5 shows CE estimates of aggregate expenditures for health care (excluding health insurance, nonprescription vitamins, nursing home care, and repair and rental of medical equipment), and ratios to NHE estimates of out-of-pocket health care expenditures (excluding nursing home care). As reported in the CE, aggregate medical care expenditures, excluding those expenditure items listed above, were \$144.3 billion in 2005, or 66 percent of the NHE estimate of \$217.1

billion (excluding nursing home care expenditures). Of the CE total, \$68.2 billion was spent on medical commodities and \$76.1 billion on medical services. These amounts were 71 percent and 63 percent of the NHE estimates, respectively. Data show variations in the CE-to-NHE ratios over the 2002–2005 period for both medical commodities and medical services. Fluctuations can reflect volatility in spending on personal health care due to changes in health insurance coverages. In addition to the conceptual differences in population, definition and scope, the comparison of health care expenditures may reflect underreporting in the CE.

Current Population Survey. The U.S. Census Bureau collects income data in the Supplement to the Current Population Survey (CPS). The CPS is a household interview survey of approximately 60,000 households. Using data collected for calendar years 2003 through 2005, comparisons are made with Consumer Expenditure Survey (CE) estimates of total consumer unit income before taxes and by source of income. CPS estimates of aggregate income by source of income are derived from Census Bureau estimates of mean income of persons and the number of persons with the specified income.

There are several differences between the CE and the CPS in the concepts and methods of measuring income. The CPS collects data in March for the previous calendar year. By comparison, the CE estimates of income are obtained in the second and fifth interviews of the consumer unit. These estimates refer to the prior 12 months; and, due to the rotating panel design of the survey, the interviews may occur at any time during the year. The Census Bureau imputes CPS income data that are missing (due to nonresponse to income questions) based on demographic characteristics. In contrast, prior to 2004, CE income data that were missing due to nonresponse were not imputed as part of the CE estimation procedure; instead, CE income estimates were based on complete income reporters only. However, beginning in 2004, the CE began multiple imputation of income data that allow income values to be estimated when they are not reported. (See the section “Changes to the 2004 and 2005 Consumer Expenditure Survey Published Tables and Selected Highlights” for a discussion of income imputation.) Correspondingly, the ratio of CE to CPS money income before taxes increased from 88

percent in 2003 to 91 percent in 2004, and to 93 percent in 2005. Neither procedure accounts for underreporting.

In addition to the differences between the CE and the CPS described above, beginning in 1993, computer-assisted personal interviews (CAPI) were used to collect the CPS income data. By comparison, the CE began using computer-assisted personal interviews to collect its data in 2003. Prior to that time, CE data were collected by traditional paper and pencil interview.

Text table 6 shows that the CE estimates of total income before taxes are 88 percent, 91 percent, and 93 percent of CPS for the 2003, 2004, and 2005 periods, respectively. This reflects comparable levels of estimates from the two surveys for three of the largest sources of income: Wages and salaries (largest source); Social Security and Railroad Retirement

Income; and self-employment income (for 2004 and 2005). The ratio of CE to CPS self-employment income increased significantly from 69 percent in 2003 to 100 percent in 2004. Also, some of the other sources of income were generally comparable between the two surveys: Pensions and annuities; and alimony, child support, and other regular financial support. Some differences in the estimates are expected because of the methodology differences between the two surveys described above and because the CPS is designed specifically to collect income data, whereas the CE is designed primarily to collect expenditure data. In addition, the CPS population is slightly greater than that of the CE. Some of the variation in the ratios reflects the difficulty of obtaining income information via household survey that is experienced by both the CE and CPS.

Text table 5. Comparison of aggregate expenditures for health care: Consumer Expenditure Survey and National Health Expenditures program, 2002-2005

Expenditure category	Aggregate consumer expenditures Consumer Expenditure Survey (in billions)				Ratio of Consumer Expenditure Survey to National Health Expenditures ¹			
	2002	2003	2004	2005	2002	2003	2004	2005
Health care, total ²	\$125.2	\$124.5	\$133.1	\$144.3	0.69	0.64	0.65	0.66
Medical commodities, total.....	60.6	60.3	62.6	68.2	.74	.69	.68	.71
Drugs and supplies.....	52.2	51.8	53.6	59.4	.75	.69	.68	.72
Medical equipment	8.4	8.5	8.9	8.7	.69	.66	.68	.64
Medical services, total.....	64.6	64.2	70.6	76.1	.65	.60	.62	.63
Professional services	54.7	56.2	60.0	65.0	.65	.63	.63	.65
Physicians services	16.5	16.6	17.0	18.1	.41	.39	.38	.38
Dental services	25.4	26.2	28.0	29.8	.79	.76	.77	.78
Other professional services.....	12.7	13.4	15.0	17.1	1.08	1.06	1.09	1.18
Hospital care	9.9	8.0	10.6	11.1	.63	.47	.57	.55

¹ The National Health Expenditures data are out-of-pocket expenditures.

² Excludes health insurance premiums, nonprescription vitamins, nursing home care, rental of medical equipment, and repair of medical equipment.

NOTE: Sums may not equal totals, due to rounding. Consumer Expenditure Survey categories have been grouped as needed to

match those used in the National Health Expenditures program.

SOURCE: The National Health Expenditures data used to obtain the ratios are from the U.S. Department of Health and Human Services, Centers for Medicare and Medicaid Services. Data are available online at <http://www.cms.hhs.gov/NationalHealthExpendData/downloads/tables.pdf>.

Text table 6. Comparison of money income before taxes: Consumer Expenditure Survey and Current Population Survey (CPS), 2003-2005

Income category	Aggregate consumer expenditures Consumer Expenditure Survey (in billions)			Ratio of Consumer Expenditure Survey to CPS ¹		
	2003	2004	2005	2003	2004	2005
Money income before taxes ²	\$5,870	\$6,300	\$6,857	0.88	0.91	0.93
Wage and salary income	4,753	5,023	5,433	.92	.94	.96
Self-employment income	247	350	443	.69	1.00	1.10
Social Security and railroad retirement income	382	401	431	.93	.93	.96
Unemployment, workers compensation, and veterans benefits	31	28	24	.34	.32	.26
Public assistance and Supplemental Security Income	27	25	30	.76	.69	.79
Pensions and annuities	264	279	290	.87	.88	.86
Interest, dividends, rents, royalties, estates and trusts	127	147	162	.41	.45	.45
Alimony, child support, and other regular financial support	40	48	45	.90	1.03	1.03

¹ Consumer Expenditure Survey data are for complete reporters of income for 2003.

² Excludes the value of food stamps, meals as pay, rent as pay, and other income from the Consumer Expenditure Survey and educational assistance and other income from the CPS.

NOTE: Sums may not equal totals due to rounding. CPS

categories have been grouped as needed to match those in the Consumer Expenditure Survey.

SOURCE: CPS data for 2003-2005 are from the U.S. Census Bureau Annual Demographic Survey, March Supplement, available on the Internet at <http://www.bls.census.gov/cps/ads/adsmain.htm>.

Changes to the 2004 and 2005 Consumer Expenditure Survey published tables and selected highlights

Income imputation in the Consumer Expenditure Survey

Nonresponse is a common problem in household surveys, particularly for questions regarding income. Nonresponse means that the respondent either does not know, or refuses to provide, the information requested. Prior to publication of the 2004 tables, the Consumer Expenditure Survey (CE) handled nonresponse to income questions by publishing income data for complete income reporters only. To be classified as a complete income reporter, the respondent had to provide a value for at least one major source of income for the consumer unit. However, not all complete reporters provided a full accounting of income for all sources for which receipt was reported. This problem was reduced, but not eliminated, with the collection of bracketed income data starting in 2001. However, even bracketed data only provide a range in which income falls, rather than a precise value for that income.

In a continuing effort to produce high quality data, the Consumer Expenditure Survey implemented multiple imputation of income data starting with the publication of the 2004 tables. Multiple imputation allows income values to be estimated when they are not reported. In multiple imputation, several estimates are made for the same consumer unit, and the average of these estimates is published. When the respondent provides no information other than receipt of the income source, these estimates are made based on characteristics of the member or consumer unit for which receipt is reported. However, when the respondent reports a bracket, the estimates are computed using methods that ensure each of these estimates falls within the range the bracket describes.

The introduction of multiply imputed income data affects the CE published tables in several ways, because income data are now published for all consumer units, instead of complete reporters only, within each demographic group. The most obvious result of this change is seen on the tables showing expenditures categorized by income before taxes, including by quintile. Starting in 2004, columns describing income, expenditures, and characteristics for Total complete reporting and Incomplete reporting of income no longer appear in these tables, and the column entitled, All consumer units appears on all income tables. This occurs because income quintiles and

income ranges are no longer defined using only data collected from complete income reporters, but instead are defined using the average of the multiply imputed values for each consumer unit. Also, in the tables showing expenditures by demographic characteristic, such as age of reference person, the footnote indicating that Income before taxes refers to Components of income... derived from 'complete reporters only' no longer appears.

Because of the implementation of income imputation, data for 2004 and subsequent years are not strictly comparable to those of prior years, especially for the income tables. In the 2003 CE tables, for example, nearly 16 percent of all consumer units are defined to be incomplete reporters. Income imputation allows expenditure data for these consumer units to be included in income categories from which they were previously excluded. To the extent that the incomplete reporters have different demographic characteristics, such as age of reference person, or different expenditure patterns than the complete income reporters who were previously assigned to these categories, averages for demographic characteristics and annual expenditures will change. In addition, some complete income reporters who do not provide values for all sources of income for which they reported receipt may be classified in different income categories (ranges or quintiles) after imputation estimates these missing values. Again, to the extent that their demographic characteristics or expenditure patterns differ from the complete reporters previously assigned to these categories, the data in the tables change. Furthermore, certain expenditures, such as pensions and Social Security, are computed using income data. As a result of imputation, average annual values for these expenditures may be substantially different in the 2004 and 2005 CE tables than in tables for previous years.

In addition, multiply imputed microdata require special methods for analysis. Users of the public-use microdata will find guidance in the 2004 and 2005 Public Use Microdata Documentation for both the Interview and Diary Surveys. Included in these documents is a description of the method used to obtain proper variance estimates for multiply imputed data. These procedures are also used to produce estimates of standard errors and coefficients of variation for multiply imputed income data in the published standard error tables available online at www.bls.gov/cex/tables.htm.

New, user-friendly Diary

In 2005, a new, more user-friendly Diary Survey form was introduced. The new form was a major change and departure from previous Diary Survey forms. Its purpose is to make reporting expenditures in the Diary Survey more straightforward, thus creating a less burdensome experience for the respondent, as well as to improve participation and obtain improved reporting of items. The Diary Survey form is organized by day, and by expenditure type. The expenditure types in the diary are food and drinks away from home; food and drinks for home consumption; clothing, shoes, jewelry, and accessories; and all other products, services, and expenses. There are five distinguishing features of the new diary.

- The form layout was redesigned and is smaller and in portrait format. There is one page for each of the expenditure types for each day of the diary. This feature simplifies the organization of the diary.

- All sub-categories within the expenditure types were eliminated.

- Checkboxes are used to obtain the necessary detail for certain types of expenditures, such as vendor type for meals away from home, and gender and age information for clothing expenditures.

- Instructions on keeping the diary were clarified. All important instructions are highlighted, more examples are provided, and a “Frequently Asked Questions” section is included on the form.

- Graphics on the new diary were modernized. Photographs and greater use of color are included in the design.

An electronic version of the new Diary Survey form can be found on the CE Web site at www.bls.gov/cex/csx801p.pdf.

Interpreting the Data

Several factors should be considered when interpreting expenditure data, especially when relating averages to individual circumstances. Data are averages for the total population—urban and rural. Because not all consumer units purchased all items during the survey period, the mean expenditure for an item is usually considerably lower than the expenditure by those consumer units that purchased it. In addition, 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. For instance, reference table 1 shows average expenditures for new cars and trucks of only \$1,931 because relatively few consumer units actually purchased a new vehicle. Of course, the average cost for those who did make this purchase would be substantially higher. For example, if 8 percent of the households reported purchasing a new car or truck in 2005, the average expenditure on new cars and trucks for those households would be \$24,138. Even if all consumer units purchased a particular item, an individual consumer unit may have spent more (or less) than the average for that item. Even within a group with similar characteristics, there may be significant variation, because income, family size, age of family members, geographic location, and individual tastes and preferences influence expenditures.

Due to small sample sizes, special caution must be exercised when using data from the Metropolitan Statistical Area (MSA) tables (reference tables 27–30). Despite using 2 years' worth of data to increase sample sizes, average

expenditures for the most-detailed items may not be reliable, because there may be few reports of expenditures for those items. Additionally, even a small number of unusually large purchases, or increases (or decreases), in the number of expenditures for infrequently reported items, can cause large changes in means from one year to the next.

Expenditures reported here are direct out-of-pocket expenditures. Indirect expenditures—that can be significant—may be reflected elsewhere. For example, rental contracts often include utilities. Renters with such contracts would record no direct expense for utilities and, therefore, appear to have lower utility expenses than do those who reported utility costs. Also, employers or insurance companies frequently pay some consumer costs. Therefore, consumer units with members whose employers pay for all or part of their health insurance or life insurance would have lower direct expenses for these items than would those whose members pay the entire amount themselves.

In addition, caution should be used in interpreting changes in expenditures over a short time span. Average amounts spent on different expenditure components may fluctuate from year to year, due to changes in economic conditions. For example, a decrease in the supply of food products as a result of poor weather conditions, or a decrease in the oil supply arising from cutbacks in oil production, might result in sharp price increases and short-term changes in expenditure levels. A less-volatile measure of expenditure patterns is the share of total expenditures spent on major categories of consumption over a period of several years.

Appendix A. Glossary

This glossary has four sections: Characteristics, expenditures, income and personal taxes, and other financial information.

Characteristics

Age. The age of the reference person.

Composition of consumer unit. The classification of interview families according to: (1) relationship of other family members to the reference person; (2) age of the children of the reference person; and (3) combination of relationship to the reference person and age of the children. Stepchildren and adopted children are included with the reference person's own children.

Consumer unit. A consumer unit comprises: All members of a particular household who are related by blood, marriage, adoption, or other legal arrangements; a person living alone or sharing a household with others or living as a roomer in a private home or lodging house or in permanent living quarters in a hotel or motel, but who is financially independent; or, two or more persons living together who use their incomes to make joint expenditure decisions. The three major expense categories: Housing, food, and other living expenses determine financial independence. To be considered financially independent, at least two of the three major expense categories have to be provided entirely, or in part, by the respondent.

Core Based Statistical Areas (CBSAs). The general concept of a CBSA is one of a county or small group of counties containing at least one urban core of 10,000 or more people, which includes the adjacent counties that have a high degree of economic and social integration with the area's core. There are two types of CBSAs: Metropolitan CBSAs have at least one urban area of 50,000 or more people; Micropolitan CBSAs are centered around an urban area with 10,000-50,000 people.

Earned. A consumer unit member, 14 years of age or older, who reported having worked at least 1 week during the 12 months prior to the interview date.

Education of reference person. The number of years of formal education of the reference person, on the basis of the highest

grade completed. If enrolled at time of the interview, the interviewer records the grade currently attended. Persons not reporting the extent of their education are classified under no school or not reported.

Housing tenure. The family's principal place of residence during the survey. Owner includes families living in their own homes, cooperatives or condominium apartments, or townhouses. Renter includes families paying rent, as well as families living rent-free in lieu of wages.

Income before taxes. Total money earnings and selected money receipts during the 12 months prior to the interview date. (See section 3 of the glossary for a complete definition of the components.)

Income after taxes. Income before taxes less personal taxes, which include Federal, State, and local income taxes and other taxes. (See section 3 of the glossary for a complete definition of the components.)

Lower limit. Amount of income before taxes of the lowest-ranked consumer unit in each income quintile.

Metropolitan Statistical Areas (MSAs). The general concept of an MSA is one of a large population nucleus, together with adjacent communities that have a high degree of economic and social integration with that nucleus. The Office of Management and Budget defines the term as a standard for Federal agencies in the preparation and publication of statistics relating to metropolitan areas.

Number of vehicles owned or leased. Number of automobiles, trucks, vans, campers, motorcycles, trailers, and planes owned or leased by members of the consumer unit, including vehicles used partially for business, but excluding those used entirely for business.

Occupation. Refers to the occupation in which the reference person received the most earnings during the survey period.

The occupational categories follow those of the Census of Population. Categories shown in the reference tables include the following:

Self-employed—encompasses all occupational categories; the reference person is self-employed in own business, professional practice, or farm.

Wage and salary earners:

Managers and professionals—executives, administrators, and managers; and professional specialties, including architects, engineers, natural and social scientists, lawyers, teachers, writers, health diagnosis and treatment workers, entertainers, and athletes.

Technical, sales, and clerical workers—technicians and related support workers; sales representatives, sales workers, cashiers, and sales-related occupations; and administrative support, including clerical.

Service workers—private household workers, protective services, food preparers, health services, cleaning and building services, and personal service occupations.

Precision production, craft, and repair workers—mechanics and repairers, construction trades, extractive occupations, and precision production occupations.

Operators, fabricators, and laborers—machine operators and assemblers, transportation workers, handlers and laborers, and farming, forestry, and fishery workers.

Retired—retired persons who did not work either full- or part-time during the survey period.

All others, including not reporting—a residual including unemployed persons; those working without pay; those not working due to illness, going to school, or caring for others; and those not reporting their occupational status.

Population. Total civilian noninstitutional population of the United States, as well as that portion of the institutional population living in the following group quarters: Boarding houses; housing facilities for students and workers; staff units in hospitals and homes for the aged, infirm, or needy; permanent living quarters in hotels and motels; and mobile home parks. Excluded are military personnel living on military bases and nursing home residents.

Quintiles of income before taxes. For each time period represented in the tables, consumer units are ranked in ascending order, according to the level of total before-tax

income reported by the consumer unit. The ranking is then divided into five equal groups.

Race. Race of the reference person of the consumer unit. All families are included in two racial groups: Black or African American and White, Asian, and All Other. The All Other group comprises such races as Native Americans, Alaskan Natives, Pacific Islanders, and beginning in 2003, Multirace.

Reference person. The first member mentioned by the respondent when asked to, “Start with the name of the person or one of the persons who owns or rents the home.” It is with respect to this person that the relationship of the other consumer unit members is determined.

Regions. Data are presented for four major regions: Northeast, Midwest, South, and West. Consumer units are classified by region, according to the address at which the family was residing during the time of their participation in the survey. The regions comprise the following States:

Northeast – Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont

Midwest – Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin

South – Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia

West – Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming

Rural population. All persons living outside a Metropolitan Statistical Area (MSA) and within an area with a population of less than 2,500 persons. See the definition for urban population below.

Size of the consumer unit. Number of persons whose usual place of residence at the time of the interview is in the sample unit.

Urban population. All persons living in Metropolitan Statistical Areas (MSAs) and in urbanized areas and urban places of 2,500 or more persons outside of MSAs. Urban, as defined in this survey, includes the rural populations within an MSA.

Expenditures

Expenditures consist of the transaction costs, including excise and sales taxes, of goods and services acquired during the interview or recordkeeping period. Expenditure estimates include expenditures for gifts, but exclude purchases or portions of purchases directly assignable to business purposes. Also excluded are periodic credit or installment payments on goods or services already acquired. The full cost of each purchase is recorded, even though full payment may not have been made at the date of purchase. The order of the expenditures listed here follows the order of presentation in the reference tables.

Food

Food at home refers to the total expenditures for food at grocery stores (or other food stores) and food prepared by the consumer unit on trips. It excludes the purchase of nonfood items.

Cereals and cereal products includes ready-to-eat and cooked cereals, pasta, flour, prepared flour mixes, and other cereal products, such as cornmeal, cornstarch, and rice.

Bakery products includes bread, crackers and cookies, biscuits and rolls, cakes, cupcakes, bread and cracker products, pies, tarts, sweet rolls, coffee cakes, doughnuts, and frozen and refrigerated bakery products, such as cookies, bread and cake dough, and batter.

Beef includes ground beef, roasts, steaks, and other cuts of beef (excluding canned beef), and veal.

Pork includes bacon, pork chops, ham (including canned), roasts, sausage, and other cuts of pork.

Other meats includes frankfurters; lunch meats, such as bologna, liverwurst, and salami; lamb and organ meats; and mutton, goat, and game.

Poultry includes fresh and frozen chickens and other fresh and frozen poultry (Cornish hens, turkey, duck, etc.).

Fish and seafood includes canned fish and seafood and fresh or frozen finfish and shellfish.

Eggs includes fresh eggs, as well as powdered eggs and egg substitutes.

Fresh milk and cream includes fresh whole milk and other fresh milk, such as buttermilk and fresh cream (including table cream, whipping cream, fresh sour cream, and fresh sour cream dressing).

Other dairy products includes butter, cheese, ice cream products, yogurt, powdered milk, condensed and evaporated milk, liquid and powdered diet beverages, malted milk, milk shakes, chocolate milk, and other specified dairy products.

Fresh fruits includes all fresh fruits.

Fresh vegetables includes all fresh vegetables.

Processed fruits includes all frozen fruits and fruit juices, canned and dried fruits, and canned or bottled fruit juices.

Processed vegetables includes canned, dried, and frozen vegetables, and vegetable juices.

Sugar and other sweets includes sugar; candy and chewing gum; artificial sweeteners; and jams, jellies, preserves, fruit butters, syrup, fudge mixes, icings, and other sweets.

Fats and oils includes margarine, shortening, salad dressings, vegetable oils, nondairy cream substitutes and imitation milk, and peanut butter.

Miscellaneous foods includes frozen prepared meals and other foods; canned and packaged soups; potato chips, nuts and other snacks; seasonings and condiments, such as olives, pickles, relishes, sauces and gravies, baking needs and other specified condiments; and other canned and packaged prepared foods, such as salads, desserts, baby foods, and vitamin supplements.

Nonalcoholic beverages includes diet and nondiet carbonated drinks (cola, fruit, and other carbonated drinks); coffee (roasted, instant, and freeze dried); tea (loose, instant, and ready-to-drink); ice; nonalcoholic beer; and other nonalcoholic beverages, including noncarbonated fruit drinks, breakfast substitutes, chocolate flavored powders; others.

Food away from home includes all meals (breakfast and brunch, lunch, dinner, and snacks and nonalcoholic beverages) including tips at fast food, take-out, delivery, concession stands, buffet and cafeteria, at full-service restaurants, and at vending machines and mobile vendors. Also included are board (including at school), meals as pay, special catered affairs, such as weddings, bar mitzvahs, and confirmations, school lunches, and meals away from home on trips.

Alcoholic beverages includes beer and ale, wine, whiskey, gin, vodka, rum, and other alcoholic beverages.

Housing

Owned dwellings includes interest on mortgages, interest on home equity loans and lines of credit, property taxes and insurance, refinancing and prepayment charges, ground rent, expenses for property management/security, homeowners' insurance, expenses for repairs and maintenance contracted out, and expenses of materials for owner-performed repairs and maintenance for dwellings used or maintained by the consumer unit. Mortgage principal repayments are payments of loans and are shown in Other financial information.

Rented dwellings includes rent paid for dwellings, rent received as pay, parking fees, maintenance, and other expenses.

Other lodging includes all expenses for vacation homes, school, college, hotels, motels, and other lodging while out of town.

Utilities, fuels, and public services includes natural gas; electricity; fuel oil and other fuels, such as wood, kerosene, coal, and bottled gas; water and other public services, such as garbage and trash collection, sewerage maintenance, septic tank cleaning; and telephone charges.

Personal services includes baby-sitting; day care, nursery

school, and preschool tuition; care of the elderly, invalids, and handicapped; adult day care; and domestic and other duties.

Other household expenses includes housekeeping services, gardening and lawn care services, coin-operated laundry and dry-cleaning (non-clothing), termite and pest control products and services, home security systems service fees, moving, storage, and freight expenses, repair of household appliances and other household equipment, repair of computer systems for home use, computer information services, reupholstering and furniture repair, rental and repair of lawn and gardening tools, and rental of other household equipment.

Housekeeping supplies includes laundry and cleaning supplies, cleaning and toilet tissues, stationery supplies, postage, delivery services, miscellaneous household products, and lawn and garden supplies.

Household textiles includes bathroom, bedroom, kitchen and dining room, other linens, curtains and drapes, slipcovers and decorative pillows, and sewing materials.

Furniture includes living room; dining room; kitchen; bedroom; nursery; and porch, lawn, and other outdoor furniture.

Floor coverings includes new and replacement wall-to-wall carpets, and non-permanent floor coverings.

Major appliances includes refrigerators and freezers, dishwashers and garbage disposals, stoves and ovens, vacuum cleaners, microwaves, air-conditioners, sewing machines, washing machines and dryers, and floor cleaning equipment.

Small appliances/miscellaneous housewares includes small electrical kitchen appliances, portable heating and cooling equipment, china and other dinnerware, flatware, glassware, silver and other serving pieces, nonelectric cookware, tableware, nonelectric kitchenware, and plastic dinnerware. (excludes personal care appliances)

Miscellaneous household equipment includes luggage, lamps and light fixtures, window coverings, clocks, floral arrangements and house plants, lawnmowers and gardening equipment, other hand and power tools, telephone answering devices, telephones and accessories, computers and computer hardware for home use, computer software and accessories for home use, calculators, typewriters, business equipment for home use, personal digital assistants, internet services away from home, rental of furniture, closet and storage items, other household decorative items, infants' equipment, outdoor equipment, smoke alarms, other household appliances, and other small miscellaneous furnishings.

Apparel and services

Men's and boys' apparel includes coats and jackets, sweaters and vests, sport coats and tailored jackets, trousers and slacks, shorts and short sets, sportswear, shirts, underwear, nightwear, hosiery, uniforms, and accessories.

Women's and girls' apparel includes coats and jackets, furs, sport coats and tailored jackets, sweaters and vests, blouses and shirts, dresses, jeans, culottes, slacks, shorts, sportswear, underwear, nightwear, uniforms, hosiery, and accessories.

Apparel for children under age 2 includes coats, jackets, and snowsuits; underwear; diapers; dresses; crawlers and

other sleeping garments; hosiery; footwear; and accessories.

Footwear includes articles such as shoes, slippers, boots, and other similar items. It excludes footwear for children under age 2 and special footwear used for sports such as bowling or golf shoes.

Other apparel products and services includes material for making clothes, shoe repair, alterations and repairs, sewing patterns and notions, clothing rental, clothing storage, dry cleaning and sent-out laundry, watches, jewelry, and repairs to watches and jewelry.

Transportation

Vehicle purchases (net outlay) includes the net outlay (purchase price minus trade-in value) on new and used domestic and imported cars and trucks and other vehicles, including attachable campers, trailers, motorcycles, and private planes.

Vehicle finance charges includes the dollar amount of interest paid for a loan contracted for the purchase of vehicles described above.

Gasoline and motor oil includes gasoline, diesel fuel, and motor oil.

Maintenance and repairs includes tires, batteries, tubes, lubrication, filters, coolant, additives, brake and transmission fluids, oil change, brake work including adjustment, front-end alignment, wheel balancing, steering repair, shock absorber replacement, clutch and transmission repair, electrical system repair, exhaust system repair, body work and painting, motor repair, repair to cooling system, drive train repair, drive shaft and rear-end repair, tire repair, audio and video equipment, other maintenance and services, and auto repair policies.

Vehicle insurance includes the premium paid for insuring cars, trucks, and other vehicles.

Public transportation includes fares for mass transit, buses, trains, airlines, taxis, school buses for which a fee is charged, and boats.

Vehicle rental, leases, licenses, and other charges includes leased and rented cars, trucks, motorcycles, and aircraft; inspection fees; State and local registration; driver's license fees; inspection fees; parking fees; towing charges; tolls and electronic toll passes; global positioning services; and automobile service clubs.

Health care

Health insurance includes traditional fee-for-service health plans, preferred-provider health plans, health maintenance organizations (HMOs), Medicare payments, commercial Medicare supplements, long term care insurance, and other health insurance.

Medical services includes hospital room and services, physicians' services, service by a professional other than a physician, eye and dental care, lab tests and x-rays, medical care in a retirement community, care in convalescent or nursing home, and other medical care service.

Drugs includes nonprescription drugs and vitamins and prescription drugs.

Medical supplies includes topicals and dressings,

antiseptics, bandages, cotton, first aid kits, contraceptives, syringes, ice bags, thermometers, sun lamps, vaporizers, heating pads, medical appliances (such as braces, canes, crutches, walkers, eyeglasses, and hearing aids), and rental and repair of medical equipment.

Entertainment

Fees and admissions includes fees for participant sports; admissions to sporting events, movies, concerts, and plays; health, swimming, tennis and country club memberships; fees for other social, recreational, and fraternal organizations; recreational lessons or instruction; rental of movies, and recreation expenses on trips.

Audio and visual equipment and services includes televisions; radios; phonographs; community antenna and cable TV; tape recorders and players; online gaming services; VCRs and video disc players; miscellaneous sound equipment; sound equipment accessories; video cassettes, tapes, and discs; video game hardware and software; streaming, downloading video; rental and repair of TV, VCR, radio, and sound equipment; personal digital audio players; sound components and component systems; satellite dishes; CDs, records, audio tapes; streaming, downloading audio; musical instruments and accessories, and rental and repair of such; and rental of video cassettes, tapes, films, and discs.

Pets, toys, hobbies, and playground equipment includes pets, (pet food, pet services, veterinary expenses, etc.); toys, games, arts and crafts, tricycles; hobbies, and playground equipment.

Other entertainment supplies, equipment, and services includes indoor exercise equipment; athletic shoes; bicycles; trailers; purchase and rental of motorized campers and other recreational vehicles; camping equipment; hunting and fishing equipment; sports equipment (winter, water, and other); boats, boat motors, and boat trailers; rental of boats; landing and docking fees; rental and repair of sports equipment; global positioning system devices; photographic equipment, supplies, and services (film and film processing); photographer fees; repair and rental of photo equipment; fireworks; and pinball and electronic video games.

Other expenditures

Personal care products and services includes products for the hair, oral hygiene products, shaving needs, cosmetics and bath products, electric personal care appliances, other personal care products, and personal care services.

Reading includes subscriptions for newspapers and magazines; books through book clubs; and the purchase of single-copy newspapers, magazines, newsletters, books, and encyclopedias and other reference books.

Education includes tuition; fees; and textbooks, supplies, and equipment for public and private nursery schools, elementary and high schools, colleges and universities, and other schools.

Tobacco products and smoking supplies includes cigarettes, cigars, snuff, loose smoking tobacco, chewing tobacco, and smoking accessories (such as cigarette or cigar holders, pipes, flints, lighters, and pipe cleaners).

Miscellaneous includes safety deposit box rentals, checking account fees and other bank service charges, lotteries and pari-mutuel losses, credit card memberships, shopping club membership fees, legal fees, accounting fees, funerals, cemetery lots, dating services, occupational expenses, expenses for other properties, and finance charges other than those for mortgages and vehicles.

Cash contributions includes cash contributed to persons or organizations outside the consumer unit, including alimony and child support payments, and care of students away from home; gifts of stocks, bonds, and mutual funds to persons outside the consumer unit; and contributions to religious, educational, charitable, or political organizations.

Life, endowment, annuities, and other personal insurance includes premiums for whole life and term insurance; endowments; income and other life insurance; mortgage guarantee insurance; mortgage life insurance; premiums for personal liability, accident and disability, and other nonhealth insurance other than for homes and vehicles.

Retirement, pensions, and Social Security includes all Social Security contributions paid by employees; employee contributions to railroad retirement, government retirement, and private pension programs; and retirement programs for the self-employed.

Income and personal taxes

Income

Income is the combined income of all consumer unit members (14 years of age or older) during the 12 months preceding the interview. Components of income are described below. The order of the definitions of income and personal taxes follows the order of presentation in the reference tables.

For a definition of quintiles of income, see the section on characteristics at the beginning of this glossary.

Money income before taxes is the total money earnings and selected money receipts during the 12 months prior to the interview date. Money income includes the following components:

Wages and salaries includes total money earnings of all consumer unit members (14 years of age and older) from all jobs, including civilian wages and salaries; Armed Forces pay and allowances; piece-rate payments; commissions; tips; National Guard or Reserve pay (received for training periods); and cash bonuses before deductions for taxes, pensions, union dues, etc.

Self-employment income includes net business and farm income, which consists of net income (gross receipts minus operating expenses) from a profession or unincorporated business or from the operation of a farm by an owner, tenant, or sharecropper. If the business or farm is a partnership, only

an appropriate share of net income is recorded. Losses are also recorded.

Social Security, private and government retirement includes the following: (1) payments by the Federal Government made under retirement, survivors', and disability insurance programs to retired persons, dependents of deceased insured workers, or disabled workers and (2) private pensions or retirement benefits received by retired persons (or their survivors), either directly or through an insurance company.

Interest, dividends, rental income, and other property income includes interest income on savings or bonds; payments made by a corporation to its stockholders; periodic receipts from estates or trust funds; net income or loss from the rental of property, real estate, or farms; and net income or loss from roomers or boarders.

Unemployment and workers' compensation and veterans' benefits includes income from unemployment compensation and workers' compensation and veterans' payments, including educational benefits but excluding military retirement.

Public assistance, supplemental security income, and food stamps includes public assistance or welfare, including money received from job training grants; supplemental

security income paid by Federal, State, and local welfare agencies to low-income persons who are age 65 or over, blind, or disabled; and the value of food stamps obtained.

Regular contributions for support includes alimony and child support, as well as any regular contributions from persons outside the consumer unit.

Other income includes money income from care of foster children, cash scholarships, fellowships, or stipends not based on working and meals or rent as pay.

Personal taxes

Federal income taxes includes Federal income taxes withheld in the survey year to pay for income earned in that survey year, plus additional taxes paid in the survey year to cover any underpayment or underwithholding of taxes in the year prior to the survey.

State and local income taxes includes State and local income taxes withheld in the survey year to pay on income earned in the survey year, plus additional taxes paid in the survey year to cover any underpayment or underwithholding of taxes in the year prior to the survey.

Other taxes includes personal property and other personal taxes paid.

Other financial information

These items are not part of expenditures or income. They are provided for additional information.

Net change in assets includes changes in savings and checking accounts; purchases of securities (stocks, bonds, or mutual funds) in the year which they were held to the end of the year; sales of securities which were purchased in a prior year; changes in the balances of money owed to the consumer unit; sales and purchases and repairs and improvements to own dwelling occupied by the consumer unit, vacation home, recreational property, unimproved land and other property owned by the consumer unit; changes in investments in unincorporated family businesses and farms; amounts received or reimbursements from the sale of vehicles; principal amounts of trust held on own dwelling, vacation home, and other properties owned by the consumer unit; and surrender of insurance policies. (This value has a positive or negative sign to indicate increases or decreases in assets.)

Net change in liabilities includes changes in mortgage principal on own dwelling occupied by the consumer unit, vacation home, recreational property, unimproved land and other property owned by the consumer unit; payments of mortgage interest due before either survey year of the survey period; money owed on purchases of cars, trucks, and

other vehicles; and money owed to other creditors, such as department stores, banks, credit unions, finance companies, insurance companies, doctors, dentists, and other medical practitioners. This value has a positive or negative sign to indicate increases or decreases in liabilities.

Other money receipts includes lump-sum payments from estates or trusts, insurance, money from sale of house furnishings, refunds from overpayment on Social Security, refunds from insurance policies, and refunds from property taxes.

Mortgage principal paid on owned property includes the reduction of mortgage principal on a mortgage or home equity loan for a home or any other property. (This is not included in homeowner costs but is repayment of a loan.)

Estimated market value of owned home is the approximate value of the property in the current market.

Estimated monthly rental value of owned home is the approximate monthly rental value of the property in the current market.

Gifts of goods and services includes gift expenditures for persons outside the consumer unit. These items have already been defined in the Expenditures section. Their values are given, so they can be subtracted from the expenditure totals, if the value of consumption within the household is desired.

Appendix B. Integration and Survey Methods

The U.S. Bureau of Labor Statistics (BLS or the Bureau) has been gathering information on the spending patterns and living costs of American consumers for more than a century—since the first such survey in 1888–91. Survey methods have been greatly improved and refined over the years. A major methodological improvement, first used in the 1972–73 survey, was the introduction of two separate surveys—a quarterly interview survey and a weekly diary or recordkeeping survey—rather than a single interview survey, relying primarily on annual recall by survey participants. The Bureau added a further enhancement in 1980, when it began data collection for the survey on a continuing basis, rather than at intervals of about 10 years.

The Bureau designed the surveys so each has its own questionnaire and sample. For the quarterly Interview Survey, an interviewer visits every consumer unit in the sample every 3 months over a 12-month period. It was designed to obtain data on the types of expenditures respondents can be expected to recall for a period of 3 months or longer. For the Diary Survey, consumer units are asked to complete a record of expenses for two consecutive 1-week periods. It was designed to obtain detailed data on frequently purchased small items such as food and beverages (both at home and in eating places).

Integrating data from the Interview and Diary Surveys provides a complete accounting of expenditures and income that neither survey component alone is designed to do. Expenditure levels and expenditure shares (the percent of the total spent on each category) shown in this report result from integrating the Diary and Interview Survey data.

Description of survey

BLS contracts with the U.S. Census Bureau to carry out data collection for both surveys. In the Interview Survey, a U.S. Census Bureau field representative meets with respondents and collects expenditure and income data via a computer-assisted personal interview questionnaire. In the Diary Survey, respondents are asked to report all expenditures made during their 2-week participation in the survey. Expenditures and related data are recorded in a self-reporting record of daily living expenses. All data collected in both surveys are subject to confidentiality requirements that prevent the disclosure of respondents' identities or such geographic identifiers that may lead to their identification.

In addition to the Interview Survey questionnaire and the Diary Survey record of daily expenses, information pertaining to age, sex, race, marital status, and family composition

is collected from each survey respondent in a Household Characteristics Questionnaire. The questionnaire also asks for information on work experience, occupation, industry, retirement status, and income. Income includes member earnings from wages and salaries, net income from a business or profession, net income from a farm, and income from all other sources. Data on household characteristics are collected to determine the eligibility of the family for inclusion in the population covered by the Consumer Price Index, to classify families by family type for purposes of analysis, and to adjust for nonresponse by families who do not cooperate in the survey. These data also provide the link between the Diary and Interview Surveys to permit the integration of the data by demographic characteristics.

Quarterly Interview Survey. The quarterly interview portion of the survey is designed to collect data on major items of expense, household characteristics, and income. The survey covers expenditures that one would expect respondents to recall for 3 months or longer, such as those for property, automobiles, and major appliances, and those that occur on a regular basis, such as rent, insurance premiums, and utilities. The survey includes detailed data on an estimated 60 to 70 percent of total household expenditures. In addition, global estimates, that is, expense patterns for a 3-month period, are obtained for food and other selected items, accounting for an additional 20 to 25 percent of total expenditures. Each sample household is interviewed once per quarter, for five consecutive quarters. Data collected in each quarter are estimated independently, so annual estimates do not depend upon the participation of a consumer unit for the full five quarters.

New panels are introduced into the interview sample on a monthly basis, as other panels complete their participation. For the Interview Survey as a whole, 20 percent of the sample is dropped and a new group added each quarter. This rotating procedure allows panel estimates to reflect population changes; it also provides operational efficiency by distributing interviewer workload across time.

For the initial interview, information is collected on demographic and family characteristics and on the inventory of major durable goods of each consumer unit. Expenditure information is also collected in this interview, with a 1-month recall. Expenditure information is used, along with the inventory information for bounding purposes to minimize telescoping errors. These errors, common in retrospective interviews, result from a tendency to report past events in the reference period of the survey.

The second through fifth interviews use uniform questionnaires to collect expenditure information in each quarter. In the second and fifth interviews, information also is obtained on income, such as wage and salary earnings, unemployment compensation, child support, and alimony, as well as information on the employment of each household member. For new consumer unit members and members who started work since the second interview, interviewers ask for wage, salary, and other information on employment in the third and fourth interviews. If there is no new employment information, information is carried over from the second interview to the third and fourth. In the fifth interview, a supplement is used to collect changes in assets and liabilities.

Households that move away from the sample address between interviews are dropped from the survey. New households that move into the sample address are screened for eligibility and, if found qualified, are included in the survey.

Diary Survey. The Diary portion of the survey collects expenditure data for small items purchased on a daily or weekly basis, such as food, beverages, food consumed away from home, housekeeping supplies, nonprescription drugs and medical supplies, and personal care products and services. However, participants are asked to record all purchases made each day for two consecutive 1-week periods. Respondents receive each weekly diary during a separate visit by a Census Bureau interviewer. The data collected in each week are used independently in the annual estimates, so participation of a consumer unit for both weeks is not required. However, most respondents participate for both weeks.

Beginning in 2004, the CE implemented multiple imputation of income to provide estimated values for missing income data. This process is applied to both Interview and Diary survey data. As such, data from 2004 are not strictly comparable to data from previous years. For a full explanation of income imputation, see the Changes to the 2004 and 2005 Consumer Expenditure Survey Published Tables and Selected Highlights section.

Integration methods

The Interview Survey is designed to capture major expenditure items, household characteristics, and income data. While the Diary survey was designed to capture expenditure information on items that respondents do not recall accurately over long periods of time, the scope of the survey includes all expenses (except overnight travel) that a consumer unit incurs during the survey week. This includes major items of expense and also items for which outlays occur on a regular basis, both of which are more accurately collected in the Interview Survey. Therefore, the Diary and Interview Surveys overlap considerably in their coverage of household expenditures. In a procedure known as integration, BLS chooses the Diary or Interview component of the CE as the most statistically reliable source for each expenditure item for both CE publications and data comparisons.

For integration, expenditure items are classified into three groups:

- Those that are collected solely in the Diary Survey, such as detailed food expenditures, personal care items, postage, housekeeping supplies, and nonprescription drugs.

- Those that, by definition and degree of detail, are necessarily taken from the Interview Survey. For example, the Diary Survey asks for out-of-pocket expenditures but does not request information on reimbursements, hence, the Interview Survey is used as the source for expenditures that are partially or completely reimbursed. The Interview Survey is also the source for expenditures on trips (overnight and longer) because the Diary Survey does not collect data on those expenditures.

- Those for which data are available from both the Diary and Interview Surveys and where definitional considerations are not a factor. The source must be determined for this group.

The source selection procedure uses 3 years of data. It starts with significance tests on Diary and Interview means for a 5-digit UCC (UCC-5). A Universal Classification Code (UCC) is a 6-digit member of a coding scheme that classifies expenditures. It is the lowest level at which CE expenditures are tabulated. A UCC-5 expenditure category results from aggregating data over the sixth digit level of detail. If the Diary and Interview UCC-5 means are not significantly different from each other, the source with the lower coefficient of variation (C.V.) is selected for every UCC within the UCC-5 category.

If the Diary and Interview UCC-5 means are significantly different from each other, the source is selected at a higher level of aggregation called the COMPLINE. A COMPLINE consists of one or more UCCs, and is the lowest level at which CE and Personal Consumption Expenditure (PCE) data are directly comparable. The PCE is a component of the National Income and Product Accounts of the Bureau of Economic Analysis of the U.S. Department of Commerce. It measures the entire personal sector of the economy and provides estimates that can be compared with many, although not all, types of expenditures covered by the Consumer Expenditure Survey.¹ If the Diary and Interview means are not significantly different at the COMPLINE level, the survey with the lower C.V. is selected as the source for every UCC in the COMPLINE that was not assigned a source in a previous step.

If the COMPLINE means are significantly different, the PCE is brought in to aid in the selection process. The mean squared error (MSE) of a COMPLINE-level expenditure mean is estimated for both the Diary and Interview surveys by the equation below:

$$MSE_{i,s} = V_{i,s} + (CE_{i,s} - PCE_i)^2$$

where $CE_{i,s}$ is the mean expenditure for the i -th COMPLINE in survey s (Diary or Interview), PCE_i is the mean expenditure for the i -th COMPLINE using PCE data, and $V_{i,s}$ is the variance of $CE_{i,s}$. The survey with the lower MSE is the

¹Raymond Gieseman, "The Consumer Expenditure Survey: Quality Control by Comparative Analysis," *Monthly Labor Review*, March 1987, pp. 8-14.

source for every UCC that was not previously assigned a source. Appendix C gives a complete list of the source selections.

The above-mentioned tests of significance at the UCC-5 and COMPLINE levels are actually performed on log transformations of the means. Log transformation helps make the distributions of the sample data symmetric.

Sample Design

The Consumer Expenditure Survey is a nationwide household survey designed to represent the total U.S. civilian noninstitutional population. It includes people living in houses, condominiums, apartments, and group quarters such as college dormitories. It excludes people such as military personnel living on base, nursing home residents, and people in prisons.

The selection of households for the survey begins with the definition and selection of geographic areas called primary sampling units (PSUs). PSUs are counties (or parts thereof), or groups of counties. The set of PSUs used for the 2004 sample consists of 105 geographic areas. The sample PSUs were classified into four categories:

- 31 “A” PSUs, which are Metropolitan Statistical Areas (MSAs) with a population greater than 1.5 million.
- 46 “B” PSUs, which are medium-sized MSAs.
- 10 “C” PSUs, which are nonmetropolitan areas that are used in the Consumer Price Index.
- 18 “D” PSUs, which are nonmetropolitan areas where only the urban portion of the population is used in the Consumer Price Index.

The sampling frame (the list of addresses from which the sample is drawn) for the 2004 survey was generated from the 1990 Census 100-percent detail file. New construction permits and techniques used to eliminate recognized deficiencies in census coverage augmented the sampling frame.

Beginning with the use of the 2005 sample, the definition of PSUs was modified such that a PSU is now defined as a county (or part thereof), or a group of counties, or independent cities grouped together into geographic entities called core-based statistical areas (CBSAs). The CBSAs are also placed into categories. A CBSA is categorized based on the population of the largest urban area [urbanized area or urban cluster] within the CBSA. Categories of CBSAs are: Metropolitan Statistical Areas, based on urbanized areas with a population of 50,000 or more, and Micropolitan Statistical Areas, based on urban clusters with a population of at least 10,000 but less than 50,000. The sample of PSUs used in the 2005 survey consists of 102 geographic areas, of which 86 urban areas are also used by the Consumer Price Index program.

The PSUs are classified into four categories:

- 28 “A” PSUs, which are metropolitan CBSAs with a population over 2.7 million people.
- 42 “X” PSUs, which are metropolitan CBSAs with a population under 2.7 million people.
- 16 “Y” PSUs, which are micropolitan CBSAs.
- 16 “Z” PSUs, which are non-CBSA areas, and are often referred to as rural PSUs.

Within these 102 PSUs, the sampling frame (the list of addresses from which the sample is drawn) is generated from the 2000 Census 100-percent detail file. Again, it is augmented by a sample of addresses drawn from new construction permits and by extra housing units identified through coverage improvement techniques.

The U.S. Census Bureau selects a sample of approximately 12,000 addresses per year to participate in the Diary Survey. Usable diaries are obtained from approximately 7,100 households at those addresses. Diaries are not obtained from the other addresses due to refusals, vacancies, ineligibility, or the nonexistence of a housing unit at the selected address. The actual placement of diaries is spread equally over all 52 weeks of the year.

Approximately 14,000 addresses are contacted in each calendar quarter of the year for the Interview survey. One-fifth of the addresses contacted each quarter are new to the survey and provide bounding interviews that provide baseline data, which are not used to compute the survey’s published expenditure estimates. Excluding these bounding interviews and interviews not completed due to refusals, vacancies, ineligibility, or the nonexistence of a housing unit at the selected address, usable interviews are obtained from approximately 7,100 households each quarter. After a housing unit has been in the sample for five consecutive quarters, it is dropped from the survey and a new housing unit is selected to replace it.

Response rates

Response data for the CE Interview Surveys for 2004 and 2005 are shown in table B-1. For the CE Interview Survey, the totals refer to housing units in the second through fifth quarters of the survey (the non-bounding interviews), with each unique housing unit providing up to four usable interviews. Response data for the CE Diary Surveys for 2004 and 2005 are shown in table B-2. For the CE Diary Survey, the totals refer to housing units in weeks 1 and 2 of the survey, with each unique housing unit providing up to two usable interviews. Most Diary respondents participate for both weeks.

There are three general categories of nonresponse:

- Type A nonresponses are refusals, temporary absences, and noncontacts
- Type B nonresponses are vacant housing units, housing units with temporary residents, and housing units under construction
- Type C nonresponses are destroyed or abandoned housing units, and housing units converted to nonresidential use

Type A nonresponses are considered to be in-scope and eligible units, because these units were able to participate in the survey but either chose not to do so or could not be contacted. Type B nonresponses are considered to be in-scope but ineligible units, because these addresses are vacant. Type C nonresponses are considered to be out-of-scope units.

Response rates are defined to be the percent of eligible housing units (i.e., the designated sample less Type B and Type C nonresponses) from which usable interviews are collected. In the 2005 CE Interview Survey there were 39,988 eligible housing units from which 29,804 usable interviews were collected, resulting in a response rate of 74.5 percent. In the 2005 CE Diary Survey there were 21,309 eligible housing units from which 15,126 usable interviews were collected, resulting in a response rate of 71.0 percent.

Table B-1. Analysis of response in the CE Interview Survey, 2004 and 2005

Sample unit	2004	2005
Housing units designated for the survey	50,509	49,242
Less: Type B or C nonresponses	9,626	9,254
Equals: Eligible units	40,883	39,988
Less: Type A nonresponses	9,798	10,184
Equals: Interview units	31,085	29,804
Percent of eligible units interviewed	76.0	74.5

Table B-2. Analysis of response in the CE Diary Survey, 2004 and 2005

Sample unit	2004	2005
Housing units designated for the survey	27,385	26,054
Less: Type B or C nonresponses	5,746	4,745
Equals: Eligible units	21,639	21,309
Less: Type A nonresponses	6,722	6,183
Equals: Interview units	14,917	15,126
Percent of eligible units interviewed	68.9	71.0

Weighting

Each consumer unit (CU) in the Consumer Expenditure Survey represents a given number of similar CUs in the U.S. civilian noninstitutional population. The translation of sample CUs into the universe of CUs is known as weighting. Several factors are involved in computing the weight of each consumer unit for which a usable interview is obtained. Each consumer unit is initially assigned a base weight, which is equal to the inverse of the consumer unit's probability of being selected for the sample. Base weights in the Consumer Expenditure Survey are typically around 10,000, which means that a consumer unit in the sample represents 10,000 consumer units in the U.S. civilian noninstitutional population—itsself plus 9,999 other consumer units that were not selected for the sample. The base weight is then adjusted by the following factors to correct for certain nonsampling errors:

Weighting control factor. This adjusts for subsampling in the field. Subsampling occurs when a field representative visits a particular address and discovers multiple housing units where only one housing unit was expected.

Noninterview adjustment factor. This adjusts for interviews

that cannot be conducted in occupied housing units due to a consumer unit's refusal to participate in the survey or the fact that no one is home. This adjustment is based on the Census region of the country, household tenure (owner/renter), consumer unit size, and race of the reference person.

Calibration factor. This adjusts the weights to 24 known population counts to account for frame undercoverage. These known population counts are for age, race, household tenure (owner/renter), region of the country, and urban/rural. The population counts are updated quarterly. Each consumer unit is given its own unique calibration factor. There are infinitely many sets of calibration factors that make the weights add up to the 24 known population counts, and the Consumer Expenditure Survey selects the set that minimizes the amount of change made to the initial weights (initial weight = base weight × weighting control factor × noninterview adjustment factor).

The same national civilian noninstitutional population controls are used for both the Interview and Diary Survey weighting. Hence, both surveys yield the same demographic estimates for the controlled variables.

Data collection and processing

Due to differences in format and design, the Interview Survey and the Diary Survey are collected and processed separately. The U.S. Census Bureau, under contract with BLS, carries out data collection for both. In addition to its collection duties, the Census Bureau does field editing and coding, checks consistency, ensures quality control, and transmits the data to BLS. In preparing the data for analysis and publication, BLS performs additional review and editing procedures.

Quarterly Interview Survey. Beginning April 2003, Census Field Representatives (FRs) began collecting the Interview data using a Computer Assisted Personal Interview (CAPI) instrument. This was a major improvement from the paper and pencil data collection that had been in place since 1980. The CAPI instrument enforces question skip patterns, allows for data confirmation of high expenditure values, and reduces processing time. The FR performs some coding of expenses—by selecting from a predetermined list—for vehicle make and model, trip destination, and job types for alterations, maintenance, and repair.

Data are electronically transferred from the FR's laptop at completion of the interview to the Census Master Control System. The Census Bureau's Demographics Surveys Division then reformats the data into SAS datasets and does some special processing for output to BLS (such as converting missing values to special characters and merging data records into the required BLS output structure.) Some data, like vehicle and mortgage records, are copied into an input file that is loaded on the laptops for subsequent interviews the next quarter. This way, a few fields are updated each quarter, rather than recollecting the entire data record.

At BLS, a series of automated edits are applied to monthly data. These edits check for inconsistencies, identify missing

expenditure amounts for later imputation, impute missing demographic variables, calculate weights, and adjust data to include sales tax and to exclude business expenses or reimbursed expenditures.

Monthly data files are then combined into quarterly databases, and a more extensive data review is carried out. This step includes a review of the following: Counts and means by region, family relationship coding inconsistencies, and selected extreme values for expenditure and income categories. Other adjustments convert mortgage and vehicle payments into principal and interest (using associated data on the interest rate and term of the loan). In addition, BLS verifies the various data transformations it performs. Cases of questionable data values or relationships are investigated, and errors are corrected prior to release of the data for public use.

Three major types of data adjustment routines—imputation, allocation, and time adjustment—improve estimates derived from the Interview Survey. Data imputation routines account for missing or invalid entries and affect all fields in the database, except assets. Missing or invalid attributes or expenditures are imputed. Allocation routines are applied when respondents provide insufficient detail to meet tabulation requirements. For example, combined expenditures for the fuels and utilities group are allocated among the components of that group, such as gas and electricity. Time adjustment routines are used to classify expenditures by month, prior to aggregation of the data to calendar-year expenditures. Tabulations are made before and after the data adjustment routines to analyze the results.

The CE implemented multiple imputations of income data starting with the publication of the 2004 data. Prior to that, only income data collected from complete income reporters were published. However, even complete income reporters did not provide information on all sources of income for which they reported receipt. With the collection of bracketed income data starting in 2001 this problem was reduced, but not eliminated. A limitation was that bracketed data only provide a range in which income falls, rather than a precise value for that income. In contrast, imputation allows income values to be estimated when they are not reported. In multiple imputations, several estimates are made for the same consumer unit, and the average of these estimates is used in the published data.

Diary Survey. At the beginning of the 2-week collection period, the Census Bureau interviewer, using the Household Characteristics Questionnaire (a CAPI instrument), records demographic information on members of each sampled consumer unit. At this time, the interviewer also leaves the Diary questionnaire—or daily expenditure record—with the consumer unit, to record expenditures for the week.

Respondents record all expenses incurred during their participation in the survey in the diary questionnaire, a self-reporting, product-oriented diary. The diary is divided by day of purchase and by a broad classification of goods and services.

At the end of the first week, the interviewer collects the diary, reviews the entries, answers any questions, and leaves a second diary. The interviewer picks up the second diary at the end of the second week and reviews the entries. During this time, the interviewer again uses the Household Characteristics Questionnaire to collect previous-year information on work experience and income. Each week of a consumer unit's participation in the survey is treated as a separate occurrence.

The Census Bureau performs preliminary processing activities, including a number of data edits and adjustments. Data in the diaries are reviewed during a field edit for completeness and consistency. All notes are reviewed, so expenditure data can be transcribed to the questionnaire for keying. In addition, item codes are assigned to reported expenditure items, household and consumer unit codes are assigned to each household member, and industry and occupation codes are entered for each working member. After an initial clerical screening, data are key-entered into electronic formats and a computer file of the database containing these data is produced and transmitted monthly to BLS, along with image files of questionnaires.

Data are then processed by computer to calculate population weights based on BLS specifications, impute demographic characteristics for missing or inconsistent demographic data, impute values for weeks worked when nonresponse is encountered, and apply appropriate sales taxes to the expenditure items.

Using three monthly diary data files, BLS creates a quarterly database and screens it for invalid coding and inconsistent relationships, as well as for extreme values recorded or keyed erroneously. BLS then corrects any coding and extreme-value errors found.

Two types of data adjustment routines—allocation and imputation—improve the Diary Survey estimates. Allocation routines transform reports of nonspecific items into specific ones. For example, when respondents report expenditures for meat rather than beef or pork, allocations are made, using proportions derived from item-specific reports in other completed diaries. BLS imputes missing attributes, such as age or sex or package type, needed for mapping Diary expenditures. Income data from the Diary Survey are processed in the same way as in the Interview Survey.

Reliability of the data

Sample surveys are subject to two types of errors, sampling and nonsampling. Sampling error is the uncertainty in the Consumer Expenditure Survey's estimates caused by the fact that data are collected from a sample of consumer units across the United States, instead of collecting data from every consumer unit. The United States has approximately 115 million consumer units. In 2005, usable data were collected in 29,804 quarterly interviews in the Interview Survey, and 15,126 weekly diaries in the Diary Survey. Non-sampling error is the rest of the error. Non-sampling error includes things like incorrect information given by respondents, data processing errors, and so on. Non-sampling error occurs regardless of

whether data are collected from a sample of consumer units or from the complete universe of consumer units.

The most common measure of the variability in a survey's estimates caused by sampling error is the standard error of the estimates—the square root of the variance. The standard error of the Consumer Expenditure Survey's estimates can be used to construct confidence intervals to test various statistical hypotheses. Tables showing the standard errors of the Consumer Expenditure Survey's estimates are available

on the Internet at the Consumer Expenditure Survey Web page: www.bls.gov/cex.

The U.S. Bureau of Labor Statistics is constantly working to reduce error in the Consumer Expenditure Survey. Sampling error is reduced by using a sample of consumer units that is as large as possible given resource constraints. Non-sampling error is reduced through a series of computerized and professional data reviews, as well as through continuous survey process improvements and theoretical research.

Appendix C. Survey Source of Data for Integrated Tables

I=Interview survey, D=Diary survey

		D	Bread
		D	White bread
I	Number of consumer units (in thousands)	D	Bread, other than white
	Consumer unit characteristics:	D	Crackers and cookies
		D	Crackers
		D	Cookies
I	Income before taxes	D	Frozen and refrigerated bakery products
I	Income after taxes		Other bakery products
I	Age of reference person	D	Biscuits and rolls
	Average number in consumer unit:	D	Cakes and cupcakes
I	Persons	D	Bread and cracker products
I	Children under 18	D	Sweet rolls, coffee cakes, doughnuts
I	Persons 65 and over		Meat, poultry, fish, and eggs
I	Earners	D	Beef
I	Vehicles		Ground beef
	Owned	D	Roast
	Leased	D	Chuck
		D	Round
		D	Other
	Percent distribution:		Steak
	Sex of reference person	D	Round
I	Male	D	Sirloin
I	Female	D	Other
	Housing tenure	D	Other beef
	Homeowner	D	Pork
I	With mortgage		Bacon
I	Without mortgage	D	Pork chops
I	Renter	D	Ham
		D	Not canned
		D	Canned
	Race of reference person	D	Sausage
I	Black or African American	D	Other pork
I	White, Asian, and all other races	D	Other meats
I	White		Frankfurters
I	Asian	D	Lunch meats (cold cuts)
I	All other races	D	Bologna, liverwurst, salami
	Hispanic or Latino origin of reference person	D	Other lunch meats
I	Hispanic or Latino	D	Lamb, organ meats, and others
I	Not Hispanic or Latino		Lamb and organ meats
	Education of reference person	D	Mutton, goat, and game
I	Elementary (1 - 8)	D	Poultry
I	High school (9 - 12)	D	Fresh and frozen chickens
I	College		Whole chicken
I	Never attended and other	D	Chicken parts
	At least one vehicle owned or leased	D	Other poultry
I	Owned	D	Fish and seafood
I	Leased	D	Canned
	Average annual expenditures	D	Fresh fish and shellfish
	Food	D	Frozen fish and shellfish
	At home		Eggs
	Cereal and bakery products, total	D	Dairy products
	Cereals and cereal products	D	Fresh milk and cream
D	Flour	D	Fresh milk, all types
D	Prepared flour mixes	D	Cream
D	Ready-to-eat and cooked cereals		Other dairy products
D	Rice		Butter
D	Pasta, cornmeal, and other cereal products	D	Cheese
	Bakery products	D	Ice cream and related products
			Miscellaneous dairy products
			Fruits and vegetables
			Fresh fruits
			Apples
			Bananas

D	Oranges	D	At fast food, take-out, delivery, concession stands, buffet and cafeteria (other than employer and school cafeteria)
D	Citrus fruits, excluding oranges		
D	Other fresh fruits		
	Fresh vegetables	D	At full service restaurants
D	Potatoes	D	At vending machines and mobile vendors
D	Lettuce	D	At employer and school cafeterias
D	Tomatoes		Dinner
D	Other fresh vegetables	D	At fast food, take-out, delivery, concession stands, buffet and cafeteria (other than employer and school cafeteria)
	Processed fruits		
	Frozen fruits and fruit juices		
D	Orange juice	D	At full service restaurants
D	Fruits	D	At vending machines and mobile vendors
D	Fruit juices	D	At employer and school cafeterias
D	Canned fruits		Snacks and nonalcoholic beverages
D	Dried fruit	D	At fast food, take-out, delivery, concession stands, buffet and cafeteria (other than employer and school cafeteria)
D	Fresh fruit juice		
D	Canned and bottled fruit juice		
	Processed vegetables	D	At full service restaurants
D	Frozen vegetables	D	At vending machines and mobile vendors
	Canned and dried vegetables and juices	D	At employer and school cafeterias
D	Canned beans		Breakfast and brunch
D	Canned corn	D	At fast food, take-out, delivery, concession stands, buffet and cafeteria (other than employer and school cafeteria)
D	Canned miscellaneous vegetables		
D	Dried peas		
D	Dried beans	D	At full service restaurants
D	Dried miscellaneous vegetables	D	At vending machines and mobile vendors
D	Other processed vegetables	D	At employer and school cafeterias
D	Frozen vegetable juice		
D	Fresh and canned vegetable juice	I	Board (including at school)
	Other food at home	I	Catered affairs
	Sugar and other sweets	I	Food on out-of-town trips
D	Candy and chewing gum	I	School lunches
D	Sugar	I	Meals as pay
D	Artificial sweeteners		
D	Jams, preserves; other sweets		Alcoholic beverages
	Fats and oils		At home
D	Margarine	D	Beer and ale
D	Fats and oils	D	Whiskey
D	Salad dressings	D	Wine
D	Nondairy cream and imitation milk	D	Other alcoholic beverages
D	Peanut butter		Away from home
	Miscellaneous foods		Beer and ale
	Frozen prepared foods	D	At fast food, take-out, delivery, concession stands, buffet and cafeteria
D	Frozen meals		
D	Other frozen prepared foods	D	At full service restaurants
D	Canned and packaged soups	D	At vending machines and mobile vendors
	Potato chips, nuts, and other snacks	D	At employer
D	Potato chips and other snacks	D	At board
D	Nuts	D	At catered affairs
	Condiments and seasonings		Wine
D	Salt, spices; other seasonings	D	At fast food, take-out, delivery, concession stands, buffet and cafeteria
D	Olives, pickles; relishes		
D	Sauces and gravies	D	At full service restaurants
D	Baking needs and misc. products	D	At vending machines and mobile vendors
	Other canned/package prepared food	D	At employer
D	Prepared salads	D	At board
D	Prepared desserts	D	At catered affairs
D	Baby food		Other alcoholic beverages
D	Miscellaneous prepared foods	D	At fast food, take-out, delivery, concession stands, buffet and cafeteria
D	Vitamin supplements		
	Nonalcoholic beverages (excl. juices)	D	At full service restaurants
D	Cola	D	At vending machines and mobile vendors
D	Other carbonated drinks	D	At employer
	Coffee	D	At board
D	Roasted	D	At catered affairs
D	Instant and freeze-dried	I	Alcoholic beverages purchased on trips
D	Noncarbonated fruit flavored drinks, including non-frozen lemonade		
	Tea		Housing
D	Nonalcoholic beer		Shelter
D	Other nonalcoholic beverages and ice		Owned dwellings
I	Food prepared on out-of-town trips	I	Mortgage interest and charges
		I	Mortgage interest
	Food away from home	I	Interest paid, home equity loan
	Meals at restaurants, carry-outs, and other	I	Interest paid, home equity line of credit
	Lunch	I	Prepayment penalty charges
			Property taxes

	Maintenance, repairs, insurance, other expenses		Maintenance, insurance, and other expenses
I	Homeowners' insurance	I	Homeowners' insurance
I	Ground rent	I	Ground rent
	Maintenance and repair services		Maintenance and repair services, total
I	Painting and papering	I	Repair and remodeling services
I	Plumbing and water heating	I	Repair and replacement of hard surface flooring
I	Heat, air conditioning; electrical work		Maintenance and repair commodities
I	Roofing and gutters		Paints, wallpaper, supplies
I	Other repair or maintenance services	I	Tools and equipment for painting and wallpapering
I	Repair and replacement of hard surface flooring	I	Materials for plastering, paneling, roofing, gutters, downspouts, siding, windows, doors, screens, and awnings
I	Repair of built-in appliances	I	Materials for patio, walk, fence, drive, masonry, brick, stucco
	Maintenance and repair commodities		Plumbing supplies and equipment
I	Paints, wallpaper, and supplies	I	Electrical supplies, heating and cooling equipment
I	Tools and equipment for painting and wallpapering	I	Miscellaneous supplies and equipment
I	Plumbing supplies and equipment		Materials for insulation and other maintenance and repair
I	Electrical supplies, heating, and cooling equipment	I	Materials for finishing basements and remodeling rooms
I	Materials for hard surface floor repair and replacement	I	Materials for hard surface flooring
I	Materials and equipment for roof and gutters	I	Materials for landscaping maintenance
I	Materials for plastering, paneling, siding, windows, doors, screens, awnings	I	Property management and security
I	Materials for patio, walk, fence, driveway, masonry, brick, and stucco work	I	Property management
I	Materials for landscaping maintenance	I	Management and upkeep services for security
I	Miscellaneous supplies and equipment		Parking
I	Material for insulation, other maintenance and repair	I	Housing while attending school
I	Materials to finish basement, remodel rooms, or build patios, walks, etc.	I	Lodging while out of town
	Property management and security		Utilities, fuels, and public services
I	Property management		Natural gas
I	Management and upkeep services for security		Renter
I	Parking		Owned home
	Rented dwellings		Owned vacation home
I	Rent	I	Rented vacation home
I	Rent as pay	I	Electricity
	Maintenance, insurance, and other expenses		Renter
I	Tenant's insurance	I	Owned home
	Maintenance and repair services		Owned vacation home
I	Repair or maintenance services	I	Rented vacation home
I	Repair and replacement of hard surface flooring	I	Fuel oil and other fuels
I	Repair of built-in appliances		Fuel oil
	Maintenance and repair commodities		Renter
I	Paint, wallpaper, and supplies	I	Owned home
I	Tools and equipment for painting and wallpapering	I	Owned vacation home
I	Materials for plastering, paneling, roofing, gutters, etc.	I	Rented vacation home
I	Materials for patio, walk, fence, driveway, masonry; brick and stucco work	I	Coal, wood, and other fuels (2005)
I	Plumbing supplies and equipment	I	Renter
I	Electrical supplies; heating and cooling equipment	I	Owned home
	Miscellaneous supplies or equipment		Owned vacation home
I	Materials for insulation, other maintenance and repair	I	Rented vacation home
I	Materials for additions, finished basements, remodeling rooms	I	Telephone services
I	Construction materials for jobs not started	I	Residential telephone/pay phones
I	Material for hard surface flooring	I	Cellular phone service
I	Materials for landscape maintenance	I	Pager service
	Other lodging		Phone cards
	Owned vacation homes		Water and other public services
	Mortgage interest and charges		Water/sewerage maintenance
I	Mortgage interest	I	Renter
I	Interest paid, home equity loan	I	Owned home
I	Interest paid, home equity line of credit	I	Owned vacation home
I	Prepayment penalty charge	I	Rented vacation home
I	Property taxes	I	Trash/garbage collection
			Renter
			Owned home
			Owned vacation home

I	Rented vacation home	I	New
	Septic tank cleaning	I	Replacement
I	Renter	I	Wall-to-wall carpet (replacement) (owned home)
I	Owned home	I	Floor coverings, non-permanent
I	Owned vacation home		Major appliances
I	Rented vacation home	I	Dishwashers (built-in), garbage disposals, range hoods (renter)
	Household operations	I	Dishwashers (built-in), garbage disposals, range hoods (owned home)
	Personal services		Refrigerators, freezers (renter)
I	Baby-sitting and child care in own home	I	Refrigerators, freezers (owned home)
I	Baby-sitting and child care in someone else's home	I	Washing machines (renter)
I	Care for elderly, invalids, handicapped, etc.	I	Washing machines (owned home)
I	Adult day care centers	I	Clothes dryers (renter)
I	Day care centers, nursery, and preschools	I	Clothes dryers (owned home)
	Other household expenses	I	Cooking stoves, ovens (renter)
I	Housekeeping services	I	Cooking stoves, ovens (owned home)
I	Gardening, lawn care service	I	Microwave ovens (renter)
I	Water softening service	I	Microwave ovens (owned home)
D	Household laundry and dry cleaning, sent out (non-clothing), not coin-operated	I	Portable dishwashers (renter)
I	Coin-operated household laundry and dry cleaning (non-clothing)	I	Portable dishwashers (owned home)
I	Services for termite and pest control	I	Window air conditioners (renter)
I	Home security system service fee	D	Window air conditioners (owned home)
I	Other home services	I	Electric floor cleaning equipment
I	Termite and pest control products	D	Sewing machines
I	Moving, storage; freight express		Miscellaneous household appliances
I	Appliance repair, including service center		Small appliances, miscellaneous housewares
I	Reupholstering and furniture repair	I	Housewares
I	Repair and rental of lawn and garden equipment, hand or power tools, other household equipment	D	Plastic dinnerware
I	Appliance rental	I	China and other dinnerware
I	Rental of office equipment for non-business use	D	Flatware
D	Repair of miscellaneous household equipment and furnishings	D	Glassware
I	Repair of computer systems for non-business use	I	Silver serving pieces
I	Computer information services	D	Other serving pieces
I	Rental and installation of dishwashers, range hoods, and garbage disposals	D	Nonelectric cookware
			Tableware, nonelectric kitchenware
			Small appliances
		I	Small electric kitchen appliances
		I	Portable heating/cooling equipment
	Housekeeping supplies		Miscellaneous household equipment
	Laundry and cleaning supplies	I	Window coverings
D	Soaps and detergents	D	Infants' equipment
D	Other laundry cleaning products	D	Laundry and cleaning equipment
	Other household products	D	Outdoor equipment
D	Cleansing and toilet tissue, paper towels, and napkins	D	Clocks
D	Miscellaneous household products	I	Lamps and lighting fixtures
D	Lawn and garden supplies	D	Other household decorative items
	Postage and stationery	I	Telephones and accessories
D	Stationery, stationery supplies; gift wrap	D	Lawn and garden equipment
D	Postage	I	Power tools
D	Delivery services	I	Office furniture for home use
	Household furnishings and equipment	I	Hand tools
	Household textiles	I	Indoor plants, fresh flowers
D	Bathroom linens	D	Closet and storage items
D	Bedroom linens	I	Rental of furniture
D	Kitchen and dining room linens	I	Luggage
I	Curtains and drapes	I	Computers/computer hardware for non-business use
D	Slipcovers; decorative pillows	I	Computer software/accessories for non-business use
I	Sewing materials for slipcovers, curtains; other sewing materials for the home	I	Personal digital assistants (2005)
I	Other linens	I	Internet services away from home (2005)
	Furniture	I	Telephone answering devices
I	Mattresses and springs	I	Business equipment for home use
I	Other bedroom furniture	D	Other hardware
I	Sofas	I	Smoke alarms (owned home)
I	Living room chairs	I	Smoke alarms (renter)
I	Living room tables	I	Smoke alarms (owned vacation home)
I	Kitchen, dining room furniture	I	Other household appliances (owned home)
I	Infants' furniture	I	Other household appliances (renter)
I	Outdoor furniture	D	Miscellaneous household equipment and parts
I	Wall units, cabinets; other occasional furniture		
	Floor coverings		Apparel and services
	Wall-to-wall carpet (renter)	I	Men and boys
		D	Men, 16 and over
			Suits
			Sport coats, tailored jackets
			Coats and jackets

D	Underwear	I	Apparel laundry/dry cleaning not coin operated
D	Hosiery	I	Clothing storage
I	Nightwear		
D	Accessories		Transportation
I	Sweaters and vests		Vehicle purchases, (net outlay)
D	Active sportswear		Cars and trucks, new
D	Shirts	I	Cars
D	Pants	I	Trucks
D	Shorts, shorts sets		Cars and trucks, used
I	Uniforms	I	Cars
I	Costumes	I	Trucks
	Boys, 2 to 15		Other vehicles
I	Coats and jackets	I	New motorcycles
I	Sweaters	I	New aircraft
D	Shirts	I	Used motorcycles
D	Underwear	I	Used aircraft
D	Nightwear		
D	Hosiery		Gasoline and motor oil
D	Accessories	I	Gasoline
I	Suits, sport coats, vests	I	Diesel fuel
I	Pants	I	Gasoline on out-of-town trips
I	Shorts, shorts sets	D	Gasohol
I	Uniforms	I	Motor oil
I	Active sportswear	I	Motor oil on out-of-town trips
I	Costumes		
	Women and girls		Other vehicle expenses
	Women, 16 and over		Vehicle finance charges
D	Coats and jackets	I	Automobiles
D	Dresses	I	Trucks
D	Sport coats, tailored jackets	I	Motorcycles and planes
D	Vests and sweaters	I	Other vehicle finance charges
D	Shirts, tops, blouses		
D	Skirts		Maintenance and repairs
D	Pants	I	Coolant, additives, brake, transmission fluids
D	Shorts, shorts sets	I	Tires - purchased, replaced, installed
D	Active sportswear	I	Parts/equipment/accessories
D	Sleepwear	D	Vehicle audio equipment
D	Undergarments	D	Vehicle products and cleaning services
D	Hosiery	I	Vehicle video equipment (2005)
I	Suits	D	Misc. auto repair/servicing
D	Accessories	I	Body work and painting
I	Uniforms	I	Clutch, transmission repair
I	Costumes	I	Drive shaft and rear-end repair
	Girls, 2 to 15	I	Brake work, including adjustments
I	Coats and jackets	I	Repair to steering or front-end
D	Dresses, suits	I	Cooling system repair
D	Shirts, blouses, sweaters	I	Motor tune-up
I	Skirts and pants	I	Lube, oil change, and oil filters
I	Shorts, shorts sets	I	Front end alignment, wheel balance
D	Active sportswear	I	Shock absorber replacement
I	Underwear and sleepwear	D	Gas tank repair, replacement
D	Hosiery	I	Repair tires and other repair work
D	Accessories	I	Vehicle air conditioning repair
I	Uniforms	I	Exhaust system repair
I	Costumes	I	Electrical system repair
	Children under 2	I	Motor repair/replacement
I	Coat, jacket, snowsuit	I	Auto repair service policy
I	Dresses, outerwear		
D	Underwear	I	Vehicle insurance
I	Nightwear, loungewear		
D	Accessories		Vehicle rental, licenses, other charges
	Footwear		Leased and rented vehicles
D	Men's		Rented vehicles
D	Boys'	I	Auto rental
D	Women's	I	Auto rental, out-of-town trips
D	Girls'	I	Truck rental
	Other apparel products and services	I	Truck rental, out-of-town trips
D	Material for making clothes	I	Motorcycle rental
D	Sewing notions and patterns	I	Motorcycle rental, out-of-town trips
I	Watches	I	Aircraft rental
I	Jewelry	I	Aircraft rental, out-of-town trips
I	Shoe repair, other shoe service		Leased vehicles
I	Coin-operated apparel laundry/dry cleaning	I	Car lease payments
I	Alteration, repair, tailoring of apparel, accessories	I	Cash down payment (car lease)
I	Clothing rental	I	Termination fee (car lease)
I	Watch and jewelry repair	I	Truck lease payments

I	Cash down payment (truck lease)	I	Movie, other admissions, out-of-town trips
I	Termination fee (truck lease)	I	Admission to sporting events
I		I	Admission to sporting events, out-of-town trips
I	Vehicle registration state (2001)	I	Fees for recreational lessons
I	Vehicle registration local (2001)	I	Other entertainment services, out-of-town trips
I	Driver's license		Audio and visual equipment and services
I	Vehicle inspection	I	Televisions (2005)
	Parking fees	D	Radios
I	Parking fees in home city, excluding residence	D	Phonographs
I	Parking fees, out-of-town trips	I	Community antenna or cable TV
D	Tolls or electronic toll passes	D	Tape recorders and players
I	Tolls on out-of-town trips	I	Online gaming services (2005)
I	Towing charges	I	VCRs and video disc players
I	Global positioning services (2005)	D	Miscellaneous sound equipment
I	Automobile service clubs	D	Sound equipment accessories
	Public transportation	I	Video cassettes, tapes, discs
I	Airline fares	I	Video game hardware, software
I	Intercity bus fares	I	Streaming, downloading video (2005)
I	Intracity mass transit fares	I	Repair of TV, radio, and sound equipment
I	Local transportation, out-of-town trips	I	Rental of televisions
I	Taxi fares and limousine service on trips	I	Personal digital audio players (2005)
D	Taxi fares and limousine service	I	Sound components and component systems
I	Intercity train fares	I	Satellite dishes
I	Ship fares	I	CDs, records, audio tapes (2005)
I	School bus	I	Streaming, downloading audio (2005)
	Health care	I	Rental of VCR, radio, and sound equipment
	Health insurance	I	Musical instruments and accessories
	Commercial health insurance	I	Rental and repair of music instruments
I	Traditional fee for service health plan	I	Rental of video cassettes, tapes, discs, and films
I	Preferred provider health plan	I	Pets, toys, and playground equipment
	Blue Cross/Blue Shield	D	Pets
I	Traditional fee for service health plan	D	Pet food
I	Preferred provider health plan	I	Pet purchase, supplies, and medicine
I	Health maintenance organization	I	Pet services
I	Commercial Medicare supplement	I	Vet services
I	Other health insurance	I	Toys, games, arts and crafts, and tricycles
I	Health maintenance organizations (HMOs)	I	Stamp and coin collecting (2004)
I	Medicare payments	I	Playground equipment
I	Commercial Medicare supplements and other health insurance	I	Other entertainment supplies, equipment, and services
	Commercial Medicare supplements	I	Unmotored recreational vehicles
I	Other health insurance	I	Boat without motor and boat trailers
I	Long term care insurance (2005)	I	Trailer and other attachable campers
	Medical services	I	Motorized recreational vehicles
I	Physicians' services	I	Motorized camper
I	Dental services	I	Other vehicles
I	Eye care services	I	Boat with motor
I	Service by professionals other than physician	I	Rental of recreational vehicles
I	Lab tests, x rays	I	Non-camper trailer
I	Hospital room and services (2005)	I	Boat and trailer, out-of-town trips
I	Medical care in retirement community	I	Campers on out-of-town trips
I	Care in convalescent or nursing home	I	Other vehicles on out-of-town trips
D	Repair of medical equipment	I	Boats
I	Other medical care service	I	Motorized campers
	Drugs	I	Other recreational vehicles
D	Nonprescription	D	Outboard motors
D	Nonprescription vitamins	I	Docking and landing fees
I	Prescription	D	Sports, recreation and exercise equipment
	Medical supplies	D	Athletic gear, game tables, and exercise equipment
I	Eyeglasses and contact lenses	D	Bicycles
I	Hearing aids	I	Camping equipment
D	Topicals and dressings	I	Hunting, fishing equipment
I	Medical equipment for general use	I	Winter sports equipment
I	Supportive and convalescent medical equipment	I	Water sports equipment
I	Rental of medical equipment	D	Other sports equipment
I	Rental of supportive, convalescent medical equipment	I	Global positioning system devices
	Entertainment	I	Rent and repair of miscellaneous sports equipment
	Fees and admissions	D	Photographic equipment, supplies and services
I	Recreation expenses, out-of-town trips	I	Film
I	Social, recreation, health club membership	I	Other photographic supplies
I	Fees for participant sports	I	Photo processing
I	Participant sports, out-of-town trips	I	Rent and repair of photo equipment
I	Movie, theater, amusement parks, and other	I	Photographic equipment
		D	Photographer fees
		D	Fireworks
		D	Souvenirs
		D	Visual goods

D	Pinball, electronic video games		Retirement, pensions, and Social Security
	Personal care products and services	I	Deductions for government retirement
	Personal care products	I	Deductions for railroad retirement
D	Hair care products	I	Deductions for private pensions
D	Non-electric articles for the hair	I	Non-payroll deposit to retirement plans
I	Wigs and hairpieces	I	Deductions for Social Security
D	Oral hygiene products, articles		Sources of income and personal taxes
D	Shaving needs		Money income before taxes
D	Cosmetics, perfume, bath preparations	I	Wages and salaries
D	Deodorants, feminine hygiene, misc. personal care		Self-employment income
D	Electric personal care appliances	I	Net business income
	Personal care services	I	Net farm income
I	Personal care service		Social Security, private and government retirement
D	Repair of personal care appliances	I	Social Security and railroad retirement income
	Reading	I	Pensions and annuities
	Newspaper or magazine subscriptions (2005)		Interest, dividends, rental income, other property income
I	Newspapers or magazine, non-subscriptions (2005)	I	Interest
D	Newsletters	I	Dividends, royalties, estates, and trusts
I	Books through book clubs	I	Roomer and boarder income
I	Books not through book clubs	I	Other rental income
I	Encyclopedia and other sets of reference books	I	Unemployment and workers' compensation, veterans' benefits
	Education	I	Unemployment compensation
I	Tuition for colleges and universities		Workers' compensation and veterans' benefits
I	Tuition for elementary, high school	I	Public assistance, Supplemental Security Income,
I	Tuition for other schools	I	Food Stamps
I	Other school expenses including rentals	I	Supplemental Security Income
I	Schoolbooks, supplies, equipment for college		Public assistance
I	Schoolbooks, supplies, equipment for elementary, high school	I	Food Stamps
I	Schoolbooks, supplies, equipment for day care, nursery, other	I	Regular contributions for support
D	School supplies, etc. - unspecified	I	Child support payments
	Tobacco products and smoking supplies	I	Other regular contributions including alimony
I	Cigarettes		Other income
I	Other tobacco products	I	Meals as pay
D	Smoking accessories	I	Rent as pay
D	Marijuana	I	Other income
	Miscellaneous		Personal taxes
D	Miscellaneous fees		Federal income taxes
D	Lotteries and pari-mutuel losses	I	Federal income tax
I	Legal fees	I	Federal income tax refunds
I	Funeral expenses	I	State and local income taxes
I	Safe deposit box rental	I	State and local income tax
I	Checking accounts, other bank service charges	I	State and local income tax refunds
I	Cemetery lots, vaults, maintenance fees		Other taxes
I	Accounting fees		Personal property taxes
D	Miscellaneous personal services		Other taxes
I	Dating services (2005)		Other tax refunds
I	Finance charges excluding mortgage and vehicle	I	
I	Occupational expenses	I	Addenda:
I	Expenses for other properties	I	Net change in total assets and liabilities
I	Interest paid, home equity line of credit (other property)	I	Net change in total assets
I	Credit card memberships	I	Change in accounts
I	Shopping club membership fees	I	Change in savings account
	Cash contributions		Change in checking account
I	Support for college students		Change in U.S. Savings Bonds
I	Alimony expenditures	I	Change in securities
I	Child support expenditures	I	Purchase price of stocks, bonds or mutual funds including broker fees
I	Gifts to non-CU members of stocks, bonds, and mutual funds	I	Sale price of stocks, bonds, and mutual funds, net
I	Cash contributions to charities and other organizations		Change in money owed to consumer unit
I	Cash contributions to church, religious organizations	I	Change in investments to own farm or business
I	Cash contributions to education organizations	I	Investments to farm or business
I	Cash contributions to political organizations	I	Assets taken from farm or business
I	Other cash gifts	I	Change in surrender of insurance policies
	Personal insurance and pensions		Change in net property holdings (owned home)
	Life and other personal insurance		Purchase price of property
I	Life, endowment, annuity, other personal insurance	I	Closing costs, purchase of property
I	Other non-health insurance	I	Special assessments
			Sale price of property or trade-in value
			Mortgage principal held after sale of real estate
			Total expense in sale of property
			Change in capital improvements (owned home)
			Capital improvement labor and materials
			Wall-to-wall carpeting

	Capital improvement material	I	Principal paid, home equity line of credit
I	Materials and supplies purchased for insulation, dwellings under construction, additions, finishing, remodeling, landscaping, etc.	I	Change in mortgage principal (owned vacation home)
		I	Special lump sum mortgage payment
I	Dishwasher, disposal, or range hood	I	Reduction of mortgage principal
I	Labor and materials for dwellings under construction and additions	I	Reduction of mortgage principal, home equity loan
		I	Original loan amount (mortgage obtained during interview quarter)
	Change in net property holdings (owned vacation home)	I	Original loan amount, home equity loan (loan obtained during interview quarter)
I	Purchase price of property	I	Principal paid, home equity line of credit
I	Closing costs on purchase of property	I	Change in mortgage principal (other property)
I	Special assessments	I	Special lump sum mortgage payment
I	Sale price of property or trade-in value	I	Reduction of mortgage principal
I	Mortgage principal held after sale of real estate	I	Reduction of mortgage principal, home equity loan
I	Total expenses in sale of property	I	Original loan amount (mortgage obtained during interview quarter)
	Change in capital improvements (owned vacation home)	I	Original loan amount, home equity loan (loan obtained during interview quarter)
I	Managerial and capital improvement services	I	Principal paid, home equity line of credit
I	Supplies purchased for additions, maintenance and repairs, and new construction	I	Change in principal on vehicles
		I	Reduction of vehicle loan principal
	Change in net property holdings (other property)	I	Vehicle principal balance (loan obtained during interview quarter)
I	Purchase price of property		
I	Closing costs purchase of property		
I	Special assessments		
I	Sale price of property or trade-in value		
I	Mortgage held after sale of real estate		
I	Total expenses in sale of property	I	Other financial information:
	Change in capital improvements (other property)		Other money receipts
I	Property management, security, parking	I	Lump sum receipts
		I	Money from sale of household furnishings, etc.
	Capital improvement services, labor, materials and equipment	I	Refunds from overpayment on Social Security
		I	Refunds from insurance policies
I	Contractors' labor and materials, supplies obtained by the consumer unit, appliances provided by the contractor	I	Refunds from property taxes
		I	Lump sum child support payments
I	Management services and improvements	I	Market value of financial assets
I	Dishwasher, disposal, range hood, capital improvement	I	Savings accounts
		I	Checking accounts
		I	U.S. Savings Bonds
		I	Securities
	Change in sale of vehicles	I	Mortgage principal paid on owned property
I	Automobiles	I	Reduction of mortgage principal (owned home)
I	Trucks, including vans	I	Reduction of mortgage principal (owned vacation home)
I	Motor campers	I	Reduction of mortgage principal (other property)
I	Other vehicles	I	Reduction of mortgage principal, home equity loan, (owned home)
I	Trailer type and other attachable campers	I	Reduction of mortgage principal, home equity loan, (owned vacation)
I	Motorcycles	I	Reduction of mortgage principal, home equity loan, (other property)
I	Boats, with motors	I	Principal paid, home equity line of credit (owned home)
I	Boats, without motors, and boat trailers	I	Principal paid, home equity line of credit (owned vacation home)
I	Aircraft	I	Principal paid, home equity line of credit (other property)
	Net change in total liabilities		
	Change in amount owed to creditors	I	
I	Total amount owed 2nd interview		
I	Total amount owed 5th interview		
	Change in mortgage principal (owned home)	I	Estimated market value of owned home
I	Special lump-sum mortgage payments	I	Estimated monthly rental value of owned home
I	Reduction of mortgage principal	I	Rental equivalence of vacation home
I	Reduction of mortgage principal, home equity loan		
I	Original loan amount (mortgage obtained during interview quarter)		
I	Original loan amount, home equity loan (loan obtained during interview quarter)		
			Gifts of goods and services:
			The survey source for a gift of an item is the same as for an expenditure on that item. Not all items can have gifts.

Appendix D. Consumer Expenditure Survey Resources

Monthly Labor Review articles

The following is a list of articles that include analyses of Consumer Expenditure Survey data and that appeared in the *Monthly Labor Review* (MLR). For copies, contact the Division of Consumer Expenditure Surveys, U.S. Bureau of Labor Statistics, Room 3985, Postal Square Building, 2 Massachusetts Avenue, NE., Washington, DC 20212-0001, phone (202) 691-6900. Copies of the most recent articles are posted to the Consumer Expenditure Survey Web site: www.bls.gov/cex.

Acs, Gregory and John Sabelhaus – “Trends in out-of-pocket spending on health care, 1980-92,” December 1995

Bahizi, Pierre – “Retirement expenditures for Whites, Blacks, and persons of Hispanic origin,” June 2003

Duly, Abby, Jeffrey Harris, Ara Khatchadourian, Rozi Ulics, and Melissa Wolter, “Price and expenditure measure of petroleum products: a comparison,” December 2006

Duly, Abby, George Janini, Eric J. Keil, Laura Paszkiewicz, Geoffrey D. Paulin, and Neil Tseng, “Consumer expenditures for selected items, 1999 and 2000,” May 2003

Federman, Maya, et al. – “What does it mean to be poor in America?,” May 1996

Garner, Thesia I., George Janini, William Passero, Laura Paszkiewicz, and Mark Vendemia, “The CE and the PCE: a comparison,” September 2006

Garner, Thesia I., Kathleen Short, Stephanie Shipp, Charles Nelson, and Geoffrey Paulin, “Experimental poverty measurement for the 1990s,” March 1998

Johnson, David S., Timothy Smeeding, and Barbara Boyle Torrey, “Economic inequality through the prisms of income and consumption,” April 2005

Johnson, David S., John M. Rogers, and Lucilla Tan, – “A century of family budgets in the United States,” May 2001

Johnson, David S. and Mark Lino – “Teenagers: employment and contributions to family spending,” September 2000

Passero, William D. – “Spending patterns of families receiving public assistance,” April 1996

Paulin, Geoffrey – “A growing market: expenditures by Hispanic consumers,” March 1998

Paulin, Geoffrey – “The changing food-at-home budget: 1980 and 1992 compared,” December 1998

Paulin, Geoffrey – “Let’s do lunch: expenditures on meals away from home,” May 2000

Paulin, Geoffrey – “Expenditure patterns of older Americans, 1984-97,” May 2000

Paulin, Geoffrey D. – “Expenditures of college-age students and nonstudents,” July 2001

Paulin, Geoffrey D. – “A changing market: expenditures by Hispanic consumers, revisited,” August 2003

Paulin, Geoffrey D. and Abby L. Duly – “Planning ahead: consumer expenditure patterns in retirement,” July 2002

Paulin, Geoffrey D. and Brian Riordon – “Making it on their own: the baby boom meets Generation X,” February 1998

Paulin, Geoffrey D. and Elizabeth Dietz – “Health insurance coverage for families with children,” August 1995

Paulin, Geoffrey D. and Wolf D. Weber – “The effects of health insurance on consumer spending,” March 1995

Paulin, Geoffrey D. and Yoon G. Lee – “Expenditures of single parents: how does gender figure in?,” July 2002

Short, Kathleen and Thesia I. Garner – “Experimental poverty measures: accounting for medical expenditures,” August 2002

Tan, Lucilla – “Spending patterns of public-assisted families,” May 2000

Tsai, Shiao-Lin Shirley, and Lucilla Tan, “Food at home expenditures of Asian households,” June 2006

Bulletins and Reports

A list of recent publications containing Consumer Expenditure Survey data appears below. Copies of reports are available from the Division of Consumer Expenditure Surveys, U.S. Bureau of Labor Statistics, Room 3985, Postal Square Building, 2 Massachusetts Avenue, NE., Washington, DC

20212-0001, phone (202) 691-6900. Information may also be obtained from the “Do you have a CEX data question?” link at the bottom of the CE Web page: www.bls.gov/cex. Additionally, most bulletins are available at Federal depository libraries around the country.

<i>Title, number and date of publication</i>	<i>Coverage</i>
Consumer Expenditures in 2005, Report 998 (February 2007)	Consumer unit income and expenditures, integrated data from Interview and Diary Surveys, classified by consumer unit characteristics. 13 tables. 19 pages.
Consumer Expenditures in 2004, Report 992 (April 2006)	Consumer unit income and expenditures, integrated data from Interview and Diary Surveys, classified by consumer unit characteristics. 13 tables. 20 pages.
Consumer Expenditure Survey, 2002-2003, Report 990 (March 2006)	Consumer unit income and expenditures, integrated data from Interview and Diary Surveys, classified by consumer unit characteristics. 73 tables. 310 pages.
Consumer Expenditures in 2003, Report 986 (June 2005)	Consumer unit income and expenditures, integrated data from Interview and Diary Surveys, classified by consumer unit characteristics. 10 tables. 20 pages.
Consumer Expenditure Survey Anthology, 2005, Report 981	Includes articles on Consumer Expenditure Survey research and methodology, and analytical article on topics of interest using survey data. 71 pages.
Consumer Expenditures in 2002, Report 974 (February 2004)	Consumer unit income and expenditures, integrated data from Interview and Diary Surveys, classified by consumer unit characteristics. 10 tables. 16 pages.

Other Resources

Microdata files on CD-ROM

Microdata files that include information from the Diary and Interview Surveys at the consumer unit level for the years 1990 through 2005 and selected earlier years are available on CD-ROM. Summary tabular data are included on the CD-ROM, as well. Order forms for microdata are available at www.bls.gov/cex via the Internet. Inquiries should be directed to the Division of Consumer Expenditure Surveys. Phone: (202) 691-6900; or to the “Do you have a CEX data question?” link at the bottom of the CE Web page: www.bls.gov/cex.

Online tables via the Internet

Integrated Diary and Interview Survey data for the years 1984 through 2005 can be accessed at www.bls.gov/cex via the Internet. Other survey information, including answers to frequently asked questions, standard error tables, a glossary of terms, copies of the survey questionnaires and the survey instrument, and order forms for survey products, is also available on the Internet.