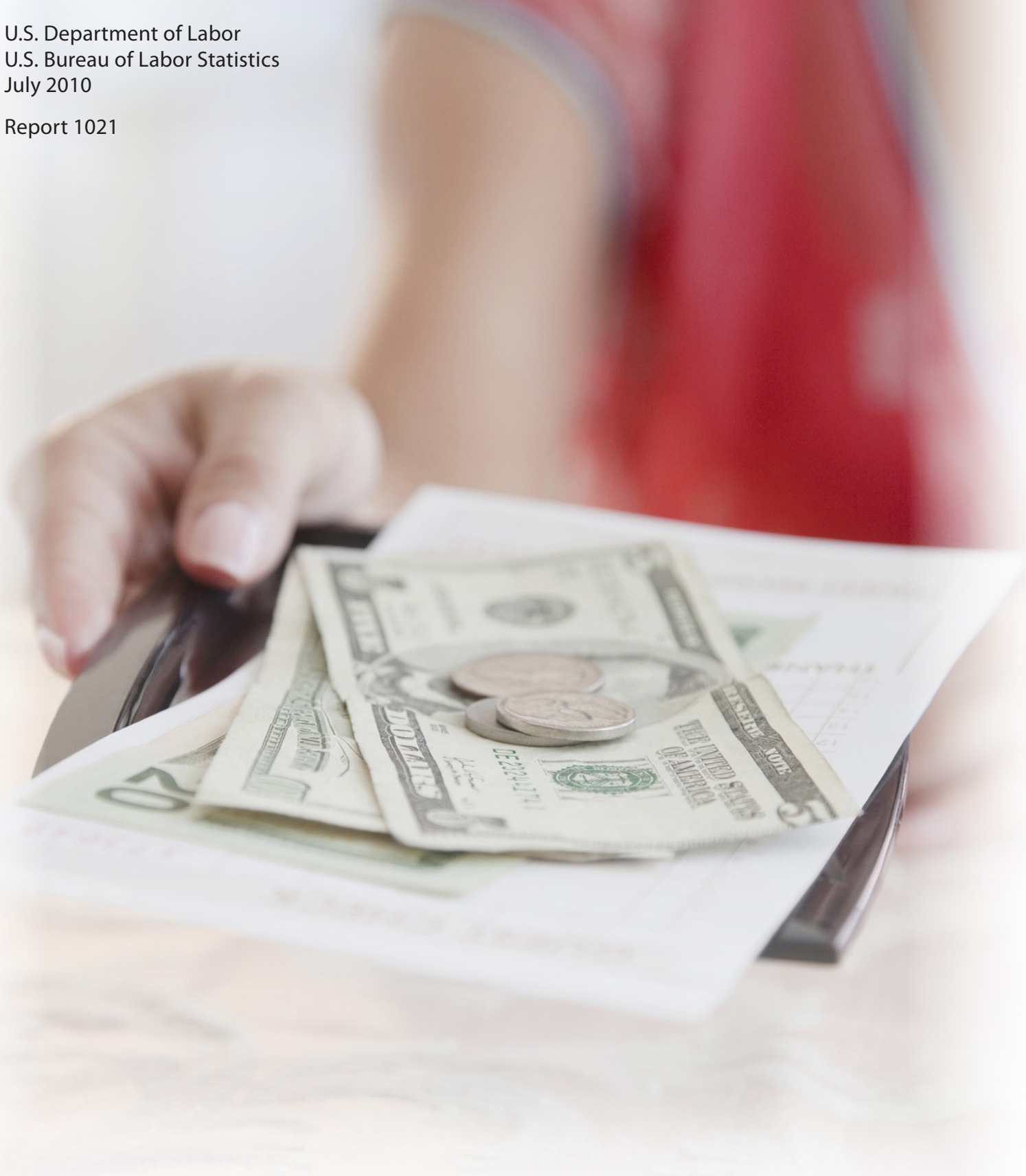


Consumer Expenditure Survey, 2006–2007



U.S. Department of Labor
U.S. Bureau of Labor Statistics
July 2010

Report 1021



Consumer Expenditure Survey, 2006–07



U.S. Department of Labor
Hilda Solis, Secretary

U.S. Bureau of Labor Statistics
Keith Hall, Commissioner

July 2010

Report 1021

Preface

This report presents detailed information from the Consumer Expenditure Survey for 2006 and 2007, 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, which 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. Brett Creech, Jeff Crilley, Ann Foster, Peggy Murphy, William Passero, Laura Paszkiewicz, John Rogers, and Nick Zwieneff made major contributions in preparing tables and text. Processing of data was completed under the direction of Carolyn Pickering, Chief of the Branch of Production and Control, and Lavern James,

Chief of the Division of Consumer Expenditure Information Systems. Ramakrishna Aitha and Chro Muhammad assisted in data processing. David Swanson, Chief of the Statistical Methods Division, provided statistical assistance on data reliability. Sharon Krieger and Barry Steinberg 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 Rose Gabor, of the Office of Publications and Special Studies, edited this report; and Phyllis Lott, of the same office, provided typesetting and layout services.

This report, *Consumer Expenditure Survey 2006–07*, is the final in a series of biennial reports that will be published in favor of more timely means of disseminating the information. Much of the content (and current versions) will be available on the CE website, and analytical and survey methods articles will be available in future CE anthologies. If you have any questions about this transition, please email cexinfo@bls.gov.

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Introduction

How much do Americans spend in a year, and how do they allocate those expenditures? In 2007, data from the Consumer Expenditure Survey (CE) showed that on average, consumer units¹ spent \$49,638—an increase of 2.6 percent from 2006. This followed a 4.3-percent increase in spending in 2006 and a 6.9-percent increase in 2005. (See text table 1.) These spending increases occurred during a period of moderate inflation and strong economic growth. The Consumer Price Index (CPI) rose 3.2 percent in 2006 and 2.8 percent in 2007.² The civilian unemployment rate was 4.6 percent in both 2006 and 2007.³ Gross domestic product (GDP), measured in current dollars, rose 6.1 percent in 2006 and 4.8 percent in 2007. Disposable personal income, in current dollars, rose 6.4 percent in 2006 and 5.5 percent in 2007.⁴

The major components of spending—food, housing, apparel and services, transportation, healthcare, entertainment, cash contributions, and personal insurance and pensions—account for about 94 percent of consumer units' average annual expenditures in the CE. In 2007, changes in expenditures varied among the major components. All major components showed an increase in expenditures except for cash contributions, which decreased by 2.6 percent. The increases ranged from a 13.6-percent increase for entertainment—the largest increase—to a 0.4-percent increase for food and for apparel and services, the smallest increases.

Expenditures on food increased 3.0 percent in 2006 and 0.4 percent in 2007. However, because of increased spending in other areas, the share of average annual expenditures spent on food fell from 12.6 percent in 2006 to 12.4 percent in 2007. (See text table 2.) Spending on food at home increased by 3.6 percent in 2006, and 1.4 percent in 2007. In 2006, expenditures on fruits and vegetables experienced the largest increase of all the food-at-home subcomponents, 7.2 percent, those on meats, poultry, fish and eggs, increased 4.3 percent, and dairy expenditures were the only subcomponent that decreased,

falling 2.6 percent. In 2007, spending on meats, poultry, fish, and eggs decreased by 2.5 percent, while all other subcomponents increased, accounting for the overall increase in spending on food at home. The increases ranged from a 1.4-percent increase in spending on fruits and vegetables to a 5.2-percent increase in spending on dairy products. The share of expenditures spent on food at home also declined from 7.1 percent in 2006 to 7.0 percent in 2007. Expenditures on food away from home increased by 2.3 percent in 2006 but then decreased by 1.0 percent in 2007. The share of expenditures spent on food away from home declined from 5.6 percent in 2006 to 5.4 percent in 2007.

Housing expenditures in 2007 represented 34.1 percent of all expenditures, a slight increase over the 33.8 percent they represented in 2006. This compares with 32.1 percent in 2004 and 32.7 in 2005. Expenditures on housing increased by 3.4 percent in 2007, after an increase of 7.9 percent in 2006. Expenditures on all housing subcomponents (shelter, utilities, fuels, and public services; household operations; housekeeping supplies; and household furnishings and equipment) increased in both 2006 and 2007, except for household furnishings and equipment, which decreased in 2006 and housekeeping supplies, which decreased in 2007. Shelter expenditures increased by 9.9 percent in 2006, followed by a 3.6-percent increase in 2007. Shelter includes items such as mortgage interest, property taxes, maintenance and repair, insurance expenses, rent, and vacation homes. The 2006 increase was driven by a 12.4-percent increase in mortgage interest. Spending on shelter accounted for almost 60 cents of every dollar spent on housing. Expenditures on utilities, fuels, and public services increased 2.4 percent in 2007 following a 6.7-percent increase, in 2006. The 2006 increase was driven by a 9.6-percent increase in expenditures on electricity and by a 7.6-percent increase in expenditures on natural gas. Spending on utilities, fuels, and public services accounted for about 21 cents of every dollar spent on housing. Household furnishings and equipment expenditures rose 5.2 percent in 2007, after declining 3.3 percent in 2006. This subcomponent includes such items as furniture, floor coverings, small and major appliances, linens and draperies and other miscellaneous equipment. Expenditures on household operations increased 18.4 percent in 2006 followed by a 3.8-percent increase in 2007. The 2006 increase was driven largely by a 17.8-percent increase in spending on day care centers, nursery and preschools, a 23.9-percent increase in spending on housekeeping services, and a 13.5-percent increase in spending on gardening and lawn care service.

Spending on apparel and services increased 0.4 percent

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.

²Bureau of Labor Statistics, www.bls.gov/cpi, 2009

³Bureau of Labor Statistics, www.bls.gov/cps, 2009

⁴Bureau of Economic Analysis, www.bea.gov/national/index.htm#gdp, and www.bea.gov/national/nipaweb/TableView.asp#Mid, 2009

in 2007, after decreasing 0.6 percent in 2006. The increase in 2007 was driven by a 7.6-percent increase in spending on footwear. For all other subcomponents expenditures decreased in 2007, ranging from a decline of 3.1 percent for apparel for children under 2 to a 0.3-percent decline for women's and girls' apparel. The share of total annual expenditures on apparel and services has declined steadily over the long term from 5.9 percent in 1987 to 5.0 percent in 1997 and 3.8 percent in 2007. In 2005, the share spent on clothing was 4.1 percent; in 2006 it was 3.9 percent

Transportation expenditures rose 2.9 percent in 2007, following a 2.0-percent increase in 2006. Expenditures on gasoline and motor oil rose significantly in both 2006 and 2007, 10.6 percent and 7.0 percent, respectively. This followed increases of 26.0 percent in 2005 and 19.9 percent in 2004. In 2006, gasoline and motor oil spending was 26.2 percent of total transportation spending and in 2007, it rose to 27.2 percent of the total. Public transportation spending, which includes such items as airplane and train fares, as well as intra-city transit fares, rose by 12.7 percent in 2006 and by 6.5 percent in 2007. Spending on vehicle purchases was the only subcomponent of transportation to decrease in 2006 and 2007. Expenditures on vehicle purchases declined by 3.5 percent in 2006 and by 5.2 percent in 2007. The share of total annual expenditures on vehicle purchases declined from a share of 7.6 percent in 2005 to 7.1 percent in 2006 and to 6.5 percent in 2007.

Health care expenditures, out-of-pocket only, rose 3.1 percent, in 2007 and 3.8 percent in 2006, after rising 3.5 percent in 2005. The health insurance subcomponent of health care rose 5.5 percent in 2007, following a 7.6-percent increase in 2006. 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. In 2007, health insurance expenditures accounted for 54.2 percent of total health spending, which was up from 53.0 percent in 2006, and 51.1 percent, in 2005. Spending on the drugs subcomponent of health care declined 6.4 percent in 2007, following a 1.3-percent decrease in 2006. This subcomponent includes prescription drugs, non-prescription drugs, and non-prescription vitamins. Spending on medical services, which includes such items as dental and eye-care services, lab tests and x-rays, and physicians' services, rose 5.8 percent in 2007, after declining 1.0 percent in 2006. Expenditures on medical supplies rose 0.9 percent in 2007, after rising 11.4 percent in 2006. Medical supplies, which includes such items as eyeglasses and contact lenses, hearing aids, and supportive and convalescent medical equipment, represented about 4.0 percent of total health care spending in both 2006 and 2007.

Entertainment expenditures remained nearly constant in 2006, declining by 0.5 percent but then rose by 13.6 percent in 2007. This followed a 7.7-percent increase in spending on entertainment in 2005. Expenditures on audio and visual equipment and services, which includes televisions, rose 8.9 percent in 2007, another 2.0 percent in 2006, and 12.7 percent, in 2005. This subcomponent represents a little over a third of

total entertainment spending. Fees and admissions—the second largest subcomponent—showed expenditure increases of 8.6 percent in 2007 and 3.1 percent in 2006. Expenditures on pets, toys, hobbies, and playground equipment increased by 35.9 percent in 2007, following a 1.9-percent decline, in 2006. NOTE: The large change seen in 2007 is not typical of this item. It was driven mainly by a change in the survey source for the data which changed from the Interview Survey to the Diary Survey. (See appendix B. Survey methods for a detailed explanation of source selection.) The subcomponent of other supplies, equipment, and services includes such items as recreational vehicles, boats, campers, and sports and exercise equipment. It represents a little under a fifth of total entertainment expenditures. Because some of these items tend to be large and are purchased infrequently, this category tends to show expenditure fluctuations across years. Spending increased 9.3 percent in 2007, after declining 8.3 percent in 2006.

Spending on cash contributions, which includes, among other things, contributions to charities, contributions to religious organizations, child support, and support for college students, fell by 2.6 percent, in 2007, following increases of 12.4 percent in 2006 and 18.1 percent in 2005. The decrease in 2007, was driven by decreases in contributions to churches and religious organizations and to educational institutions. Both these items had increased significantly, in 2006, relative to 2005 and were main drivers of the 12.4-percent increase in 2006.

Spending on personal insurance and pensions rose by 1.3 percent, in both 2006 and 2007, following a 7.9-percent increase in 2005. Both increases were due largely to expenditure increases in pensions and Social Security, which represents well over 90 percent of total expenditures on personal insurance and pensions. The pensions and Social Security subcomponent rose 1.6 percent in 2007 and 2.6 percent in 2006. Spending on life and other personal insurance declined by 4.0 percent in 2007 and by 5.5 percent in 2006. For the sixth straight year in 2007 spending on life and other personal insurance declined.

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 examining percent changes in expenditures from one year to the next. Of the major components of spending, the shares for food, housing, apparel and services, and personal insurance and pensions changed only slightly in 2007 from those in 2006. For example, the share for housing was 34.1 percent in 2007 and 33.8 percent in 2006, while the share for food was 12.4 percent in 2007 and 12.6 percent in 2006. Shares for health care and transportation were the same in both years, 5.7 and 17.6 percent, respectively. Only the share for entertainment in 2007, at 5.4 percent, seemed to diverge from the long term trend; the shares for the years 2004–06 were 5.1, 5.1, and 4.9 percent, respectively. This divergence in the entertainment share can be traced back to a change in the survey source for several items that are classified as entertainment expenditures. (Again, see appendix B. Survey methods.)

Data Highlights 2006 and 2007

Looking at the share of different subcomponents of transportation and housing over time reveals some interesting trends. As can be seen in chart 1, from 2003 to 2007, the share of total transportation expenditures for vehicle purchases steadily decreased; and the share for gasoline and motor oil steadily increased. Chart 2 shows the shares of total housing expenditures that were allocated to the various subcomponents in 1987, 1997, and 2007. Over that period, the shares of shelter and household operations rose, while the shares of utilities, fuels and public services, housekeeping supplies, and household furnishings and equipment declined.

Text table 1 shows consumer unit⁵ (CU) characteristics; income; and expenditures for 2005, 2006, and 2007, and percent changes over the periods 2005–2006 and 2006–2007. Text table 2 shows expenditure shares for 2004 through 2007. 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, which show average annual expenditures, for 2006 and 2007, for the total population, tabulated by selected socioeconomic char-

acteristics. Included in this report are 13 tables classifying data by 13 standard characteristics, for 2006 and 2007. 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, 2006 and 2007, to provide reliable estimates. Also, for the cross-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 select the survey source of 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.

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

Chart 1. Share of total transportation expenditures of transportation subcomponents, Consumer Expenditure Survey, 2003–07

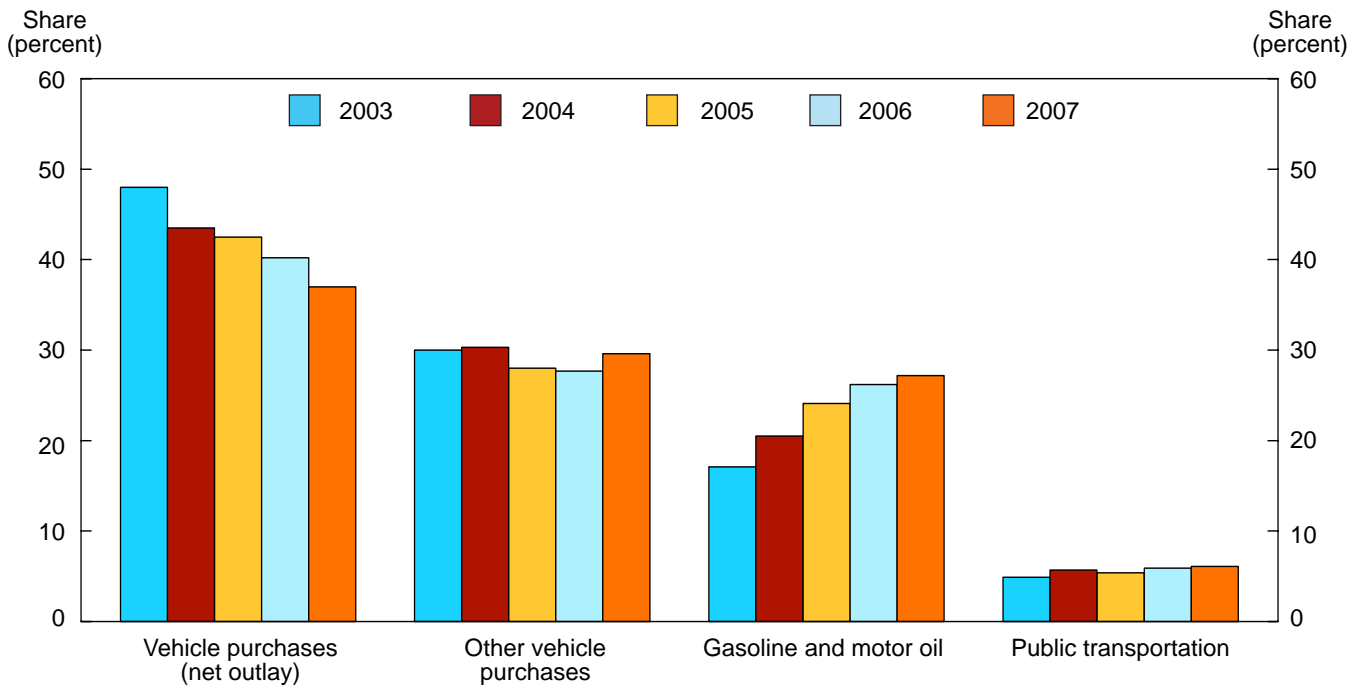
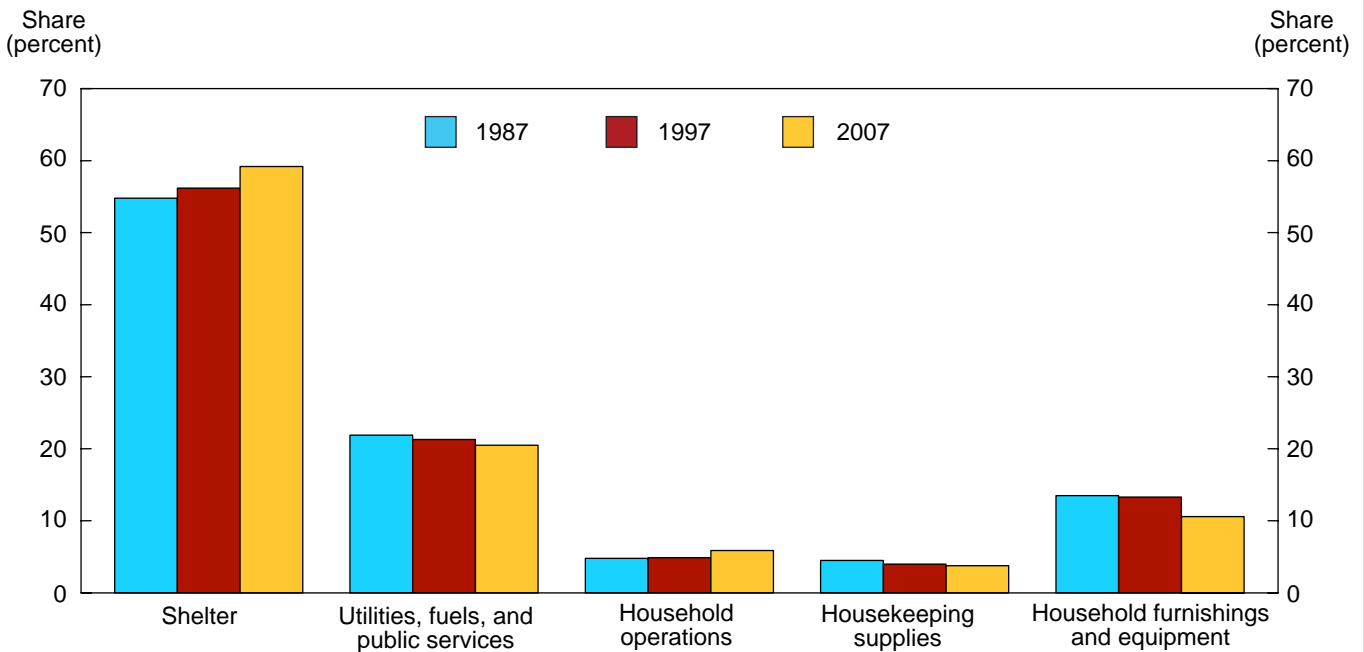


Chart 2. Share of total housing expenditures for housing subcomponents, Consumer Expenditure Survey 1987, 1997, and 2007



Text table 1. Average annual expenditures of all consumer units and percent changes, Consumer Expenditure Survey, 2005–07

| Item | 2005 | 2006 | 2007 | Percent change | |
|--|----------|----------|----------|----------------|---------|
| | | | | 2005–06 | 2006–07 |
| Annual expenditures..... | \$46,409 | \$48,398 | \$49,638 | 4.3 | 2.6 |
| Food | 5,931 | 6,111 | 6,133 | 3.0 | 0.4 |
| At home | 3,297 | 3,417 | 3,465 | 3.6 | 1.4 |
| Cereals and bakery products..... | 445 | 446 | 460 | 0.2 | 3.1 |
| Meats, poultry, fish, and eggs..... | 764 | 797 | 777 | 4.3 | -2.5 |
| Dairy products | 378 | 368 | 387 | -2.6 | 5.2 |
| Fruits and vegetables | 552 | 592 | 600 | 7.2 | 1.4 |
| Other food at home..... | 1,158 | 1,212 | 1,241 | 4.7 | 2.4 |
| Away from home..... | 2,634 | 2,694 | 2,668 | 2.3 | -1.0 |
| Alcoholic beverages..... | 426 | 497 | 457 | 16.7 | -8.0 |
| Housing | 15,167 | 16,366 | 16,920 | 7.9 | 3.4 |
| Shelter | 8,805 | 9,673 | 10,023 | 9.9 | 3.6 |
| Utilities, fuels, and public services..... | 3,183 | 3,397 | 3,477 | 6.7 | 2.4 |
| Household operations..... | 801 | 948 | 984 | 18.4 | 3.8 |
| Housekeeping supplies | 611 | 640 | 639 | 4.7 | -0.2 |
| House furnishings and equipment..... | 1,767 | 1,708 | 1,797 | -3.3 | 5.2 |
| Apparel and services | 1,886 | 1,874 | 1,881 | -0.6 | 0.4 |
| Transportation..... | 8,344 | 8,508 | 8,758 | 2.0 | 2.9 |
| Vehicle purchases (net outlay) | 3,544 | 3,421 | 3,244 | -3.5 | -5.2 |
| Gasoline and motor oil..... | 2,013 | 2,227 | 2,384 | 10.6 | 7.0 |
| Other vehicle expenses..... | 2,339 | 2,355 | 2,592 | 0.7 | 10.1 |
| Public transportation..... | 448 | 505 | 538 | 12.7 | 6.5 |
| Health care | 2,664 | 2,766 | 2,853 | 3.8 | 3.1 |
| Entertainment | 2,388 | 2,376 | 2,698 | -0.5 | 13.6 |
| Personal care products and services | 541 | 585 | 588 | 8.1 | 0.5 |
| Reading | 126 | 117 | 118 | -7.1 | 0.9 |
| Education..... | 940 | 888 | 945 | -5.5 | 6.4 |
| Tobacco products and smoking supplies..... | 319 | 327 | 323 | 2.5 | -1.2 |
| Miscellaneous..... | 808 | 846 | 808 | 4.7 | -4.5 |
| Cash contributions..... | 1,663 | 1,869 | 1,821 | 12.4 | -2.6 |
| Personal insurance and pensions | 5,204 | 5,270 | 5,336 | 1.3 | 1.3 |
| Life and other personal insurance | 381 | 322 | 309 | -15.5 | -4.0 |
| Pensions and Social Security | 4,823 | 4,948 | 5,027 | 2.6 | 1.6 |

Text table 2. **Component shares of total annual expenditures, Consumer Expenditure Survey, 2004–07**

| Item | 2004 | 2005 | 2006 | 2007 |
|--|------|------|------|------|
| Total expenditures | 100 | 100 | 100 | 100 |
| Food | 13.3 | 12.8 | 12.6 | 12.4 |
| At home | 7.7 | 7.1 | 7.1 | 7.0 |
| Away from home..... | 5.6 | 5.7 | 5.6 | 5.4 |
| Alcoholic beverages..... | 1.1 | 0.9 | 1.0 | 0.9 |
| Housing | 32.1 | 32.7 | 33.8 | 34.1 |
| Apparel and services | 4.2 | 4.1 | 3.9 | 3.8 |
| Transportation..... | 18 | 18 | 17.6 | 17.6 |
| Vehicle purchases | 7.8 | 7.6 | 7.1 | 6.5 |
| Gasoline and motor oil..... | 3.7 | 4.3 | 4.6 | 4.8 |
| Other vehicle expenses..... | 5.5 | 5.0 | 4.9 | 5.2 |
| Public transportation..... | 1.0 | 1.0 | 1.0 | 1.1 |
| Health care | 5.9 | 5.7 | 5.7 | 5.7 |
| Entertainment | 5.1 | 5.1 | 4.9 | 5.4 |
| Personal care products and services | 1.3 | 1.2 | 1.2 | 1.2 |
| Reading | 0.3 | 0.3 | 0.2 | 0.2 |
| Education..... | 2.1 | 2.0 | 1.8 | 1.9 |
| Tobacco products and smoking supplies..... | 0.7 | 0.7 | 0.7 | 0.7 |
| Miscellaneous..... | 1.6 | 1.7 | 1.7 | 1.6 |
| Cash contributions..... | 3.2 | 3.6 | 3.9 | 3.7 |
| Personal insurance and pensions | 11.1 | 11.2 | 10.9 | 10.8 |
| Life and other personal insurance | 0.9 | 0.8 | 0.7 | 0.6 |
| Pensions and Social Security..... | 10.2 | 10.4 | 10.2 | 10.1 |

Interpreting the Data

Several factors should be considered when interpreting the 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 just \$1,572, 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 2007, the average expenditure on new cars and trucks for those households would be \$19,650. 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—which 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 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.

Consumer Expenditure Survey compared with National Health Expenditure Accounts

Past Consumer Expenditure Survey (CE) biennial reports included comparisons of CE data to those from other sources to check for consistency of results. Personal Consumption Expenditures (PCE) from the Bureau of Economic Analysis were used to make detailed comparisons with a range of CE spending categories. Less-detailed comparisons of CE out-of-pocket health care expenditures were made with those from the National Health Expenditure Accounts (NHEA) of the Centers for Medicare and Medicaid Services of the Department of Health and Human Services. The purpose of this article is to examine the latest CE estimates of aggregate health-care expenditures and how they compare with NHEA data, but in more detail than previously shown.

Published by the Centers for Medicare and Medicaid Services of the U.S. Department of Health and Human Services, the National Health Expenditure Accounts (NHEA) are the official estimates of total health care spending in the United States. Dating back to 1960, the NHEA measures annual aggregate U.S. spending for health care goods and services, public health activities, program administration, the net cost of private insurance, and research and other investment related to health care.

The Consumer Expenditure Survey (CE) and the NHEA differ in the population covered. The CE is designed to be representative of the U.S. civilian noninstitutionalized population which includes everyone living in the U.S., who is not in an institution, such as a nursing home or prison, and who is not living on a military base. The NHEA covers a larger population because all persons, both military and civilian, living in the U.S. are part of the resident population.

CE health care data are direct out-of-pocket expenditures net of any reimbursements. These data include payments directly to the providers of care, such as hospitals, and to third parties, such as insurance companies for private group or individual health insurance coverage and the Federal Government for premiums to the Medicare Supplementary Trust Fund (Part B, C, and D coverage). In the NHEA, household spending for health care also includes direct spending and amounts paid to third party insurers.

The CE obtains information from individual consumer units, while the NHEA uses many secondary data sources, such as the American Hospital Association Annual Survey and the Census Bureau's Services Annual Survey. The CE and NHEA also differ in how spending is categorized. In the

NHEA, the type of establishment providing a service generally determines what is included in a spending category, while CE usually categorizes spending by the type of service provided. For example, the CE has separate categories for inpatient hospitalization and other medical services (outpatient hospital care, emergency room services, etc.), but the NHEA places these services in its Hospital Care category.⁶

The two data sources differ somewhat in the items covered. For example, the CE does not have a category that specifically requests information about home health-care outlays. In the NHEA, the Home Health Care category includes freestanding home health agencies, while hospital-based home health care is in the Hospital Care category. The NHEA includes employee and self-employment contributions to the Medicare Hospital Insurance Trust Fund (Part A coverage) in household spending for insurance coverage, in addition to premiums to the Medicare Supplementary Insurance Trust Fund, while the CE only includes the latter in its health insurance estimates.

Text table 3 shows CE estimates of aggregate expenditures for healthcare and CE/NHEA out-of-pocket spending ratios. Categories have been aligned to make them as comparable as possible. In 2007, CE aggregate medical care expenditures (excluding nursing home care) were \$340.9 billion, or 67 percent of the NHEA out-of-pocket estimate of \$506.1 billion (excluding nursing home and home health care expenditures). Of the CE total, \$185.6 billion was spent on health insurance, \$72.0 billion on medical commodities, and \$83.3 billion on medical services. These amounts were 67 percent, 72 percent, and 64 percent, respectively, of the NHEA estimates.

For all expenditure categories, CE-to-NHEA ratios varied over the 2004–07 period. These results may reflect the variability of health care expenses and/or year-to-year fluctuations, due to random sampling variation which affects survey data bases. The differences between CE and NHEA estimates may also reflect survey differences in population, concepts, and scope.

⁶ The NHEA defines the population used in its data tables as the U.S. Census resident population plus the net undercount. For more information about the National Health Expenditure Accounts see "National Health Expenditure Accounts, Definitions, Sources and Methods, Department of Health and Human Services, Centers for Medicare and Medicaid Services, Baltimore, Md., www.cms.hhs.gov/NationalHealthExpendData/downloads/dsm-07.pdf and "Health Expenditures by Sponsors: Business, household and government, www.cms.hhs.gov/NationalHealthExpendData/06_NationalHealthAccountsBusinessHouseholdGovernment.asp#TopOfPage

Text table 3. Comparison of aggregate health care expenditures: Consumer Expenditure Survey and National Health Expenditure Accounts, 2004–07

| Expenditure category | Aggregate consumer expenditures Consumer Expenditure Survey (in billions) | | | | Ratio of Consumer Expenditure Survey to National Health Expenditure Accounts ¹ | | | |
|---------------------------------------|---|-------|-------|-------|---|------|------|------|
| | 2004 | 2005 | 2006 | 2007 | 2004 | 2005 | 2006 | 2007 |
| Health care, total ² | 294.6 | 309.4 | 326.7 | 340.9 | .70 | .70 | .68 | .67 |
| Health insurance ³ | 154.9 | 159.7 | 174.1 | 185.6 | .70 | .68 | .67 | .67 |
| Medical commodities, total | 69.1 | 73.7 | 75.6 | 72.0 | .77 | .73 | .74 | .72 |
| Prescription drugs..... | 40.6 | 47.6 | 46.7 | 43.2 | .88 | .83 | .87 | .85 |
| Medical supplies and | | | | | | | | |
| nonprescription drugs..... | 18.9 | 17.0 | 18.2 | 18.4 | .62 | .53 | .55 | .53 |
| Medical equipment | 9.6 | 9.1 | 10.7 | 10.4 | .73 | .70 | .69 | .69 |
| Medical services, total | 70.6 | 76.1 | 77.0 | 83.3 | .65 | .66 | .63 | .64 |
| Professional services..... | 54.1 | 58.3 | 58.8 | 63.2 | .60 | .61 | .58 | .59 |
| Physicians services | 17.0 | 18.1 | 20.0 | 20.6 | .42 | .42 | .43 | .42 |
| Dental services..... | 28.0 | 29.8 | 28.4 | 29.4 | .73 | .78 | .71 | .70 |
| Other professional | 9.1 | 10.3 | 10.5 | 13.3 | .66 | .72 | .70 | .84 |
| services | | | | | | | | |
| Hospital care..... | 16.4 | 17.8 | 18.2 | 20.0 | .88 | .90 | .85 | .86 |

¹ National Health Expenditure Accounts data exclude nursing home and home health care spending.

² Consumer Expenditure Survey data exclude nursing home care spending.

³ Includes premiums for private health insurance and premiums paid to the Medicare Supplementary Insurance Trust Fund.

NOTE: Sums may not equal totals due to rounding. Expenditure categories have been adjusted to make the two surveys as comparable as possible.

SOURCE: The National Health Expenditure Accounts (NHEA) data

used to compute the CE/NHEA ratios are from U.S. Department of Health and Human Services, Centers for Medicare and Medicaid Services, "National Health Expenditures by Type of Service and Source of Funds: Calendar Years 1960-2007," http://www.cms.hhs.gov/NationalHealthExpendData/02_NationalHealthAccountsHistorical.asp#TopOfPage and Health Expenditures by Sponsors: Business, Household, and Government," http://www.cms.hhs.gov/NationalHealthExpendData/06_NationalHealthAccountsBusinessHouseholdGovernment.asp#TopOfPage. Because retrospective adjustments to NHEA data are made when new data are issued, CE/NHEA ratios may differ from those published in previous years.

Measuring the Impact of Income Imputation in the Consumer Expenditure Survey: A Multi-year Comparison of Income Data with Estimates from the Current Population Survey

From 1980—the year the Consumer Expenditure Survey (CE) became a continuous survey—until 2004, no procedures were employed to produce estimates for sources of income that respondents acknowledged receiving, but for which they did not provide values. However, the release of 2004 data marked the introduction of imputation for missing income responses. With a number of years of imputed income data now available, it is possible to evaluate the impact and efficacy of imputation by comparing pre- and post-imputation estimates of CE income with estimates from the Current Population Survey (CPS), a large-scale household survey that has employed imputation in producing its income estimates for many years.

Background

Survey managers have applied various methods developed by the statistics community for imputing missing income values when survey participants fail to provide a response. The choice of an appropriate imputation procedure depends on an accurate assessment of the distribution of missing values and the relationship of nonresponse to socioeconomic characteristics of the sample population. To the extent the chosen procedure misidentifies the mechanism leading to nonresponse, the resulting imputed values will lead to biased and inconsistent results when used for analytical purposes.

CE survey managers have been particularly concerned about the ramifications of selecting an improper procedure, because sampled consumer units (CUs) report expenditure data which are expected a priori to be highly correlated with income. Consequently, imputation for missing income was not done; and CE data releases from 1972 to 2003 instead identified sample households as either “complete” or “incomplete” income respondents.⁷

Given the unique requirements any income imputation procedure would have to satisfy, CE and Census staff began a systematic search for an appropriate method. While this research continued, changes were made in the collection instruments in 2001 to improve the reporting of income. Bracketing questions were added to follow the existing questions, so that

if a respondent initially refused to report or did not know the amount received, the bracket question asked the respondent to select a range which best reflected the amount received. These bracketed responses added a layer of complexity to the task of choosing an imputation method.

Once the research was completed, the method chosen for the CE was a regression-based procedure that would preserve both means and variances for each source of income. The process produces five imputed values for each missing observation. The first step is to run a regression to obtain coefficients to use in creating imputed values. Random noise is then added to each coefficient and the resulting “shocked” coefficient is used to estimate an imputed value. Additional noise is added to the estimated values to insure that CUs with similar demographic characteristics do not receive similar imputed income. After the five imputed values are created for each missing value, an estimate representing the mean of those five values is calculated. Reported specific values are retained as is. If a respondent reports the value falls within a bracket, the imputed values must fall within the range defined for that bracket.

In a small number of instances, a CU will report not receiving income from any source. Since this is extremely unlikely, the income imputation procedure is run for such CUs with an additional step. A logistic regression based on the characteristics of the CU, such as retirement or student status, is run first to impute receipt status (yes or no) for each source of income. For those sources of income that a CU is imputed to have received, the model is run to produce imputed income values.

Data collection

By comparing CE income estimates with another established source of income data over a time period covering pre- and post-imputation years, one can measure both the impact of imputation on the relationship of aggregate CE income to the independent source, and the efficacy and quality of the imputation method in producing comparable estimates to that source. For this study, CE income data are compared with similar data from the CPS for the years 2002 to 2007.

Comparisons of mean or aggregate pre-tax income between the CE and the CPS have been a staple feature of

⁷See Thesia I. Garner and Laura Blanciforti, “Household Income Reporting: An Analysis of U. S. Consumer Expenditure Survey Data,” *Journal of Official Statistics*, Vol. 10, No. 1, 1994, pp. 69-91 for more details.

BLS publications for almost 20 years.⁸ These published comparisons were based on CE data before imputation and CPS data that included imputed values.

Income estimates for the CE are from the Interview Survey component of the survey, while the Annual Social and Economic Supplement (ASEC) is the source of comparable CPS income data.

The difference in timing of the collection of income data between the CE and the CPS poses challenges in constructing matching time periods for comparison purposes. The Interview Survey uses a rotating sample design, whereby sample units are being introduced every month. Income data are collected during the 2nd and 5th interviews, covering the 12 months prior to the month of interview. Thus, a CU undergoing their 2nd interview in June 2009 would report wage income received from June 2008 through May 2009.

The ASEC is conducted annually in March—though a limited number of eligible households are interviewed in February and April—and collects data on the previous calendar year's income from all sources. Households completing the ASEC in March 2009 report income for the 2008 calendar year. Conducting the ASEC in March is believed to provide better income data, because most households would either be completing or have just completed preparing tax returns and, thus, would be more likely to remember income sources and amounts.

While the structure and wording of income questions are similar in the CE and the CPS, there are differences that can affect the estimates. In the CE, the respondent reports the amount received from earned income, Social Security, Railroad Retirement, and Supplemental Security Income for each CU member age 14 years and over individually. For each of the remaining sources of income, the respondent reports the amount received by the consumer unit as a whole. In comparison, for the ASEC, the respondent is directed to report the amount received for each source of income by each individual household member 15 years or older.

The CE respondent is asked about the amount received over the last 12 months for each source of income, with the exception of Social Security/Railroad Retirement. As noted earlier, if the respondent either refuses or does not know the amount received, a card with ranges or brackets of income is shown to the respondent who is asked to report which bracket best reflects the amount received. In the ASEC, respondents are asked to report the amount received over the calendar year. Based on the response, they may also be asked for the periodicity of the report (weekly, monthly, etc.).

⁸See text tables 6 and 7, *Consumer Expenditure Survey, 1987*, Bulletin 2354, June 1990; text tables 8 and 9, *Consumer Expenditure Survey, 1990–91*, Bulletin 2425, September 1993; text tables 6 and 7, *Consumer Expenditure Survey, 1992–93*, Bulletin 2462, September 1995; text tables 10 and 11, *Consumer Expenditure Survey, 1994–95*, Bulletin 2492, December 1997; text tables 8 and 9, *Consumer Expenditure Survey, 1996–97*, Report 935, September 1999; text tables 20 and 21, *Consumer Expenditure Survey, 1998–99*, Report 955, November 2001; text tables 3–6, *Consumer Expenditure Survey, 2002–2003*, Report 990, March 2006.

With respect to the contents of the income questions, in general where the Interview Survey questionnaire collects data for an income source in one question, the ASEC contains multiple questions, each collecting a portion of the data for that source. These questions also ask for income data from additional sources. For example, the Interview Survey instrument collects pension and annuity income in one question. The ASEC does so in three questions. One collects such income resulting from retirement, a second collects such income resulting from disability, and the third collects such income originating as a survivor's benefit. Each of these ASEC questions also asks about other sources for retirement, disability, and survivor's benefit income besides pensions and annuities. Three sources of income that are exceptions to this general rule are: wages and salaries, self-employment income, and interest income.

Comparison of CE and CPS income: Sources and time Periods

The ASEC is designed to cover the civilian noninstitutional population, plus those military personnel who live with at least one other civilian adult, on or off base. The CE is also designed to represent the civilian noninstitutional population, plus a portion of the institutional population.

ASEC income data used in this article are derived from a table which CPS produces annually for its internal use. For each income source, the table shows the count of persons and mean amount of income, in total, by those directly reporting income, and by those for which imputation is done. The means and numbers of persons reporting each type of income are multiplied together to obtain aggregate income.

The income categories shown here are a subset of the categories that can be constructed from the detailed income sources reported for the CE and the ASEC. In addition to total aggregate income, results are shown for the following categories: wage and salary income; net nonfarm self-employment income; Social Security and Railroad Retirement income; pensions and annuities; interest; and dividends, rents, royalties, estates and trusts.

As noted earlier, annual estimates of income for the CPS match the calendar year, while the annual estimates of income for the CE Interview Survey cover the year prior to the month of interview. Thus, the creation of an estimator comparable to the CPS has to be resolved for CE income. After due consideration, three estimators of CE income were chosen.

The first replicates the method used for producing income estimates in CE publications.⁹ Annual income reported by CUs in their second or fifth interview is divided by 12, thus creating a monthly amount, and then assigned to each of the 3 months covered by the interview. Second-interview income is carried forward through the third and fourth interviews until income data is collected again at the fifth interview. The annual CE estimate for any calendar year will be calculated from all income assigned to that year.

⁹Ibid.

Compared with the CPS estimate, this method creates an estimate using a significant amount of income reported from an earlier time period. Using 2008 as an example, the first month whose interviews would be used in the CE estimate is February 2008. One-twelfth of the income reported in that interview would be assigned to January 2008. However, the 12-month reference period for reporting would run from February 2007 through January 2008, meaning 11 months of the reference period were outside the calendar year of interest.

In fact, the only month whose interviews would span a recall period matching the ASEC calendar year is January of the following year. (For calendar year 2008, interviews conducted in January 2009 would have an annual reference period from January 2008 to December 2008.) This forms the basis for the second method of calculating CE estimates. Only 2nd and 5th interviews conducted in January of the following year are used to construct the estimate. While such interviews exactly match the period covered by the ASEC, the number of interviews is very small at about 1/6th of the total number of interviews conducted in any one quarter. This would be detrimental to the statistical reliability of the estimate, potentially leading to wide annual swings in the estimate, particularly for some of the more thinly reported categories of income.

Because of the conceptual attractiveness of the second method in matching the ASEC time period, the third method for creating CE estimates essentially expands on it. Centering on January interviews, this method adds 2nd and 5th interviews conducted between October of the previous year and April of the current year, or three months before and after January, to expand the number of interviews used to create the estimate. For all three methods, weighting adjustments are made to insure that the aggregate estimates are representative of the entire population.

Comparison of CE with CPS: Results

Levels and ratios

The impact of imputation in the CE can be seen in text table 4 that shows aggregate incomes, total and by source, from the CE and CPS, along with the ratio of CE to CPS estimates for the years 2002–07. The CE did not impute in the first 2 years of this period, so the estimates are based on all reported income, regardless of whether the CU was considered a complete or incomplete income respondent.

Imputation significantly raises CE total income, bringing it into near equality with CPS estimates. On average, imputation adds about 20 percentage points to the CE/CPS ratio. For the pre-imputation years of 2002–03, the mean CE/CPS ratio for total income, taking into account each estimator of CE income, is about 0.75. The average ratio for the post-imputation years of 2004–07 rises to about 0.94.

This increase in the ratio for total income is largely driven by the increase in wage and salary income after imputation was introduced in the CE. Wage and salary income comprises

about 80 percent of total CE income and 77 percent of total CPS income over this period. Before imputation, CE total income averages about \$1,650 billion less than CPS total income, with CE wage and salary income trailing CPS wage and salary income by about \$1,123 billion. The CE/CPS ratio for wage and salary income averages about 0.78. After imputation, the gaps between total income and wage and salary income in the CE and CPS narrow to an average of about \$446 billion and \$143 billion, respectively. Wage and salary income for the CE almost matches the CPS, with an average ratio of more than 0.97.

Social Security and Railroad Retirement income is the next largest component of total income in the CE and CPS. The story here is similar to the one for wage and salary income. The mean 2002–03 CE/CPS ratio is just over 0.80 [.8045], while the 2004–07 ratio increases to about 0.95.

Imputation in the CE has a larger impact on the CE/CPS ratio for nonfarm self-employment income, the third largest contributor to total income, than for any other component of income. In fact, the ratio rises more than 50 percentage points after imputation, going from about 0.63 to about 1.15, making it the only source of income for which the CE estimate is, on average, higher than the CPS estimate.

Pension and annuity income is the next largest component of total income. Similar to Social Security/Railroad Retirement income, the CE/CPS ratio rises an almost equivalent amount after imputation. For 2002–03, the ratio averages just under 0.81, increasing to slightly under 0.94 for 2004–07.

No other income component represents as much as 2 percent of total income in the CE. For the CPS, however, two categories—interest and dividends, rents, royalties, estates and trusts—each make up more than 2 percent of total income. As such, the CE/CPS ratios for these items are fairly low, and historically have been among the lowest in the published tables. While still averaging 42 percent of the CPS estimate, the 2007 CE/CPS ratio rose 10 percentage points over the average of the previous 3 years. In addition, interest income is one of the few components whose CE/CPS ratio does not increase appreciably after imputation. The aggregate pre-imputation interest income estimate in the CE is about 28 percent of the CPS estimate. After imputation, the CE interest income estimate increases to more than 34 percent of the CPS estimate.

The initial level of the CE/CPS ratio is higher for income from dividends, rents, royalties, estates, and trusts than for interest income, and imputation has a marked impact on the ratio. The ratio for 2002–03 averages midway between 0.42 and 0.43, and increases to an average of 0.51 after imputation.

To complete the picture on the impact of imputation on the relationship between CE with CPS estimates, the next section looks more closely at the magnitude of imputation as it affects the aggregate estimates for total income and each source of income over the 2004–07 period where imputation is done for both surveys.

Text table 4. **Aggregate pretax income and ratios for Current Population Survey (CPS) and for three alternative measures of Consumer Expenditure Survey (CE), by total and source of income, 2002–07**

[In billions of dollars]

| Year and survey | Total | | Wage and salary income | | Nonfarm self-employment income | | Social Security and Railroad Retirement income | |
|------------------------------------|-----------|--------------|------------------------|--------------|--------------------------------|--------------|--|--------------|
| | Aggregate | CE/CPS ratio | Aggregate | CE/CPS ratio | Aggregate | CE/CPS ratio | Aggregate | CE/CPS ratio |
| 2002 | | | | | | | | |
| CPS | 6,515.7 | | 5,078.4 | | 302.6 | | 389.8 | |
| CE, reference year 2002 | 4,629.0 | 71.0 | 3,736.3 | 73.6 | 197.8 | 65.4 | 312.9 | 80.3 |
| CE, January 2003..... | 4,858.1 | 74.6 | 3,880.9 | 76.4 | 204.3 | 67.5 | 299.1 | 76.7 |
| CE, October 2002 - April 2003..... | 4,838.7 | 74.3 | 3,890.2 | 76.6 | 198.6 | 65.6 | 315.9 | 81.0 |
| 2003 | | | | | | | | |
| CPS | 6,707.2 | | 5,157.1 | | 331.6 | | 410.1 | |
| CE, reference year 2003 | 5,007.9 | 74.7 | 4,042.1 | 78.4 | 194.6 | 58.7 | 325.4 | 79.3 |
| CE, January 2004..... | 5,328.2 | 79.4 | 4,295.7 | 83.3 | 210.7 | 63.5 | 343.8 | 83.8 |
| CE, October 2003 - April 2004..... | 5,109.5 | 76.2 | 4,125.7 | 80.0 | 194.3 | 58.6 | 334.7 | 81.6 |
| 2004 | | | | | | | | |
| CPS | 6,939.6 | | 5,346.6 | | 321.7 | | 431.8 | |
| CE, reference year 2004 | 6,322.2 | 91.1 | 5,021.3 | 93.9 | 338.4 | 105.2 | 400.0 | 92.6 |
| CE, January 2005..... | 6,689.9 | 96.4 | 5,119.7 | 95.8 | 566.6 | 176.1 | 431.0 | 99.8 |
| CE, October 2004 - April 2005..... | 6,636.6 | 95.6 | 5,206.3 | 97.4 | 435.1 | 135.2 | 411.4 | 95.3 |
| 2005 | | | | | | | | |
| CPS | 7,352.4 | | 5,630.6 | | 366.5 | | 449.2 | |
| CE, reference year 2005 | 6,872.5 | 93.5 | 5,432.6 | 96.5 | 430.1 | 117.4 | 431.0 | 96.0 |
| CE, January 2006..... | 6,872.1 | 93.5 | 5,394.3 | 95.8 | 558.5 | 152.4 | 441.1 | 98.2 |
| CE, October 2005 - April 2006..... | 6,940.3 | 94.4 | 5,522.8 | 98.1 | 423.4 | 115.5 | 441.9 | 98.4 |
| 2006 | | | | | | | | |
| CPS | 7,800.6 | | 5,967.4 | | 407.7 | | 471.5 | |
| CE, reference year 2006 | 7,170.8 | 91.9 | 5,718.6 | 95.8 | 414.0 | 101.5 | 446.0 | 94.6 |
| CE, January 2007..... | 7,332.3 | 94.0 | 5,994.1 | 100.4 | 445.0 | 109.1 | 409.1 | 86.8 |
| CE, October 2006 - April 2007..... | 7,286.8 | 93.4 | 5,815.2 | 97.5 | 380.1 | 93.2 | 452.2 | 95.9 |
| 2007 | | | | | | | | |
| CPS | 8,013.6 | | 6,141.5 | | 390.6 | | 500.2 | |
| CE, reference year 2007 | 7,559.1 | 94.3 | 6,047.3 | 98.5 | 390.8 | 100.1 | 464.6 | 92.9 |
| CE, January 2008..... | 7,674.0 | 95.8 | 6,179.7 | 100.6 | 307.2 | 78.7 | 462.8 | 92.5 |
| CE, October 2007 - April 2008..... | 7,610.1 | 95.0 | 6,094.2 | 99.2 | 369.3 | 94.6 | 483.8 | 96.7 |

Text table 4. **Continued—Aggregate pretax income and ratios for Current Population Survey (CPS) and for three alternative measures of Consumer Expenditure Survey (CE), by total and source of income, 2002–07**

[In billions of dollars]

| Year and survey | Pensions and annuities | | Interest | | Dividends, rents, royalties, and estates and trusts | |
|------------------------------------|------------------------|-----------------|-----------|-----------------|---|-----------------|
| | Aggregate | CE/CPS ratio | Aggregate | CE/CPS ratio | Aggregate | CE/CPS ratio |
| 2002 | | | | | | |
| CPS | 262.5 | | 145.4 | | 119.7 | |
| CE, reference year 2002 | 178.7 | 68.1 | 36.9 | 25.4 | 50.3 | 42.1 |
| CE, January 2003..... | 217.4 | 82.8 | 39.8 | 27.4 | 48.9 | 40.9 |
| CE, October 2002 - April 2003..... | 203.4 | 77.5 | 41.7 | 28.7 | 57.3 | 47.8 |
| 2003 | | | | | | |
| CPS | 276.3 | | 148.3 | | 152.4 | |
| CE, reference year 2003 | 226.3 | 81.9 | 47.9 | 32.3 | 60.7 | 39.8 |
| CE, January 2004..... | 252.6 | 91.5 | 38.2 | 25.7 | 63.2 | 41.5 |
| CE, October 2003 - April 2004..... | 231.8 | 83.9 | 43.4 | 29.2 | 65.6 | 43.0 |
| 2004 | | | | | | |
| CPS | 291.9 | | 163.2 | | 157.0 | |
| CE, reference year 2004 | 280.1 | 96.0 | 59.0 | 36.2 | 85.3 | 54.3 |
| CE, January 2005..... | 300.0 | 102.8 | 59.0 | 36.1 | 50.6 | 32.2 |
| CE, October 2004 - April 2005..... | 316.3 | 108.3 | 49.8 | 30.5 | 81.0 | 51.6 |
| 2005 | | | | | | |
| CPS | 310.3 | | 186.9 | | 169.8 | |
| CE, reference year 2005 | 290.4 | 93.6 | 61.9 | 33.1 | 99.9 | 58.8 |
| CE, January 2006..... | 268.1 | 86.4 | 37.6 | 20.1 | 45.1 | 26.6 |
| CE, October 2005 - April 2006..... | 291.1 | 93.8 | 61.3 | 32.8 | 71.9 | 42.3 |
| 2006 | | | | | | |
| CPS | 314.9 | | 229.2 | | 186.7 | |
| CE, reference year 2006 | 283.5 | 90.0 | 69.7 | 30.4 | 106.9 | 57.3 |
| CE, January 2007..... | 213.6 | 67.8 | 66.8 | 29.1 | 80.1 | 42.9 |
| CE, October 2006 - April 2007..... | 302.6 | 96.1 | 85.7 | 37.4 | 109.5 | 58.6 |
| 2007 | | | | | | |
| CPS | 323.3 | | 242.8 | | 191.0 | |
| CE, reference year 2007 | 302.0 | 93.4 | 97.0 | 39.9 | 112.8 | 59.1 |
| CE, January 2008..... | 338.8 | 104.8 | 112.6 | 46.4 | 137.0 | 71.7 |
| CE, October 2007 - April 2008..... | 300.1 | 92.8 | 94.9 | 39.1 | 109.7 | 57.4 |

The role of imputation

Text table 5 shows the percentage of CE and CPS aggregate income for the sources included in text table 4 accounted for by imputation for the 4 years imputation has been done in the CE. Looking at total income, more than 38 percent of the CE aggregate is attributable to imputation compared with over 32 percent in the CPS. The percentage of imputed income in the CE has risen each year since the inception of imputation, while the percentage has remained stable in the CPS. Even though the CPS aggregates are larger than CE aggregates, a difference ranging between \$390 and \$537 billion, the dollar amounts imputed in the CE are uniformly larger than the amounts imputed in the CPS. The difference in imputed aggregate income has risen from about \$35 billion in 2004 to about \$562 billion in 2007.

As noted earlier, wage and salary income is the predominant component of total income, and consequently the contribution of imputation to aggregate wage and salary income essentially matches the contribution to total income. Imputation is a bigger factor in the CE estimates than the CPS estimates, both in terms of percentage of the estimate and actual dollar value. The percent of CE wage and salary income resulting from imputation has risen each year since 2004, going from 37.0 percent in 2004 to 41.9 percent in 2007. Over the same period, imputation accounts for about 30 percent of CPS wage and salary income. The amount imputed in the CE exceeds that imputed in the CPS by about \$220 billion for 2004, rising to about \$755 billion in 2007.

The two components of total income representing retirement income show remarkably similar patterns with each other and in relation to the CPS. Though starting from a lower level, the average percentage of imputed income in the CE estimates for Social Security and Railroad Retirement income and income from pensions and annuities increases each year from 2004 to 2007. For Social Security and Railroad Retirement, the percentage goes from 20.2 percent to about 23.6 percent; for pensions and annuities, the percentage rises from 18.3 percent in 2004 to 21.8 percent in 2007. Nonresponse has been less of an issue for the CE than for the CPS, as on average, the CPS imputes 33.6 percent of Social Security and Railroad Retirement income and 32.6 percent of income from pensions and annuities over the 4 years. With one exception,

the income directly reported is about \$20 billion to \$55 billion more for Social Security income and \$10 billion to \$60 billion more for income from pensions and annuities in the CE than in the CPS.

Over one-half of the CE estimates for nonfarm self-employment income is derived from imputation. As with the sources previously mentioned, the average percentage of imputed income rises each year, but there is a sizable 15-percentage-point increase from 57.5 percent to 72.6 percent between 2005 and 2007. Imputation in the CPS averages 42.7 percent over the 4-year period. The amount imputed in the CE estimates is significantly greater than the amount imputed in the CPS each year, though somewhat paradoxically, the average difference is smallest, at about \$92 billion in 2007, the year in which imputed income comprises the largest proportion of the CE estimate.

Interest income and, to a lesser degree, income from dividends, rents, royalties, and estates and trusts show sharply different response patterns between the CE and the CPS. The percentage of imputed income in the CE estimates for this category has ranged from 45.8 percent to 58.6 percent. The endpoints of the range are from 2004 and 2005, respectively, years where the percentage of income imputed in the CE estimate derived from January interviews only differed considerably from the percentage of income imputed for estimates derived by the other two variables. In 2006 and 2007, all three estimators displayed similar percentages of imputed income. The CPS derives an average of 71.9 percent of their annual estimates from imputation, and the actual dollar amounts imputed dwarf the amounts of imputed interest income in the CE by \$100 billion to \$120 billion.

After averaging about 37 percent from 2004 to 2006, the average percentage of imputed income for CE dividends, rents, royalties, estates and trusts leaped to over 51 percent in 2007. CPS estimates for dividends, rents, royalties, and estates and trusts have consisted of a steadily increasing percentage of imputed income over the 4-year period, rising from 47.9 percent in 2004 to 51.1 percent in 2007, matching the CE imputation percentage. In actual dollar amounts, the CPS uniformly imputes much higher amounts than the CE; on average, \$86.8 billion dollars are imputed annually in the CPS, compared with \$50.4 billion in the CE.

Text table 5. **Aggregate pretax income and percent distribution, total and by reported and allocated status, by source of income, Current Population Survey (CPS) and three alternative measures of Consumer Expenditure Survey (CE), 2004–07**

[In billions of dollars]

| Year, category of income, and survey | Total | Reported | Percent reported | Allocated | Percent allocated |
|--|---------|----------|------------------|-----------|-------------------|
| 2004 | | | | | |
| Total aggregate income: | | | | | |
| CPS | 6,939.6 | 4,603.6 | 66.3 | 2,336.0 | 33.7 |
| CE, reference year 2004 | 6,322.2 | 3,944.6 | 62.4 | 2,377.5 | 37.6 |
| CE, January 2005 | 6,689.9 | 4,318.1 | 64.5 | 2,371.7 | 35.5 |
| CE, October 2004 - April 2005 | 6,636.6 | 4,274.2 | 64.4 | 2,362.3 | 35.6 |
| Wage and salary income: | | | | | |
| CPS | 5,346.6 | 3,672.9 | 68.7 | 1,673.8 | 31.3 |
| CE, reference year 2004 | 5,021.3 | 3,084.1 | 61.4 | 1,937.3 | 38.6 |
| CE, January 2005 | 5,119.7 | 3,251.8 | 63.5 | 1,868.0 | 36.5 |
| CE, October 2004 - April 2005 | 5,206.3 | 3,331.5 | 64.0 | 1,874.8 | 36.0 |
| Nonfarm self-employment income: | | | | | |
| CPS | 321.7 | 183.5 | 57.0 | 138.3 | 43.0 |
| CE, reference year 2004 | 338.4 | 145.2 | 42.9 | 193.3 | 57.1 |
| CE, January 2005 | 566.6 | 261.2 | 46.1 | 305.4 | 53.9 |
| CE, October 2004 - April 2005 | 435.1 | 179.9 | 41.3 | 255.2 | 58.7 |
| Social Security and Railroad Retirement income: | | | | | |
| CPS | 431.8 | 283.1 | 65.6 | 148.6 | 34.4 |
| CE, reference year 2004 | 400.0 | 312.4 | 78.1 | 87.7 | 21.9 |
| CE, January 2005 | 431.0 | 349.6 | 81.1 | 81.4 | 18.9 |
| CE, October 2004 - April 2005 | 411.4 | 329.9 | 80.2 | 81.5 | 19.8 |
| Pensions and annuities: | | | | | |
| CPS | 291.9 | 193.6 | 66.3 | 98.4 | 33.7 |
| CE, reference year 2004 | 280.1 | 221.4 | 79.0 | 58.7 | 21.0 |
| CE, January 2005 | 300.0 | 256.9 | 85.6 | 43.1 | 14.4 |
| CE, October 2004 - April 2005 | 316.3 | 254.5 | 80.5 | 61.8 | 19.5 |
| Interest: | | | | | |
| CPS | 163.2 | 41.3 | 25.3 | 121.8 | 74.7 |
| CE, reference year 2004 | 59.0 | 27.8 | 47.0 | 31.3 | 53.0 |
| CE, January 2005 | 59.0 | 38.8 | 65.9 | 20.1 | 34.1 |
| CE, October 2004 - April 2005 | 49.8 | 24.7 | 49.7 | 25.0 | 50.3 |
| Dividends, rents, royalties, and estates and trusts: | | | | | |
| CPS | 157.0 | 81.8 | 52.1 | 75.3 | 47.9 |
| CE, reference year 2004 | 85.3 | 53.7 | 62.9 | 31.6 | 37.1 |
| CE, January 2005 | 50.6 | 34.4 | 67.9 | 16.3 | 32.1 |
| CE, October 2004 - April 2005 | 81.0 | 48.6 | 60.0 | 32.4 | 40.0 |
| 2005 | | | | | |
| Total aggregate income: | | | | | |
| CPS | 7,352.2 | 5,026.8 | 68.4 | 2,325.7 | 31.6 |
| CE, reference year 2005 | 6,872.5 | 4,322.3 | 62.9 | 2,550.1 | 37.1 |
| CE, January 2006 | 6,872.1 | 4,332.7 | 63.0 | 2,539.4 | 37.0 |
| CE, October 2005 - April 2006 | 6,940.3 | 4,405.6 | 63.5 | 2,534.6 | 36.5 |
| Wage and salary income: | | | | | |
| CPS | 5,630.6 | 4,002.1 | 71.1 | 1,628.4 | 28.9 |
| CE, reference year 2005 | 5,432.6 | 3,376.8 | 62.2 | 2,055.8 | 37.8 |
| CE, January 2006 | 5,394.3 | 3,400.0 | 63.0 | 1,994.5 | 37.0 |
| CE, October 2005 - April 2006 | 5,522.8 | 3,493.0 | 63.2 | 2,029.8 | 36.8 |

Text table 5. Continued—**Aggregate pretax income and percent distribution, total and by reported and allocated status, by source of income, Current Population Survey (CPS) and three alternative measures of Consumer Expenditure Survey (CE), 2004–07**

[In billions of dollars]

| Year, category of income, and survey | Total | Reported | Percent reported | Allocated | Percent allocated |
|--|---------|----------|------------------|-----------|-------------------|
| 2005 | | | | | |
| Nonfarm self-employment income: | | | | | |
| CPS | 366.5 | 216.4 | 59.1 | 150.1 | 41.0 |
| CE, reference year 2005 | 430.1 | 187.7 | 43.6 | 242.4 | 56.4 |
| CE, January 2006 | 558.5 | 229.6 | 41.1 | 328.9 | 58.9 |
| CE, October 2005 - April 2006 | 423.4 | 181.0 | 42.8 | 242.3 | 57.2 |
| Social Security and Railroad Retirement income: | | | | | |
| CPS | 449.2 | 301.8 | 67.2 | 147.5 | 32.8 |
| CE, reference year 2005 | 431.0 | 341.0 | 79.1 | 90.1 | 20.9 |
| CE, January 2006 | 441.1 | 351.8 | 79.8 | 89.3 | 20.2 |
| CE, October 2005 - April 2006 | 441.9 | 340.3 | 77.0 | 101.6 | 23.0 |
| Pensions and annuities: | | | | | |
| CPS | 310.3 | 211.4 | 68.1 | 98.8 | 31.9 |
| CE, reference year 2005 | 290.4 | 229.5 | 79.0 | 60.9 | 21.0 |
| CE, January 2006 | 268.1 | 223.2 | 83.2 | 44.9 | 16.8 |
| CE, October 2005 - April 2006 | 291.1 | 224.9 | 77.3 | 66.2 | 22.7 |
| Interest: | | | | | |
| CPS | 186.9 | 54.8 | 29.3 | 132.1 | 70.7 |
| CE, reference year 2005 | 61.9 | 29.6 | 47.8 | 32.4 | 52.2 |
| CE, January 2006 | 37.6 | 12.7 | 33.6 | 25.0 | 66.4 |
| CE, October 2005 - April 2006 | 61.3 | 26.1 | 42.7 | 35.1 | 57.3 |
| Dividends, rents, royalties, and estates and trusts: | | | | | |
| CPS | 169.8 | 87.3 | 51.4 | 82.5 | 48.6 |
| CE, reference year 2005 | 99.9 | 63.7 | 63.8 | 36.2 | 36.2 |
| CE, January 2006 | 45.1 | 22.3 | 49.5 | 22.8 | 50.5 |
| CE, October 2005 - April 2006 | 71.9 | 45.7 | 63.6 | 26.2 | 36.4 |
| 2006 | | | | | |
| Total aggregate income: | | | | | |
| CPS | 7,800.6 | 5,226.9 | 67.0 | 2,573.7 | 33.0 |
| CE, reference year 2006 | 7,170.8 | 4,354.7 | 60.7 | 2,816.2 | 39.3 |
| CE, January 2007 | 7,332.3 | 4,435.1 | 60.5 | 2,897.3 | 39.5 |
| CE, October 2006 - April 2007 | 7,286.8 | 4,492.4 | 61.7 | 2,794.4 | 38.3 |
| Wage and salary income: | | | | | |
| CPS | 5,967.4 | 4,163.5 | 69.8 | 1,803.9 | 30.2 |
| CE, reference year 2006 | 5,718.6 | 3,447.2 | 60.3 | 2,271.5 | 39.7 |
| CE, January 2007 | 5,994.1 | 3,685.0 | 61.5 | 2,309.1 | 38.5 |
| CE, October 2006 - April 2007 | 5,815.2 | 3,566.6 | 61.3 | 2,248.7 | 38.7 |
| Nonfarm self-employment income: | | | | | |
| CPS | 407.7 | 227.3 | 55.7 | 180.4 | 44.2 |
| CE, reference year 2006 | 414.0 | 144.9 | 35.0 | 269.1 | 65.0 |
| CE, January 2007 | 445.0 | 109.7 | 24.7 | 335.3 | 75.3 |
| CE, October 2006 - April 2007 | 380.1 | 132.8 | 34.9 | 247.3 | 65.1 |
| Social Security and Railroad Retirement income: | | | | | |
| CPS | 471.5 | 312.7 | 66.3 | 158.8 | 33.7 |
| CE, reference year 2006 | 446.0 | 345.5 | 77.5 | 100.6 | 22.5 |
| CE, January 2007 | 409.1 | 309.2 | 75.6 | 99.9 | 24.4 |
| CE, October 2006 - April 2007 | 452.2 | 349.9 | 77.4 | 102.3 | 22.6 |

Text table 5. **Continued—Aggregate pretax income and percent distribution, total and by reported and allocated status, by source of income, Current Population Survey (CPS) and three alternative measures of Consumer Expenditure Survey (CE), 2004–07**

[In billions of dollars]

| Year, category of income, and survey | Total | Reported | Percent reported | Allocated | Percent allocated |
|--|---------|----------|------------------|-----------|-------------------|
| 2006 | | | | | |
| Pensions and annuities: | | | | | |
| CPS | 314.9 | 212.0 | 67.3 | 102.9 | 32.7 |
| CE, reference year 2006 | 283.5 | 221.1 | 78.0 | 62.4 | 22.0 |
| CE, January 2007 | 213.6 | 160.8 | 75.3 | 52.9 | 24.7 |
| CE, October 2006 - April 2007 | 302.6 | 228.1 | 75.4 | 74.5 | 24.6 |
| Interest: | | | | | |
| CPS | 229.2 | 67.0 | 29.2 | 162.1 | 70.7 |
| CE, reference year 2006 | 69.7 | 31.0 | 44.5 | 38.7 | 55.5 |
| CE, January 2007 | 66.8 | 26.9 | 40.3 | 39.9 | 59.7 |
| CE, October 2006 - April 2007 | 85.7 | 40.8 | 47.6 | 44.9 | 52.4 |
| Dividends, rents, royalties, and estates and trusts: | | | | | |
| CPS | 186.7 | 94.8 | 50.8 | 91.9 | 49.2 |
| CE, reference year 2006 | 106.9 | 71.1 | 66.5 | 35.8 | 33.5 |
| CE, January 2007 | 80.1 | 57.3 | 71.6 | 22.8 | 28.4 |
| CE, October 2006 - April 2007 | 109.5 | 67.6 | 61.7 | 41.9 | 38.3 |
| 2007 | | | | | |
| Total aggregate income: | | | | | |
| CPS | 8,013.6 | 5,425.3 | 67.7 | 2,588.3 | 32.3 |
| CE, reference year 2007 | 7,559.1 | 4,505.3 | 59.6 | 3,053.8 | 40.4 |
| CE, January 2008 | 7,674.0 | 4,252.7 | 55.4 | 3,421.3 | 44.6 |
| CE, October 2007 - April 2008 | 7,610.1 | 4,634.0 | 60.9 | 2,976.1 | 39.1 |
| Wage and salary income: | | | | | |
| CPS | 6,141.5 | 4,336.8 | 70.6 | 1,804.7 | 29.4 |
| CE, reference year 2007 | 6,047.3 | 3,590.9 | 59.4 | 2,456.4 | 40.6 |
| CE, January 2008 | 6,179.7 | 3,343.8 | 54.1 | 2,835.9 | 45.9 |
| CE, October 2007 - April 2008 | 6,094.2 | 3,708.2 | 60.8 | 2,386.0 | 39.2 |
| Nonfarm self-employment income: | | | | | |
| CPS | 390.6 | 223.9 | 57.3 | 166.6 | 42.7 |
| CE, reference year 2007 | 390.8 | 116.7 | 29.9 | 274.1 | 70.1 |
| CE, January 2008 | 307.2 | 83.7 | 27.2 | 223.6 | 72.8 |
| CE, October 2007 - April 2008 | 369.3 | 92.2 | 25.0 | 277.1 | 75.0 |
| Social Security and Railroad Retirement income: | | | | | |
| CPS | 500.2 | 332.8 | 66.5 | 167.4 | 33.5 |
| CE, reference year 2007 | 464.6 | 352.5 | 75.9 | 112.0 | 24.1 |
| CE, January 2008 | 462.8 | 354.3 | 76.6 | 108.5 | 23.4 |
| CE, October 2007 - April 2008 | 483.8 | 371.4 | 76.8 | 112.4 | 23.2 |

Text table 5. Continued—**Aggregate pretax income and percent distribution, total and by reported and allocated status, by source of income, Current Population Survey (CPS) and three alternative measures of Consumer Expenditure Survey (CE), 2004–07**

[In billions of dollars]

| Year, category of income, and survey | Total | Reported | Percent reported | Allocated | Percent allocated |
|--|-------|----------|------------------|-----------|-------------------|
| 2007 | | | | | |
| Pensions and annuities: | | | | | |
| CPS | 323.3 | 219.3 | 67.8 | 104.0 | 32.2 |
| CE, reference year 2007 | 302.0 | 231.2 | 76.5 | 70.9 | 23.5 |
| CE, January 2008 | 338.8 | 266.0 | 78.5 | 72.8 | 21.5 |
| CE, October 2007 - April 2008 | 300.1 | 239.2 | 79.7 | 60.9 | 20.3 |
| Interest: | | | | | |
| CPS | 242.8 | 69.4 | 28.6 | 173.5 | 71.4 |
| CE, reference year 2007 | 97.0 | 45.6 | 47.0 | 51.4 | 53.0 |
| CE, January 2008 | 112.6 | 50.4 | 44.7 | 62.2 | 55.3 |
| CE, October 2007 - April 2008 | 94.9 | 45.8 | 48.2 | 49.1 | 51.8 |
| Dividends, rents, royalties, and estates and trusts: | | | | | |
| CPS | 191.0 | 93.4 | 48.9 | 97.6 | 51.1 |
| CE, reference year 2007 | 112.8 | 63.3 | 56.1 | 49.5 | 43.9 |
| CE, January 2008 | 137.0 | 50.4 | 54.0 | 86.6 | 63.2 |
| CE, October 2007 - April 2008 | 109.7 | 57.9 | 52.7 | 51.8 | 47.3 |

Consumer Expenditure Survey compared with the American Community Survey

This article compares methods and data from the Bureau of Labor Statistics Consumer Expenditure Survey (CE) with those of the U.S. Census Bureau American Community Survey (ACS). Because of the reliability of the ACS in terms of response rates and sample size, CE expenditure data were compared with the expenditure data collected by ACS. The ACS collects and publishes nationwide statistics on socioeconomic and housing indicators/characteristics. ACS data are used by numerous organizations to evaluate social and economic changes among communities. These data have been used for measuring childhood poverty, public transportation usage, and the need for new roads and other infrastructure and services.

The ACS, which replaces the decennial census long-form, was fully implemented in 2006. The ACS surveys over 3 million addresses per year, resulting in 2 million final interviews. (Addresses in the sample that are not valid residential addresses are not interviewed.) Participation in the ACS is required and response rates hover in the mid-90-percent range. With such a large sample and high response rate, the ACS survey is subject to less sampling error than is the Consumer Expenditure Interview Survey, whose yearly sample is about 28,000 completed interviews. The CE Interview Survey was used for this comparison, as it is the primary source of published data on the expenditure items compared here. Though the ACS is not designed as an expenditure survey, some expenditure questions are asked on rent, utilities, property taxes, property insurance, and mortgages. The ACS also includes questions on income and food stamp receipt. Before proceeding with the comparison, numerous methodological differences between the CE Interview Survey and ACS should be noted.

Methods used in the surveys

Sample universe differences. ACS is a survey of all residential addresses including both owned and vacation homes, while CE includes only those residential addresses where at least one individual is a usual resident. Addresses which for CE are out of scope (because all individuals staying there have a usual residence elsewhere) are included in the ACS survey; thus, the ACS sample universe is both larger and different from that of CE.

Another difference between the sample universes of the two surveys is the treatment of group quarters. CE does not include State prisons, local jails, institutional halfway houses, military on-post barracks, and correctional institutions,

whereas ACS does. Because the two surveys sample different universes, they are expected to have different results.

Residency requirements. For ACS, an individual is considered a resident if he/she is currently staying in that household and has been or will be staying at that address for more than 2 months of the year. For CE, to be considered a resident, an individual must reside in the address for more than 6 months out of a year. The difference in residency requirements has two significant impacts on the comparability of the surveys. The first is that ACS includes more individuals as members of the household. The resulting expectation is that ACS will have higher estimates for both household income and food stamp receipt.

The second significant impact results because fewer individuals are considered usual residents by CE than by ACS. Since CE restricts its sample universe to households with at least one usual resident, the stricter definition of usual resident serves to further decrease CE's sample universe. The expectations regarding the inclusion of additional properties by ACS are ambiguous. While ambiguous, this difference may affect all expenditure comparisons but especially mortgages, which for CE are broken down into primary and vacation home. For ACS, mortgages are not differentiated into primary and vacation.

Household definition. ACS includes all individuals within a housing unit as one household while CE divides residents of a housing unit into consumer units. A consumer unit is defined as any of the following: (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 incomes to make joint expenditure decisions. Financial independence is determined by spending behavior with regard to the three major expense categories: Housing, food, and other living expenses. To be considered financially independent, the respondent must provide at least two of the three major expenditure categories, either entirely or in part.

Therefore, multiple CUs may exist in each CE housing unit. CE households are smaller on average: the ACS household size averages 2.6 persons, compared with 2.5 persons in the average CE consumer unit.

Expenditures. Expenditures collected by CE include all expenditures made by the individuals who constitute that consumer unit. This includes expenditures for primary residences, vacation homes, and also expenditures made on behalf of someone else for properties not owned by the CU. Expenditures collected by ACS refer only to those expenditures made with respect to that housing unit; for example, utilities, rent, mortgage, and fuel all refer to expenditures for only the specific property in the sample. ACS does not differentiate whether the individuals in the housing unit were the individuals who made the expenditures. ACS collects the expenditures made with regard to that housing unit regardless of who made them. CE, however, collects expenditures by all members of the consumer unit. These expenditures may or may not include those expenditures for the housing unit in the CE sample. For instance, if a CE consumer unit member did not pay the mortgage for the housing unit in which he/she reside, the expenditure would not be collected in the CE survey, while it would be collected in ACS. However, if a CE consumer unit member paid the mortgage for someone outside their CU, that expenditure would be collected by CE and not by ACS.

The CE and ACS also differ in their treatment of business expenses. In CE expenditures for rent, mortgage, and utilities are reduced by the percentage reported as business expenses. The ACS does not reduce reported expenditures for the portion of expenses incurred for a business.

Other methodological differences. Collection and reference period differences exist between the two surveys. The ACS interviews each housing unit only once, while the CE Interview Survey is administered over a period of five quarters. Data for an entire year are collected by CE, while ACS collects data at one point for the previous year. ACS uses the date of the interview as the reference point or as the end of the reference period; CE collects expenditures made during the reference period, generally the previous 3 months prior to the interview month. ACS income data are then inflation adjusted using the difference between the average Consumer Price Index (CPI) for the 12 months in the survey year and the average CPI for each respondent's 12-month reference period as the adjustment factor; CE data are not inflation adjusted.

Administration differs between the surveys, as well. The ACS is intended as a self-administered survey, however, if no response is received, a telephone interview is attempted. If the telephone interview is unsuccessful, an interview in person is attempted. The CE is primarily a personal interview survey and is not designed to be self-administered.

Finally, differences exist in question wording and the level of detail requested from the respondent. Because ACS is not designed as an expenditure survey, the categories tend to be broader and more inclusive than those collected by CE. The CE utilizes an Information Booklet which provides specific examples of what should be included and excluded as well as detailed question wording. For example, the CE question on rent directs survey participants to "include any extra charges

for garage or parking facilities, but to exclude direct payments by local, state or federal agencies." ACS questions are less specific. For instance, the ACS question for rent asks the monthly rent for the property without any additional information on inclusions and exclusions.

In addition to methodological differences between the two surveys, there are differences in the way in which the estimates are produced which will result in differences in estimates. Expenditures collected by ACS for real estate taxes are reported on the micro data file as a range. In calculations, the mid-point of the range was used; values were then weighted and averaged. It should be noted that there is no reason to assume an even distribution across the range of values (0-\$50, \$51-\$100, etc.).

Results from the surveys

The ACS data used in the comparisons in table 1 are calculated using the ACS microdata file which is top coded, imputed, and corrected through data adjustment. The published CE microdata are also topcoded, imputed, and data adjusted, however, the data used in this article are taken from detailed, internal use expenditure tables that are not subject to topcoding. For this report, ACS estimates were calculated using the provided ACS weights, averaged, and in some cases annualized. Additionally, data were subset for housing units that are not vacant. (Vacant households are defined as units that have no residents according to ACS residency rules stated earlier.)

Text table 6 shows that the Consumer Expenditure Survey average annual sample expenditure estimates of rented dwellings, water and sewerage maintenance, electricity, fuel oil and other fuels, second mortgages, property taxes, and household income are 88 to 120 percent of those from ACS. For 2006 and 2007, estimates of natural gas are 72 percent and 74 percent of ACS, respectively. The difference in estimates from CE and ACS for natural gas could be the result of the specificity of the questions in CE, compared with the broader questions asked by ACS. Differences could also have resulted from the price fluctuation of gas and its derivatives considering the time period differences between the two surveys and the adjustment of values by ACS using the CPI.

Income estimates, which are impacted by the differences in household residency rules and the inclusion of all members of an address by ACS, compared with only members of the CU by CE, are 94 percent and 93 percent of ACS estimates.

Estimates of mortgages, including mortgages for vacation homes and other properties not owned by the CU but for which the CU makes a payment, are 84 percent of ACS. As mentioned above, the ACS estimates for mortgages include vacation homes if the home is occupied by at least one individual for 2 months out of the year. ACS and CE estimates for mortgages both include property taxes and insurance, but only if the respondent included these items in the mortgage payment that they reported.

Overall, CE estimates compare well with ACS, when controlling for the expected differences between the estimates due to differences in household definition. Furthermore,

differences between the two estimates are greatest where methodological differences have the greatest impact, primarily with regards to mortgages. Unfortunately, because of the

sharp methodological differences between the two surveys, it cannot be definitively concluded whether CE underestimates expenditures by comparing estimates with ACS.

Text table 6. **Comparison of characteristics and average annual expenditures for selected items, Consumer Expenditure Survey (CE) and American Community Survey, (ACS) 2006–07**

| Item | 2006 | | | 2007 | | |
|------------------------------------|----------|----------|--------------------|----------|----------|--------------------|
| | CE | ACS | Ratio of CE to ACS | CE | ACS | Ratio of CE to ACS |
| Consumer unit characteristics: | | | | | | |
| Number of persons per unit..... | 2.5 | 2.6 | 0.96 | 2.5 | 2.6 | 0.96 |
| Average annual income..... | \$60,533 | \$64,487 | 0.94 | \$63,091 | \$68,106 | 0.93 |
| Expenditures: | | | | | | |
| Rent..... | \$2437 | \$2639 | 0.92 | \$2491 | \$2776 | 0.89 |
| Utilities..... | 2241 | 2556 | 0.95 | 2250 | 2551 | 0.88 |
| Water..... | 328 | 311 | 1.05 | 317 | 321 | 0.99 |
| Electricity..... | 1266 | 1406 | 0.90 | 1302 | 1449 | 0.90 |
| Natural gas..... | 509 | 709 | 0.72 | 480 | 652 | 0.74 |
| Fuel oil and other fuels..... | 138 | 130 | 1.06 | 151 | 129 | 1.17 |
| All mortgages..... | 5831 | 6909 | 0.84 | 6278 | 7404 | 0.85 |
| Mortgage..... | 5052 | 6299 | 0.80 | 5432 | 6733 | 0.81 |
| Second mortgages..... | 779 | 610 | 1.27 | 846 | 671 | 1.26 |
| Property tax..... | 1648 | 1373 | 1.20 | 1708 | 1376 | 1.24 |
| Homeowner's/ renter's insurance... | 352 | 542 | 0.66 | 350 | 567 | 0.62 |

SOURCE: ACS data for 2006–07 are calculated from the Public Use Microdata Samples (PUMS) file available on the Internet at www.census.gov/acs/www/Products/PUMS/index.html.

Computer Ownership Continues to Rise

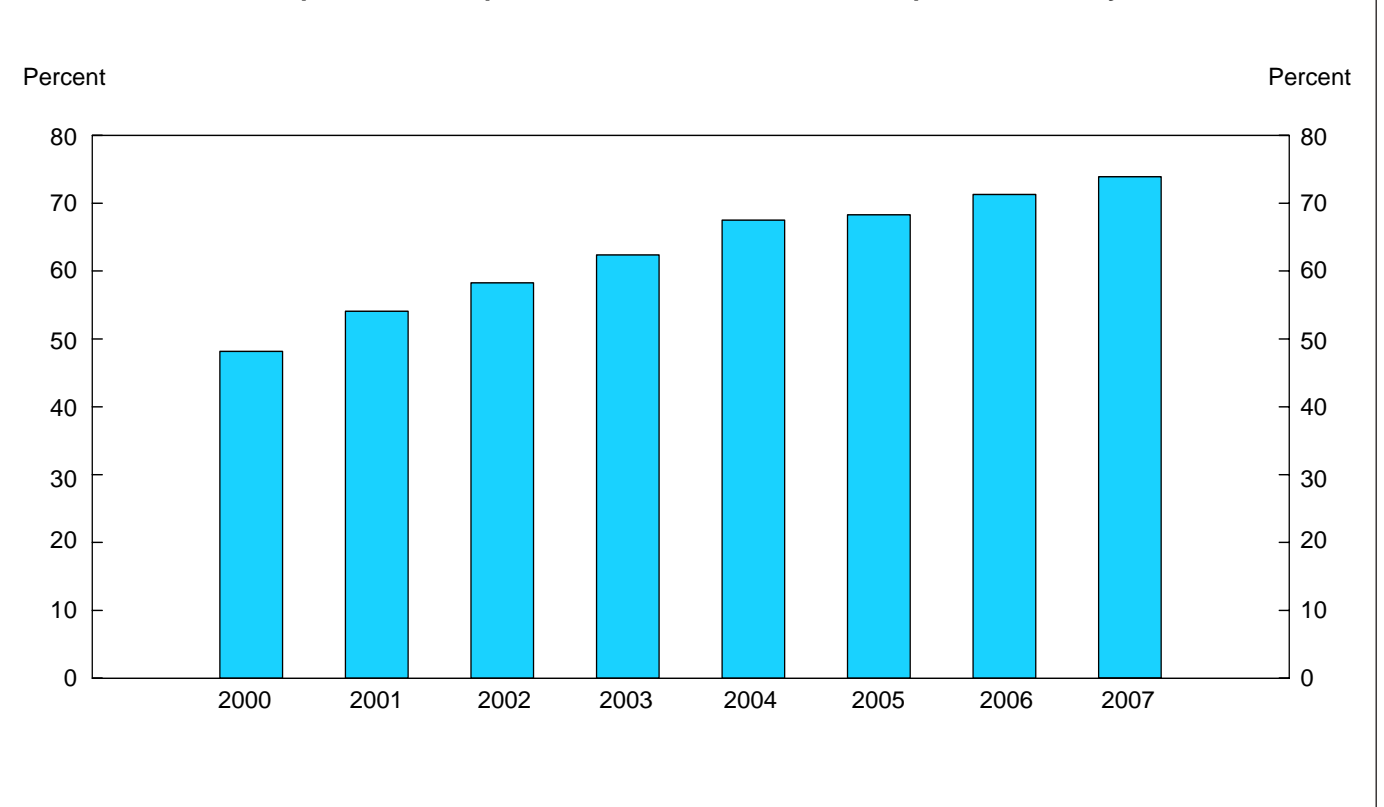
Data from the Bureau of Labor Statistics Consumer Expenditure Survey (CE) show that the percentage of U.S. households owning computers has risen steadily over this decade, and that, in 2007, approximately 3 of every 4 consumer units¹⁰ (CUs) owned a home computer, compared with less than half of all CUs in 2000. CE data also show that the average number of computers owned in 2007 was 1.09 computers per consumer unit. This article provides data on computer ownership for two groups: All consumer units (including computer owners and non-owners) and computer owners (CUs that report at least one computer owned). The percentage of computer

¹⁰A consumer unit is defined as members of a household related by blood, marriage, adoption, or other legal arrangement; a single person living alone or sharing a household with others but who is financially independent; or two or more persons living together who share responsibility for at least 2 out of 3 major types of expenses—food, housing, and other expenses. For the purposes of this article, the terms consumer unit and household are used interchangeably.

ownership and the average number of computers owned also are shown for CUs classified by age group, education level, race, and income quintile. Chart 3 shows the percentage of computer ownership for all consumer units from 2000 to 2007.

Data are derived from an inventory of durable goods that are collected during the first interview of the Interview Survey component of the CE. The questions are asked under Section 1C in the Computer Assisted Personal Interview (CAPI) instrument. Section 1C is used to create an inventory of household appliances, including major kitchen appliances, washers and dryers, televisions, and computers. During this portion of the interview, a field representative asks the respondent how many computers the CU owns. Any computers owned for business purposes are excluded from the inventory. Using this information, statistics calculating the percent of CUs that report owning a computer are generated annually after the most recent CE data are published.

Chart 3. Percent of computer ownership, all consumer units Consumer Expenditure Survey, 2000–07



Text table 7 shows the average number of computers owned for all consumer units and for those who own at least one computer from 2000 to 2007. As mentioned above, for all CUs (including owners and non-owners), the average in-

creased from 0.54 in 2000 to 1.09 in 2007. Among those CUs that own at least one computer, the average number of computers owned steadily increased from 1.25 in 2000 to 1.50 in 2007.

Text table 7: Average number of computers owned, all consumer units and computer owners, Consumer Expenditure Interview Survey, 2000–07

| Characteristic | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 |
|--|------|------|------|------|------|------|------|------|
| Number of computers - all consumer units | 0.54 | 0.62 | 0.69 | 0.79 | 0.91 | 0.97 | 1.03 | 1.09 |
| Number of computers - owners only | 1.25 | 1.26 | 1.31 | 1.34 | 1.36 | 1.43 | 1.46 | 1.50 |

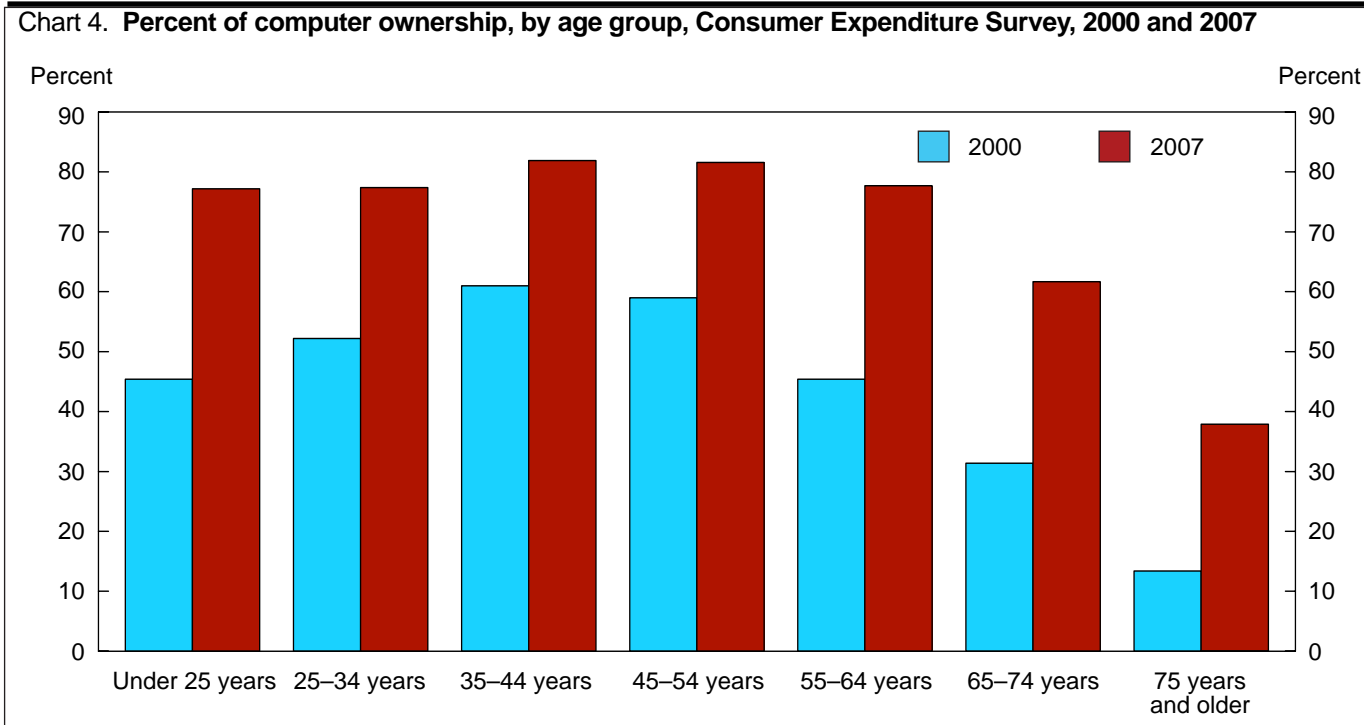
Age

Looking at the data classified by the age of the reference person reveals that by 2007 all five of the youngest age groups¹¹ had computer ownership rates of close to 80 percent. Chart 4 shows the percentage of computer ownership by age group for 2000 and 2007. In 2007, the 35-to-44 age group and the 45-to-54 age group had the highest percentage of computer ownership, with about 82 percent of each group owning at least one computer. The 75-years-and-older age group had the smallest computer ownership percentage in 2007, with 37.9 percent owning at least one computer. However, this age group nearly tripled the percent of computer owners over the time period 2000–07. The age group that had the highest percentage point increase from 2000 to 2007 was the 55-to-64 age group, with 45.4 percent owning at least one computer in 2000, compared

with 77.7 percent in 2007, an increase of 32.3 percentage points. This was closely followed by the under-25 age group, which increased its computer ownership from 45.4 percent, in 2000, to 77.2 percent in 2007—a 31.8- percentage-point increase. It will be interesting to see in coming years whether the 80-percent level for the age groups is a plateau at which point all CUs that want to own a computer own one, and if the older groups end up approaching that level.

Text table 8 provides the average number of computers owned by age group for 2000 and 2007. Among all consumer units (including non-owners), the 45-to-54 age group owned the most computers in 2007 with 1.30 computers per CU. The 75-and-older age group owned an average of 0.45 computers, which was the lowest among all age groups. Among consumer units that owned at least one computer, the 45-to-54 age group also had the highest number of computers owned, with 1.61 computers per CU in 2007, followed closely by the 35-to-44 age group, which owned 1.58 computers per CU.

¹¹ Age group is determined by the age of the reference person, who is the first person 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.”

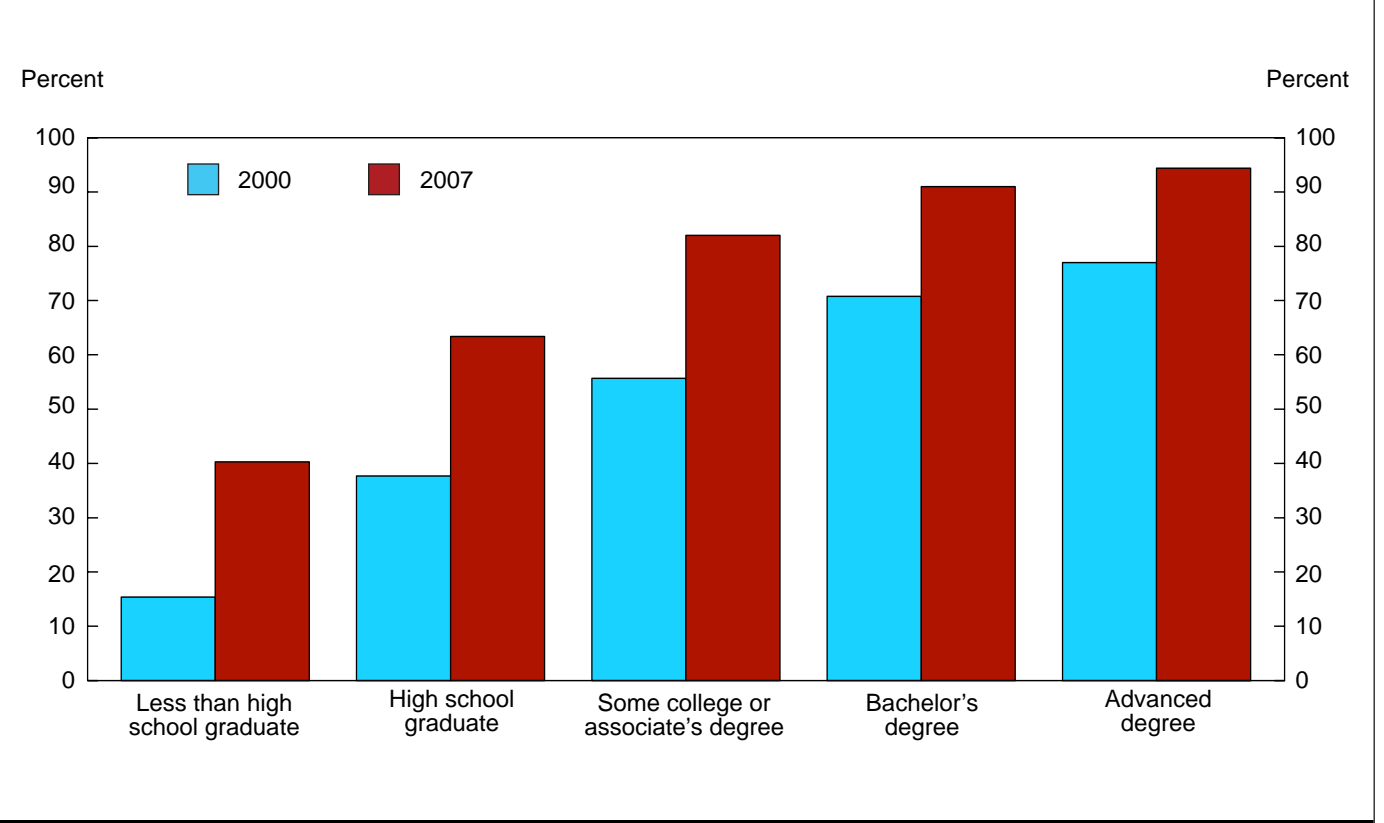


Education

Analyzing the data by the education level¹² of the reference person reveals that more education corresponds to an increasing likelihood of owning a computer. Chart 5 shows the percentage of computer ownership by education level for 2000 and 2007. Consumer units with reference persons having an advanced degree had the highest level of computer ownership rate in 2007, with 94.4 percent owning at least one computer. This was followed by CUs with reference persons with bachelor’s degrees, who had a computer ownership rate

of 91.0 percent. The lowest computer ownership rate among education levels was for CUs with a reference person, who had less than a high school education. Just over 40 percent of this group reported owning a computer in 2007. Consumer units with reference person who had some college or associates degree had the highest percentage point increase from 2000 to 2007, rising from 55.7 percent in 2000 to 82.0 percent in 2007. This was followed closely by CUs with reference person, who were high school graduates, increasing from 37.7 percent in 2000, to 63.4 percent in 2007.

Chart 5. Percent of computer ownership, by education level, Consumer Expenditure Survey, 2000 and 2007



Text table 8 provides the average number of computers owned by education level for 2000 and 2007. Including non-owners, CUs whose reference person had an advanced degree owned the most computers on average in 2007, with 1.66 computers per CU. This was followed by CUs with reference persons who had a bachelor’s degree with an average of 1.49

computers per CU. Consumer units whose reference person did not have a high school degree had the fewest number of computers owned, on average, with 0.50 computers per CU in 2007.

Looking at consumer units who owned at least one computer, those with reference persons who had an advanced degree also had the highest number of computers owned on average in 2007 with 1.77 computers. This was followed by CUs whose reference persons had bachelor’s degrees, with an average of 1.65 computers owned per CU. The less-than-high-school-graduate group had the fewest number of computers owned, with 1.26 in 2007.

¹²Education level is defined as 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.

Text table 8. Average number of computers owned by all consumer units and by computer owners, classified by age, education level, and race, Consumer Expenditure Interview Survey, 2000 and 2007

| Characteristic | All consumer units | | Computer owners | |
|--|--------------------|------|-----------------|------|
| | 2000 | 2007 | 2000 | 2007 |
| Age | | | | |
| Under 25..... | 0.50 | 1.06 | 1.21 | 1.39 |
| 25-34 years..... | 0.57 | 1.09 | 1.21 | 1.43 |
| 35-44 years..... | 0.69 | 1.28 | 1.25 | 1.58 |
| 45-54 years..... | 0.71 | 1.30 | 1.32 | 1.61 |
| 55-64 years..... | 0.51 | 1.14 | 1.24 | 1.48 |
| 65-74 years..... | 0.33 | 0.84 | 1.18 | 1.37 |
| 75 years and older..... | 0.14 | 0.45 | 1.12 | 1.22 |
| Education | | | | |
| Less than high school graduate..... | 0.16 | 0.50 | 1.11 | 1.26 |
| High school graduate..... | 0.39 | 0.82 | 1.15 | 1.31 |
| Some college or associates degree..... | 0.62 | 1.19 | 1.23 | 1.46 |
| Bachelor's degree..... | 0.84 | 1.49 | 1.33 | 1.65 |
| Advanced degree..... | 0.95 | 1.66 | 1.36 | 1.77 |
| Race | | | | |
| Asian..... | 0.72 | 1.46 | 1.30 | 1.75 |
| Black..... | 0.34 | 0.78 | 1.17 | 1.32 |
| White and All Other Races..... | 0.56 | 1.12 | 1.25 | 1.50 |

Race

Looking at the data classified by the race¹³ of the reference

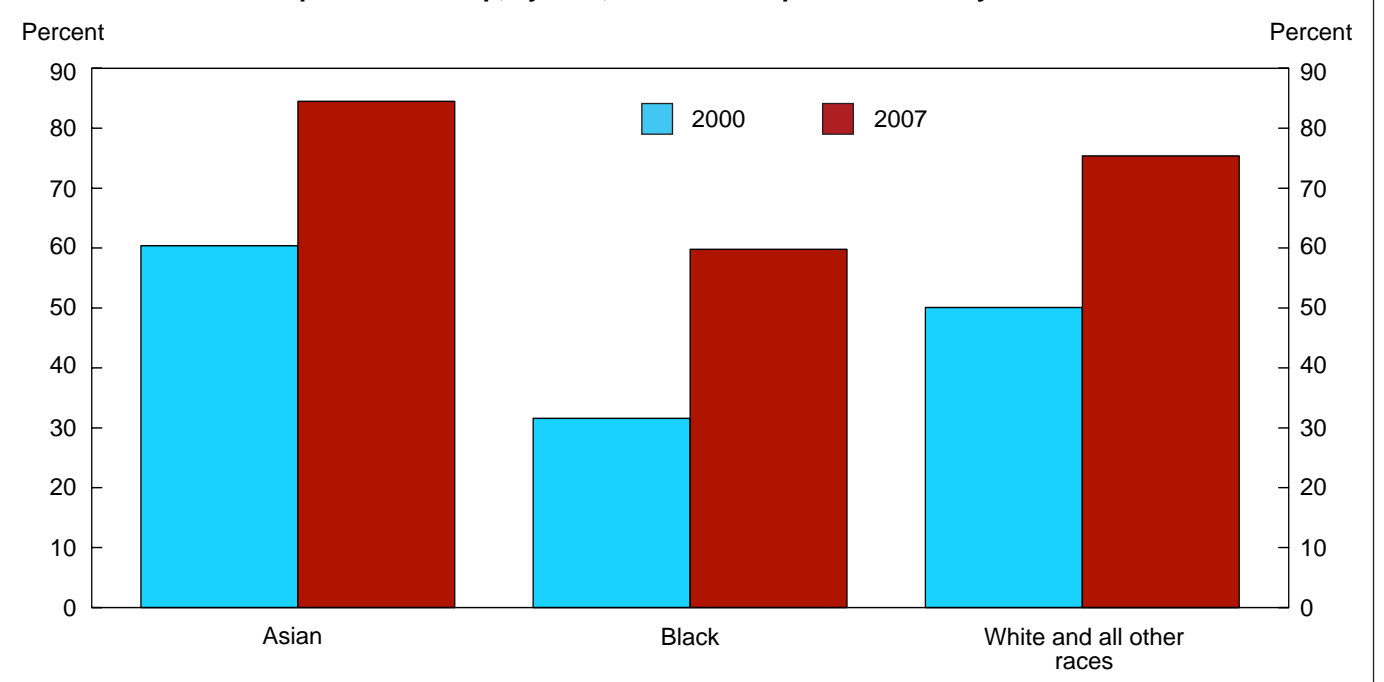
¹³Race of the reference person of the consumer unit. Families are included in three racial groups: Black or African-American; Asian; and White and All Other Races. The "All Other Races" group comprises such races as Native Americans, Alaskan Natives, Pacific Islanders, and those reporting more than one race.

person shows that Asians had the highest levels of ownership and that Blacks almost doubled their ownership rate from 2000 to 2007. Chart 6 shows the percentage of computer ownership by race for 2000 and 2007. Consumer units with reference persons who were Asian had the highest computer ownership rate in 2007, with 84.5 percent owning at least one computer, followed by CUs in the White and All Other Races group, which had a computer ownership rate of 75.4 percent. Consumer units with reference persons who were Black reported computer ownership of 59.8 percent in 2007, the lowest among the three racial groups. However, Blacks had the highest-percentage-point increase in computer ownership rates among the three racial groups from 2000 to 2007, rising from 31.6 percent in 2000 to 59.8 percent in 2007. This was followed by CUs with reference persons who are White and All Other Races, whose computer ownership rate increased from 50.1 percent in 2000 to 75.4 percent in 2007.

Text table 8 provides the average number of computers owned by race for 2000 and 2007. Including non-owners, CUs whose reference person was Asian owned the most computers in 2007, with 1.46 computers per CU, followed by the White-and-All-Other-Races group, which owned 1.12 computers per CU, and the Black group, which owned 0.78 computers per CU.

Looking at CUs that owned at least one computer, CUs whose reference persons were Asian had the most number of computers owned in 2007, with 1.75 computers per CU. This was followed by CUs with reference persons of White and All Other Races, with 1.50 computers and Black CUs, with 1.32 computers.

Chart 6. Percent of computer ownership, by race, Consumer Expenditure Survey 2000 and 2007

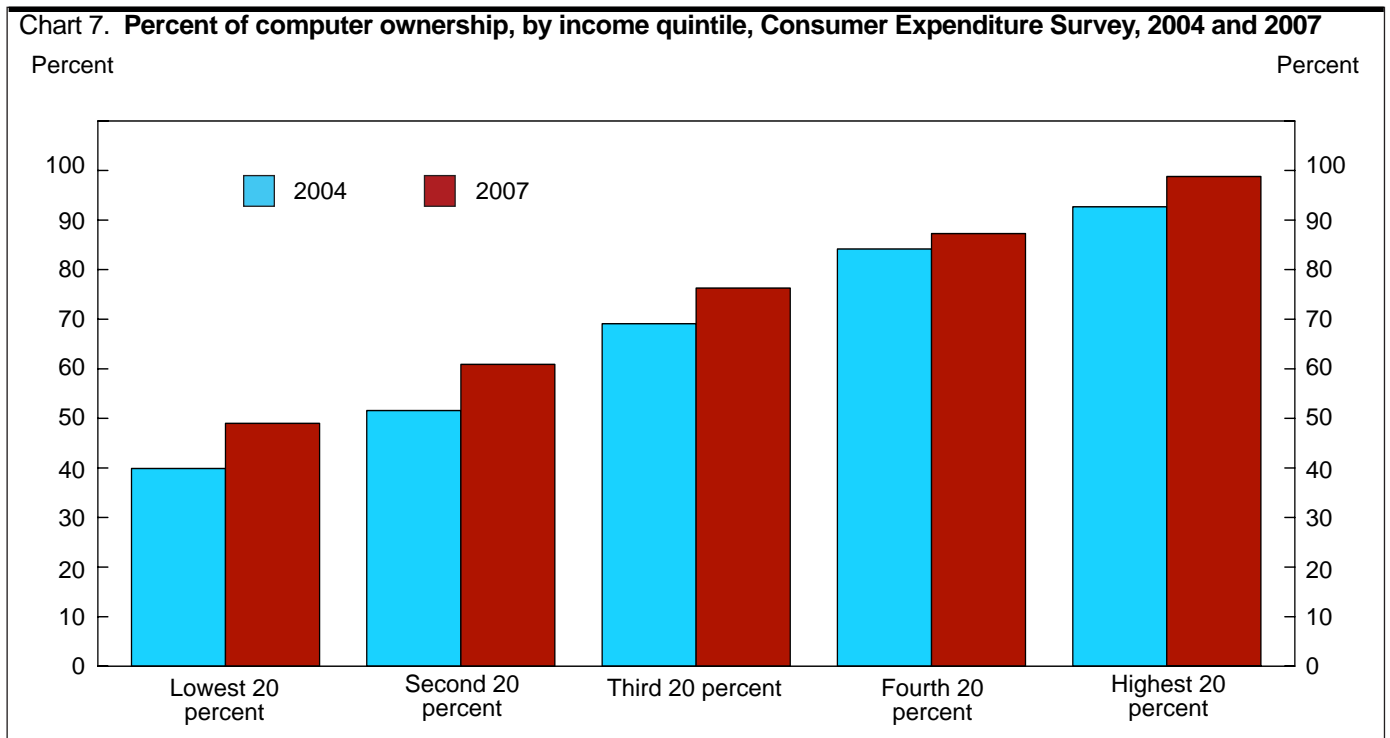


Income quintile

Examining the data classified by income quintile¹⁴ shows that the likelihood of owning a computer increased with income level and that, in 2007, almost all upper quintile CUs reported owning a computer. Chart 7 shows the percentage of computer ownership by income quintile for 2004 and 2007. Note that 2004 is used as the base year for these income comparisons. That was the first year that incomes were imputed in the CE, therefore, income comparisons to prior years are not strictly comparable. Consumer units with incomes in the highest in-

come quintile had the highest computer ownership, in 2007, with 98.8 percent owning at least one computer, followed by CUs in the next highest quintile that had a computer ownership rate of 87.3 percent. Consumer units in the lowest income quintile had a computer ownership rate of 49.0 percent in 2007, the lowest percentage among all income quintiles. Consumer units in the second lowest income quintile had the highest percentage point increase in the computer ownership rate among all income quintiles from 2004 to 2007, rising from 51.6 percent in 2004 to 60.9 percent in 2007. This was followed closely by CUs in the lowest income quintile, where the computer ownership rate increased from 39.9 percent in 2004 to 49.0 percent in 2007.

¹⁴ For each time period represented in the tables, complete income reporters 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. Incomplete income reporters are not ranked and are shown separately.



Text table 9 provides the average number of computers owned by income quintile for 2004 and 2007. For all CUs (including non-owners), those in the highest income quintile owned the most computers in 2007, with 1.80 computers per CU, followed by CUs in the fourth quintile with 1.27 computers per CU. Consumer units in the lowest income quintile had the fewest number of computers owned in 2007, with 0.62 computers per CU.

Looking at CUs that owned at least one computer, those in the highest income quintile had the most number of computers owned in 2007, with 1.89 computers per CU, followed by CUs in the fourth quintile with 1.47 computers per CU. Consumer units in the second income quintile had the fewest number of computers owned, with 1.26 computers per CU in 2007.

Text table 9. Average number of computers owned by all consumer units and by computer owners, classified by income quintile, Consumer Expenditure Interview Survey, 2004 and 2007

| Income | All consumer units | | Computer owners | |
|--------------------------|--------------------|------|-----------------|------|
| | 2004 | 2007 | 2004 | 2007 |
| Lowest 20 percent | 0.46 | 0.62 | 1.17 | 1.27 |
| Second 20 percent | 0.60 | 0.76 | 1.18 | 1.26 |
| Third 20 percent | 0.84 | 1.01 | 1.24 | 1.35 |
| Fourth 20 percent | 1.13 | 1.27 | 1.36 | 1.47 |
| Highest 20 percent | 1.51 | 1.80 | 1.65 | 1.89 |

A Comparison of Expenditures by Opposite-sex Unmarried Partners with Opposite-sex Married Couples, without Children

The number of unmarried partners in the United States has substantially increased. In 1970, unmarried partners made up less than 2 percent of all couple households in the United States; by 2007, they made up more than 8.5 percent. From 1990 to 2000, the number of unmarried partners increased from 3.2 million to 5.5 million. In the 1990s, researchers began to focus on this group, comparing these couples with married couples. BLS has collected data on various subsets of these two types of couples. One such subset is those couples without children. As of 2007, approximately 60 percent of unmarried partners did not have children living with them, making such couples a significant demographic group.¹⁵

What are some characteristics of this unmarried group, and how do they compare with married couples without children? Does the former group spend their money in fundamentally different ways than their married counterparts? Using data from the 2004–07 Consumer Expenditure Survey (CE) these are questions that this article will explore.

One difference between the two groups that has implications for long-term spending decisions is that, in general, the duration of unmarried partnerships is shorter than the duration of marriages.¹⁶ Of the other demographic differences that have been noted, two are relevant to this study because of their impact on spending. Compared with married couples, unmarried partners are younger (Bumpass

and Lu, 2000¹⁷; DeLiere and Kalil, 2005¹⁸), and earn less (Light, 2004¹⁹). The 2005 study by DeLiere and Kalil in which demographic differences were explored also looks at differences in spending patterns between the two groups. The DeLiere and Kalil study, which used CE data from 1982 to 1998, focused on couples with children and relied on a model to infer unmarried partner relationships, as the survey at that time did not include the latter relationship category. The main findings were that unmarried partners spent a larger share of their expenditures on alcohol and tobacco than did married couples and spent a smaller share on health care and education.

The sample

In the current study using 2004–07 CE data, the married couples and unmarried partners included were restricted to those that met certain criteria. Only couples who were part of a two-member household were included. This ensured that the couples had no children or any other person as part of their consumer unit. This was done to allow for a direct comparison on spending by the couples alone. Another restriction was that only opposite-sex couples were included.

Methodology

Preliminary analysis of the data revealed that unmarried partners were younger than married couples and had different incomes. (See charts 8 and 9.)

¹⁷Bumpass, L.L., and Lu, H. H. 2000. "Trends in cohabitation and implications for children's family contexts in the United States." *Population Studies*, 54, 29-41.

¹⁸Deliere, Thomas and Kalil, Ariel. 2005. "How do cohabitating couples with children spend their money?" *Journal of Marriage and Family*, 67(2), 286-295.

¹⁹Light, Audrey. 2004. "Gender differences in the marriage and cohabitation income premium." *Demography*, 41(2), 263-284.

¹⁵For more information, see Tavia Simmons and Martin O'Connell, "Married Couple and Unmarried-Partner Households: 2000," Washington, D.C., U.S. Census Bureau, February, 2003, <http://www.census.gov/prod/2003pubs/censr-5.pdf>, and Current Population Survey, "2008 Annual Social and Economic Supplement (ASEC)," Washington, D.C., U.S. Census Bureau, 2008, <http://www.census.gov/cps/>.

¹⁶Bramlett, M.D. and Mosher, W.D. "Cohabitation, Marriage, Divorce, and Remarriage in the United States," *Vital and Health Statistics*, Hyattsville, Md., U.S. Department of Health and Human Services, National Center for Health Statistics, 2002, http://www.cdc.gov/nchs/data/series/sr_23/sr23_022.pdf

Chart 8. Distribution of age of reference person, by marital status, Consumer Expenditure Survey 2000–07

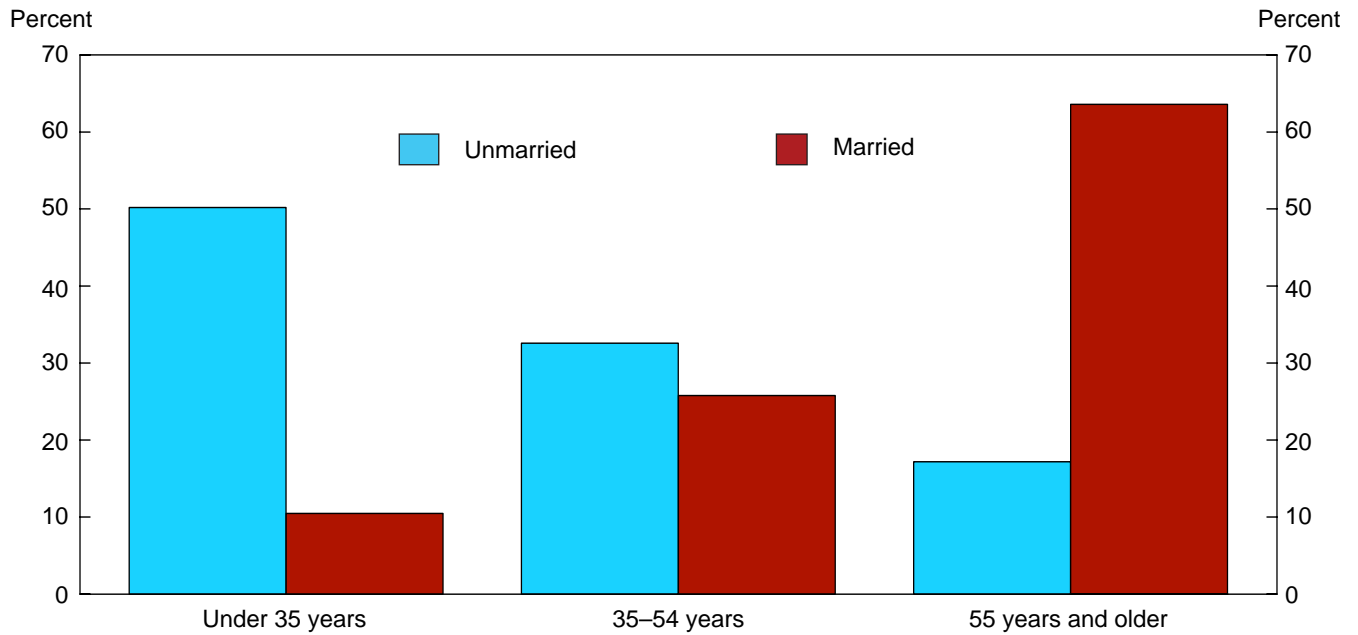
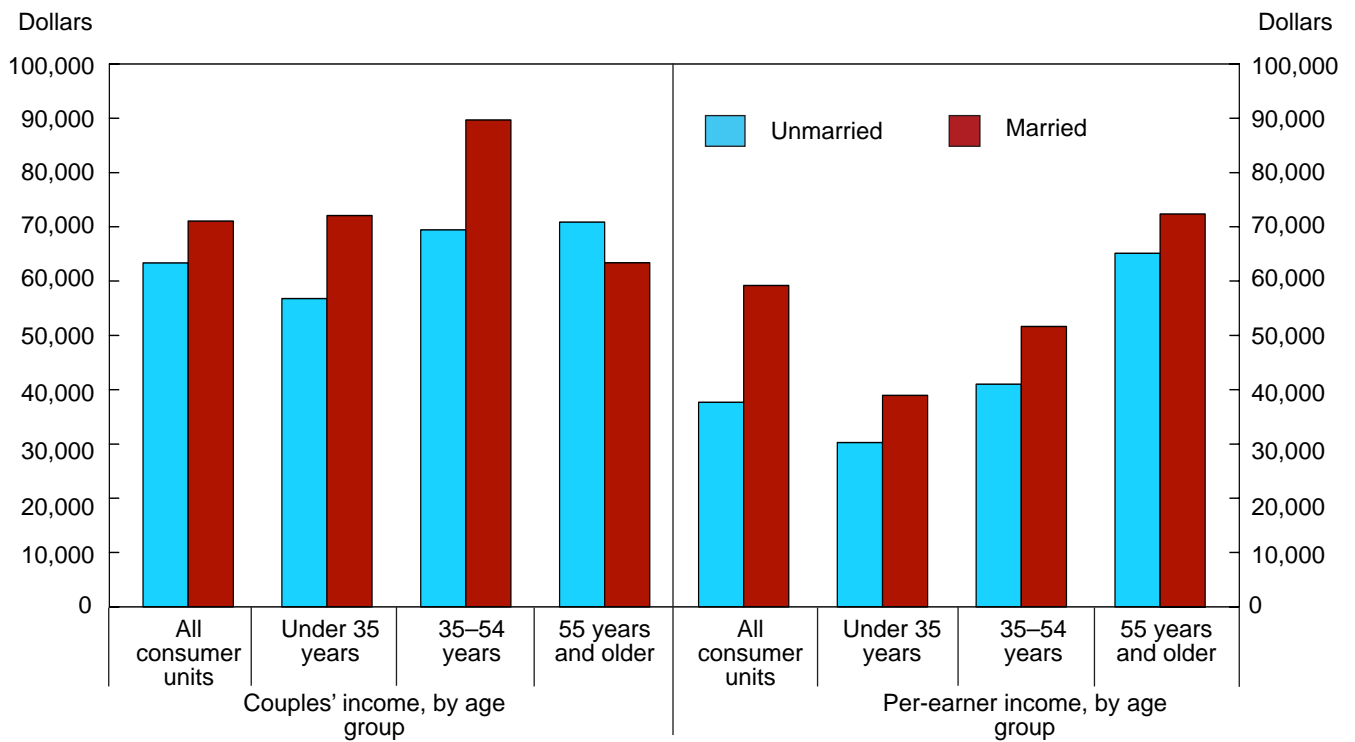


Chart 9. Income before taxes and income before taxes per earner by age group and couple type, Consumer Expenditure Survey, 2004–07



Because of the association between both age and expenditures and income and expenditures, the sample was broken into nine age-by-income brackets for analysis. Couples were assigned to the age groups of “Under 35,” “35–54,” and “55 and over,” based on the age of the reference person.²⁰ Additionally, they were assigned to three income groups (low, middle, and high), based on their income relative to the other couples in the sample. To create the three income groups, all couples in the sample were arranged in order of their incomes and then split into thirds. In doing this, the low income group included those who made under \$37,807, the middle income group, those who made between \$37,808 and \$73,300, and

the high income group, those who made \$73,301 and above. Splitting the groups into age-by-income brackets did not perfectly control for either age or income. As seen in text table 10, within every age-by-income group, married couples were older than unmarried partners, and there were three groups where the differences in incomes were statistically significant. However, the ages and incomes of the couples within the brackets were similar, and were close enough for the purposes of this study. The average age differences were usually under 2 years, and in the low- and middle-income groups, incomes almost always differed by less than \$1,000. While the income differences were greater in the high-income groups, incomes were comparable. The greatest difference in incomes that was statistically significant was for high-income couples aged 35–54. In this group, unmarried partners earned \$120,496, compared with \$136,353 for married couples.

²⁰The reference person is 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.”

Text Table 10. Demographic summary statistics by age, income and couple type, Consumer Expenditure Survey, 2004–07

| Characteristic | All ages | | Under 35 | | | | | |
|--|--------------------|---------|--------------------|---------|--------------------|---------|--------------------|---------|
| | All incomes | | Low income | | Middle income | | High income | |
| | Unmarried partners | Spouses | Unmarried partners | Spouses | Unmarried partners | Spouses | Unmarried partners | Spouses |
| Number in sample | 2,841 | 24,789 | 499 | 608 | 578 | 1,013 | 350 | 990 |
| Average age of reference person..... | ***38.6 | 57.8 | ***24.4 | 26.3 | ***26.0 | 27.2 | ***28.5 | 29.5 |
| Average annual income before taxes..... | ***63,355 | 71,091 | ***23,586 | 23,649 | ***53,861 | 56,200 | *109,087 | 118,105 |
| Number of earners..... | ***1.68 | 1.20 | **1.73 | 1.62 | ***1.94 | 1.89 | **1.98 | 1.95 |
| Market value of financial assets | ***22,801 | 139,034 | 2,485 | 2,419 | 5,150 | 5,245 | 26,631 | 45,981 |
| Percentage of reference persons with a bachelors degree or higher..... | ***28.8 | 33.0 | ***11.8 | 24.0 | 36.7 | 41.1 | **60.0 | 69.5 |
| Homeownership rate | ***47.5 | 86.2 | ***10.8 | 26.6 | ***26.5 | 54.5 | ***62.0 | 77.0 |
| Number of members with health insurance | ***1.18 | 1.72 | ***0.72 | 0.92 | ***1.15 | 1.51 | ***1.50 | 1.71 |
| Percentage of couples where neither member has health insurance | ***25.5 | 10.5 | 48.3 | 44.2 | **22.8 | 16.5 | *13.7 | 9.9 |
| Percentage of couples where one member has health insurance | ***31.3 | 7.2 | ***31.3 | 19.6 | ***39.3 | 16.0 | ***22.9 | 9.3 |
| Percentage of couples where both members have health insurance | ***43.2 | 82.4 | *** 20.4 | 36.2 | ***37.9 | 67.5 | *** 63.4 | 80.8 |

Text Table 10. Continued—Demographic summary statistics by age, income and couple type, Consumer Expenditure Survey, 2004–07

| Characteristic | Age 35-54 | | | | | |
|--|--------------------|---------|--------------------|---------|--------------------|---------|
| | Low income | | Middle income | | High income | |
| | Unmarried partners | Spouses | Unmarried partners | Spouses | Unmarried partners | Spouses |
| Number in sample | 279 | 1,133 | 307 | 2,121 | 340 | 3,147 |
| Average age of reference person..... | ***45.2 | 47.1 | ***45.1 | 47.2 | ***43.2 | 47.3 |
| Average annual income before taxes..... | 22,696 | 23,181 | 55,430 | 56,016 | ***120,496 | 136,353 |
| Number of earners..... | 1.29 | 1.33 | ** 1.83 | 1.75 | * 1.91 | 1.87 |
| Market value of financial assets | 1,196 | 11,880 | ***4,984 | 22,969 | ***38,927 | 112,967 |
| Percentage of reference persons with a bachelors degree or higher..... | 9.0 | 10.5 | 15.0 | 19.5 | 47.4 | 48.3 |
| Homeownership rate | ***33.3 | 63.0 | ***59.6 | 80.6 | ***77.9 | 92.7 |
| Number of members with health insurance | ***0.79 | 1.09 | ***1.09 | 1.58 | ***1.39 | 1.79 |
| Percentage of couples where neither member has health insurance | *45.2 | 37.2 | **24.4 | 17.4 | ***15.6 | 7.9 |
| Percentage of couples where one member has health insurance | ***29.7 | 16.1 | ***40.7 | 7.4 | ***29.7 | 5.6 |
| Percentage of couples where both members have health insurance | ***25.1 | 46.7 | ***34.9 | 75.3 | ***54.7 | 86.6 |

Text Table 10. Continued—Demographic summary statistics by age, income and couple type, Consumer Expenditure Survey, 2004–07

| Characteristic | Age 55+ | | | | | |
|--|--------------------|---------|--------------------|---------|--------------------|---------|
| | Low income | | Middle income | | High income | |
| | Unmarried partners | Spouses | Unmarried partners | Spouses | Unmarried partners | Spouses |
| Number in sample | 215 | 6,476 | 145 | 5,046 | 128 | 4,255 |
| Average age of reference person..... | ***66.7 | 70.3 | ***62.2 | 66.4 | 62.2 | 63.0 |
| Average annual income before taxes..... | 23,641 | 22,848 | 52,837 | 53,241 | 170,679 | 137,074 |
| Number of earners..... | ***0.58 | 0.39 | ***1.38 | 1.00 | *1.61 | 1.48 |
| Market value of financial assets | ***7,709 | 63,111 | ***28,200 | 166,118 | 264,488 | 443,645 |
| Percentage of reference persons with a bachelors degree or higher..... | 11.6 | 16.5 | ***12.4 | 28.5 | 48.4 | 55.6 |
| Homeownership rate | ***64.2 | 87.3 | ***76.6 | 93.2 | 94.5 | 96.9 |
| Number of members with health insurance | ***1.58 | 1.80 | ***1.53 | 1.83 | ***1.55 | 1.82 |
| Percentage of couples where neither member has health insurance | **11.2 | 6.6 | *10.3 | 6.0 | 8.6 | 7.1 |
| Percentage of couples where one member has health insurance | ***20.5 | 7.3 | ***26.2 | 5.0 | ***27.3 | 3.8 |
| Percentage of couples where both members have health insurance | ***68.4 | 86.2 | ***63.4 | 89.0 | ***64.1 | 89.0 |

* Indicates statistical significance at the .05 level.
 ** Indicates statistical significance at the .01 level.
 *** Indicates statistical significance at the .001 level.

Expenditure levels

Looking first at quarterly total expenditures, text table 11 shows that unmarried partners generally spent less than married couples. In 8 of the 9 age-by-income brackets, unmarried partners spent a lower amount than married couples; and for 5 of those 8 brackets the difference was significant. Total expenditure levels for unmarried partners were similar to married couples among those under 35. In this age group, in the high income bracket, married couples spent significantly more than unmarried partners (\$17,924 compared with \$16,051). However, in the low- and middle-income brackets, total expenditures were virtually the same. The largest differences were among those in the 55-and-over age bracket. In this age group, married couples in the low-income group spent 26.8 percent more than unmarried partners (\$7,675 compared with \$6,051), and those in the middle income spent 15.3 percent more (\$11,277 compared with \$9,778). Interestingly, the high income bracket of this age group is the only bracket in which unmarried partners spent more than their married counterparts (\$25,009 compared with \$21,047). However, while this 18.8-percent difference was substantial, it was not statistically significant. Findings at the total expenditure level raise the question of why unmarried partners of similar age and income to married couples tended to spend significantly less. The difference in the level of financial assets (savings accounts, checking accounts, U.S. savings bonds, and securities) between the couples is a likely explanation. As shown in text table 1, in the under-35 age group the difference in

the level of financial assets for unmarried partners and spouses mirrors the differences in total expenditures. In the low- and middle-income groups, the level of financial assets was virtually the same for unmarried partners and married couples; and in the high-income group, while the difference was not statistically significant, the financial assets of married couples were substantially higher than unmarried partners (\$45,981 compared with \$26,631). In the 35–54 and 55-and-over age groups, married couples' financial assets were substantially higher than unmarried partners' across all incomes, even though the differences were not always statistically significant. Given this, it seems likely that the higher level of financial assets among married couples is a major reason why their expenditures tended to be higher—especially among those aged 55 and over. The fact that the average married couple is together longer than the average unmarried partner couple, and, thus, has had a longer time over which to pool resources, likely accounts for why married couples' financial assets were typically higher.

Not surprisingly, given the significant differences in total expenditures between the two groups, the data also show that unmarried partners generally spent considerably less than married couples on categories such as housing, transportation, and food, as also shown in text table 11. Therefore, to get a better sense of how unmarried partners allocated their expenditures as compared with married couples, expenditure shares were examined.

Text Table 11. Expenditure levels by age, income and couple type, Consumer Expenditure Survey, 2004–07

| Expenditure | All ages | | Under 35 | | | | | |
|--|--------------------|---------|--------------------|---------|--------------------|---------|--------------------|---------|
| | All incomes | | Low income | | Middle income | | High income | |
| | Unmarried partners | Spouses | Unmarried partners | Spouses | Unmarried partners | Spouses | Unmarried partners | Spouses |
| Total expenditures | ***11,137 | 13,093 | 6,733 | 6,895 | 10,036 | 10,277 | ***16,051 | 17,924 |
| Food total..... | ***1,433 | 1,644 | 1,131 | 1,146 | 1,351 | 1,380 | 1,821 | 1,904 |
| Food at home | ***938 | 1,091 | 785 | 812 | **842 | 906 | ***969 | 1,074 |
| Food away from home..... | **495 | 553 | 347 | 334 | 508 | 474 | 852 | 830 |
| Clothing | **383 | 323 | 232 | 198 | *359 | 296 | **767 | 533 |
| Housing | ***3,903 | 4,492 | 2,409 | 2,515 | *3,362 | 3,545 | ***5,784 | 6,838 |
| Shelter | ***2,687 | 2,993 | 1,658 | 1,718 | 2,296 | 2,430 | ***4,134 | 5,107 |
| Utilities..... | ***702 | 878 | 509 | 521 | ***630 | 688 | 800 | 824 |
| House furnishings/ operations | ***514 | 622 | 243 | 276 | 436 | 427 | 850 | 907 |
| Transportation | ***2,025 | 2,233 | 1,278 | 1,294 | 2,072 | 2,112 | *2,777 | 3,181 |
| Vehicle purchases | *825 | 926 | 468 | 423 | 821 | 886 | 1,175 | 1,470 |
| Gasoline/motor oil..... | 537 | 539 | 429 | 423 | 567 | 582 | 648 | 671 |
| Other vehicle expenses..... | **540 | 585 | 334 | 363 | *587 | 518 | *678 | 788 |
| Public transportation..... | ***124 | 182 | *47 | 86 | 97 | 126 | 276 | 252 |
| Health care | ***454 | 999 | **178 | 261 | **333 | 403 | 487 | 524 |
| Health insurance..... | ***250 | 560 | ***90 | 149 | *206 | 239 | 270 | 296 |
| Medical services..... | ***131 | 241 | 52 | 81 | 90 | 119 | 152 | 164 |
| Medical supplies..... | ***14 | 33 | 8 | 8 | 11 | 10 | 13 | 17 |
| Prescription drugs..... | ***59 | 164 | 29 | 24 | *26 | 35 | 53 | 47 |
| Personal care | ***72 | 90 | *48 | 33 | 68 | 60 | 116 | 121 |
| Education..... | 169 | 188 | 269 | 281 | 245 | 304 | 247 | 232 |
| Reading | ***28 | 45 | 17 | 14 | 24 | 25 | 46 | 44 |
| Entertainment | 628 | 664 | 367 | 342 | 547 | 522 | 899 | 981 |
| Alcohol & tobacco..... | ***349 | 176 | ***228 | 122 | ***350 | 169 | ***347 | 223 |
| Alcohol..... | ***179 | 106 | ***97 | 45 | ***216 | 106 | ***271 | 180 |
| Tobacco | ***170 | 70 | ***131 | 78 | ***134 | 63 | **76 | 43 |
| Cash contributions..... | ***257 | 669 | ***97 | 197 | *170 | 233 | 288 | 345 |
| Personal insurance/ pensions | *1,216 | 1,332 | *378 | 415 | **1,017 | 1,118 | ***2,220 | 2,801 |
| Miscellaneous..... | *169 | 205 | 67 | 50 | 82 | 65 | 153 | 125 |

Text Table 11.—Continued Expenditure levels by age, income and couple type, Consumer Expenditure Survey, 2004–07

| Expenditure | Age 35-54 | | | | | |
|------------------------------------|--------------------|---------|--------------------|---------|--------------------|---------|
| | Low income | | Middle income | | High income | |
| | Unmarried partners | Spouses | Unmarried partners | Spouses | Unmarried partners | Spouses |
| Total expenditures | ***6,252 | 7,281 | 10,174 | 10,843 | ***17,869 | 20,592 |
| Food total..... | ***1,006 | 1,184 | 1,379 | 1,467 | *1,981 | 2,146 |
| Food at home | ***827 | 950 | 1,021 | 1,053 | *1,181 | 1,274 |
| Food away from home..... | *179 | 235 | 358 | 413 | 800 | 873 |
| Clothing | 131 | 142 | 298 | 231 | 523 | 578 |
| Housing | 2,424 | 2,636 | 3,992 | 3,779 | ***6,437 | 7,472 |
| Shelter | 1,631 | 1,703 | 2,830 | 2,536 | *4,845 | 5,414 |
| Utilities | ***554 | 696 | *785 | 842 | ***879 | 1,074 |
| House furnishings/ operations..... | 240 | 237 | 377 | 401 | **713 | 984 |
| Transportation | 1,129 | 1,361 | **1,825 | 2,150 | 2,900 | 3,195 |
| Vehicle purchases | **330 | 489 | 734 | 885 | 1,195 | 1,340 |
| Gasoline/motor oil..... | **375 | 464 | **537 | 614 | 681 | 718 |
| Other vehicle expenses..... | 375 | 355 | 509 | 563 | 816 | 840 |
| Public transportation..... | 50 | 53 | **45 | 88 | *208 | 297 |
| Health care | ***227 | 510 | ***457 | 628 | ***621 | 831 |
| Health insurance..... | ***120 | 237 | ***264 | 344 | *326 | 392 |
| Medical services..... | **57 | 166 | **105 | 172 | *219 | 304 |
| Medical supplies..... | 17 | 11 | **9 | 20 | ***14 | 31 |
| Prescription drugs..... | ***33 | 96 | 79 | 93 | ***62 | 105 |
| Personal care | **24 | 33 | 59 | 61 | ***105 | 135 |
| Education..... | 71 | 34 | **53 | 133 | ***134 | 586 |
| Reading | 11 | 13 | **21 | 30 | *46 | 57 |
| Entertainment | 307 | 325 | *429 | 514 | 895 | 1,015 |
| Alcohol & tobacco..... | ***353 | 219 | ***395 | 228 | ***458 | 279 |
| Alcohol..... | 89 | 68 | ***147 | 97 | **261 | 196 |
| Tobacco | ***265 | 151 | ***248 | 131 | ***197 | 83 |
| Cash contributions..... | 150 | 185 | *214 | 289 | *618 | 879 |
| Personal insurance/pensions | ***332 | 486 | ***913 | 1,156 | **2,760 | 3,094 |
| Miscellaneous..... | 76 | 124 | 111 | 139 | 287 | 268 |

Text Table 11.—Continued Expenditure levels by age, income and couple type, Consumer Expenditure Survey, 2004–07

| Expenditure | Age 55+ | | | | | |
|------------------------------------|--------------------|---------|--------------------|---------|--------------------|---------|
| | Low income | | Middle income | | High income | |
| | Unmarried partners | Spouses | Unmarried partners | Spouses | Unmarried partners | Spouses |
| Total expenditures | ***6,051 | 7,675 | **9,778 | 11,277 | 25,009 | 21,047 |
| Food total..... | ***1,063 | 1,241 | **1,366 | 1,559 | 2,224 | 2,271 |
| Food at home | **870 | 954 | 1,026 | 1,079 | 1,297 | 1,324 |
| Food away from home..... | ***192 | 286 | ***340 | 481 | 927 | 946 |
| Clothing | ***94 | 144 | 223 | 260 | *1072 | 552 |
| Housing | ***1,994 | 2,588 | **3,143 | 3,699 | 7,362 | 6,940 |
| Shelter | ***1,172 | 1,522 | 2,011 | 2,303 | 4,052 | 4,655 |
| Utilities | ***637 | 745 | **795 | 878 | 1,158 | 1,109 |
| House furnishings/ operations..... | ***184 | 321 | ***336 | 518 | 2,152 | 1,176 |
| Transportation | 1,292 | 1,302 | 2,340 | 2,082 | 3,659 | 3,331 |
| Vehicle purchases | 600 | 496 | 1,221 | 867 | 1,515 | 1,439 |
| Gasoline/motor oil..... | 353 | 371 | 562 | 513 | *776 | 652 |
| Other vehicle expenses..... | **296 | 363 | 471 | 556 | 943 | 840 |
| Public transportation..... | 43 | 72 | *85 | 146 | 426 | 400 |
| Health care | ***595 | 1,130 | ***853 | 1,228 | 1,336 | 1,322 |
| Health insurance..... | ***404 | 683 | ***495 | 723 | **528 | 697 |
| Medical services..... | ***68 | 199 | *160 | 242 | 640 | 385 |
| Medical supplies..... | ***11 | 31 | 39 | 42 | 40 | 53 |
| Prescription drugs..... | ***113 | 217 | *159 | 222 | **128 | 188 |
| Personal care | **44 | 58 | *72 | 89 | 156 | 144 |
| Education..... | 6 | 13 | **16 | 48 | 266 | 341 |
| Reading | ***17 | 30 | ***33 | 49 | ***51 | 81 |
| Entertainment..... | *247 | 380 | 495 | 550 | 2,531 | 1,144 |
| Alcohol & tobacco..... | ***345 | 95 | ***246 | 141 | ***539 | 228 |
| Alcohol..... | ***97 | 42 | 82 | 79 | ***390 | 178 |
| Tobacco | ***249 | 53 | ***164 | 63 | ***149 | 50 |
| Cash contributions..... | ***110 | 336 | ***158 | 611 | **936 | 1,656 |
| Personal insurance/pensions | *171 | 213 | 691 | 706 | 3,550 | 2,625 |
| Miscellaneous..... | ***68 | 131 | **126 | 228 | ***1258 | 373 |

* Indicates statistical significance at the .05 level.

** Indicates statistical significance at the .01 level.

*** Indicates statistical significance at the .001 level.

Expenditure Shares

Housing, transportation, food, and personal insurance and pensions were the four largest expenditure categories for both unmarried partners and spouses. Each accounted for at least 10 percent of the couples' total expenditures and combined, these categories accounted for about 75 percent of the couples' total expenditures. On the whole, among these major expenditure items, there were relatively few differences between the spending patterns of unmarried partners and spouses.

Spending on food accounted for about 12.5 percent of the couples' total expenditures and was the third largest expenditure share for both unmarried partners and married couples. As would be expected, the share spent on food varied directly with the couples' income level. It did not, however, vary based on marital status. As can be seen in text table 12, the food expenditure share was approximately 17 percent for low-income couples, 14 percent for middle-income couples, and 11 percent for high-income couples, regardless of whether the couples were married.

Spending on transportation accounted for over 17 percent of the couples' total expenditures on average. The shares ranged from about 15-20 percent, depending on the couples' age, income, and number of earners.²¹ The most noticeable trend was that in each age group, couples with middle incomes generally spent the largest share on transportation. Again, there was little difference in spending on transportation between unmarried partners and spouses of similar ages and incomes.

Shares for housing, the largest expenditure for both groups, also were similar. For both couple types across all income groups, those under 35 and 35-54 spent approximately 35-40 percent of their total expenditures on housing; and those aged 55 and over spent approximately 30-35 percent. Furthermore, when looking at the sub-categories of housing—shelter, utilities, and house furnishings/operations—few differences were found. Interestingly, similarities in housing-expenditure shares occurred, despite the fact that the groups had different homeownership rates. As shown in text table 10, aside from couples aged 55 and over with high incomes, homeownership rates were strikingly different between the two groups. Differences ranged from 14.8 percentage points for couples aged 35-54 with high income (77.9 percent compared with 92.7 percent) to 29.7 percentage points for couples aged 35-54 with low income (33.3 percent compared with 63.0 percent).

Personal insurance and pensions was the only other cat-

egory in which the expenditure share for couples was greater than 10 percent. In this category, there are some noteworthy differences between unmarried partners and married couples among those aged under 35 and 35-54. In both these age groups, married couples generally spent more on personal insurance and pensions than did unmarried partners. This was true in 5 of the 6 age-by-income brackets; and in 4 of those 5, the difference was statistically significant. The biggest difference was among couples who were under 35 with high incomes, where the married couples' share was 15.6 percent—compared with 13.8 percent for unmarried partners. The differences were not particularly large, but they suggest that married couples in the two younger age groups placed a greater premium on financial security, relative to unmarried partners.

While interesting similarities and differences in spending patterns were found between unmarried partners and married couples among those items that were a large portion of their total budget, the most striking differences and similarities occurred with expenditures among items that were a relatively small share of total expenditures.

Of the smaller items, one stood out for the similarities found between the couples: entertainment. Spending on entertainment accounted for 5.6 percent of unmarried partners' expenditures, compared with 5.1 percent for married couples. What was noteworthy about entertainment expenditure shares is that they were virtually the same across all ages, incomes, and couple types. In every age-by-income bracket, for both spouses and unmarried partners, the share of expenditures that was spent on entertainment was between 4 and 6 percent and there were no differences that were statistically significant.²²

Clothing expenditures, which accounted for 3.4 percent of unmarried partners' total expenditures—and 2.5 percent of married couples' total expenditures—tended to be higher for unmarried partners. As shown in text table 12, in 7 of the 9 age-by-income brackets, unmarried partner couples spent more on clothing; and in 5 of those 7, the difference was significant. Most of the significant differences occurred in the under-35 age group. In this group, across all income classes, unmarried partners spent a significantly higher share of their total expenditures on clothing (3.4 compared with 2.9 for low-income couples, 3.6 compared with 2.9 for middle-income couples, and 4.8 compared with 3.0 for high-income couples).

Spending on health care represented a larger share of total expenditures for married couples as compared with unmarried partners (7.6 percent compared with 4.1 percent). This could reflect the age difference between the two groups, but a similar pattern was seen among couples of similar ages and incomes. As shown in text table 12, in 8 of the 9 age-by-income brackets married couples spent a larger share

²¹ Looking at the transportation shares across the age-by-income groups one observes that the difference in the shares of unmarried partners and spouses for low- and middle-income couples in the 55-and-over age group are higher than in all other cases. This likely is due to the fact that it is only in these two groups that there is a substantial difference in the number of earners between spouses and partners. For both low and middle income couples aged 55 and older unmarried partners have a substantially higher number of earners on average (.58 compared with .39 for low income; 1.38 compared with 1.00 for middle income). As commuting costs probably account for a large portion of expenditures on transportation for most couples, this provides a likely explanation for the observed difference.

²² The exception was unmarried partners aged 55 and over with high incomes. The expenditure share on entertainment for this group was 10.1 percent, but this was the result of one outlier. The sample size for this group was relatively small (128), and there was one couple in the sample, who had total expenditures of about \$170,000—almost 90 percent of which went to entertainment.

on health care; and in 7 of those 8 brackets, the difference was significant. Couples with high income were the only ones where married couples did not spend a significantly higher share on health care in every age group. The greatest differences were found among the low-income groups within each age bracket (2.7 percent compared with 3.8 percent, 3.6 percent compared with 7.0 percent, and 9.8 percent compared with 14.7 percent for the under 35-, 35–54-, and 55-and-over age groups, respectively). These differences in total spending on health care were driven mainly by differences in spending on health insurance, which generally accounted for at least 50 percent of total health care spending. Spending patterns for health insurance mirrored those of total healthcare spending: unmarried partners spent less, and the differences were the most pronounced among those with low incomes. Additional data from the CE provides insight as to why unmarried partners spent less on health insurance, relative to married couples. As can be seen in text table 10, within every age-by-income bracket, the number of members with health insurance among unmarried partners was significantly lower than among spouses. The largest difference was for those 35–54 in the middle-income group (1.09 compared with 1.58), and the smallest was for those with low income in the 55-and-over group (1.58 compared with 1.80). This difference could be a reflection of the different preferences of the two groups or could be a consequence of the fact that a husband and wife can be on a family plan together, giving them greater ability to afford joint coverage. Dividing the couples into three categories: those where both members had health insurance, those where only one did, and those where none did, suggests that family plans were the major factor but that preferences also played a role. As can also be seen in text table 10, in every age-by-income group, the proportion of unmarried partners in which both members were insured was much lower than the proportion for married couples (25.0 percentage points lower on average), and the proportion in which only one member was insured was much higher (19.7 percentage points higher on average). Taken together, this suggests that the family plan difference may have played a major role. A greater proportion (5.3 percentage points on average) of unmarried partners also had no members with health insurance in every age-by-income group. This suggests a difference in preference for the two groups.

Expenditure shares on cash contributions (cash contributed to persons or organizations outside the consumer unit, including alimony and child support payments; care of students away from home; and contributions to religious, educational, charitable, or political organizations) were similar between unmarried partners and spouses in some cases, but different in others. Expenditures on cash contributions made up 2.3 percent of unmarried partners' total expenditures, compared with 5.1 percent for married couples. The difference is, in

part, a reflection of the difference in the age distribution of the two groups. In both groups, older couples tended to allocate a higher share of their expenditures to cash contributions, relative to younger couples and, on average, married couples in the sample were older. However, that does not explain the entire difference, as in every age-by-income bracket, the share spent on cash contributions was lower for unmarried partners. In 4 of the 9 brackets, the difference was significant and substantial. Significant differences were found among those with low income under the age of 35, where the share for unmarried partners was 1.4 percent, compared with 2.9 percent for married couples and for all income groups in the 55-and-over age group. For those aged 55 and over, the share for unmarried partners was less than one-half the share for married couples at every income level (1.8 percent compared with 4.4 percent, 1.6 percent compared with 5.4 percent, and 3.7 percent compared with 7.9 percent). One possible explanation for the differences among those aged 55 and over is the couples' level of financial assets. Unmarried partners aged 55 and over have substantially fewer assets than married couples and either face the prospect of retirement—or already are retired. These older couples may, therefore, be more reluctant to give their money to others.

The largest differences in spending patterns between the two groups were for alcohol and tobacco. At the aggregate level, spending on alcohol and tobacco accounted for 3.1 percent of unmarried partners' total expenditures, compared with 1.3 percent for spouses. As seen in text table 3, in every age-by-income group, unmarried partners spent a greater share on alcohol and tobacco. Breaking out alcohol and tobacco separately, there again were differences between the two groups. Across all age and income groups, unmarried partners' expenditure share on alcohol ranged from 1.5 percent to 2 percent, whereas the share for married couples ranged from 0.5 percent to 1 percent. In 8 of the 9 age-by-income groups, the difference in expenditure shares on alcohol was statistically significant. The exception was for those couples over 55 at the middle-income level, where unmarried partners' expenditure share on alcohol was slightly higher than married couples (0.8 percent compared with 0.7 percent). For tobacco, unmarried partners spent a higher share in every age-by-income group; and in some cases, the difference was sizeable. For example, among couples aged 55 and over with low incomes, unmarried partners spent 4.1 percent of their total expenditures on tobacco compared with 0.7 percent for married couples. This fits a pattern found in the data: The lower the income group and the higher the age group, the more different the expenditure share on tobacco for unmarried partners compared with married couples. (The smallest difference between the two groups is found in the under-35 age group among couples with high income, where unmarried partners' tobacco expenditure share was 0.5 percent, compared with 0.2 percent for married couples.)

Text table 12. Expenditure shares by age, income and couple type, Consumer Expenditure Survey, 2004–07

| Expenditure | All ages | | Under 35 | | | | | |
|-----------------------------------|--------------------|---------|--------------------|---------|--------------------|---------|--------------------|---------|
| | All incomes | | Low income | | Middle income | | High income | |
| | Unmarried partners | Spouses | Unmarried partners | Spouses | Unmarried partners | Spouses | Unmarried partners | Spouses |
| Food total..... | 12.87 | 12.56 | 16.80 | 16.62 | 13.46 | 13.43 | 11.34 | 10.62 |
| Food at home | 8.42 | 8.33 | 11.65 | 11.77 | 8.39 | 8.82 | 6.04 | 5.99 |
| Food away from home..... | 4.44 | 4.22 | 5.15 | 4.85 | 5.07 | 4.61 | 5.31 | 4.63 |
| Clothing | ***3.44 | 2.47 | *3.44 | 2.87 | *3.58 | 2.88 | ***4.78 | 2.98 |
| Housing | 35.04 | 34.31 | 35.78 | 36.48 | 33.50 | 34.50 | 36.03 | 38.15 |
| Shelter | **24.13 | 22.86 | 24.62 | 24.92 | 22.88 | 23.65 | **25.75 | 28.49 |
| Utilities | ***6.3 | 6.70 | 7.56 | 7.56 | *6.28 | 6.69 | 4.98 | 4.60 |
| House furnishings/ operations.. | 4.61 | 4.75 | 3.60 | 4.00 | 4.35 | 4.16 | 5.30 | 5.06 |
| Transportation | **18.19 | 17.05 | 18.98 | 18.77 | 20.65 | 20.55 | 17.30 | 17.75 |
| Vehicle purchases | 7.41 | 7.08 | 6.95 | 6.13 | 8.18 | 8.62 | 7.32 | 8.20 |
| Gasoline/motor oil..... | ***4.82 | 4.12 | 6.37 | 6.13 | 5.65 | 5.66 | 4.04 | 3.74 |
| Other vehicle expenses..... | ***4.85 | 4.47 | ***4.96 | 5.27 | ***5.85 | 5.04 | ***4.22 | 4.40 |
| Public transportation..... | ***1.11 | 1.39 | *0.70 | 1.24 | 0.97 | 1.23 | 1.72 | 1.41 |
| Health care | ***4.08 | 7.63 | **2.65 | 3.79 | *3.32 | 3.92 | 3.03 | 2.92 |
| Health insurance..... | ***2.24 | 4.28 | ***1.33 | 2.16 | 2.05 | 2.32 | 1.68 | 1.65 |
| Medical services..... | ***1.18 | 1.84 | 0.77 | 1.17 | 0.90 | 1.16 | 0.94 | 0.91 |
| Medical supplies..... | ***0.13 | 0.25 | 0.12 | 0.11 | 0.11 | 0.10 | 0.08 | 0.10 |
| Prescription drugs..... | ***0.53 | 1.25 | 0.43 | 0.34 | 0.26 | 0.34 | 0.33 | 0.26 |
| Personal care | *0.64 | 0.69 | **0.71 | 0.47 | *0.68 | 0.59 | 0.72 | 0.67 |
| Education..... | 1.52 | 1.43 | 3.99 | 4.08 | 2.45 | 2.96 | 1.54 | 1.30 |
| Reading | ***0.25 | 0.34 | 0.26 | 0.21 | 0.24 | 0.25 | 0.28 | 0.24 |
| Entertainment..... | 5.64 | 5.07 | 5.45 | 4.96 | 5.45 | 5.08 | 5.60 | 5.47 |
| Alcohol & tobacco..... | ***3.13 | 1.35 | ***3.38 | 1.78 | ***3.49 | 1.65 | ***2.16 | 1.24 |
| Alcohol | ***1.61 | 0.81 | ***1.43 | 0.65 | ***2.15 | 1.04 | ***1.69 | 1.00 |
| Tobacco | ***1.53 | 0.53 | ***1.95 | 1.13 | ***1.34 | 0.61 | **0.47 | 0.24 |
| Cash contributions..... | ***2.31 | 5.11 | ***1.44 | 2.86 | 1.69 | 2.26 | 1.79 | 1.93 |
| Personal insurance/pensions | 10.92 | 10.17 | 5.61 | 6.02 | *10.13 | 10.88 | **13.83 | 15.63 |
| Miscellaneous..... | 1.52 | 1.57 | 0.99 | 0.73 | 0.82 | 0.63 | 0.95 | 0.70 |

Text table 12.Continued—Expenditure shares by age, income and couple type, Consumer Expenditure Survey, 2004–07

| Expenditure | Age 35-54 | | | | | |
|------------------------------------|--------------------|---------|--------------------|---------|--------------------|---------|
| | Low income | | Middle income | | High income | |
| | Unmarried partners | Spouses | Unmarried partners | Spouses | Unmarried partners | Spouses |
| Food total..... | 16.09 | 16.27 | 13.55 | 13.53 | 11.09 | 10.42 |
| Food at home | 13.23 | 13.05 | 10.04 | 9.71 | 6.61 | 6.19 |
| Food away from home..... | 2.86 | 3.22 | 3.51 | 3.81 | 4.47 | 4.24 |
| Clothing | 2.10 | 1.95 | *2.93 | 2.13 | 2.93 | 2.81 |
| Housing | 38.78 | 36.21 | *39.24 | 34.86 | 36.03 | 36.29 |
| Shelter | 26.09 | 23.38 | *27.82 | 23.39 | 27.11 | 26.29 |
| Utilities..... | 8.86 | 9.56 | 7.72 | 7.77 | 4.92 | 5.22 |
| House furnishings/ operations..... | 3.84 | 3.26 | 3.70 | 3.70 | 3.99 | 4.78 |
| Transportation | 18.06 | 18.70 | 17.94 | 19.82 | 16.23 | 15.52 |
| Vehicle purchases | 5.28 | 6.72 | 7.22 | 8.16 | 6.69 | 6.51 |
| Gasoline/motor oil..... | 5.99 | 6.37 | 5.27 | 5.66 | *3.81 | 3.49 |
| Other vehicle expenses..... | ***5.99 | 4.88 | 5.01 | 5.19 | ***4.57 | 4.08 |
| Public transportation..... | 0.79 | 0.73 | **0.45 | 0.81 | 1.17 | 1.44 |
| Health care | ***3.63 | 7.00 | ***4.50 | 5.79 | *3.48 | 4.04 |
| Health insurance..... | ***1.92 | 3.25 | **2.60 | 3.17 | 1.82 | 1.90 |
| Medical services..... | **0.90 | 2.28 | **1.03 | 1.58 | 1.23 | 1.47 |
| Medical supplies..... | 0.27 | 0.15 | *0.09 | 0.18 | **0.08 | 0.15 |
| Prescription drugs..... | ***0.53 | 1.31 | 0.77 | 0.85 | **0.35 | 0.51 |
| Personal care | 0.38 | 0.45 | 0.58 | 0.56 | 0.59 | 0.66 |
| Education..... | 1.14 | 0.46 | **0.52 | 1.22 | ***0.75 | 2.84 |
| Reading | 0.18 | 0.18 | *0.21 | 0.28 | 0.26 | 0.28 |
| Entertainment..... | 4.92 | 4.47 | 4.21 | 4.74 | 5.01 | 4.93 |
| Alcohol & tobacco..... | ***5.65 | 3.01 | ***3.88 | 2.10 | ***2.56 | 1.36 |
| Alcohol..... | **1.42 | 0.93 | ***1.45 | 0.89 | ***1.46 | 0.95 |
| Tobacco | ***4.23 | 2.07 | ***2.43 | 1.21 | ***1.10 | 0.41 |
| Cash contributions..... | 2.40 | 2.54 | 2.11 | 2.66 | 3.46 | 4.27 |
| Personal insurance/pensions | **5.31 | 6.67 | ***8.97 | 10.66 | 15.44 | 15.03 |
| Miscellaneous..... | 1.21 | 1.71 | 1.09 | 1.28 | 1.60 | 1.30 |

Text table 12.Continued—Expenditure shares by age, income and couple type, Consumer Expenditure Survey, 2004–07

| Expenditure | Age 55+ | | | | | |
|------------------------------------|--------------------|---------|--------------------|---------|--------------------|---------|
| | Low income | | Middle income | | High income | |
| | Unmarried partners | Spouses | Unmarried partners | Spouses | Unmarried partners | Spouses |
| Food total..... | 17.56 | 16.16 | 13.97 | 13.83 | *8.89 | 10.79 |
| Food at home | **14.38 | 12.43 | 10.49 | 9.56 | *5.19 | 6.29 |
| Food away from home..... | 3.18 | 3.73 | *3.48 | 4.26 | *3.70 | 4.50 |
| Clothing | 1.55 | 1.87 | 2.28 | 2.30 | *4.28 | 2.62 |
| Housing | 32.95 | 33.72 | 32.14 | 32.80 | 29.44 | 32.97 |
| Shelter | 19.37 | 19.83 | 20.57 | 20.42 | **16.20 | 22.11 |
| Utilities | 10.53 | 9.71 | 8.13 | 7.78 | 4.63 | 5.27 |
| House furnishings/ operations..... | **3.05 | 4.18 | **3.44 | 4.59 | 8.60 | 5.59 |
| Transportation | 21.35 | 16.96 | *23.93 | 18.46 | 14.63 | 15.83 |
| Vehicle purchases | 9.91 | 6.46 | 12.49 | 7.69 | 6.06 | 6.84 |
| Gasoline/motor oil..... | *5.84 | 4.84 | **5.75 | 4.55 | 3.10 | 3.10 |
| Other vehicle expenses..... | ***4.89 | 4.73 | 4.82 | 4.93 | 3.77 | 3.99 |
| Public transportation..... | 0.71 | 0.94 | 0.87 | 1.30 | 1.70 | 1.90 |
| Health care | ***9.84 | 14.73 | **8.72 | 10.89 | 5.34 | 6.28 |
| Health insurance..... | ***6.67 | 8.90 | **5.06 | 6.41 | ***2.11 | 3.31 |
| Medical services..... | ***1.12 | 2.59 | 1.64 | 2.14 | 2.56 | 1.83 |
| Medical supplies..... | **0.19 | 0.41 | 0.40 | 0.37 | 0.16 | 0.25 |
| Prescription drugs..... | ***1.86 | 2.83 | 1.63 | 1.97 | ***0.51 | 0.89 |
| Personal care | 0.73 | 0.76 | 0.73 | 0.79 | 0.62 | 0.68 |
| Education..... | 0.09 | 0.17 | *0.16 | 0.43 | 1.06 | 1.62 |
| Reading | **0.28 | 0.39 | *0.33 | 0.43 | ***0.20 | 0.38 |
| Entertainment | 4.08 | 4.95 | 5.06 | 4.88 | 10.12 | 5.43 |
| Alcohol & tobacco..... | ***5.70 | 1.23 | ***2.52 | 1.25 | ***2.16 | 1.08 |
| Alcohol | ***1.60 | 0.55 | 0.84 | 0.70 | ***1.56 | 0.85 |
| Tobacco | ***4.11 | 0.69 | ***1.68 | 0.56 | **0.60 | 0.24 |
| Cash contributions..... | ***1.81 | 4.38 | ***1.62 | 5.42 | ***3.74 | 7.87 |
| Personal insurance/pensions | 2.83 | 2.78 | 7.07 | 6.26 | 14.20 | 12.47 |
| Miscellaneous..... | *1.12 | 1.71 | *1.29 | 2.02 | **5.03 | 1.77 |

* Indicates statistical significance at the .05 level.
** Indicates statistical significance at the .01 level.
*** Indicates statistical significance at the .001 level.

Conclusion

The data reveal interesting similarities and differences in the spending patterns of opposite-sex unmarried partner and married couple consumer units without children.

In general, married couples of similar ages and incomes spent more than unmarried partners, particularly among those aged 55 and over. Married couples generally had a higher level of financial assets, which likely accounted for this difference.

Unmarried partners and spouses of similar age and income spent about the same percentage of their total expenditures on housing, transportation, food, personal insurance and pensions, and entertainment. Together, these five items accounted for about 80 percent of the couples' total expenditures, indicating that the two groups share much in common regarding their spending decisions. There were, however, several items for which unmarried partners' and spouses' expenditure shares

differed: health care, cash contributions, and alcohol and tobacco. Unmarried partners across all ages and incomes tended to spend a lower share on health care and a higher share on alcohol and tobacco. The differences in health care spending were primarily driven by spending for health insurance, and the greatest differences in spending on alcohol and tobacco were driven by tobacco. Unmarried partners among those couples under 35 with low income and all income groups in the 55-and-over age group spent a lower share on cash contributions.

Thus, the findings show that, while the spouses and unmarried partners in this study had similar spending patterns, there were several items for which their spending differed. Further research may be useful in determining more definitively what is driving the observed differences—perhaps demographic characteristics not accounted for in this study.

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 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.

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.

Earners. 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. Families are included in three racial groups: Black or African-American; Asian; and White and All Other Races. The “All Other Races” group comprises such races as Native Americans, Alaskan Natives, Pacific Islanders, and those reporting more than one race.

Reference person. The first member mentioned by the respon-

dent 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); bottled water; 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, Medicare prescription drug premium, 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 radios; phonographs; televisions; tape recorders and players; cable and satellite television services; miscellaneous sound equipment; satellite radio service; sound equipment accessories; online gaming services; VCRs and video disc players; digital media

players and recorders; video game hardware and software and rental of such; video cassettes, tapes, and discs; streaming, downloading video; rental, repair, and installation 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 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 that 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, which 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 (CPI), to classify families by family type for purposes of analysis, and to adjust for nonresponse by families who do not cooperate in the survey. The 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 double counting 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, the 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. 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 Consumer Expenditure Survey (CE) implemented multiple imputation of income to provide estimated values for missing income data. The process is applied to both Interview and Diary Survey data. Data from 2004 onward are not strictly comparable to data from previous years. For an explanation of income imputation, see “Changes to the 2004 and 2005 Consumer Expenditure Survey published tables and selected highlights” of the 2004–2005 CE biennial report.

Source selection

The Diary and Interview Surveys overlap considerably in their coverage of household expenditures. As mentioned above, the Interview Survey is designed to obtain data on major expenditures such as automobiles and major appliances that respondents can be expected to recall for 3 months or longer, while the Diary Survey is designed to obtain data on small frequently purchased items such as food and beverages. When data for an item category are collected in both surveys, BLS uses the data from only one of the surveys in its published expenditure estimates. The survey with more statistically reliable data is chosen. The process of choosing the survey with more statistically reliable data is called “source selection.”

For source selection, the item categories are divided into three groups:

- Those that are collected solely in the Diary Survey, such as detailed food expenditures, personal care products, postage, housekeeping supplies, and nonprescription drugs.
- Those that are collected solely in the Interview Survey, such as expenditures made on trips (overnight and longer), and information on reimbursed expenditures, such as for medical care and automobile repairs.
- Those that are collected in both the Diary and Interview Surveys, and where a sufficient amount of detail is collected in both of them. For this group of items, the survey with more statistically reliable data must be determined.

In the past, the source selection procedure was run periodically every few years; since 2007, it will be run every 2 years. The source selection procedure is run separately for each item category in the third group. The item categories are called “universal classification codes” (UCCs), which are members of a 6-digit coding scheme that classifies expenditures. These are the lowest level at which CE expenditures are tabulated. The Consumer Expenditure Survey has approximately 900 expenditure UCCs, of which 275 are in the first group, 375 are in the second group, and 250 are in the third group.

For the third group, it is first determined whether there is a statistically significant difference between the two surveys. If there is, then the survey with the larger mean annualized expenditure per consumer unit is selected as the source. If there is not, the survey currently used as the source continues to be used.

The procedure was most recently run in 2007, using data from 2004 to 2006. It started by counting the number of expenditures in the database for each survey to determine whether credible expenditure estimates could be produced from them. The threshold for credibility used in the procedure was 60 expenditures per year. If there were 60 or more expenditures per year in both surveys, and one of the surveys had a significantly higher mean annualized expenditure, then the survey with the higher mean was selected as the source of data for the published expenditure estimates. If only one of the surveys had 60 or more expenditures per year, then the survey with 60 or more expenditures was selected as the source. Otherwise, the survey currently used as the source was selected again.

The level of statistical significance was determined from the z-score

$$z = \frac{\bar{x}_I - \bar{x}_D}{\sqrt{SE_I^2 + SE_D^2}},$$

where \bar{x}_I and \bar{x}_D are the mean annualized expenditures per consumer unit in the Interview and Diary surveys, and where SE_I and SE_D are their standard errors. The z-scores were computed separately for each of the 3 years, and a weighted average of them was computed, with more weight given to the more recent years. The Interview survey was chosen when the weighted z-score was greater than 1.645 or when the smallest

of the three yearly z-scores was greater than 1.000. The Diary survey was chosen when the weighted z-score was less than -1.645 or when the largest of the three yearly z-scores was less than -1.000.

Sample design

The Consumer Expenditure Survey is a nationwide household survey designed to measure the expenditures of the U.S. civilian noninstitutional population, which comprises about 98 percent of the total U.S. population. CE includes people living in houses, condominiums, apartments, and group quarters, such as college dormitories. It excludes 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 small groups of counties that have been grouped together into geographic entities called “core-based statistical areas” (CBSAs). The CBSAs are categorized into three groups based on the population of the largest urbanized area inside them: Metropolitan Statistical Areas, which are CBSAs whose largest urbanized area has more than 50,000 people; Micropolitan Statistical Areas, which are CBSAs whose largest urbanized area has between 10,000 and 50,000 people; and non-CBSA areas, which are all remaining areas.

The sample of PSUs used in the 2006–2007 survey consists of 91 PSUs, of which 75 urban PSUs are also used by the Consumer Price Index program. The 91 PSUs are classified into four categories:

- 21 “A” PSUs, which are metropolitan CBSAs with a population over 2.7 million people.
- 38 “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 91 PSUs, the sampling frame (the list of addresses from which the sample is drawn) is generated from the 2000 Census 100-percent detail file. The sampling frame is augmented by new construction permits and extra housing units identified through coverage improvement techniques to compensate for recognized deficiencies in the file.

From this sampling frame, the U.S. Census Bureau selects a representative sample of approximately 12,000 addresses per year to participate in the Diary Survey. Usable diaries are obtained from approximately 7,000 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.

For the Interview Survey, approximately 14,000 addresses are contacted in each calendar quarter of the year. 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 in 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 7,000 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 2006–2007 Interview and Diary Surveys are shown in tables B-1 and B-2. For the Interview Survey, 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. For the 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 nonexistent housing units, 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 they 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 the 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 2007 Interview Survey, there were 37,016 eligible housing units, from which 27,335 usable interviews were collected, resulting in a response rate of 73.8 percent. In the 2007 Diary Survey, there were 19,595 eligible housing units, from which 13,747 usable interviews were collected, resulting in a response rate of 70.2 percent.

Table B-1. **Analysis of response in the 2006–07 Interview Survey**

| Sample unit | 2006 | 2007 |
|---|--------|--------|
| Housing units designated for the survey | 46,789 | 45,996 |
| Less: Type B and C nonresponses ... | 9,080 | 8,980 |
| Equals: Eligible units | 37,709 | 37,016 |
| Less: Type A nonresponses..... | 8,842 | 9,681 |
| Equals: Interview units..... | 28,867 | 27,335 |
| Percent of eligible units interviewed | 76.6 | 73.8 |

Table B-2. **Analysis of response in the 2006–07 Diary Survey**

| Sample unit | 2006 | 2007 |
|---|--------|--------|
| Housing units designated for the survey | 24,320 | 24,642 |
| Less: Type B and C nonresponses... | 4,844 | 5,047 |
| Equals: Eligible units | 19,476 | 19,595 |
| Less: Type A nonresponses..... | 5,021 | 5,848 |
| Equals: Interview units..... | 14,455 | 13,747 |
| Percent of eligible units interviewed | 74.2 | 70.2 |

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 CU for which a usable interview is obtained. Each CU is initially assigned a base weight, which is equal to the inverse of its probability of being selected for the sample. Base weights in the Consumer Expenditure Survey are typically around 10,000, which means that a CU in the sample represents 10,000 CUs in the U.S. civilian noninstitutional population—itsself plus 9,999 other CUs that were not selected for the sample. The base weight is then adjusted by the following factors:

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 CU’s refusal to participate in the survey or the fact that no one is home. This adjustment is based on the region of the country (Northeast, Midwest, South, West), household tenure (owner/renter), CU size, and race of the CU’s 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, region of the country, and urban/rural. The population counts come from the Current Population Survey, and they are updated

quarterly. Each CU 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 set that is used minimizes the amount of change made to the “initial weights” (initial weight = base weight × weighting control factor × noninterview adjustment factor). The same population controls are used for both the Interview and Diary Surveys, hence both surveys have 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 Demographics Surveys Division then reformats the data into datasets and does 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 interview and diary surveys implemented multiple imputations of income data, beginning 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, house-

hold 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 then are processed 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 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 120 million consumer units.) In 2007, usable data were collected in 27,335 quarterly interviews in the Interview Survey, and in 13,747 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 estimates can be used to construct confidence intervals to test various statistical hypotheses. Tables showing the standard errors of the Consumer Expenditure Survey estimates are available on the Internet at the Consumer Expenditure Survey webpage: www.bls.gov/cex.

The 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, through continuous survey process improvements, as well as through theoretical research.

Appendix C. Survey Source of Data for Integrated Tables, 2007

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

| | | | |
|---|--|---|--|
| D | Potatoes | D | At fast food, take-out, delivery, concession stands, buffet and cafeteria (other than employer and school cafeteria) |
| D | Lettuce | | |
| D | Tomatoes | | |
| D | Other fresh vegetables | D | At full-service restaurants |
| | Processed fruits | D | At vending machines and mobile vendors |
| | Frozen fruits and fruit juices | D | At employer and school cafeterias |
| D | Orange juice | | Snacks and nonalcoholic beverages |
| D | Fruits | D | At fast food, take-out, delivery, concession stands, buffet and cafeteria (other than employer and school cafeteria) |
| D | Fruit juices | | |
| D | Canned fruits | | |
| D | Dried fruit | D | At full-service restaurants |
| D | Fresh fruit juice | D | At vending machines and mobile vendors |
| D | Canned and bottled fruit juice | D | At employer and school cafeterias |
| | Processed vegetables | | Breakfast and brunch |
| D | Frozen vegetables | D | At fast food, take-out, delivery, concession stands, buffet and cafeteria (other than employer and school cafeteria) |
| | Canned and dried vegetables and juices | | |
| D | Canned beans | | |
| D | Canned corn | D | At full-service restaurants |
| D | Canned miscellaneous vegetables | D | At vending machines and mobile vendors |
| D | Dried peas | D | At employer and school cafeterias |
| D | Dried beans | | |
| D | Dried miscellaneous vegetables | I | Food or board at school |
| D | Other processed vegetables | I | Catered affairs |
| D | Frozen vegetable juice | I | Food on out-of-town trips |
| D | Fresh and canned vegetable juice | I | School lunches |
| | Other food at home | I | Meals as pay |
| | Sugar and other sweets | | |
| D | Candy and chewing gum | | Alcoholic beverages |
| D | Sugar | | At home |
| D | Artificial sweeteners | D | Beer and ale |
| D | Jams, preserves; other sweets | D | Whiskey |
| | Fats and oils | D | Wine |
| D | Margarine | D | Other alcoholic beverages |
| D | Fats and oils | | Away from home |
| D | Salad dressings | | Beer and ale |
| D | Nondairy cream and imitation milk | D | At fast food, take-out, delivery, concession stands, buffet and cafeteria |
| D | Peanut butter | | |
| | Miscellaneous foods | D | At full-service restaurants |
| | Frozen prepared foods | D | At vending machines and mobile vendors |
| D | Frozen meals | D | At employer |
| D | Other frozen prepared foods | D | At board |
| D | Canned and packaged soups | D | At catered affairs |
| | Potato chips, nuts, and other snacks | | Wine |
| D | Potato chips and other snacks | D | At fast food, take-out, delivery, concession stands, buffet and cafeteria |
| D | Nuts | | |
| | Condiments and seasonings | D | At full service restaurants |
| D | Salt, spices; other seasonings | D | At vending machines and mobile vendors |
| D | Olives, pickles; relishes | D | At employer |
| D | Sauces and gravies | D | At board |
| D | Baking needs and misc. products | D | At catered affairs |
| | Other canned/packaged prepared food | | Other alcoholic beverages |
| D | Prepared salads | D | At fast food, take-out, delivery, concession stands, buffet and cafeteria |
| D | Prepared desserts | | |
| D | Baby food | D | At full service restaurants |
| D | Miscellaneous prepared foods | D | At vending machines and mobile vendors |
| D | Vitamin supplements | D | At employer |
| | Nonalcoholic beverages (excl. juices) | D | At board |
| D | Cola | D | At catered affairs |
| D | Other carbonated drinks | I | Alcoholic beverages purchased on trips |
| D | Tea | | |
| D | Coffee | | Housing |
| D | Roasted | | Shelter |
| D | Instant and freeze-dried | | Owned dwellings |
| D | Noncarbonated fruit flavored drinks, including non-frozen lemonade | I | Mortgage interest and charges |
| D | Other noncarbonated beverages and ice (new Q20061) | I | Mortgage interest |
| D | Bottled water (new Q20061) | I | Interest paid, home equity loan |
| D | Nonalcoholic beer | I | Interest paid, home equity line of credit |
| I | Food prepared on out-of-town trips | I | Prepayment penalty charges (thru Q20071) |
| | Food away from home | I | Property taxes |
| | Meals at restaurants, carry-outs, and other | I | Maintenance, repairs, insurance, other expenses |
| | Lunch | | Homeowners' insurance |
| D | At fast food, take-out, delivery, concession stands, buffet and cafeteria (other than employer and school cafeteria) | I | Ground rent |
| D | At full-service restaurants | I | Maintenance and repair services |
| D | At vending machines and mobile vendors | I | Painting and papering |
| D | At employer and school cafeterias | I | Plumbing and water heating |
| | Dinner | I | Heat, air conditioning; electrical work |
| | | | Roofing and gutters |
| | | | Other repair or maintenance services |
| | | | Repair and replacement of hard surface flooring |
| | | | Repair of built-in appliances |

| | | | |
|---|--|---|--|
| | Maintenance and repair commodities | | equipment |
| I | Paints, wallpaper, and supplies | | Miscellaneous supplies and equipment |
| I | Tools and equipment for painting and wallpapering | I | Materials for insulation and other maintenance and repair |
| I | Plumbing supplies and equipment | I | Materials for finishing basements and remodeling rooms |
| I | Electrical supplies, heating, and cooling equipment | I | Materials for hard surface flooring |
| I | Materials for hard surface floor repair and replacement | I | Materials for landscaping maintenance |
| I | Materials and equipment for roof and gutters | I | Property management and security |
| I | Materials for plastering, paneling, siding, windows, doors, screens, awnings | I | Property management |
| I | Materials for patio, walk, fence, driveway, masonry, brick, and stucco work | I | Management and upkeep services for security |
| I | Materials for landscaping maintenance | I | Parking |
| I | Miscellaneous supplies and equipment | | Housing while attending school |
| I | Material for insulation, other maintenance and repair | | Lodging while out of town |
| I | Materials to finish basement, remodel rooms, or build patios, walks, etc. | | Utilities, fuels, and public services |
| | Property management and security | | Natural gas |
| I | Property management | | Renter |
| I | Management and upkeep services for security | | Owned home |
| I | Parking | | Owned vacation home |
| | | | Rented vacation home |
| | Rented dwellings | | Electricity |
| I | Rent | | Renter |
| I | Rent as pay | | Owned home |
| | Maintenance, insurance, and other expenses | | Owned vacation home |
| I | Tenant's insurance | I | Rented vacation home |
| | Maintenance and repair services | | Fuel oil and other fuels |
| I | Repair or maintenance services | I | Fuel oil |
| I | Repair and replacement of hard surface flooring | | Renter |
| I | Repair of built-in appliances | I | Owned home |
| | Maintenance and repair commodities | | Owned vacation home |
| I | Paint, wallpaper, and supplies | I | Rented vacation home |
| I | Tools and equipment for painting and wallpapering | I | Coal |
| I | Materials for plastering, paneling, roofing, gutters, etc. | I | Wood and other fuels |
| I | Materials for patio, walk, fence, driveway, masonry; brick and stucco work | I | Bottled gas |
| 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 | Coal |
| I | Construction materials for jobs not started | | Wood and other fuels |
| I | Material for hard surface flooring | | Bottled gas |
| I | Materials for landscape maintenance | I | Renter |
| | | | Owned home |
| | Other lodging | | Owned vacation home |
| | Owned vacation homes | | Rented vacation home |
| | Mortgage interest and charges | | Trash/garbage collection |
| 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 (thru Q20071) | I | Rented vacation home |
| I | Property taxes | | Septic tank cleaning |
| | Maintenance, insurance, and other expenses | | Renter |
| I | Homeowners' insurance | I | Owned home |
| I | Ground rent | I | Owned vacation home |
| | Maintenance and repair services, total | | Rented vacation home |
| I | Repair and remodeling services | | Household operations |
| I | Repair and replacement of hard surface flooring | | Personal services |
| | Maintenance and repair commodities | | Baby-sitting and child care in own home |
| I | Paints, wallpaper, supplies | I | Baby-sitting and child care in someone else's home |
| I | Tools and equipment for painting and wallpapering | I | Care for elderly, invalids, handicapped, etc. |
| I | Materials for plastering, paneling, roofing, gutters, downspouts, siding, windows, doors, screens, and awnings | I | Adult day care centers |
| | Materials for patio, walk, fence, drive, masonry, brick, stucco | | Day care centers, nursery, and preschools |
| I | Plumbing supplies and equipment | I | Other household expenses |
| I | Electrical supplies, heating and cooling | I | Housekeeping services |
| | | | Gardening, lawn care service |
| | | | Water softening service |
| | | | Household laundry and dry cleaning, sent out (non-clothing), not coin-operated |

| | | | |
|---|--|---|--|
| I | Coin-operated household laundry and dry cleaning (non-clothing) | I | Sewing machines |
| I | Services for termite and pest control | D | Miscellaneous household appliances |
| I | Home security system service fee | | Small appliances, miscellaneous housewares |
| I | Other home services | | Housewares |
| I | Termite and pest control products | I | Plastic dinnerware |
| I | Moving, storage; freight express | D | China and other dinnerware |
| I | Appliance repair, including service center | I | Flatware |
| I | Reupholstering and furniture repair | D | Glassware |
| I | Repair and rental of lawn and garden equipment, hand or power tools, other household equipment | D | Silver serving pieces |
| I | Appliance rental | I | Other serving pieces |
| I | Rental of office equipment for non-business use | D | Nonelectric cookware |
| D | Repair of miscellaneous household equipment and furnishings | D | Tableware, nonelectric kitchenware |
| I | Repair of computer systems for non-business use | | Small appliances |
| I | Computer information services | I | Small electric kitchen appliances |
| I | Installation of computer (new Q20072) | D | Portable heating/cooling equipment |
| I | Rental and installation of dishwashers, range hoods, and garbage disposals | D | Miscellaneous household equipment |
| | Housekeeping supplies | D | Window coverings |
| | Laundry and cleaning supplies | D | Infants' equipment |
| D | Soaps and detergents | D | Laundry and cleaning equipment |
| D | Other laundry cleaning products | D | Outdoor equipment |
| | Other household products | D | Clocks (thru 2006Q4) |
| D | Cleansing and toilet tissue, paper towels, and napkins | D | Lamps and lighting fixtures |
| D | Miscellaneous household products | D | Other household decorative items (thru Q20064) |
| D | Lawn and garden supplies | D | Clocks and other household decorative items (new Q20071) |
| | Postage and stationery | D | Telephones and accessories |
| D | Stationery, stationery supplies; gift wrap | D | Lawn and garden equipment |
| D | Postage | D | Power tools |
| D | Delivery services | I | Office furniture for home use |
| | Household furnishings and equipment | D | Hand tools |
| | Household textiles | D | Indoor plants, fresh flowers |
| D | Bathroom linens | I | Closet and storage items |
| D | Bedroom linens | I | Rental of furniture |
| D | Kitchen and dining room linens | I | Luggage |
| I | Curtains and drapes | D | Computers/computer hardware for non-business use |
| I | 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 |
| I | Other linens | I | Internet services away from home |
| | 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) |
| D | Infants' furniture | I | Other household appliances (renter) |
| D | Outdoor furniture | D | Miscellaneous household equipment and parts |
| I | Wall units, cabinets; other occasional furniture | | |
| | Floor coverings | | |
| | Wall-to-wall carpet (renter) | | |
| | New | | |
| I | Replacement | | |
| I | Wall-to-wall carpet (replacement) (owned home) | | |
| I | Floor coverings, non-permanent | | |
| | Major appliances | | |
| I | Dishwashers (built-in), garbage disposals, range hoods (renter) | | |
| I | Dishwashers (built-in), garbage disposals, range hoods (owned home) | | |
| I | Refrigerators, freezers (renter) | | |
| I | Refrigerators, freezers (owned home) | | |
| I | Washing machines (renter) | | |
| I | Washing machines (owned home) | | |
| I | Clothes dryers (renter) | | |
| I | Clothes dryers (owned home) | | |
| I | Cooking stoves, ovens (renter) | | |
| I | Cooking stoves, ovens (owned home) | | |
| I | Microwave ovens (renter) | | |
| I | Microwave ovens (owned home) | | |
| I | Portable dishwashers (renter) | | |
| I | Portable dishwashers (owned home) | | |
| I | Window air conditioners (renter) | | |
| I | Window air conditioners (owned home) | | |
| I | Electric floor cleaning equipment | | |
| | | | Apparel and services |
| | | | Men and boys |
| | | | Men, 16 and over |
| | | | Suits |
| | | | Sport coats, tailored jackets |
| | | | Coats and jackets |
| | | | Underwear |
| | | | Hosiery |
| | | | Nightwear |
| | | | Accessories |
| | | | Sweaters and vests |
| | | | Active sportswear |
| | | | Shirts |
| | | | Pants (thru Q20064) |
| | | | Shorts, shorts sets (thru Q20064) |
| | | | Pants and shorts (new Q20071) |
| | | | Uniforms |
| | | | Costumes |
| | | | Boys, 2 to 15 |
| | | | Coats and jackets |
| | | | Sweaters |
| | | | Shirts |
| | | | Underwear |
| | | | Nightwear |
| | | | Hosiery |
| | | | Accessories |
| | | | Suits, sport coats, vests |
| | | | Pants (thru Q20071) |
| | | | Shorts, shorts sets (thru Q20071) |
| | | | Pants and shorts (new Q20072) |
| | | | Uniforms |
| | | | Active sportswear |
| | | | Costumes |

| | | | |
|---|---|---|--|
| | Women and girls | I | Automobiles |
| | Women, 16 and over | I | Trucks |
| D | Coats and jackets | I | Motorcycles and planes |
| D | Dresses | I | Other vehicle finance charges |
| I | Sport coats, tailored jackets | | |
| D | Vests and sweaters | | Maintenance and repairs |
| D | Shirts, tops, blouses | I | Coolant, additives, brake, transmission fluids |
| D | Skirts | I | Tires - purchased, replaced, installed |
| D | Pants (thru Q20064) | I | Parts/equipment/accessories |
| D | Shorts, shorts sets (thru Q20064) | D | Vehicle audio equipment |
| D | Pants and shorts (new Q20071) | D | Vehicle products and cleaning services |
| D | Active sportswear | I | Vehicle video equipment |
| D | Sleepwear | D | Misc. auto repair/servicing |
| D | Undergarments | I | Body work and painting |
| D | Hosiery | I | Clutch, transmission repair |
| I | Suits | I | Drive shaft and rear-end repair |
| D | Accessories | I | Brake work, including adjustments |
| I | Uniforms | I | Repair to steering or front-end |
| I | Costumes | I | Cooling system repair |
| | Girls, 2 to 15 | I | Motor tune-up |
| D | Coats and jackets | I | Lube, oil change, and oil filters |
| D | Dresses, suits | I | Front end alignment, wheel balance |
| D | Shirts, blouses, sweaters | I | Shock absorber replacement |
| I | Skirts and pants (thru Q20071) | D | Gas tank repair, replacement |
| I | Shorts, shorts sets (thru Q20071) | I | Repair tires and other repair work |
| I | Skirts, pants, and shorts (new Q20072) | I | Vehicle air conditioning repair |
| D | Active sportswear | I | Exhaust system repair |
| D | Underwear and sleepwear | I | Electrical system repair |
| D | Hosiery | I | Motor repair/replacement |
| D | Accessories | I | Auto repair service policy |
| I | Uniforms | | |
| I | Costumes | D | Vehicle insurance |
| | Children under 2 | | |
| I | Coat, jacket, snowsuit | | Vehicle rental, licenses, other charges |
| I | Dresses, outerwear | | Leased and rented vehicles |
| D | Underwear | | Rented vehicles |
| I | Nightwear, loungewear | I | Auto rental |
| D | Accessories | I | Auto rental, out-of-town trips |
| | Footwear | I | Truck rental |
| D | Men's | I | Truck rental, out-of-town trips |
| D | Boys' | I | Motorcycle rental |
| D | Women's | I | Motorcycle rental, out-of-town trips |
| D | Girls' | I | Aircraft rental |
| | Other apparel products and services | I | Aircraft rental, out-of-town trips |
| D | Material for making clothes | | Leased vehicles |
| D | Sewing notions and patterns | I | Car lease payments |
| D | Watches | I | Cash down payment (car lease) |
| I | Jewelry | I | Termination fee (car lease) |
| I | Shoe repair, other shoe service | I | Truck lease payments |
| I | Coin-operated apparel laundry/dry cleaning | I | Cash down payment (truck lease) |
| I | Alteration, repair, tailoring of apparel, accessories | I | Termination fee (truck lease) |
| I | Clothing rental | | |
| I | Watch and jewelry repair | I | Vehicle registration state |
| I | Apparel laundry/dry cleaning not coin operated | I | Vehicle registration local |
| I | Clothing storage | I | Driver's license |
| | Transportation | | Vehicle inspection |
| | Vehicle purchases, (net outlay) | I | Parking fees |
| | Cars and trucks, new | I | Parking fees in home city, excluding residence |
| I | Cars | D | Parking fees, out-of-town trips |
| I | Trucks | I | Tolls or electronic toll passes |
| | Cars and trucks, used | I | Tolls on out-of-town trips |
| I | Cars | I | Towing charges |
| I | Trucks | I | Global positioning services |
| | Other vehicles | | Automobile service clubs |
| I | New motorcycles | | Public transportation |
| I | New aircraft | I | Airline fares |
| I | Used motorcycles | I | Intercity bus fares |
| I | Used aircraft | I | Intracity mass transit fares |
| | Gasoline and motor oil | I | Local transportation, out-of-town trips |
| I | Gasoline | D | Taxi fares and limousine service on trips |
| I | Diesel fuel | I | Taxi fares and limousine service |
| I | Gasoline on out-of-town trips | I | Intercity train fares |
| D | Gasohol | I | Ship fares |
| I | Motor oil | | School bus |
| I | Motor oil on out-of-town trips | | |
| | Other vehicle expenses | | Healthcare |
| | Vehicle finance charges | I | Health insurance |
| | | | Commercial health insurance |
| | | | Traditional fee for service health plan |

| | | | |
|---|--|---|--|
| I | Preferred provider health plan | I | Installation of satellite television equipment (new Q20072) |
| | Blue Cross/Blue Shield | I | Installation of sound systems (new Q20072) |
| I | Traditional fee for service health plan | I | Installation of other video equipment and sound systems (new Q20072) |
| I | Preferred provider health plan | | Pets, toys, hobbies, and playground equipment |
| I | Health maintenance organization | | Pets |
| I | Commercial Medicare supplement | | Pet food |
| I | Other health insurance | D | Pet purchase, supplies, and medicine |
| I | Health maintenance organizations (HMOs) | I | Pet services |
| I | Medicare payments | I | Vet services |
| I | Medicare prescription drug premium (new Q20062) | D | Toys, games, arts and crafts, and tricycles |
| I | Commercial Medicare supplements and other health insurance | D | Stamp and coin collecting |
| | Commercial Medicare supplements | I | Playground equipment |
| | Other health insurance | I | Other entertainment supplies, equipment, and services |
| I | Long term care insurance | | Unmotored recreational vehicles |
| | Medical services | I | Boat without motor and boat trailers |
| I | Physicians' services | I | Trailer and other attachable campers |
| I | Dental services | | Motorized recreational vehicles |
| I | Eye care services | I | Motorized camper |
| I | Service by professionals other than physician | I | Other vehicles |
| I | Lab tests, x rays | I | Boat with motor |
| I | Hospital room and services | | Rental of recreational vehicles |
| I | Medical care in retirement community | I | Non-camper trailer |
| I | Care in convalescent or nursing home | I | Boat and trailer, out-of-town trips |
| D | Repair of medical equipment | I | Campers on out-of-town trips |
| I | Other medical care service | I | Other vehicles on out-of-town trips |
| | Drugs | I | Boats |
| D | Nonprescription | I | Motorized campers |
| D | Nonprescription vitamins | I | Other recreational vehicles |
| I | Prescription | I | Outboard motors |
| | Medical supplies | I | Docking and landing fees |
| I | Eyeglasses and contact lenses | | Sports, recreation and exercise equipment |
| I | Hearing aids | D | Athletic gear, game tables, and exercise equipment |
| D | Topicals and dressings | I | Bicycles |
| I | Medical equipment for general use | D | Camping equipment |
| I | Supportive and convalescent medical equipment | D | Hunting, fishing equipment |
| I | Rental of medical equipment | I | Winter sports equipment |
| I | Rental of supportive, convalescent medical equipment | I | Water sports equipment |
| | Entertainment | I | Other sports equipment |
| | Fees and admissions | D | Global positioning system devices |
| I | Recreation expenses, out-of-town trips | I | Rent and repair of miscellaneous sports equipment |
| I | Social, recreation, health club membership | I | Photographic equipment, supplies and services |
| D | Fees for participant sports | D | Film |
| I | Participant sports, out-of-town trips | I | Other photographic supplies |
| I | Movie, theater, amusement parks, and other | I | Photo processing |
| I | Movie, other admissions, out-of-town trips | I | Rent and repair of photo equipment |
| I | Admission to sporting events | I | Photographic equipment |
| I | Admission to sporting events, out-of-town trips | D | Photographer fees |
| I | Fees for recreational lessons | D | Fireworks |
| I | Other entertainment services, out-of-town trips | D | Souvenirs |
| | Audio and visual equipment and services | D | Visual goods |
| I | Radios | D | Pinball, electronic video games |
| D | Phonographs | I | Live entertainment for catered affairs (new Q20072) |
| I | Televisions | I | Rental of party supplies for catered affairs (new Q20072) |
| D | Tape recorders and players | | Personal care products and services |
| I | Cable and satellite television services | | Personal care products |
| D | Miscellaneous sound equipment | D | Hair care products |
| I | Satellite radio service (new Q20072) | D | Non-electric articles for the hair |
| D | Sound equipment accessories | I | Wigs and hairpieces |
| I | Online gaming services | D | Oral hygiene products, articles |
| I | VCRs and video disc players | D | Shaving needs |
| D | Digital media players and recorders (new Q20071) | D | Cosmetics, perfume, bath preparations |
| D | Video game hardware, software | D | Deodorants, feminine hygiene, misc. personal care |
| I | Video cassettes, tapes, discs | D | Electric personal care appliances |
| I | Streaming, downloading video | | Personal care services |
| I | Repair of TV, radio, and sound equipment | I | Personal care service |
| I | Rental of televisions | D | Repair of personal care appliances |
| I | Personal digital audio players | | Reading |
| I | Sound components and component systems | | Newspaper or magazine subscriptions |
| I | Satellite dishes | I | Newspapers or magazine, non-subscriptions |
| I | CDs, records, audio tapes | I | Newsletters |
| I | Streaming, downloading audio | D | Books through book clubs |
| I | Rental of VCR, radio, and sound equipment | I | Books not through book clubs |
| I | Musical instruments and accessories | I | Encyclopedia and other sets of reference books |
| I | Rental and repair of music instruments | I | Education |
| I | Rental of video cassettes, tapes, discs, and films | | Tuition for colleges and universities |
| I | Rental of computer and video game hardware and software (new Q20072) | I | Tuition for elementary, high school |
| I | Installation of televisions (new Q20072) | I | |

| | | | |
|---|--|---|--|
| I | Tuition for vocational and technical schools (new Q20072) | | Stamps |
| I | Tuition for other schools | I | Supplemental Security Income |
| I | Other school expenses including rentals | I | Public assistance |
| I | Schoolbooks, supplies, equipment for college | I | Food Stamps |
| I | Schoolbooks, supplies, equipment for elementary, high School | I | Regular contributions for support |
| I | Schoolbooks, supplies, equipment for vocational and technical Schools (new Q20072) | I | Child support payments |
| I | Schoolbooks, supplies, equipment for day care, nursery, Other (thru Q20061) | I | Other regular contributions including alimony |
| I | Schoolbooks, supplies, equipment for day care, nursery (new Q20062) | I | Other income |
| I | Schoolbooks, supplies, equipment for other schools (new Q20062) | I | Meals as pay |
| D | School supplies, etc. - unspecified | I | Rent as pay |
| | | | Other income |
| | | | Personal taxes |
| | | | Federal income taxes |
| | | I | Federal income tax (thru Q20061) |
| | | I | Federal income tax deducted (new Q20062) |
| | | I | Additional federal income tax paid (new Q20062) |
| | | I | Federal income tax refunds |
| | | | State and local income taxes |
| | | I | State and local income tax (thru Q20061) |
| | | I | State and local income tax deducted (new Q20062) |
| | | I | Additional state and local income tax paid (new Q20062) |
| | | I | State and local income tax refunds |
| | | | Other taxes |
| | | I | Personal property taxes |
| | | I | Other taxes |
| | | I | Other tax refunds |
| | | | Addenda: |
| | | | Net change in total assets and liabilities |
| | | | Net change in total assets |
| | | | Change in accounts |
| | | I | Change in savings account |
| | | I | Change in checking account |
| | | I | Change in U.S. Savings Bonds |
| | | I | Change in securities |
| | | I | Purchase price of stocks, bonds or mutual funds including broker fees |
| | | I | Sale price of stocks, bonds, and mutual funds, net |
| | | I | Change in money owed to consumer unit |
| | | I | Change in investments to own farm or business |
| | | I | Investments to farm or business |
| | | I | Assets taken from farm or business |
| | | I | Change in surrender of insurance policies |
| | | | Change in net property holdings (owned home) |
| | | 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 principal held after sale of real estate |
| | | I | Total expense in sale of property |
| | | | Change in capital improvements (owned home) |
| | | I | Capital improvement labor and materials |
| | | I | Wall-to-wall carpeting |
| | | | Capital improvement material |
| | | I | Materials and supplies purchased for insulation, dwellings under construction, additions, finishing, remodeling, landscaping, etc. |
| | | I | Dishwasher, disposal, or range hood |
| | | I | Labor and materials for dwellings under construction and additions |
| | | | Change in net property holdings (owned vacation home) |
| | | I | Purchase price of property |
| | | I | Closing costs on purchase of property |
| | | I | Special assessments |
| | | I | Sale price of property or trade-in value |
| | | I | Mortgage principal held after sale of real estate |
| | | I | Total expenses in sale of property |
| | | | Change in capital improvements (owned vacation home) |
| | | I | Capital improvement labor and materials |
| | | I | Supplies purchased for additions, maintenance and repairs, and new construction |
| | | | Change in net property holdings (other property) |
| | | I | Purchase price of property |
| | | I | Closing costs purchase of property |
| | | I | Special assessments |
| | | I | Sale price of property or trade-in value |
| | | | Sources of income and personal taxes |
| | | | Money income before taxes |
| | | I | Wages and salaries |
| | | I | Self-employment income |
| | | I | Net business income |
| | | I | Net farm income |
| | | I | Social Security, private and government retirement |
| | | I | Social Security and Railroad Retirement income |
| | | I | Pensions and annuities |
| | | I | Interest, dividends, rental income, other property income |
| | | I | Interest |
| | | I | Dividends, royalties, estates, and trusts |
| | | I | Roomer and boarder income |
| | | I | Other rental income |
| | | I | Unemployment and workers' compensation, veterans' benefits |
| | | I | Unemployment compensation |
| | | I | Workers' compensation and veterans' benefits |
| | | I | Public assistance, Supplemental Security Income, Food |

| | | | |
|---|---|---|---|
| I | Mortgage 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 (other property) | | Original loan amount, home equity loan (loan obtained during interview quarter) |
| I | Property management, security, parking | I | Principal paid, home equity line of credit |
| | Capital improvement services, labor, materials and equipment | | Change in principal on vehicles |
| I | Contractors' labor and materials, supplies obtained by the consumer unit, appliances provided by the contractor | I | Reduction of vehicle loan principal |
| | Management services and improvements | I | Vehicle principal balance (loan obtained during interview quarter) |
| I | Dishwasher, disposal, range hood, capital improvement | | Other financial information: |
| | Change in sale of vehicles | | Other money receipts |
| I | Automobiles | I | Lump sum receipts |
| I | Trucks, including vans | I | Money from sale of household furnishings, etc. |
| I | Motor campers | I | Refunds from overpayment on Social Security |
| I | Other vehicles | I | Refunds from insurance policies |
| I | Trailer type and other attachable campers | I | Refunds from property taxes |
| I | Motorcycles | I | Lump sum child support payments |
| I | Boats, with motors | I | Monthly transit subsidy |
| I | Boats, without motors, and boat trailers | | Market value of financial assets |
| I | Aircraft | I | Savings accounts |
| | Net change in total liabilities | I | Checking accounts |
| | Change in amount owed to creditors | I | U.S. Savings Bonds |
| I | Total amount owed 2nd interview | I | Securities |
| I | Total amount owed 5th interview | | Mortgage principal paid on owned property |
| | Change in mortgage principal (owned home) | | Reduction of mortgage principal (owned home) |
| I | Special lump-sum mortgage payments | I | Reduction of mortgage principal (owned vacation home) |
| I | Reduction of mortgage principal | I | Reduction of mortgage principal (other property) |
| I | Reduction of mortgage principal, home equity loan | I | Reduction of mortgage principal, home equity loan, (owned home) |
| I | Original loan amount (mortgage obtained during interview quarter) | I | Reduction of mortgage principal, home equity loan, (owned vacation) |
| I | Original loan amount, home equity loan (loan obtained during interview quarter) | I | Reduction of mortgage principal, home equity loan, (other property) |
| | Principal paid, home equity line of credit | I | Principal paid, home equity line of credit (owned home) |
| | Change in mortgage principal (owned vacation home) | I | Principal paid, home equity line of credit (owned vacation home) |
| I | Special lump sum mortgage payment | I | Principal paid, home equity line of credit (other property) |
| I | Reduction of mortgage principal | | Estimated market value of owned home |
| I | Reduction of mortgage principal, home equity loan | I | Estimated monthly rental value of owned home |
| I | Original loan amount (mortgage obtained during interview quarter) | I | Rental equivalence of vacation home (thru Q20071) |
| I | Original loan amount, home equity loan (loan obtained during interview quarter) | I | Estimated monthly rental value of vacation home not available for rent (new Q20072) |
| | Principal paid, home equity line of credit | I | Estimated monthly rental value of vacation home available for rent (new Q20072) |
| | Change in mortgage principal (other property) | I | Estimated annual rental value of timeshare (new Q20072) |
| I | Special lump sum mortgage payment | | Gifts of goods and services: |
| I | Reduction of mortgage principal | | 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, Bureau of Labor Statistics, Room 3985, Postal Square Building, 2 Massachusetts Avenue, NE., Washington, DC 20212-0001, phone (202) 691-6900. Copies of recent articles are posted to the Consumer Expenditure Survey Web site: www.bls.gov/cex.

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 Paulin, and Neil Tseng - "Consumer expenditures for selected items, 1999 and 2000," May 2003

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, Bill - "The impact of income imputation in the Consumer Expenditure Survey," August 2009

Paulin, Geoffrey - "Expenditure patterns of young single adults: two recent generations compared," December 2008

Paulin, Geoffrey - "A changing market: expenditures by Hispanic consumers, revisited," August 2003

Paulin, Geoffrey and Abby L. Duly - "Planning ahead: consumer expenditure patterns in retirement," July 2002

Paulin, Geoffrey and Yoon G. Lee - "Expenditures of single parents: how does gender figure in?," July 2002

Paulin, Geoffrey - "Expenditures of college-age students and nonstudents," July 2001

Paulin, Geoffrey - "Expenditure patterns of older Americans, 1984-97," May 2000

Paulin, Geoffrey - "Let's do lunch: expenditures on meals away from home," May 2000

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

Paulin, Geoffrey - "A growing market: expenditures by Hispanic consumers," March 1998

Paulin, Geoffrey and Brian Riordon - "Making it on their own: the baby boom meets Generation X," February 1998

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

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, Bureau of Labor Statistics, Room 3985, Postal Square Build-

ing, 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 webpage: www.bls.gov/cex.

| Title, number and date of publication | Coverage |
|--|---|
| <i>Consumer Expenditures in 2007</i> , Report 1016 (April 2009) | Consumer unit income and expenditures, integrated data from Interview and Diary Surveys, classified by consumer unit characteristics. 13 tables. 20 pages. |
| <i>Consumer Expenditure Survey Anthology, 2008</i> , Report 1009 (December 2008) | Includes articles on Consumer Expenditure Survey research and methodology, and analytical article on topics of interest using survey data. 93 pages. |
| <i>Consumer Expenditures in 2006</i> , Report 1010 (October 2008) | Consumer unit income and expenditures, integrated data from Interview and Diary Surveys, classified by consumer unit characteristics. 13 tables. 18 pages. |
| <i>Consumer Expenditure Survey, 2004–2005</i> , Report 1008 (October 2008) | Consumer unit income and expenditures, integrated data from Interview and Diary Surveys, classified by consumer unit characteristics. 76 tables. 45 pages. |
| <i>Consumer Expenditures in 2005</i> , 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. |
| <i>Consumer Expenditures in 2004</i> , 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. |
| <i>Consumer Expenditure Survey, 2002–2003</i> , 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. |
| <i>Consumer Expenditures in 2003</i> , 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. |
| <i>Consumer Expenditure Survey Anthology, 2005</i> , (April 2005) Report 981 | Includes articles on Consumer Expenditure Survey research and methodology, and analytical article on topics of interest using survey data. 71 pages. |
| <i>Consumer Expenditures in 2002</i> , 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. |

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 2008 and selected earlier years are available on CD-ROM. 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 “Contact us” e-mail link at the bottom of the CE webpage: www.bls.gov/cex.

Online tables via the Internet

Integrated Diary and Interview Survey data for the years 1984 through 2008 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.