

# **Methodology Statement: Consumer Expenditure Database**



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# **Methodology Statement: Consumer Expenditure Database**

## **An Esri White Paper**

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# Methodology Statement: Consumer Expenditure Database

## Consumer Expenditure Database Methodology

Esri has combined the latest Consumer Expenditure Surveys (CEX), 2006–2007, from the Bureau of Labor Statistics (BLS) to estimate current spending patterns. The continuing surveys include a Diary Survey for daily purchases and an Interview Survey for general purchases. The Diary Survey represents record keeping by consumer units for two consecutive weeklong periods. This component of the CEX collects data on small, daily purchases that could be overlooked by the quarterly Interview Survey. The Interview Survey collects expenditure data from consumers in five interviews conducted every three months. Esri integrates data from both surveys to provide a comprehensive database on all consumer expenditures. To compensate for the relatively small CEX survey bases and the variability of single-year data, expenditures are averaged from the 2006–2007 surveys.

Over the years, both BLS and Esri have updated their methods of collecting and estimating the consumer spending data. In 2004, BLS introduced multiple imputation of income data to estimate data for missing records and in 2001 revised the Interview Survey to collect income by using ranges in addition to discrete totals. The goal was to improve the accuracy of income reporting, but the changes also affect expenditures derived directly from income data such as Social Security deductions. Additionally, the values reported in the surveys vary for select data items due to coding and definition changes.

For example, items such as investments are commonly top coded to a select upper limit. Top coding replaces data when the value of the reported item exceeds prescribed critical values. The critical values for each top-coded variable are estimated in accordance with Census Disclosure Review Board guidelines. The top-coded value represents the mean of the subset of all outlying observations and is therefore subject to large changes from year to year. Any average, including average expenditures, can be influenced by the presence of extreme values. Therefore, when the top code is changed, the average also changes. BLS may include other coding changes.

Esri has updated the models used to estimate consumer spending with its market segmentation system, Tapestry™. The model that links the spending of consumer units in CEX surveys to all households with similar socioeconomic characteristics is a conditional probability model that integrates consumer spending with Tapestry Segmentation. Tapestry truly differentiates consumer spending by market—especially among the smallest U.S. market areas, where distinctions can be difficult to measure, and for the largest ticket items, where consumer preferences are more pronounced. However, changes in the methods of estimating consumer spending, including changes in the methods of data collection, may preclude direct comparison with previous CEX databases.

Spending patterns are developed by Tapestry markets and updated to 2010 by adjusting to current levels of income. Expenditures represent the 2010 annual averages and totals. Data is reported by product or service and includes total expenditures, average spending per household, and a Spending Potential Index (SPI). Because the average expenditure reflects the average amount spent per household, total expenditure represents the aggregate amount spent by all households in an area. The SPI compares the average expenditure for a product locally to the average amount spent nationally. An index of 100 is average. An SPI of 120 shows that average spending by local consumers is 20 percent above the national average.

Since 1980, the CEX survey program has provided the data to study consumer spending and its effect on the gross national product. Nationally, the data is also used to measure the effects of economic policy changes or to assess the welfare of populations such as the elderly or low-income families. For more than 20 years, Esri consumer spending estimates have provided the data to measure local demand for goods and services.

### ***Consumer Spending Trends***

Consumer spending is all about choices—decisions that are influenced not only by market conditions but also by trends. In periods of economic boom, consumer trends feature opportunity and convenience; in times of economic trouble, market conditions drive spending patterns.

Two-thirds of the national economy is driven by consumer spending. Lowering spending, increasing savings, and reducing credit card debt are some ways that households are coping with the impact of recent job losses due to the Great Recession. Just how much do these macro-level forces affect the individual household? The 2007 Survey of Consumer Finance estimates the impact: The average family has 61 percent of its assets in real estate and stocks. Since 66 percent of homes are owned, almost every American has experienced major losses in assets. According to the Consumer Confidence Index (CCI) from the Conference Board, consumer confidence hit a low of 25 in February 2009, recovered to 62.7 in May 2010, then dropped to 52.9 in June. A key economic indicator, the CCI measures consumers' optimism about the state of the economy, which indicates their patterns of saving and spending. Until the CCI reaches 90, a level of economic stability, households will watch their budgets closely. One thing is clear—this recession has changed us all.

When the housing market began its decline in 2007, consumer spending followed. Esri's 2009 consumer expenditure data, which reflects calendar year 2008, captured changes in spending patterns influenced by mounting economic problems. Households witnessed the housing crisis and tighter restriction on credit and began to cut back on convenience and luxury. During 2009, consumer confidence plummeted even further. With no sign of recovery in the housing market, rising unemployment, and no end in sight, consumer spending patterns featured restraint.

Average annual budget expenditures have declined by an average of 2.3 percent a year during the Great Recession, while retail goods spending dropped by more than 4 percent per year. Consumers are cutting spending in every way they can. Households are watching their food budgets more closely. Shoppers now seek cheaper store brands and buy in bulk, but many have further changed their buying habits. For example, spending on frozen prepared meals has dropped, while frozen fish has replaced fresh fish on the grocery list. Overall spending on food at home has fallen by 4 percent a year during this recession. Households are spending less on eating out; savings are gained from packing

breakfast, lunch, and snacks. Visiting a restaurant for dinner, be it fast food or full service, is still a feature of the American lifestyle.

Like the individual household, businesses and government are taking every measure they can to avoid bankruptcy. Unfortunately, much of the burden falls on the consumer through price and tax hikes. Spending on electricity, water, and public services continued to increase in the last year. Customers continue to drop their residential telephone service and rely only on mobile services. However, with recent technological gains in cellular phones, and the popularity of smartphones in particular, the question is whether households are saving money or not.

Though increases in mortgage interest and property taxes have ensured that spending on housing continues to rise, households have cut spending on home improvement and maintenance. The housing crisis has eroded the value of homes to the point that many homeowners owe more on their homes than they are worth. Naturally, major remodeling projects are out of the question, but spending on major appliances and household furnishings is also strictly limited. Americans have been forced to change their spending habits. Earlier in the decade, homes were frequently redecorated with the latest trends in home design and luxury. Spending on housewares and household furnishings or equipment was down almost 6 percent and 5 percent, respectively, last year.

During 2009, the housing and credit crises deepened, and unemployment continued to rise. Many households dug deep into their savings to make ends meet while life and other non-health insurance contributions declined by double digits. Not only job losses but also reduced overtime hours and transition to part-time work have severely impacted employee benefits. On average, Social Security contributions fell by half a percentage point in 2009. Payroll deductions for private pensions and retirement plan contributions fell by 4 percent and 4.7 percent, respectively. As a direct result of fall in employment and income, health care and medical care expenses are down. Most householders cannot afford to maintain health insurance without a current job. When necessary, they utilize hospital emergency rooms and services by medical professionals other than physicians.

Consumers continue to opt for in-home entertainment over entertainment activities that entail costly equipment and fees. Memberships for social clubs and fees for sports clubs declined significantly in the last year, while expenditure on televisions and video and audio equipment began to recover. However, consumers are not spending on the latest and greatest in computers, DVD players, CDs, or DVDs but opting for multifunctional game consoles and streaming video and audio. As families circumvent vacations, expenditure on toys and playground equipment is maintained. Naturally, expenditures on luxury items like recreational vehicles, boats, sports equipment, and photo equipment are minimized.

Amid a historically long and deep recession, consumers are changing their long-term spending habits. With restricted credit and the lack of home equity as a ready source of cash, homeowners are making more permanent lifestyle changes. Economists widely agree that the economy bottomed around the third or fourth quarter of 2009, but they are watching closely for signs of recovery in consumer sentiment and spending. The question to ask is whether the era of a consumer-driven economy is over.



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