



## **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), 2002–2004, 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 2002–2004 surveys.

Over the years, both the BLS and ESRI have updated their methods of collecting and estimating the consumer spending data. In 2004, the BLS introduced multiple imputation of income data to estimate data for missing records, and in 2001, the BLS 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, therefore, is 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. The BLS may include other coding changes.

ESRI has updated the models used to estimate consumer spending with its market segmentation system, Community™ 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 Community Tapestry. Community 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 Community Tapestry markets and updated to 2007 by adjusting to current levels of income. Expenditures represent the 2007 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. Current consumer trends feature opportunity and convenience. The opportunity to earn a profit more quickly from real estate than from market investments has increased the cost of homeownership from mortgage payments through maintenance and repair. Most of the increase reflects spending for primary dwellings. Rents have stabilized, and spending for vacation homes has declined recently.

Consumers' "nesting" spree includes higher spending for home improvements than home furnishings, but homeowners clearly favor convenience over economy when they contract for remodeling and repair services. Trendy spending is evident among the more popular home improvements now—landscaping, patios, and outdoor furniture. However, spending for most home services has increased recently. Additionally, consumers continue to sign up for the monthly fees necessary for connectivity—cell phones, cable television, and Internet interfaces. Speed and convenience are also evident in consumers' media choices: spending for new televisions has increased while the purchase of print media (newspapers, magazines, or books) has declined.

Convenience still rules the kitchen. The most popular grocery items are frozen or prepared meals, prepared salads, and snack foods. However, an emphasis on healthier diets is also evident from decreased spending for select foods such as bakery and cereal goods (especially white bread), beef and pork, processed fruits (such as orange juice), and sugar that is matched by increased spending for fresh fruits and vegetables, seafood, dairy products, and artificial sweeteners.

Significant increases in spending remain evident in education and health care. More than 60 percent of the increase in health care spending is for insurance, not medical care. The increase in education costs can be attributed primarily to rising college tuitions. Contributions to retirement and savings plans are increasing slowly, and savings are up, but only in savings bonds and not savings accounts. The net effect of investments remains negative, but the market value of stocks, bonds, and mutual funds is up. Contributions to charitable and political organizations are also increasing.

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## **ESRI'S Data Development Team**

Led by chief demographer Lynn Wombold, ESRI's data development team has a 30-year history of excellence in market intelligence. The combined expertise of the team's economists, statisticians, demographers, geographers, and analysts totals nearly a century of data and segmentation development experience. The team has crafted data methodologies, such as the demographic update, segmentation, the diversity index, and the Retail MarketPlace database, that are now industry benchmarks.

For more information, visit [www.esri.com/data](http://www.esri.com/data).