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Methodology Statement: Consumer Expenditure Database

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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 US 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 2011 by adjusting to current levels of income. Expenditures represent the 2011 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, and recovery has been slow since. 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. In 2011 the CCI is far from stable. The index hit a high of 65.4 in April but also a low of 40.9 in October. One thing is clear—the effect of the Great Recession that ended more than two years ago is far from over.

When the housing market began its decline in 2007, consumer spending followed. Esri's consumer expenditure data 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. Consumer spending patterns featured restraint.

More than two years after the official trough of the recession in June of 2009, housing values are still in decline, though the pace of the decline has slowed. According to Zillow Research, the housing market lost over $2,680 billion in 2008 in contrast to $680 billion in 2011.[1] Though the stock market has recovered to mid-2008 levels, right before the fallout from the subprime mortgage crisis, the extreme loss of equity in their homes coupled with unemployment has taught householders to spend conservatively and save wisely.

Average annual budget expenditures 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. Esri's 2011 CEX database, a measure of consumer spending in calendar year 2010,

[1] http://www.zillow.com/blog/research/2011/12/22
/u-s-homes-expected-to-lose-nearly-700-billion-in-value-this-year/

reports a further decline in average annual budget expenditures of over 3 percent since the recession ended. 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 fell by 4 percent a year during the 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 decreases 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 13 percent and 12 percent, respectively, since the recession began.

As the housing and credit crises deepened and unemployment continued to rise, many households dug deep into their savings to make ends meet. 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, since 2007, Social Security contributions have fallen by over 2 percent a year. Payroll deductions for private pensions and retirement plan contributions have fallen by 4 percent and 3 percent a year, respectively. Economic recovery continues to occur at a very slow pace, with the national unemployment rate recovering only 0.6 percent by December 2010 from a high of 10 percent in October of 2009. As a direct result of high unemployment and declining household 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 recent years, 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.

Recuperating from a historically long and deep recession, consumers have changed 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. The economy officially bottomed in June 2009; however, the pace of recovery has been very slow. Gains in employment have been small, and housing prices are still in decline. The question to ask is whether the era of a consumer-driven economy is over.

Esri inspires and enables people to positively impact their future through a deeper, geographic understanding of the changing world around them.

Governments, industry leaders, academics, and nongovernmental organizations trust us to connect them with the analytic knowledge they need to make the critical decisions that shape the planet. For more than 40 years, Esri has cultivated collaborative relationships with partners who share our commitment to solving earth's most pressing challenges with geographic expertise and rational resolve. Today, we believe that geography is at the heart of a more resilient and sustainable future. Creating responsible products and solutions drives our passion for improving quality of life everywhere.

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