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# Methodology statement: 2023/2028 Esri Consumer Spending

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# Methodology statement: 2023/2028 Esri Consumer Spending

**Background** Since 1980, the Consumer Expenditure Surveys (CEX) program has provided the data to study consumer spending and its effect on the gross national product. The primary goal of the survey is the regular update of the Consumer Price Index. Nationally, the data is also used to measure the effects of economic policy changes or assess the welfare of populations such as the elderly or low-income families. For more than 30 years, Esri has used the CEX survey microdata to model consumer spending trends and measure local demand for goods and services.

**Methodology** Esri has combined the latest Consumer Expenditure Surveys from the United States Bureau of Labor Statistics (BLS) to estimate current spending potential. 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 survey 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. For further information on the BLS CEX surveys, refer to [U.S. Labor of Bureau Statistics Questions and Answers](#).

Esri integrates data from both surveys to provide a comprehensive database of all consumer expenditures. To compensate for the relatively small CEX survey bases, and the variability of single-year data, expenditures are usually averaged from two years of survey data. Under the knowledge that 2020 data collection and processing was negatively impacted by the COVID-19 pandemic<sup>1</sup>, Esri has included both pre- and post- pandemic survey data. An evaluation of consumer expenditure patterns suggests full recovery in some spending categories but lagging recovery in categories such as Food Away from Home and Transportation. To estimate continued recovery and compensate for lower sample counts for the 2020 survey, Esri has added the pre-pandemic 2019 survey and applied an average of three years of expenses in the model.

In the aftermath of the pandemic, household spending priorities have shifted. The share of budget allocated to housing has increased by 1.4 percentage points. This is driven by a 0.5 percentage point increase toward mortgage and other loan payments and costs and a 0.6 percentage point increase in home improvement. Consumers are still not traveling as extensively with a 0.8 percentage point drop in the budget estimated to be spent on transportation, though spending on local trips not involving airline travel is still a priority. With an elevated proportion of employees still working from home for all or part of the week, the share of food away from home contracted by 0.8 percentage points. Households are allocating smaller portions of their budget to childcare and commuting but are choosing to shift their spending priorities to home services such as lawn and garden, and even pet ownership. Staying home for work, preferring at-home entertainment, householders are also spending less on apparel and personal care services. And the share of spending toward cable and satellite television subscriptions continues to favor video downloads and streaming services.

Esri has updated the models used to estimate consumer spending with its 2023 Updated Demographics and its market segmentation system, Tapestry Segmentation. 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 to differentiate consumer spending by market. Spending patterns are developed by Tapestry markets and calibrated to current levels of income. Consumer Spending estimates represent the expected annual expenditures for the current calendar year.

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<sup>1</sup> [The Impact of COVID-19 on CE Survey Estimates for 2020](#).

Beginning with the 2019 release, Esri developed a more refined probability model that better defines spending by market type. The distinction is effective among the smallest US market areas, where differences in consumer spending can be difficult to measure, and for the largest ticket items, where consumer preferences are more pronounced.

Direct comparison with previous CEX databases is affected not only by changes in consumer spending but also by changes in the source data. The BLS routinely adds new on-trend consumer items and drops redundant items from its data. Esri takes into consideration sample size when determining items to keep in its listings.

Esri's Consumer Spending database is built on the foundation of the BLS Consumer Spending Surveys. Personal Consumption Expenditures (PCE), a component of the National Income and Product Accounts, from the United States Bureau of Economic Analysis (BEA), also provide spending estimates. While the CEX surveys report price change from the consumer perspective, the PCE combines data from multiple government sources, administrative data, and trade associations including the Census Bureau's Economic Census, Retail Trade Surveys, Service Surveys, and the BEA's International Transactions Account<sup>2</sup>. The CEX surveys U.S. civilian noninstitutional households, but the PCE captures the full population as well as nonprofit organizations. Indirect spending to benefit the consumer, such as employee-paid health benefits, is also accounted for by PCE. More information on the difference between the BLS CEX survey and the BEA Personal Consumption Expenditures is provided in the [U.S. Bureau of Labor Statistics Consumer Expenditure Surveys](#) study. Caution must therefore be exercised when using Esri's Consumer Spending estimates as a measure of market size. As a guide, it is recommended that you treat the database as a budget allocation tool. In other words, given the income of a typical household in an area, Esri's consumer spending estimates determine the expected distribution of annual budget dollars to spending categories.

Data is reported by product or service and includes total expenditures, average spending per household, and a Spending Potential Index (SPI). The total expenditures value represents the aggregate amount spent by all households in an area. Esri follows BLS' reporting convention in which the average expenditure reflects the average amount spent per household in the area. Note that the average expenditure for any item consumed by only a small percentage of households will be significantly lower than the average expenditure of only households that purchased the item.

The SPI compares the average amount spent locally for a product to the average amount spent nationally. An index of 100 reflects the average. An SPI of 120 indicates that average spending by local consumers is 20 percent above the national average.

Esri's consumer expenditure offering includes a five-year projection. The model assumes current spending patterns and uses five-year demographic updates to estimate consumer spending. In other words, this is a demand planning tool that

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<sup>2</sup> [Concepts and Methods of the U.S. National Income and Product Accounts](#), page 90.

estimates the market for consumer items based on current-year consumption preferences.

Esri not only updates its list of product codes to reflect changes in the list of items reported by the survey but also reevaluates the sample size of low-frequency items. To better reflect the cost of owning a home, Esri has recategorized financial items covering the cost of home equity loans, special assessments, and closing costs to the housing category. CEX data for 2023 and 2028 is reported for 735 products and services summarized in the spending categories below.

- Food at Home
- Food Away from Home
- Alcoholic Beverages
- Housing
- Household Services
- Household Goods
- Apparel & Services
- Transportation excluding Trips
- Travel
- Health Care
- Entertainment/Recreation
- Personal Care
- Education
- Miscellaneous Expenses
- Life & Other Insurance/Pensions & Social Security
- Financial
- Retail Goods

#### **Esri's data development team**

Led by chief demographer Kyle R. Cassal, Esri's data development team has more than 40 years of experience in market intelligence. The team's economists, statisticians, demographers, geographers, and analysts produce independent small-area demographic and socioeconomic estimates and forecasts for the United States. The team develops exclusive demographic models and methodologies to create market-proven datasets, many of which are now industry benchmarks, such as Tapestry™ Segmentation, Consumer Spending, Market Potential, and annual Updated Demographics. Esri® demographics power ArcGIS® through dynamic web maps, data enrichment, reports, and infographics.





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Since 1969, Esri has helped customers unlock the full potential of data to improve operational and business results. Today, Esri software is deployed in more than 350,000 organizations including the world's largest cities, most national governments, 75 percent of Fortune 500 companies, and more than 7,000 colleges and universities. Esri engineers the most advanced solutions for digital transformation, the Internet of Things (IoT), and location analytics to inform the most authoritative maps in the world.

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