

CONSUMER BUYING POWER™ RELEASE NOTES

DATA VINTAGE

2023 Estimates
2028 Projections

VARIABLES

844 Current Year
844 Five year

UPDATE FREQUENCY

Annually

To view the complete list of variables please visit:
environicsanalytics.com/en-us/variables

WHAT IT IS

Consumer Buying Power™ (CBP) provides estimates of annual consumer spending for more than 700 household expenditure items, spanning 14 categories of goods and services. Use CBP to evaluate potential demand for a wide variety of products and services for any neighborhood in the U.S. Developed using the Consumer Expenditure Survey (CEX), conducted by the U.S. Bureau of Labor Statistics, the database offers current-year estimates and five-year projections of potential consumer expenditures for all standard census, postal and marketing geographies.

With CBP you can analyze any area by total dollars spent or average dollars spent per consumer unit (A consumer unit is a household or any person living in a college dormitory). CBP helps you understand the full market potential as well as if customers in an area spend more or less when compared to other areas.

To help customers understand the change in demand over time, ENVISION reports include the expected annual percentage change from the current year to five years into the future. ENVISION also gives users access to an extensive library of executive reports that convey the key pieces of information your team needs to make decisions.

WHAT'S NEW

This release of Consumer Buying Power is using the latest 2020 Census geography. For ENVISION users, CBP can be accessed through a 2023 workspace with updated population estimates and geography.

This update also includes additional variables under the Education category as well as swimwear variables under the Apparel and Services category.

HOW IT WAS BUILT

KEY DATA SOURCES

The primary data source for CBP is the Consumer Expenditure Survey (CEX), which is administered by the U.S. Bureau of Labor Statistics (BLS). A series of models are calibrated on the CEX. These models are used to score a multi-dimensional cross-distribution of consumer demographics derived from Claritas' Pop-Facts 2023 and data collected by the U.S. Census Bureau's American Community Survey from 2016-2020.

Beyond these estimates, Environics Analytics uses CEX weighted annual expenditure data at the regional level as control values for 100 spending categories. The annual CEX data is utilized to

create control totals for the years 2023 and 2028 in combination with Claritas Pop-Facts Premier's income estimates for those years.

CBP incorporates the interview and daily diary components from the CEX survey. The interview component collects monthly expenditures of approximately 6000 individual households for 12 consecutive months. The daily diary component tracks the household expenditures of approximately 3,000 households for two-week periods. Environics Analytics maintains a rolling five-year CEX survey archive to update the model coefficients used in creating current-year estimates.

MODELING FRAMEWORK

The construction of CBP estimates at the Universal Classification Code (UCC) level involves three distinct phases:

- Creation of initial small-area behavioral estimates
- Collection and projection of the regional control totals
- A mathematical reconciliation process that ensures everything “adds up” across all levels of geography and among the complete hierarchy of expenditure categories.

SMALL AREA ESTIMATES

A series of log-linear and multinomial logit models are calibrated using observation-level CEX micro-data. The models predict consumption using a combination of demographic, location and time data as independent parameters. The log-linear models generally estimate the ratio of total expenditure over total income before tax, which is then converted back to dollar value of total expenditure. These estimates are partitioned using a parent-child structure of spending categories, which, for example, might divide the category Food into Food at Home and Food Away From Home. These categories are further subdivided into their root components (Lunch is subdivided into Lunch at Fast Food, Take-Out, Delivery, Concession Stands, Buffet, etc.) for all CEX UCC codes.

Our researchers use these models to score a multidimensional cross-distribution of consumer demographic variables derived from the current release of Claritas Pop-Facts demographic estimates and the U.S. Census Bureau's American Community Survey 2020. This combination of the multidimensional cross-distribution of consumer demographics and CEX consumption data is produced for every block group in the U.S. Altogether, the initial development of CBP 2023 required more than 700 estimates of consumption using more than 150 models and more than 50,000 coefficients.

REGIONAL CONTROL TOTALS

CBP uses spending control totals from the CEX aggregate expenditure share tables available from BLS for calendar years 1994 through 2021. There are 100 categories of consumer expenditures at the regional level used as control totals in CBP 2023.

Consumption control totals for 2023 and 2028 are generated by applying historical share trends that correspond to each expenditure category in combination with Claritas' Pop-Facts Premier

income estimates the same years.

RECONCILIATION OF SMALL AREA ESTIMATES TO REGIONAL CONTROL TOTALS

For each year, the CBP initial small area estimates at the block group level are reconciled for 2023 and 2028 to reflect the control totals based on the published CEX data from BLS. This reconciliation is achieved using a set of mathematical optimizations that adjust the initial small area estimates to agree with higher geographic level control totals. This reconciliation process results in estimates that match the control totals at different levels of geography. This process also ensures the estimates deviate as little as possible from the estimates derived from the model scoring stage.

By using both a bottom-up approach, through the aggregation of block group estimates, and a top-down approach, by controlling estimates to known values, CBP provides a realistic picture of household expenditures for any trade area. The modeling structure and rescaling system we use allows for reliable estimates at the small area level based on demographics that are subject to high-quality regional controls.

RETAIL STORE TYPE ESTIMATES

The variable All Retail Stores (NAICS 44-45) estimates expenditures at retail stores only; it excludes expenditures on services such as “Hospital Room and Services” for example. The estimates are created using a matrix that assigns merchandise level expenditures to one or more retail store types. As an example, bread can be purchased at grocery stores or convenience stores. A similar process is used for Total Accommodation and Food Services (NAICS 72) variables.

The estimate for All Retail Stores (NAICS44-45) and Total Accommodation and Food Services (NAICS 72) are different from the estimate for Aggregate Annual Expenditures.

- All Retail Stores and Total Food Services represent consumer spending for 108 retail stores and food services establishments
- Aggregate Annual Expenditures is comprised of consumer spending on relevant merchandise items and services

The variables have their own aggregation hierarchy and low-level variables add up to high levels. For example, “New cars” and “New trucks” add up to “Cars and trucks, new”.

FIVE-YEAR PROJECTIONS

All current year variables are also available as five-year projections to help you estimate future market potential. Five-year projections for 2028 are established by first using the aggregate expenditure share tables available from BLS for calendar years 1994 through 2021. The series of log-linear and multinomial logit models calibrated on the CEX data are scored against a 2028 multidimensional cross-distribution of consumer demographic based on Claritas Pop-Facts five-year projection. The small area estimates are bound by the 2028 regional control total. This approach allows the five-year projection to reflect demographic changes at the small area level.

DEMOGRAPHIC VARIABLES USED IN CBP

CBP uses the demographic variables from Claritas Pop-Facts to produce a multidimensional cross-distribution of consumer demographics used to score statistical models. They include Income, age of householder, presence of children, household size, marital status, education and housing tenure.

HOW IT'S USED



Create area rankings by merchandise line item or retail store type to understand which areas present greater opportunity for new retail operations.



Understand current household spending habits and which items attract a greater share of consumer wallets across the U.S.



Analyze projected consumer expenditure trends five years out, based on growth rates and area demographic changes.

SAMPLE QUESTIONS IT CAN ANSWER

- Which merchandise items attract greater share of wallet from consumers?
- How does spending on specific items change from neighborhood to neighborhood?
- Which types of stores are consumers most likely to shop at and what are they most likely to buy in our trade areas?
- Which areas present better opportunities for expansion relative to other areas?
- Should we adjust our merchandise mix for purchases of women's, men's and children's clothing based on trade area spending patterns?

FOR DATA ONLY DELIVERIES

Standard data are delivered in comma-separated values (.csv) format. For a detailed list of variables, consult the metadata file included with your data delivery.