

# Consumer Spending

## Consumer Expenditures, Retail Potential & Retail Gap



### Version

Release 2021

### Purpose

The Consumer Spending datasets consist of both the Consumer Expenditure and Retail Potential databases. The consumer expenditures cover most major household expenditures for both current and projected year, and for retail oriented expenditures, aggregated to retail store types.

The Retail Gap database measures the difference between consumer expenditures on retail (Retail Potential) and brick and mortar Retail Sales. A positive number, or "Leakage," indicates that local consumers are spending their retail dollars out of the area where they live, and a negative number, or "Surplus," indicates that the area is drawing in (and selling to) consumers that are not local. The retail gap data is available at five, four and three-digit NAICS categories.

The Consumer Spending data is highly useful for demand estimation and market share analysis.

### Content

The **Consumer Expenditure** database covers most major household expenditures in a multi-level hierarchical classification. Expenditures can be expressed either as aggregate expenditure or per household expenditure for any geographic level from the block group to national. The major categories represented are:

- Total Expenditure
- Food and Beverages
- Shelter
- Utilities
- Household Operations
- Household Furnishings/Equipment
- Apparel
- Transportation
- Health Care
- Entertainment
- Personal Care
- Reading
- Education
- Tobacco Products
- Miscellaneous Expenses

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- Cash Contributions
- Personal Insurance
- Gifts

Most of these categories include two or three levels of sub-category detail. For example, a typical classification for an item in the food group is:

Total Expenditure  
    FB Food and Beverage  
        FB1 Food At Home  
            FB106 Dairy Products  
                FB10604 Cheese

This structure permits ready analysis of expenditures at any level of detail and between levels of detail. It is possible to analyze any individual category within the context of its parent category (e.g. cheese expenditures as a share of total dairy product expenditures or total food at home expenditures). It is also readily apparent that one should not add together certain categories (e.g. FB106+FB10604 would double-count cheese)

The retail potential database consists of average household and total market potential estimates by each of sixty-four retail store types. The store types are based on the NAICS classification and are listed below:

44111 New Car Dealers  
44112 User Car Dealers  
44121 Recreational Vehicle Dealers  
44122 Motorcycle and Boat Dealers  
44131 Auto Parts and Accessories  
44132 Tire Dealers  
44211 Furniture Stores  
44221 Floor Covering Stores  
44229 Other Home Furnishing Stores  
44311 Appliances and Electronics Stores  
44411 Home Centers  
44412 Paint and Wallpaper Stores  
44413 Hardware Stores  
44419 Other Building Materials Stores

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44421 Outdoor Power Equipment Stores  
44422 Nursery and Garden Stores  
44511 Grocery Stores  
44512 Convenience Stores  
44521 Meat Markets  
44522 Fish and Seafood Markets  
44523 Fruit and Vegetable Markets  
44529 Other Specialty Food Markets  
44531 Liquor Stores  
44611 Pharmacy and Drug Stores  
44612 Cosmetics and Beauty Stores  
44613 Optical Goods Stores  
44619 Other Health and Personal Care Stores  
44719 Gasoline Stations  
44811 Men's Clothing Stores  
44812 Women's Clothing Stores  
44813 Childrens' and Infant's Clothing Stores  
44814 Family Clothing Stores  
44815 Clothing Accessory Stores  
44819 Other Apparel Stores  
44821 Shoe Stores  
44831 Jewelry Stores  
44832 Luggage Stores  
45111 Sporting Goods Stores  
45112 Hobby, Toy, and Game Stores  
45113 Sewing and Needlecraft Stores  
45114 Musical Instrument Stores  
45121 Book Stores  
45211 Department Stores  
45291 Warehouse Superstores  
45299 Other General Merchandise Stores  
45311 Florists  
45321 Office and Stationary Stores  
45322 Gift and Souvenir Stores  
45331 Used Merchandise Stores  
45391 Pet and Pet Supply Stores  
45392 Art Dealers  
45393 Mobile Home Dealers  
45399 Other Miscellaneous Retail Stores

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45411 Mail Order and Catalog Stores  
45421 Vending Machines  
45431 Fuel Dealers  
45439 Other Direct Selling Establishments  
7211 Hotels and Other Travel Accommodations  
7212 RV Parks  
7213 Rooming and Boarding Houses  
7221 Full Service Restaurants  
7222 Limited Service Restaurants  
7223 Special Food Services and Catering  
7224 Drinking Places

Retail Gap is laid out like the Retail Potential variables shown above. For each NAICS classification, Retail Sales (from the BusinessCounts database) are deducted from Retail Potential. The Retail Gap variables have also been aggregated to three and four-digit NAICS levels as well. At the US level, most categories show a “leakage” based on the portion of retail sales estimated to go towards e-commerce. Note: For the accommodation industry categories (7211, 7212 & 7213), the sales amounts specifically refer to retail sales at these locations.

## Consumer Expenditure Methodology

The consumer expenditure database consists of a multi-level hierarchical classification of household expenditures, which covers the majority of annual household expenditures. It is derived from an extensive modeling effort using the 2013-2017 Consumer Expenditure Survey data from the Bureau of Labor Statistics. The BLS survey is a comprehensive survey that averages over 7,500 households four times a year using a rotating sampling frame. The use of several consecutive years of data provides a rich base of expenditure data from which to build expenditure models based on household demographics.

The database consists of a total of 396 base variables, which are aggregated in up to four levels of detail. A hierarchical structure is utilized throughout, so that it is possible to aggregate or disaggregate categories as required for analysis.

The survey includes a wide range of demographic attributes related to “consumer units” (generally households), which have been modeled separately for each discrete expenditure category. The older surveys were first inflated to the current price levels using the detailed consumer price

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index series. For each individual expenditure category in the survey, summary statistics were calculated for each separate element in the list below. In several cases, it was possible to utilize cross tabulation data (e.g. income by age of head of household). These variables are:

- geographic region (Northeast, South, Midwest, West)
- metropolitan status (metropolitan, non-metropolitan)
- housing tenure (owner or renter)
- age of head of household (<25 years, 25-34 years, 35-44 years, 45-54 years, 55-64 years, 65+ years)
- size of household (1 person, 2 persons, 3 persons, 4 persons, 5 persons, 6+ persons)
- household income (<5000, 5-10000, 10-15000, 15-20000, 20-30000, 30-40000, 40-50000, 50-70000, 70000+)
- race (White, Black, American Indian, Asian) and Hispanic/Non Hispanic
- number of vehicles (none, 1, 2+ vehicles per household)

The total sample was utilized to obtain an average expenditure for each item. For each expenditure item, a series of adjustment factors were derived for each unique demographic attribute. These adjustment factors were then applied to the block group level using the same demographic variables in order to create estimates at the local level, which are consistent with local characteristics. Consistency checks were undertaken in order to ensure that the results at the block group level were consistent in the aggregate with overall income levels and published expenditures. Finally, the estimates were inflated using detailed consumer price indexes to current levels.

In total, there are 396 detail categories that can be aggregated using the field name. The field name will in all cases begin with the three-character sequence XCY (for an average expenditure) or TCY (for total geographic area expenditure) in order to distinguish these variables from those of other databases and from other years. The next two characters are the major group (e.g. AP for apparel). The primary detail level is a one-digit number (e.g. AP1 is men's apparel). Two sequences of two digits then follow to indicate the remaining two levels of potential detail. The entire variable list is included in the file layout section.

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In addition to providing average household expenditures, AGS also provides total market estimates for use in market share and demand analysis.

## Retail Potential Methodology

The primary data sources used in the construction of **Retail Potential** include:

- Current year AGS Consumer Expenditure Estimates
- 2012 Census of Retail Trade, Merchandise Line Sales
- 2017 Annual Retail Trade Survey

The Census of Retail Trade presents a table known as the Merchandise Line summary, which relates approximately 120 merchandise lines (e.g. hardware) to each of the store types. For each merchandise line, the distribution of sales by store type can be computed, yielding a conversion table which apportions merchandise line sales by store type.

The AGS Consumer Expenditure database was re-computed to these merchandise lines by aggregating both whole and partial categories, yielding, at the block group level, a series of merchandise line estimates which are consistent with the AGS Consumer Expenditure database.

These two components were then combined in order to derive estimated potential by store type. The results were then compared to current retail trade statistics to ensure consistency and completeness.

## Retail Gap Methodology

Retail Gap is created using the Retail Potential database (above) and the Retail Sales database. The specific methodologies for Retail Sales can be found in the "Business Counts" documentation

## Data Sources

2013-2017 Bureau of Labor Statistics Consumer Expenditure Survey  
2012 Census of Retail Trade, Merchandise Line Sales  
2017 Annual Retail Trade Survey  
2017 Services Annual Survey  
2016 County Business Patterns

## Further Information

Contact customer service at 877-944-4AGS or email [support@appliedgeographic.com](mailto:support@appliedgeographic.com).