How does consumer spending differ among households in California, Texas, and New York? A new BLS data product can tell us

By Taylor J. Wilson and Jimmy Choi

For the first time, Bureau of Labor Statistics (BLS) data users can now explore consumer spending by state. The BLS Consumer Expenditure Surveys (CE) program has published the first-ever statistically valid state-level weights, a useful data expansion for policymakers, academics, and consumers who want to evaluate public policy and answer economic questions about household spending within state economies. The state-level CE weights for

New Jersey, California, and Florida were published with the release of the 2016 public-use microdata (PUMD), followed by the addition of New York and Texas for the 2017 data.[1]

The BLS CE program conducts diary and interview surveys to collect and publish expenditure data for the nation, the four census regions, nine census divisions, and selected metropolitan statistical areas (MSAs). Expenditure data by state was notably missing from this list. Researchers can compute expenditures for different demographics, such as age or family size. The PUMD contain a state-level identifier for each consumer unit, but only sample statistics can be generated for these states, not weighted state-level means.[2]

This **Beyond the Numbers** article shows some ways that new CE information can be used. By focusing on the 2017 state expenditure profiles for California, Texas, and New York, we will explore how expenditure patterns differ among the households of these states. According to the 2010 U.S. Census, these were the nation's three largest states, with a combined population of 81.8 million, representing 26 percent of the total U.S. population. First, we will look at the national household "budget share" of goods and services to show how spending differs across categories.[3] For example, what do Americans spend on housing versus apparel? Then, we'll compare national household shares to the consumer budget shares in each state. The results show that many items differ because of specific circumstances in each state while a few items are the same.

National household estimates

Before examining the state-level consumer expenditure profiles, let's first look at the national household estimates, by major expenditure category for 2017, which can provide context for comparison. All of the national estimates can be found directly on the published CE annual tables. Chart 1 summarizes the major expenditure category means and the shares of total expenditures.

The largest component of national expenditures is housing, accounting for a third of the household budget (33 percent). The second largest category, transportation, accounts for only half that share (16 percent). Like the housing category, transportation includes a large number of items, such as vehicles and public transportation. The food category, split between food at home (such as groceries) and food away from home (such as food at restaurants), is the third largest component of the household budget (13 percent). For the average U.S. household, food at home is a larger expense than food away from home, but as a percentage of the household budget, these expenses take up a similar share (6 to 7 percent each). Chart 1 displays national household budget shares.

Chart 1. Shares of total household expenditures in the United States, California, Texas, and New York, by category, 2017
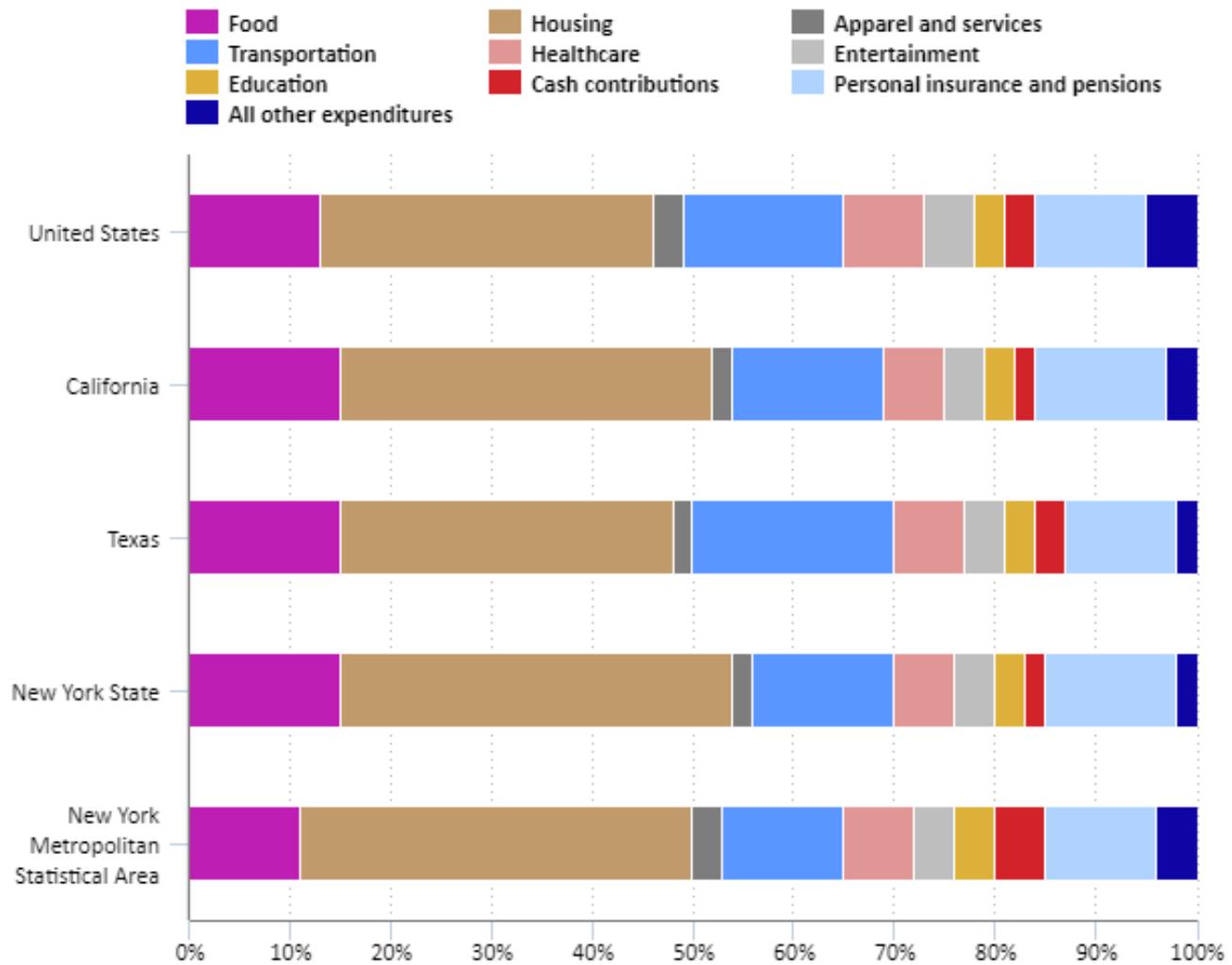
Click legend items to change data display. Hover over chart to view data.
Source: U.S. Bureau of Labor Statistics.

California estimates

California is the largest state by population, with approximately 39 million residents. (For reference, Canada has a population of 37 million.)[4] According to the Department of Commerce, California is the world's 5th largest economy by total nominal GDP.[5] Statistically valid consumer expenditure estimates are crucial to understanding this state's economy. California contains the largest number of sampled households of any state, meaning that the reported means are expected to be more precise than states that have less data available. Chart 1 summarizes the major expenditure category means and the shares of total expenditures.

California's data include San Francisco, the most expensive city for housing in the country according to the California Metropolitan Transportation Commission.[6] This is part of the reason that the housing expenditures in California are so much higher than the national average. While the average U.S. consumer unit spends about 33

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percent of its budget on housing, Californians spend 37 percent on housing. This does not result in a direct reduction in just one other category. Instead, Californians are tightening their belts in apparel and services and tightening their seatbelts in transportation. They also spend less than the national average on healthcare, entertainment, cash contributions, and miscellaneous expenditures.

Californians also report higher budget shares for food, education, and personal insurance and pension expenditures, compared with the national averages. However, the numbers for these categories are higher for 2017 by a comparatively small amount. As additional weights for the state of California are produced each year, these ratios can be evaluated over time to determine how stable they are, compared with the national averages. Chart 1 displays the budget shares of households in California.

Texas estimates

Texas is the largest state by land area in the contiguous United States and has the second highest population of the 50 U.S. states. Texas enjoyed the largest GDP growth of any state in the last quarter of 2018, according to the most recent data available from the Bureau of Economic Analysis.[7] As Texas continues to grow in both population and resources, how those resources are used can tell us a lot about how Texas households interact in the economy. Chart 1 summarizes the major expenditure category means and the shares of total expenditures.

In Texas, housing expenditures, as a share of the total budget, are the same as the nation overall. One interesting category that sets the Texas budget share apart from the overall U.S. budget share is transportation. This broad category contains everything from public transportation to new cars and trucks. Compared with the national share of 16 percent, Texans spend 20 percent of their annual budgets on transportation. Due in part to Texas's large size, the state has more lane miles of roadway than any other state according to the Federal Highway Administration; California comes in second with 60 percent as many lane miles of roadway as Texas.[8] Public transit is sparse in the state, so most of this expenditure is coming from vehicle-related expenses.[9] Other than transportation, few expenditures deviate by more than 1 percent from the national share; only food and miscellaneous expenditures differ by 2 percent. Notably, despite the low deviations in the shares, Texas has smaller absolute amounts for nearly all expenditures, compared with the national averages with just two exceptions: food and transportation. Chart 1 displays the budget share of Texas households.

New York estimates

New York, the third largest state in the United States as of the 2010 Census, contains New York City, the nation's largest city. New York State is often overlooked in favor of a focus on New York City and the behaviors of its consumers. The New York State weights allow researchers to look at the state as a whole. However, the overall state averages will still undoubtedly be heavily influenced by the New York City averages because it is not possible, given the data and weights available, to look at just the upstate communities. Using CE data, we see that the results of the state weights can be compared with the New York metropolitan statistical area (MSA) to understand how the state averages differ from the New York City means. The reality is that New York City and the surrounding counties present an entirely different expenditure profile from the upstate New York communities. Averaging them together in this way produces values that are representative of neither individually but reflect the two distinct price environments present in the state. Chart 1 summarizes the major expenditure category means and the shares of total expenditures.

The New York State household budget share is dominated by housing costs. Compared with the national average of 33 percent, New York State consumers spend almost 39 percent of their budget on housing. This percentage is heavily influenced by the high housing costs in New York City and the surrounding counties. According to the IRS and state taxation department data, Westchester County and Rockland County, both located in the New York City MSA, have the highest property taxes in terms of dollars paid of any county in the nation; Nassau County on Long Island, in the New York City MSA, is also in the top 10.[10] Because property taxes are included in the CE survey as housing expenditures, they translate directly into housing expenditures paid by New York State consumers, thereby increasing the average for the state considerably. As we've seen in other states, consumers do not reduce consumption in just one other category to accommodate for a larger single expenditure. Instead, they draw down a number of expenditures in roughly equal amounts. In New York, notable exceptions include education, food, and personal insurance, which all are higher than the national average by a small margin. The remaining expenditures are less than the national average by a small margin, which helps consumers to shoulder the burden of larger housing expenses in the state. According to the published tables, the New York City MSA has an average total expenditure of $67,782, compared with the state estimate of $59,323.[11] Chart 1 displays the New York household budget shares.

State comparisons with the national average

How did the household budgets in California, Texas and New York compare with the national average? Looking at household budgets, together with the national average, gives us a better view of where household spending is the highest and lowest. Table 5 shows household budget shares for the three states, compared with the national budget share. Each state's column represents that state's budget share. A blue box indicates spending share below the national share and a red box indicates spending share above the national share.

Table 1. State-level budget shares compared with the national budget share, 2017

Expenditure category	National share	California share	Texas share	New York share
Average annual expenditure	$60,060	$64,333	$54,908	$59,323
Food	13	15	15	15
Food at home	7	10	10	10
Food away from home	6	5	5	5
Housing	33	37	33	39
Apparel and services	3	2	2	2
Transportation	16	15	20	14
Healthcare	8	6	7	6
Entertainment	5	4	4	4
Education	2	3	3	3
Cash contributions	3	2	3	2
Personal insurance and pensions	11	13	11	13
Pensions and Social Security	11	12	10	12
All other expenditures	5	3	3	3

Source: U.S. Bureau of Labor Statistics.

Significance of the new data product

The three states highlighted in this study have unique characteristics that influence consumer spending habits: California has high housing costs in all three large metro areas, relative to the rest of the United States (compared with New York which has high housing costs in just one metro area), Texas has high transportation spending, and New York has dual price environments.[12]

Recent innovation with state-level weighting now allows us to analyze CE data at the state level. As state-level weights are calculated and published for additional states, more of these lower level geographies can be examined directly. [13] At this stage, only cross-sectional analyses (meaning at a single point in time) are possible but, eventually, it will be possible to use state-level weights to measure changes in expenditure patterns in many states across time. This is of direct interest to policymakers, academics, and the consumer populations of these geographies who will be able to engage in dynamic, rather than only static, analyses once multiple years of data become available.

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NOTES

[1] State-level estimates can be computed using the state weights available in the public-use micro data. The CE program does not produce these estimates regularly in a tabular format but provides the information for users to perform their own analyses. For more information on how to use the Consumer Expenditures state weights of public-use microdata, go to https://www.bls.gov/cex/ce-state-weights-public-use-microdata.htm

[2] A consumer unit is made up of: (1) all members of a particular household who are related by blood, marriage, adoption, or other legal arrangements; (2) a person living alone or sharing a household with others or living as a roomer in a private home or lodging house or in permanent living quarters in a hotel or motel, but who is financially independent; or (3) two or more persons living together who use their income to make joint expenditure decisions. The sum of CE population weights are designed to equal the total population of consumer units for that weight.

[3] The national budget share is used to help define the cost weights for the Consumer Price Index (CPI).

[4] "Population – Canada at a Glance 2018" (Statistics Canada, March 27, 2018), https://www150.statcan.gc.ca/n1/pub/12-581-x/2018000/pop-eng.htm.

[5] "Gross Domestic Product by State: Second Quarter 2018" (Bureau of Economic Analysis, November 14, 2018), https://www.bea.gov/system/files/2018-11/qgdpstate1118.pdf.

[6] Vital Signs – Home Prices" (California Metropolitan Transportation Commission, January 2017), https://www.vitalsigns.mtc.ca.gov/home-prices.

[7] "Gross Domestic Product by State: Fourth Quarter and Annual 2018" (Bureau of Economic Analysis, May 1, 2019), https://www.bea.gov/news/2019/gross-domestic-product-state-fourth-quarter-and-annual-2018.

[8] "Highway Statistics 2017" (U.S. Department of Transportation, November 27, 2018), https://www.fhwa.dot.gov/policyinformation/statistics/2017/hm60.cfm.

[9] Compared with both New York State and California, Texas has no rapid transit system in the top 20 largest transit systems. New York has three (NYC Subway, Staten Island Rail, and PATH). California has two (San Francisco's BART and Los Angeles's Metro Rail). For more information see https://www.apta.com/wp-content/uploads/2018-Q4-Ridership-APTA.pdf.

[10] State revenues website listing (Internal Revenue Service, November 29, 2018), https://www.irs.gov/tax-professionals/government-sites.

[11] "Table 3004. Selected northeastern metropolitan statistical areas: Average annual expenditures and characteristics, Consumer Expenditure Survey, 2016-2017" (U.S. Bureau of Labor Statistics, September 2018), https://www.bls.gov/cex/2017/msas/norteast.pdf.

[12] "Table 3033. Selected western metropolitan statistical areas: Average annual expenditures and characteristics, Consumer Expenditure Survey, 2016-2017" (U.S. Bureau of Labor Statistics, September 2018), https://www.bls.gov/cex/2017/msas/west.pdf.

[13] Going forward, BLS plans to produce annual state-level weights for California, Florida, New Jersey, New York, and Texas. There is potential for future states if interest in the product is sufficient to justify their creation. For more information, see the State Weight Files webpage (U.S. Bureau of Labor Statistics, May 24, 2019), https://www.bls.gov/cex/csxresearchtables.htm#stateweights.