

Consumer Expenditure Survey: is it worth expending energy on and need it consume our time?

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The Consumer Expenditure Survey (CE), conducted by the Bureau of Labor Statistics (BLS), is the source of weights for the agency's Consumer Price Index (CPI), as well as the chief source of information on the U.S. population's expenditures on consumption. Since at least as far back as 1987, questions have been raised about the validity of CE data. Comparisons have been made with other data sources, with mixed results. In "The validity of consumption data: are the Consumer Expenditure Interview and Diary Surveys informative?" (National Bureau of Economic Research, working paper 18303, August 2012, <http://www.nber.org/papers/w18308>), Adam Bee, Bruce D. Meyer, and James X. Sullivan show that the Interview and Diary Surveys—the two components of the CE—each fare quite differently in a comparison with the Personal Consumption Expenditure (PCE) Price Index from the National Income and Product Accounts, which is produced by the U.S. Bureau of Economic Analysis.

After accounting for conceptual incompatibilities and the fact that PCE aggregates do not necessarily reflect true total spending, the authors examine 46 PCE categories that they deem comparable to corresponding CE categories. Their analysis shows that the Interview Survey does well, yielding high ratios of expenditures relative to the PCE for some of the largest categories of consumption: rent on owner occupied housing, rent and utilities, food at home, gasoline and other energy goods, new motor vehicles, and communication. Moreover, the ratios have remained stable over time. Only for certain categories involving small, irregular purchases does the Interview Survey do poorly. By contrast, the Diary Survey does poorly overall: in no major category does it have a higher ratio to the PCE than the Interview Survey, and in no major category is the ratio both high and stable.

But the dominance of the Interview Survey goes further. An examination of the precision of the CE data through coefficients of variation shows that these are appreciably higher in the Diary Survey than in the Interview Survey, indicating that data collected from the latter are considerably more precise than data collected from the former. Also, 72 percent of Diary Survey respondents reported no spending on rent and utilities, compared with 2 percent of Interview Survey respondents, and, over time, the Diary Survey had a high and increasing percentage of respondents who reported no spending for all categories. (Over time, the Interview Survey, too, had an increasing percentage of respondents who reported no spending for all categories, but the increase was not as pronounced.) The reason that reports of no spending make the survey results less accurate is that a substantial proportion of such reports is likely due to failure to report actual spending for one reason or another and all reports, including reports of no spending, enter into the calculations of expenditures. Because the Diary Survey has many more reports of no spending than the Interview Survey does, it is less precise than the Interview Survey.

In the last part of their analysis, the authors investigate whether and to what degree the CE sample is a representative one. To evaluate representativeness, they compare the distribution of household characteristics in the CE with that in the Current Population Survey (CPS), produced by the Census Bureau for the BLS. They find that the CE is no less representative than the CPS. Although other researchers have found that the top 4 or 5 percentiles of income are slightly underrepresented and the bottom few percentiles are not, Bee, Meyer, and Sullivan point out that this slight departure from representativeness has implications for how CE data are appropriately used.

In this regard, the underrepresentation at the top of the income distribution, especially as it varies considerably across expenditure categories, introduces bias into the CE, making uses of the data that rely on aggregates likely to be biased as well. Thus, changes in the relative reporting of different types of goods translate into bias in the CPI. But the situation is by no means bleak: as mentioned earlier, certain categories of expenditures—especially the larger ones—are well measured, particularly in the Interview Survey, so research that relies on those categories is appropriate. Also, research on poverty is appropriate because such research examines the bottom of the income distribution and the underrepresentation at the top is irrelevant. By contrast, the appropriateness of research into inequality varies: statistics that do not depend heavily on the top few percentiles of the distribution, such as 90-10 ratios, will yield fruitful results, whereas those which do, such as variances and Gini coefficients, will not. In sum, done discriminately, research using the Consumer Expenditure Survey is worth our expenditure of energy and need not be an inordinate consumer of our time.