

## How Useful Are Consumer Surveys as Macroeconomic Indicators?

By Roy H. Webb

**Most economic indicators attempt to summarize what happened at a particular time in the past. Consumer surveys, however, examine attitudes and are thus fundamentally different from other widely reported indicators. Some surveys, such as those that measure inflation expectations, have proven to be useful to economists and policymakers, while the evidence is more mixed for others, such as forecasts of consumer spending.**

Every month readers are bombarded with bits of data that, taken as a whole, can give a coherent picture of the economy. The data are a backward-looking record of what actually happened; thus, for example, industrial production looks at the gross value of production during a particular time period in the past. A different type of information comes from consumer surveys, in which consumer attitudes and forward-looking intentions are gauged.

Several private organizations systematically collect and publish information on consumer attitudes. The longest-running survey is published by the University of Michigan's Survey Research Center, founded in 1946. Its Index of Consumer Sentiment is a widely reported monthly snapshot of consumer attitudes. It is based on the answers to five questions, two that ask about current economic conditions and three that ask about future conditions. These questions, along with an overview of survey methodology, are reprinted at the end of this article.

Figure 1 depicts values of the Index of Consumer Sentiment for more than a half century, with periods of recession shaded. The chart reveals a good deal of short-term volatility in the index,

which is typical of macroeconomic indicators. Apart from that short-term volatility, the index has a clear pattern. The index tends to rise as the economy shifts from recession to recovery, and often attains its peak value by the time each cyclical expansion is half complete. It then declines, gradually at first, but becoming steeper as recession approaches. It will often bottom out before the overall economy hits its low point at the end of a recession. While there are exceptions to these general tendencies, the exceptions are few enough to make the index well worth watching for observers tracking cyclical movements in the economy at large.

Economists also have investigated the use of the information from consumer surveys to make quantitative statements about how the economy functions or to forecast macroeconomic aggregates. The results have been mixed. For example, in a widely cited 1994 article, Christopher Carroll, Jeffrey Fuhrer, and David Wilcox posed two questions. First, they found that knowledge of the Index of Consumer Sentiment by itself could help predict future personal consumption expenditure. In addition, they examined a more demanding two-step procedure, first predicting consumer spending with other indicators and then asking

whether adding the Index of Consumer Sentiment improved predictions. Their evidence suggested modest incremental explanatory power from the Index of Consumer Sentiment.<sup>1</sup>

Yash Mehra and Elliot Martin of the Richmond Fed, however, have argued that the latter result was not robust to the choice of other variables. In fact, they found that the Index of Consumer Sentiment did not add significant predictive power once real income and interest rates were included in an equation for predicting personal consumption expenditure.<sup>2</sup>

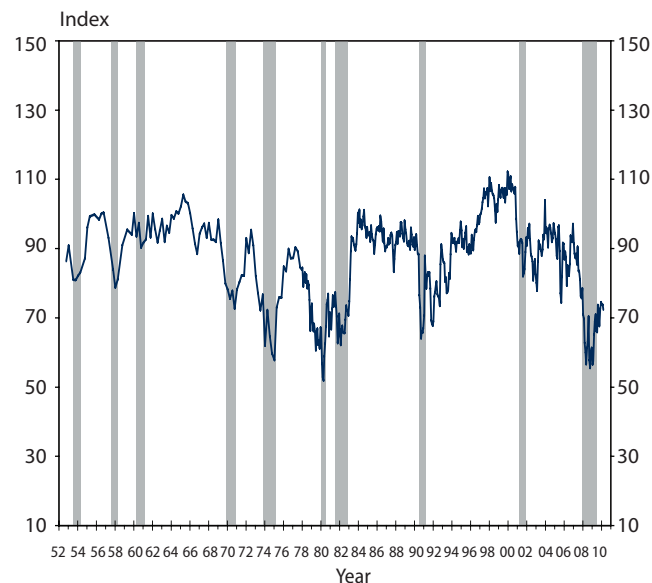
Another critique of the empirical literature linking consumer spending and the Index of Consumer Sentiment was made by Dean Croushore. He noted that when estimates of consumer spending and related data are first published by the Bureau of Economic Analysis, those estimates are based on incomplete source data. As new source data are received, the Bureau revises the original estimates and publishes new ones. Also, on occasion, new statistical procedures are introduced that will cause the estimates to be further revised. Thus it is not unusual to see large

revisions after the initial estimates are published. Croushore then argued that statistical analysis of consumer spending should account for that common practice by using real-time data, that is, data that would have been available to consumers at the time they made spending decisions. Importantly, consumers making a decision today would not have access to data revisions that will be made in the future. After using real-time data to analyze the linkage of consumer spending and the Index of Consumer Sentiment, he concluded: "If you are forecasting consumer spending for the next quarter, you should use data on past consumer spending and stock prices and ignore data on consumer confidence."<sup>3</sup>

To summarize, despite the intuitive appeal of using consumer survey data for quantitative forecasts of consumer spending, it is not obvious that the survey data provide much value in that exercise. At the same time, the Index of Consumer Sentiment does move in a predictable fashion over the business cycle and should be useful for anyone tracking the business cycle.

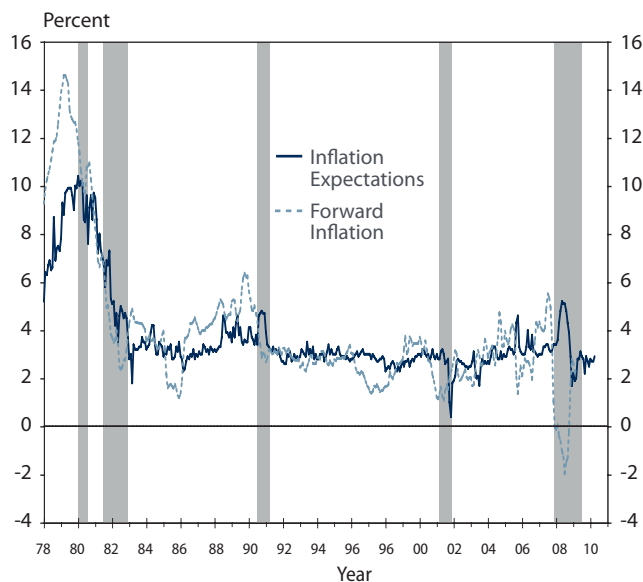
In addition to the value of linking consumer survey information with macroeconomic aggregates, the consumer attitudes themselves can be of interest to economists. When members of the Federal Reserve's Open Market Committee make policy decisions, it is often important to understand what consumers expect inflation to be in the future. For example, suppose that long-term interest rates have just risen sharply. How should that be interpreted? There are several possibilities. One is that the prospect of higher productivity growth was raising the trajectory of expected future income, and on that basis consumers were more willing to borrow and spend today, thereby pushing interest rates higher. Another is that individuals were increasingly coming to believe that the Federal Reserve would not respond aggressively to incipient increases in inflation, which would build an inflationary premium into long-term interest rates. Distinguishing between these competing hypotheses is crucial for setting monetary policy. Having a reliable measure of the public's inflation expectations is thus of prime importance to policymakers.

Figure 1: Index of Consumer Sentiment



Sources: University of Michigan, Haver Analytics.  
Note: Observations are every other month until 1978, and monthly thereafter. The end of the last recession had not been officially determined when this chart was prepared; the shading ends in June 2009.

Figure 2: Inflation and Inflation Expectations



Sources: University of Michigan, Bureau of Labor Statistics, Haver Analytics.

Note: Inflation expectations series is the median one-year-ahead inflation rate from the University of Michigan consumer sentiment survey. Forward inflation is the 12-month-forward percent change in the consumer price index. The end of the last recession had not been officially determined when this chart was prepared; the shading ends in June 2009.

The survey data on inflation expectations are used to construct both short- and long-term measures of inflation expectations. Figure 2 shows the median one-year-ahead inflation expectations. In general, the expectations seem to track the realization of inflation, as measured by changes in the Consumer Price Index. However, two large misses are notable: an underestimation of inflation in the late 1970s and an overestimation of inflation in 2008. In both periods, extreme movements in crude oil prices made inflation especially difficult to forecast. After those events, though, consumer inflation expectations again became better aligned with inflation outcomes.

While the graph is suggestive, more formal studies have examined the inflation forecasting properties of consumer survey data. For example, Andrew Ang, Geert Bekaert, and Min Wei found that “participants in the Michigan survey who are consumers, not professionals, produce accurate out-of-sample forecasts [of inflation]... .” Their positive finding is based on a comparison of consumer survey data with inflation

forecasts generated with widely used procedures, as well as with surveys of professional forecasters. Thus economic analysts who wish to understand inflation expectations should note the latest consumer survey data.<sup>4</sup>

In brief, the University of Michigan survey of consumer attitudes produces valuable information for macroeconomic analysts. Survey data can be used to track business cycles and analyze inflation expectations. This positive conclusion may surprise a few readers, in that some prefer “hard” numbers reflecting well-defined actions to “soft” attitudinal data. The success of this particular survey suggests that analysts could find other survey data useful as well. ■

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## Endnotes

- <sup>1</sup> Christopher D. Carroll, Jeffrey Fuhrer, and David W. Wilcox, “Does Consumer Sentiment Forecast Household Spending? If so, Why?” *American Economic Review*, vol. 84, no. 5, December 1994, pp. 1,397-1,408.
- <sup>2</sup> Yash P. Mehra and Elliot W. Martin, “Why Does Consumer Sentiment Predict Household Spending?” Federal Reserve Bank of Richmond *Economic Quarterly*, Fall 2003, vol. 89, no. 4, pp. 51-67.
- <sup>3</sup> Dean Croushore, “Consumer Confidence Surveys: Can They Help us Forecast Consumer Spending in Real Time?” Federal Reserve Bank of Philadelphia *Business Review*, Third Quarter 2006, pp. 1-9.
- <sup>4</sup> Andrew Ang, Geert Bekaert, and Min Wei, “Do Macro Variables, Asset Markets, or Surveys Forecast Inflation Better?” Federal Reserve Board of Governors Finance and Economics Discussion Series no. 2006-15.
- <sup>5</sup> The complete survey is available at: <http://www.sca.isr.umich.edu/>

## The Index of Consumer Sentiment

Every month analysts conduct a phone survey, designed to be representative of the United States, of at least 500 households, excluding Alaska and Hawaii. The answers to the following five questions are used to calculate the Index of Consumer Sentiment.

1. We are interested in how people are getting along financially these days. Would you say that you (and your family living there) are *better off* or *worse off* financially than you were *a year ago*?
2. Now looking ahead — do you think that *a year from now* you (and your family living there) will be *better off* financially, or *worse off*, or just about the same as now?
3. Now turning to business conditions in the country as a whole — do you think that during the *next twelve months* we'll have *good* times financially, or *bad* times, or what?
4. Looking ahead, which would you say is more likely — that in the country as a whole we'll have continuous good times during the *next five years* or so, or that we will have periods of widespread unemployment or depression, or what?
5. About the big things people buy for their homes — such as furniture, a refrigerator, stove, television, and things like that. Generally speaking, do you think now is a *good* or *bad* time for people to buy major household items?

Other questions are asked in the monthly survey tracking various aspects of consumer attitudes and expectations. Of particular interest for this article are the main questions that form the basis for published values of inflation expectations.

- During the *next 12 months*, do you think that *prices in general* will go up, or go down, or stay where they are now?
- By about what percent do you expect prices to go (up/down) on the average, during the *next 12 months*? What about the outlook for prices over the *next 5 to 10 years*? Do you think prices will be higher, about the same, or lower, 5 to 10 years from now?
- By about what percent *per year* do you expect prices to go (up/down) on the average, during the *next 5 to 10 years*?

