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Causes and Effects of Consumer Sentiment

George Katona (1975), who pioneered the development and use of the Michigan index of consumer sentiment, argued that while a purely mechanistic view of consumer behavior sometimes may be correct, it is not necessarily always correct. Therefore, he believed that survey measures of consumer attitudes could contribute significantly to both forecasts of consumer spending on durables and a fuller understanding of consumer behavior.

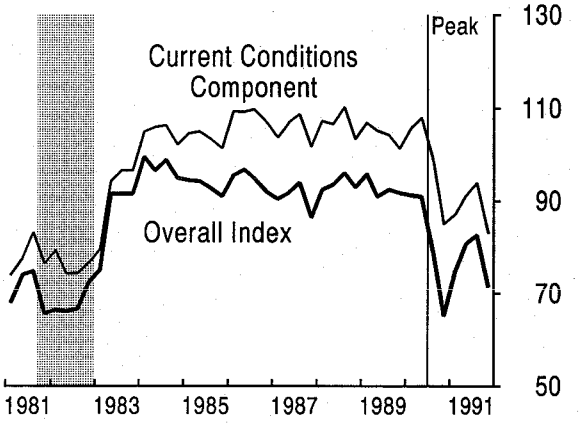
This *Weekly Letter* reports on some recent research on this issue (Throop 1992). This research finds that consumer sentiment does have a significant influence on household purchases of durable goods. Normally, however, consumer sentiment moves with current economic conditions and bears a stable relationship to a few economic variables. In this sense consumers usually do behave mechanistically. But at times of an unusual event, like the Gulf War, consumer sentiment can move independently from current economic conditions. At such times, surveys of sentiment provide useful information about future consumer expenditures on durables that is not otherwise available.

Effects of consumer sentiment

The Michigan index of consumer sentiment, shown in Chart 1, is based on responses to five different questions, with equal weight given to each. The responses to two of the questions constitute the current conditions component of the index (also shown in Chart 1). One question asks whether the household is better off or worse off financially than a year ago, and the other asks whether it is a good or bad time to buy a major household item. The responses to the remaining three questions make up the expected conditions component of the index. These questions cover expectations of the households' financial position and the economic condition of the country in the future.

Chart 1

Michigan Index of Consumer Sentiment



Shaded area denotes the 1981-82 recession; the peak line indicates the beginning of the 1990-91 recession.

To evaluate the usefulness of consumer sentiment, or its components, for forecasting consumer expenditures, I estimated a vector error correction model of consumer sentiment, consumer expenditures on durables, expenditures on nondurables and services, household disposable income, and short-term interest rates for the period 1963–1975; this model incorporates short-run relationships among changes in these variables, as well as long-run relationships among their levels. Since the current change in any variable is estimated as a function of past values of all the variables, this model can be used to make *ex ante* forecasts using only information prior to the forecast period.

The results indicate that sentiment helps to explain spending on durables, but has no explanatory power for consumer purchases of nondurables and services. Including the *overall* index of consumer sentiment in the model reduces forecast errors for durables over the 1976–1989 forecast period by 8 to 20 percent, depending on the

forecast horizon. But including just the *current conditions* component of the sentiment index produces forecast errors that are 20 to 35 percent lower. Thus, over the 1976–1989 forecast period, the current conditions component of the Michigan index of consumer sentiment is distinctly superior to the overall index in forecasting consumer expenditures on durables.

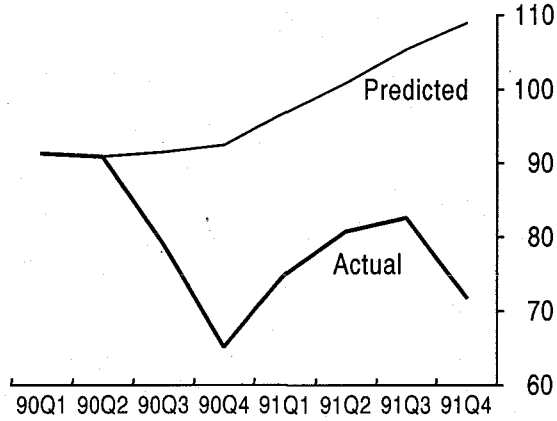
Consumer sentiment—usual circumstances
The model indicates that, in most circumstances, changes in consumer sentiment—both the overall index and the current conditions component—can be forecast simply from past changes in interest rates. This result supports the notion that consumer attitudes generally do respond mechanistically to current economic conditions.

A more complex error correction model of consumer sentiment revealed basically the same result. The variables considered for the complex model included household assets and liabilities, changes in stock prices, the rate of inflation, the unemployment rate or its rate of change, the real price of oil or its rate of change, as well as interest rates; but the only ones that appear closely related to sentiment (either the overall index or the current conditions component) in the long run are the inflation rate and the civilian unemployment rate. The higher the inflation rate or the unemployment rate, the lower is the level of consumer sentiment in the long run. In the complex model, sentiment responds gradually to these two variables. For example, only 25 percent of the effect of a change in unemployment occurs within the first quarter. In addition, in the complex model short run changes in sentiment normally are both strongly and inversely related to changes in interest rates and changes in the unemployment rate, as well as being affected by past changes in sentiment itself.

Over the 1976-1989 period the complex model of consumer sentiment forecasts household purchases of durables about as well as the simple model does (even though realized values of inflation and unemployment were used). Moreover, using the actual realized value of sentiment (either the overall index or the current conditions component) in the system does not reduce forecast errors below those obtained by explaining sentiment with economic variables. Thus, the index of consumer sentiment, or its components, normally does not contain any more relevant information about consumer attitudes than is already available in a small set of readily available economic variables.

Consumer sentiment—unusual circumstances
Although a model based purely on economic variables normally does a good job of predicting changes in consumer sentiment, during the period of the Gulf War and thereafter it broke down. This is shown for the overall index of sentiment in Chart 2. The complex statistical model of sentiment was estimated through 1990.Q2. Then the change in consumer sentiment was predicted over subsequent quarters on the basis of actual future values of unemployment, inflation, and interest rates. The actual index of sentiment dropped precipitously through 1990.Q4 with Iraq's invasion of Kuwait, then partially recovered through 1991.Q3 following the allied victory, but then dropped sharply again in 1991.Q4. In contrast, the predicted value of sentiment rose continuously in this period, as the predicted effects of falling interest rates and declining inflation dominated over that of rising unemployment. (Prediction errors using the simple model of sentiment explaining it just with interest rates are even larger).

Chart 2
Consumer Sentiment



During the Gulf War when actual values of consumer sentiment diverged from values predicted by interest rates, inflation, and unemployment, consumer expenditures on durables tended to follow the actual path of sentiment. Also, in this period the broader overall index of consumer sentiment produced lower forecast errors than the narrower current conditions component, contrary to the normal pattern. The likely explanation is that the Gulf War significantly altered

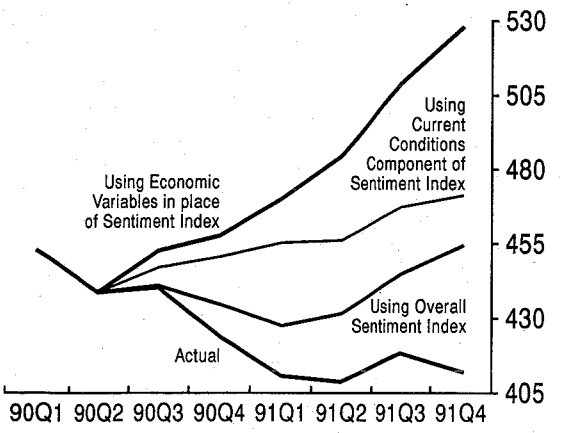
expectations of future economic conditions relative to current economic conditions. Whereas household perceptions of current and expected future conditions normally tend to move relatively closely together, in the second half of 1990 the Michigan index of expected conditions dropped much more sharply than the index of current conditions did.

The superiority of the overall index of consumer sentiment for measuring consumer attitudes during the Gulf War is most clearly seen in the predictions for consumer durables, using actual realized values of all the explanatory variables, as shown in Chart 3. The prediction of durables purchases using the overall index follows the actual decline in spending relatively closely. In contrast, predictions using the current conditions component of the index actually show a small increase in spending, with the predicted effect of falling interest rates on durables purchases tending to offset the effect of the decline in the current conditions component of sentiment. Finally, predictions using only the three economic variables show even larger increases in spending because of an even greater dominance of interest rate effects.

Chart 3

Predicted Expenditures on Consumer Durables

Billions of 1987 Dollars



In the period following the Gulf War, survey values of consumer sentiment have continued to diverge from the economic variables that usually explain it. For example, in 1991.Q4 the sentiment index once again dropped precipitously, but the predicted value of sentiment rose. In this period, consumer sentiment appears to have been driven by economic variables, but not in the usual way. Thus, for example, the percent of the people surveyed by the University of Michigan who had heard "bad news" jumped by as much as it had during the Gulf War, even though inflation, unemployment and interest rates changed relatively little. How long this divergence between consumer sentiment and the usual economic variables lasts remains to be seen.

Conclusion

Consumer attitudes that influence expenditures on durable goods normally are driven by the current state of the economy, as reflected in unemployment, inflation, and interest rates. As a result, using either the current conditions component of the sentiment index or the three economic variables that usually are closely related to it normally produces forecasts of consumer durables that are superior to other forecast specifications. The economic variables have an advantage, in that they can be forecast as a part of the general economic outlook.

The period during and following the Gulf War, however, is an excellent example of a case in which consumer attitudes have not mechanistically followed movements in current economic variables. Other similar episodes that I have been able to identify are Nixon wage and price controls, the 1973–74 oil embargo, the 1987 stock market crash, and Carter credit controls. Since consumer attitudes affect consumer spending on durable goods for several quarters into the future, at such times the survey of consumer sentiment can contribute significantly to the accuracy of forecasts of durables purchases.

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Index to Recent Issues of *FRBSF Weekly Letter*

DATE	NUMBER	TITLE	AUTHOR
11/1	91-38	Bank Stock Risk and Return	Neuberger
11/8	91-39	The False Hope of the Narrow Bank	Pozdena
11/15	91-40	The Regional Concentration of Recessions	Cromwell
11/22	91-41	Real Wages in the 1980s	Trehan
11/29	91-42	Solving the Mystery of High Credit Card Rates	Pozdena
12/13	91-43	The Independence of Central Banks	Kim
12/20	91-44	Taxpayer Risk in Mortgage Policy	Martin/Pozdena
1/3	92-01	The Problem of Weak Credit Markets	Parry
1/10	92-02	Risk-Based Capital Standards and Bank Portfolios	Neuberger
1/17	92-03	Investment Decisions in a Water Market	Schmidt/Cannon
1/24	92-04	Red Ink	Zimmerman
1/31	92-05	Presidential Popularity, Presidential Policies	Walsh/Newman
2/7	92-06	Progress in Retail Payments	Laderman
2/14	92-07	Services: A Future of Low Productivity Growth?	Schmidt
2/21	92-08	District Agricultural Outlook	Dean
2/28	92-09	The Product Life Cycle and the Electronic Components Industry	Sherwood-Call
3/6	92-10	Japan's Recessions	Moreno
3/13	92-11	Will the Real "Real GDP" Please Stand Up?	Motley
3/20	92-12	Foreign Direct Investment: Gift Horse or Trojan Horse?	Kim
3/27	92-13	U.S. International Trade and Competitiveness	Glick
4/3	92-14	Utah Bucks the Recession	Cromwell
4/10	92-15	Monetary Announcements: The Bank of Japan and the Fed	Hutchison/Judd

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