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Business Indicators That Mislead Forecasters

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The business cycle has considerable influence on economic forecasts. When we examine past projections of real gross domestic product (GDP) for the succeeding fiscal year (April to March), we find that during upturns the actual results exceed the forecasts, while during downturns they fall below them.

We performed an efficiency test to determine whether all information on business indicators had been incorporated in the projected values. Our finding was that there are a number of indicators that tend to mislead forecasters. For example, when indices of durable consumer goods shipments and consumer attitudes show signs of improvement, favorable trends will not necessarily continue through the next fiscal year. Often they do not, and results contrary to expectations come about.

Linkage between Forecast Error and Business Tone

The errors in real GDP forecasts (actual minus predicted values) are strongly influenced by the phase of the business cycle. Of the total forecast period (from the October–December quarter of the fiscal year in which the forecast is made through the January–March quarter of the next fiscal year), let us call the portion covered by a business upturn the expansionary phase ratio. A strong correlation exists between this ratio and forecast errors.

The data we used in our study were forecasts from fiscal 1982 to fiscal 2006 made by 14 forecasting institutions. We found that during business upturns, actual economic growth rates exceeded projections by about 1 percentage point, and when a business downturn persisted, actual rates fell below forecasts by about 2 percentage points.

Looking at the statistics, we can see that forecasters had difficulty predicting whether the business cycle would change directions during a particular forecast period. Economic growth greatly decelerated during fiscal 1997 and 1998, but most forecasting institutions had predicted a turn for the better. Fiscal 2002, by contrast, was a year when most forecasters thought the economy would lose momentum, but in fact there was a protracted

growth phase. If it were possible to predict turning points correctly, the precision of real GDP growth forecasts would dramatically improve.

Beware the Durable Consumer Goods Shipment Index

If the business climate has an impact on forecasts, it is possible that the business indicators available at the time forecasts are made are responsible for the error. We therefore estimated forecast error using business indicators with the following regression equation:

$$e_t = \alpha + \beta x_t + u_t$$

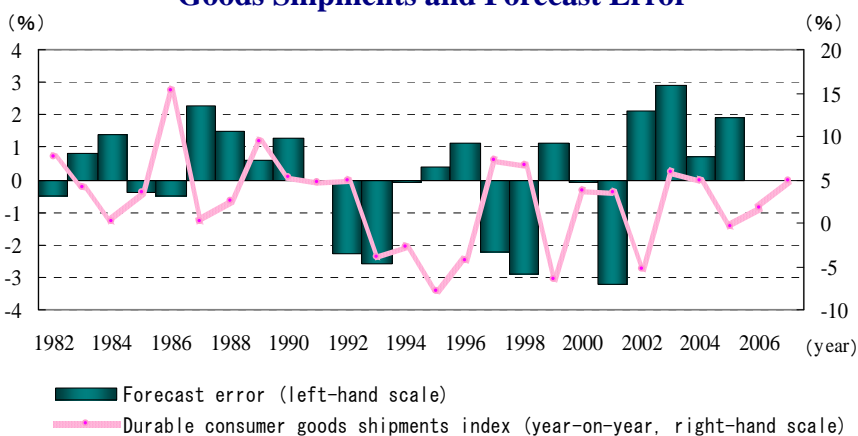
Here, e_t is the forecast error of the real GDP growth rate, x_t represents various variables available for use at the time of the forecast, α and β are coefficients, and u_t is the error term.

This is a test of efficiency based on the rational expectations hypothesis. If people form expectations rationally, they will utilize all information available at the time, and β will be zero regardless of the variables used for x_t . However, when the value assigned to x_t is a composite index of a series of leading business cycle indicators, there are some series in which β does not equal zero.

There are two conceivable types of influence x_t could have on error, depending on the sign of β . First, in cases where an indicator has not been incorporated in a forecast as a sign of business improvement, β would be positive. The other is an “indicator that misleads the forecaster.” Such an indicator would cause forecast error to become negative at times of business improvement, and in this case, β would be negative. This is an indicator whose movement should not be taken at face value at the time of the forecast.

Judging from our estimates, all the indicators that produced significant readings were of the type that misleads forecasters. In the case of the durable consumer goods shipment index

Figure Negative Correlation between Durable Consumer Goods Shipments and Forecast Error



Note: Forecast error is the average error in the yearend forecasts of real GDP growth rates (actual minus forecast value) of 14 forecasting institutions. The durable consumer goods shipments index is from the latest data available at the time of the forecasts (September statistics).

(year-on-year figures), β was negative at the 5% significance level. And in the case of the consumer attitudes index, new job vacancies (year-on-year, excluding school graduates), and effective machinery orders (private-sector demand excluding shipbuilding and electric power, year-on-year 12-month moving average), it was negative at the 10% significance level.

The Risk of Basing Forecasts Only on Readily Available Data

The reason for these results is that although these indicators provide readings of the way the business cycle is moving, they are only reliable for the next six months at most. When making forecasts for the ensuing fiscal year, which must look a year and a half ahead, one runs into risk by relying only on readily available information. One needs to ponder seriously on economic trends to be expected in the future.

Finally, let us see what these indicators have to say about business in fiscal 2008, which starts next April. The durable consumer goods shipment index shows relatively strong growth, but we must not be swayed by how healthy it looks. As for the consumer attitudes index, new job vacancies (year-on-year), and machinery orders (year-on-year), they are in decline at present. But that should not make one overly pessimistic about what is to come.

Because both positive and negative factors are evident, there is no easy conclusion. But it may be possible to improve the precision of forecasting merely by giving deeper thought to the nature of indicators of this type.

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