

May 31, 2007

## *Optimists Continue to Win in Economic Forecasts*

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It is important to examine the performance of past economic forecasts in order to improve the accuracy of future forecasting. An examination of forecasts of the real gross domestic product (GDP) for fiscal 2005 has revealed that on the whole, private research institutions underestimated the GDP.

During an expansionary phase of the economy, forecasts generally tend to be conservative. Fiscal 2005 was no exception. Consequently, forecasts by the government and other optimistic bodies had a better chance of accurately forecasting the economy.

### *Underestimation for Fiscal 2005*

The final rate of increase in the real GDP in fiscal 2005 (chained price), which was released in February 2007, was 2.4 percent. According to the February 2005 issue of the Japan Center for Economic Research magazine, the forecasts of 28 private research institutions for fiscal 2005 averaged at 1.1 percent, 1.3 percentage points below the actual performance (Table). As absolute forecasting errors by private research institutions from 1982 onwards averaged at approximately 1.5 percentage points, this was within the range of average errors. Since fiscal 2002, the actual economy has continued to outperform forecasts.

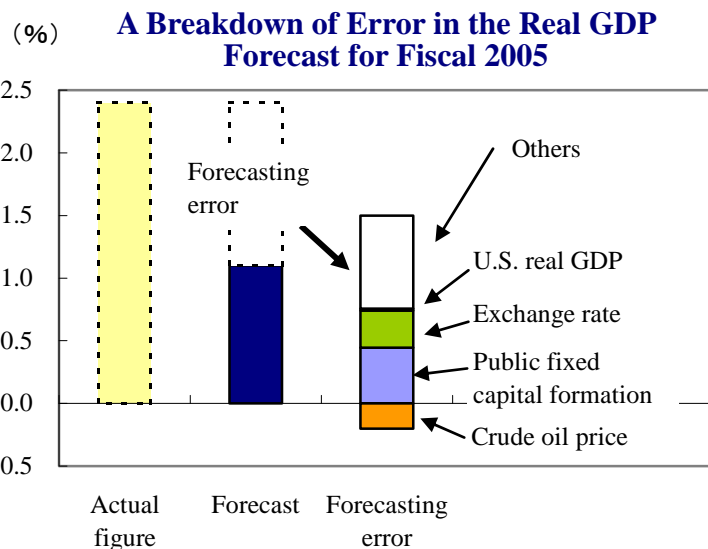
### **Forecasts and Actual Performances in Fiscal 2005**

(%,not otherwise indicated)	<b>Actual performance</b>	<b>Forecast</b>	<b>Error</b>
Real GDP growth rate of Japan	2.4	1.1	1.3
Private final consumption expenditure	1.9	0.9	1.0
Private capital investment (firms)	5.8	2.1	3.7
Exports of goods and services	9.0	5.8	3.2
Imports of goods and services	6.0	3.3	2.7
Nominal public fixed capital formation	0.0	-6.4	6.4
The yen-dollar rate (yen/\$)	113.3	106.4	6.9
Crude oil price (\$/barrel)	60	40	20
Real GDP growth rate of the U.S. (calendar year)	3.2	3.1	0.1

Notes: Forecasts shown are averages for private research institutions. Errors are absolute differences between actual performances and forecasts.

Sources: The Cabinet Office, Annual Report on National Accounts ;  
Japan Center for Economic Research, JCER Bulletin, February 2005.

Let us now examine how much of the forecasting error can be attributed to errors in the variables (exogenous variables), which were used as assumptions for the forecasts. Their impact on the real GDP was obtained by multiplying the errors in exogenous variables by a multiplier, which was obtained from an econometric model (JCER Quarterly Forecasts SA123) (Chart).



The exogenous variable which had the largest impact on the real GDP forecasts was nominal public fixed capital formation. The forecasts for public fixed capital formation averaged at a negative growth of 6.4 percent, while the actual figure remained (more or less) unchanged. This error resulted in an underestimation of the rate of real GDP growth of 0.45 percentage points.

Note: The forecasting errors were calculated using the multiplier in an econometric model.

Sources: As for the table above.

With respect to trade, while the exchange rate of the yen declined faster than the forecasts, forecasts of the rate of real GDP growth in the United States averaged at 3.1 percent, which was very close to the actual growth of 3.2 percent. The error resulting from the inaccurate forecasting of the exchange rate resulted in a 0.3-point error in the forecast of the Japanese real GDP, while the gap between the forecast and the actual performance of the real GDP in the United States was responsible for only 0.02 points of the underestimation.

While the forecasts of all research institutions for crude oil prices for fiscal 2005 averaged at 40 dollars per barrel, the actual price soared to 60 dollars per barrel, which depressed the real GDP growth rate by 0.2 percentage points. If all of these exogenous variables had been forecast correctly, the forecast rate of real GDP growth would have been 0.56 percentage points higher. Even then, the average rate of real GDP growth forecast by these institutions would have been 1.7 percent, which is far below the actual growth of 2.4 percent. Thus, it can be said that although increasing the accuracy of forecasts of exogenous variables is important, that alone would not be sufficient to eliminate forecasting errors.

In econometrics, it is assumed that forecasting errors occur randomly regardless of perceptions about business conditions. Nevertheless, there is a very close relationship between the type of economic phase in which the forecasts are made and errors in the forecasts of the real GDP.

### *Forecasts Tend to Be Conservative in an Expansionary Phase*

Forecasting errors for real GDP growth were calculated for periods of economic

expansion and for periods of recession<sup>i</sup>. It was found that forecasts underestimated the rate of growth by an average of 1.4 percentage points during expansionary periods and overestimated it by an average of 1.0 percentage points during recessionary periods. In nine out of 10 samples of periods of economic expansion, forecasts underestimated growth (actual performance > forecast performance), while in nine out of 11 samples of recessionary periods, forecasts were higher than actual growth rates. The forecasts for fiscal 2005, when the economy was expanding, were consistent with these findings. As a result, in recent years, when the economy has continued to expand, optimists have continued to win in forecasting.

### *Factors behind the Increased Accuracy of Government Forecasts*

For the period between fiscal 1982 and fiscal 2005, the institution that registered least error in forecasting the real GDP growth (mean square error) was this center (Japan Center for Economic Research). However, when we limit the period of analysis to the five years from fiscal 2000, error was least in the government forecast. One of the factors in this diminution of error was the change in the forecasting stance of the government. In 1998, when Mr. Taichi Sakaiya became the Director General of the then Economic Planning Agency (now the Cabinet Office), he changed the government's forecasting stance from aiming at the "goal" to realistic forecasting.

Another factor may be the fact that the phase of the economy served as tailwind for government forecasts. In addition to the fact that government forecasts tend to be more optimistic than those of private institutions to begin with, since 2000, the only year when the economy was in a perennial recessionary phase was fiscal 2001. Since the actual economy tends to outperform forecasts in an expansionary phase of the economy (as mentioned earlier), the government had a better chance of coming up with more accurate figures, because its forecasts were generally higher than those of private institutions.

Thus, even in an examination of the performances of research institutions, the phase of the economy in which forecasts are made does have an impact. Therefore, in determining whether the accuracy of government forecasts has really improved, it would make sense to take into account forecasting performances in recessionary phases of the economy.

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<sup>i</sup> Yamasawa, Nariyasu, "Keizai Yosoku Shihyo no Saikensho" (Re-examination of Indicators for Economic Forecasting), *Gendai no Keikijunkan* (Contemporary Economic Cycles), to be published shortly.