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The Record of Economic Forecasting

Contrary to what you may have heard, forecasts of the U.S. economy have not gotten systematically worse over time. However, they haven't gotten much better, either, according to NBER Research Associate **Victor Zarnowitz.**

In **The Record and Improvability of Economic Forecasting** (*NBER Working Paper No. 2099*), Zarnowitz takes a historical look at various types of forecasts—including quarterly and annual, consensus, individual, and service bureaus'—and finds that they have not become systematically less accurate, more biased, or both, in the last 30 years. In fact, "the annual forecasts of nominal and real GNP growth may have actually improved, at least since the late 1950s," Zarnowitz writes. For example, the average absolute error in the predictions of annual real GNP by business economists was 1.2 percent between 1959 and 1976, but only 1.0 percent between 1977 and 1984. On the other hand, their predictions of inflation were off by an average 1.0 percent from 1959–76 but 1.1 percent from 1977–84.

The major failures of forecasting, Zarnowitz finds, usually occur during slowdowns and contractions in the economy. For example, "forecasts of growth in income and output, of inflation and unemployment all tend to be both less accurate and more biased for recessions than for expansions." During expansions, the typical forecaster mispredicted real GNP by 1.2 percent and inflation by 1.1 percent; during contractions, those forecasts were off by 3.0 and 2.5 percent, respectively. Predictions of nominal GNP and the unemployment rate were also better during expansions than contractions. Since 1972, the largest errors in quarterly forecasts for the year ahead (from the NBER-ASA survey, Chase Econometrics, Data Resources, Inc., Wharton Econometrics, and the U.S. Department of Commerce) occurred between the fourth quarter of 1981 and the fourth quarter of 1985. That period also had the most unanticipated turning points: the severe recession of 1981–2, a slowdown in mid-1984, and a period of strong disinflation.

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Finally, Zarnowitz compares the accuracy of predictions of GNP, inflation, and the T-bill rate by the major forecasting firms with predictions from surveys of corporate and bank economists. Although there were considerable differences in accuracy during different periods, the differences among forecasters were small.

Dividends, Share Purchases, and Tax Payments

Fifteen years ago, almost all the money that corporations passed on to stockholders was in the form of dividends. Recently, however, most corporate payments to stockholders have taken the form of share purchases. As a consequence, NBER Research Associate **John B. Shoven** estimates, federal tax revenues were reduced by $25 billion in 1985.

In **New Developments in Corporate Finance and Tax Avoidance** (*NBER Working Paper No. 2091*) Shoven estimates that share repurchases and cash mergers were roughly 15 percent of total dividend payments in the early 1970s. By 1985 they equaled $120 billion, almost 50 percent more than total dividend payments of $84 billion. Dividends are thus no longer the primary vehicle for transferring corporate profits to individual stockholders.

Shoven explains that dividends and share repurchases are equivalent for the firm's stockholders, since they receive cash from the firm in both cases. The important difference is that dividend payments are taxed as ordinary income. In contrast, most share repurchases may escape taxation as a return of capital, while the remainder received favored treatment as a capital gain in the past. Shoven also explains that purchases of another firm's shares are similar to dividends, since they involve cash payments from the corporate sector to individual stockholders.

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Shoven finds that the dramatic increase in corporate share repurchases and cash mergers did not come at the expense of lower dividends. In fact, total dividend payments in 1983–5 were slightly higher than might have been expected from the level of profits, the inflation rate, and the level of past dividends. Instead, Shoven suggests that some firms financed these payments to stockholders with increased debt. This increase in corporate borrowing, along with corporate share repurchases, has kept the average debt-equity ratio relatively constant during the past five years in spite of the very large rise in stock prices. Since corporate interest payments are not subject to the corporate income tax, the increase in debt and the decrease in outstanding shares also have tended to reduce federal tax revenues.

Shoven's estimates of corporate share purchases are based on New York Stock Exchange data on 3211 firms from January 1970 to December 1985. The data on dividends are from U.S. government publications that include all U.S. firms.

Exchange Rates and Intervention after G-5

Between the fall of 1985 and the end of 1986 the dollar declined in value from approximately 240 yen to about 160 yen. Much of the credit for this decline has gone to the meeting of finance ministers from the G-5 countries (the United States, Britain, France, Germany, and Japan) in September 1985, and the agreement reached there to intervene in foreign exchange markets to lower the value of the dollar. But a new study by NBER Research Associate **Takatoshi Ito** finds that more fundamental factors, including a shift in Japanese monetary policy and declining oil prices, actually caused the dollar's decline.

In **The Intradaily Exchange Rate Dynamics and Monetary Policies after the G-5 Agreement** (*NBER Working Paper No. 2048*), Ito concludes that government intervention per se had little effect on exchange rates. His evidence suggests that international coordination in foreign exchange markets can affect rates only if countries also agree to change their domestic fiscal or monetary policies. Simply agreeing to buy and sell each others' currencies without modifying other policies will not move exchange rates.

To determine the true causes of shifts in exchange rates, Ito considers the precise time at which these shifts occurred. He reasons that changes in Japanese monetary policy, for example, are announced during Japanese business hours, which is the middle of the

night in New York and London. Similarly, when news is announced of a failure of an OPEC meeting in Geneva to cut oil output, London currency markets are at work but New York and Tokyo are closed. By pinpointing exactly when major currency movements began, Ito can infer the cause of the dollar's decline. This approach is possible because, although a major currency market is open for all but 2½ hours of the day, there are very few overlapping business hours among Tokyo, Europe, and New York.

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Between the G-5 meeting in September 1985 and the end of May 1986, there were four waves of dollar depreciation against the yen, separated by periods of relative stability. The first wave occurred as soon as currency markets opened after the G-5 meeting. The dollar fell from 239 yen to 226 yen in the following week. Most of the dollar's decline occurred in New York, even though most of the selling of dollars occurred in Tokyo. Ito concludes that the dollar's decline during this wave was the result of news of the G-5 meeting itself, rather than specifically because of Japanese intervention in exchange markets.

The second episode of dollar decline took place in Tokyo following the announcement on October 24 that the Bank of Japan would raise interest rates. During the next two weeks, the dollar declined by 11 yen, as Japanese short-term interest rates rose.

Between January 24 and February 19, 1986, the dollar declined by 21 yen, to about 184 yen to the dollar. Much of the decline occurred while European currency markets were open, soon after news of OPEC meetings was announced. This was primarily the result of falling oil prices. Since Japan is a big oil importer, lower oil prices tend to raise the value of the yen.

Finally, the fourth period of dollar decline was between April 16 and 28, 1986. The dollar fell to under 170 yen at that time primarily because of a perceived loosening of U.S. monetary policy, according to Ito. Thus, in all four waves of the dollar's decline against the yen, market fundamentals were responsible rather than simple intervention.

Productivity, Wages, and Prices in the United States, Europe, and Japan

Many economists have concluded that the persistently high unemployment in Europe is unresponsive to fiscal and monetary stimulus because European real wages are excessive and inflexible. But NBER Research Associate **Robert J. Gordon** disagrees. In **Productivity, Wages, and Prices Inside and Outside of Manufacturing in the United States, Japan, and Europe** (*NBER Working Paper No. 2070*), he argues that the differences between the United States and Europe have been greatly exaggerated, and that unemployment in Europe should respond to policy actions in much the same way as it does in the United States. This, he concludes, "undermines the case against policies that expand the growth rate of nominal aggregate demand in order to raise output and reduce unemployment in Europe."

Although others claim that an increase in aggregate demand in Europe would simply drive up inflation there with no resulting increase in output or employment, Gordon estimates that most of such a stimulus would go into output. In the long run, an increase in inflation leaves the level of GNP unchanged. However, Gordon calculates that a permanent 1 percent increase in the inflation rate in Europe would result in a one-time increase in European output of almost 5 percent, spread over several years. By comparison, Gordon estimates that a permanent 1 percent increase in U.S. inflation would result in a one-time increase in U.S. output of 6.5 percent, and an equal increase in Japanese inflation would raise Japanese output by 2.3 percent.

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Gordon also finds that higher unemployment in Europe since 1979 is mainly caused by a lack of aggregate demand. While the actual unemployment rate in Europe increased from 4.9 percent in 1979 to 9.6 percent in 1984, the natural rate of unemployment—that is, the rate at which inflation would remain unchanged—rose only from 5.0 percent to 6.4

percent according to Gordon's estimates. By his calculation, the natural rate for the United States is a similar 6.0 percent.

Gordon further shows that the cyclical pattern of productivity in Europe has been very similar to that pattern in the United States. During economic downturns, output falls faster than unemployment and productivity declines. During upturns, the reverse occurs and productivity rises. Gordon finds that this cyclical pattern is much more pronounced in Japan than in Europe or the United States.

Gordon's analysis is based on data for 11 European countries (Austria, Belgium, Denmark, France, Germany, Italy, Netherlands, Norway, Sweden, Switzerland, United Kingdom), Japan, and the United States between 1964 and 1984. Unlike earlier studies, his paper includes the income of self-employed workers as part of the income share of labor. AE

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