

# How Forecasts Can Influence the Present

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Would positive news about economic growth in the next quarter make you increase your spending or investment today? And, as a result, might this spending actually speed the growth of gross domestic product (GDP) more than the forecasters expected? Stanford University economist Nir Jaimovich and Northwestern University economist Sergio Rebelo ponder those sorts of questions in their new paper. They propose that “news shocks” about the economy’s future may, in fact, be a key driver of business cycles.

To economists, shocks are factors that unexpectedly increase or decrease output and employment. A news shock is a change in the expectation about the future derived from new information that can affect your investment, consumption, and work decisions today.

While the idea of news shocks can be traced as far back as the work of British economist William Beveridge in 1909, interest in news shocks revived after the U.S. tech stock boom and bust of the 1990s and early 2000s. The interest stems from

a quite plausible story: Between 1995 and 2001, forecasts of the long-run growth rate of earnings for companies in the S&P 500 index rose rapidly, from 11.5 percent to 17.7 percent. Investment increased when the earnings forecasts went up. Yet investment in those companies, on average, went down when the realized earnings were reported. Jaimovich and Rebelo suggest that the initial news shock was driven by the prospects of new technologies, which then led to high expectations about earnings growth. But when those technologies or companies failed to live up to expectations, investment fell and a recession resulted.

Economists have grappled with business cycle theory for decades. Yet it remains difficult to fit news shocks into the standard neoclassical economic model. Business cycle data feature two forms of “comovement” — meaning, you can see the factors move together in the data. “Aggregate comovement” describes how major macroeconomic aggregates such as output, consumption, investment, hours worked, and real wages rise and fall together in all sectors of the economy. “Sectoral comovement” occurs when those aggregates rise and fall together in different sectors of the economy independent of whether the same aggregates rise or fall in other sectors. The trick is to find a model that can account for both types of comovement in response to shocks that include news shocks.

In a 1984 paper, Robert J. Barro of Harvard University and Robert G. King, now of Boston University and a visiting scholar at the Richmond Fed, showed that only a contemporaneous shock to total factor productivity (TFP), such as technological improvement, can produce aggregate comovement. In their model, Jaimovich and Rebelo go a step further to introduce three new elements into the neoclassical growth model to generate comovement in response to news shocks. The first assumes that firms can vary their means of production — this is called “variable capital utilization.” The second factor, “adjustment costs to investment,” takes into account the expense incurred from changing investment, such as scrapping plans to buy new machinery. (For example,

if it’s less costly to change your plans sooner than later, you’ll have an incentive to act more quickly to news about the future.) The third factor is a short-run “wealth effect” on labor supply that assumes people will alter the number of hours they work in response to positive news.

With a model able to produce fluctuations from news shocks, the next question is whether the model can produce estimates that mirror the empirical data. Jaimovich and Rebelo also use data from the “Livingston Survey” of output forecasts. Started by Pulitzer Prize-winning financial columnist Joseph Livingston in 1946 and compiled by the Federal Reserve Bank of Philadelphia since 1990, this survey gathers the forecasts of different economic variables by professional forecasters. This provided the authors with two-quarters-ahead forecasts of GDP for a number of years.

Comparing the simulations of their model to the business cycle data from 1947 to 2004, the authors discovered that their model generates nine recessions compared to the 14 they estimate actually occurred during that period. However, the recessions in the model are less severe than those in the data. Jaimovich and Rebelo explain that a possible explanation for the discrepancy is that the model does not take into account other shocks to the U.S. economy such as a rise in energy prices.

Their results indicate that a neoclassical model can indeed generate business cycles without relying solely on negative productivity shocks. Instead, news about the economy’s potential future — and, in particular, estimates of variables such as future TFP — can heavily influence the pattern of economic growth.

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“Can News about the Future Drive the Business Cycle?”

by Nir Jaimovich and Sergio Rebelo.  
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