New York Fed Staff Nowcast

OVERVIEW   NOWCAST   **FAQ**

What is the goal of the model?

Policy and business decisions typically cannot be put off until the next set of quarterly GDP data are finalized, so it's important to conduct real-time analysis of economic conditions as higher-frequency data are released. Our model reads the flow of information from a wide range of macroeconomic data as they become available, evaluating their implications for current economic conditions; the result is a "nowcast" of GDP growth, known as the New York Fed Staff Nowcast.

What is the schedule for reporting and updating the New York Fed Staff for each quarter?

We start reporting the Staff Nowcast of GDP growth for a reference quarter one week after the publication of the second official GDP estimate for two quarters prior. For example, we began reporting the nowcast for 2023:Q1 on Friday, December 9, 2022, following the government's second estimate of 2022:Q3 GDP on Wednesday, November 30, 2022. We continue to update the Staff Nowcast for a reference quarter until the release of the advance GDP estimate, roughly one month after the end of the quarter. For 2023:Q1, this occurred on April 27, 2023, at which point we stopped updating the Staff Nowcast for this quarter.

What are the input data?

We make use of most market-moving indicators—the same data that are also constantly monitored by market participants and commentators. These include data on retail sales, industrial production, the labor market, and trade, among other areas.

Updates to the New York Fed Staff Nowcast were suspended between September 2021 and September 2023. What caused the suspension?

The COVID-19 pandemic generated considerable uncertainty and volatility with respect to macroeconomic data, which posed important challenges to the New York Fed Staff Nowcast model. Under these circumstances, we decided to suspend publication of the Staff Nowcast until we could implement methodological improvements to better address these challenges.

What is the current modeling strategy—and how has it changed since the relaunch?

The platform is still based on a dynamic factor model and still employs Kalman-filtering techniques. This approach has a number of desirable features: (a) It is a reliable big data framework that captures in a parsimonious way the salient features of macroeconomic data dynamics; and (b) it provides a design that digests the data as "news," mimicking the way markets and professional analysts work. The current model is, however, estimated with Bayesian techniques and includes a variety of new features, in particular:

- time-varying parameters that allow the volatility of the different factors and series to evolve over time; and

- non-normal distributions for the factors and idiosyncratic shocks, which make the model more robust to outlier observations.

How is the updated model designed to better cope with data volatility?

The new features provide the kind of flexibility that helps handle greater volatility and might also help deal with evolving patterns in the data. These changes, in turn, significantly improve the forecasting performance of the model. There is a large literature on dynamic factor models and their economic applications (see Stock and Watson (2016) for a survey and Bai and Ng (2008) for a more technical treatment). Giannone, Banbura, Modugno, and Reichlin (2013) provide a complete account of the use of those models as tools for nowcasting and Antolin-Diaz, Drechsel, and

About the New York Fed Staff Nowcast

The report tracks the evolution of the New York Fed Staff Nowcast of GDP growth and the impact of new data releases on the forecast. We update it each Friday (except on federal holidays) at or shortly after 11:45 a.m., using data available up to 10 a.m.

The New York Fed Staff Nowcast is not an official forecast of the Federal Reserve Bank of New York, its president, the Federal Reserve System, or the Federal Open Market Committee.

The New York Fed Staff Nowcast is a product of the Applied Macroeconomics and Econometrics Center (AMEC).

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Petrella (2020) illustrate the importance of time-varying parameters and non-normal distributions.

How have you tested the updated model?

Extensive back-testing of the model, research findings, and practical experience have shown that the platform is able to approximate best practices in macroeconomic forecasts. The model produces forecasts that are as accurate as, and strongly correlated with, predictions based on expert judgment.

How should we read the output of the model?

The main output from the model is the nowcast of GDP growth in the current quarter, together with a set of probability bands that measure the uncertainty of the New York Fed Staff Nowcast. Given the available data, these bands are designed to contain the observed value for GDP growth (released about a month after the end of the quarter) with a certain probability.

The model produces forecasts for all variables, accounting for their dynamic interactions. Since it is a fully specified dynamic model, this platform provides an intuitive reading of the incoming data as news.

In the context of the model, news is defined as the difference between released data and model predictions.

The difference between two consecutive forecasts (that is, the forecast revision) is the weighted average of the news during the week, where the weights account for the information content as well as the timeliness of the data releases.

The contribution of new data to the forecast revision is reported in the charts with colored bars. To make the charts easier to read, we grouped variables in a few broad categories. Detailed information about the contribution of specific variables is provided in the accompanying tables.

Is the "annual rate" the y/y growth rate?

No. We track the annualized quarterly ("q/q") growth rate of GDP, not the four-quarter ("y/y") growth rate.

Can we obtain the data underlying this analysis?

To make it easier for users to better understand and replicate our results, we plan to share the MATLAB code for our model in the near future. The legacy code, along with a snapshot of data sets, can still be found on Github. The newest releases for all data series are publicly available from source websites; real-time historical data for most series can be retrieved from the St. Louis Fed's ALFRED database. Unfortunately, we cannot provide the complete data set used in our model because the historical data for a handful of series (including the ISM manufacturing and nonmanufacturing indexes) are proprietary. As a consequence, the replication files do not exactly reproduce the published version of the New York Fed Staff Nowcast.

Can I still access data from the previous New York Fed Staff Nowcast model?

We have archived the output of the previous New York Fed Staff Nowcast model in the following spreadsheet. Note that the file only contains Staff Nowcast values and corresponding GDP growth figures; data for the underlying series are not available.

Our forecasts for GDP growth from 2002:Q1 through 2015:Q4 are historical reconstructions. The values we report for these quarters represent predictions that our nowcasting model would have made in real time, using the data that were available to the public as of the dates noted. For more information, please read our accompanying *Liberty Street Economics* post, Just Released: Historical Reconstruction of the New York Fed Staff Nowcast, 2002-15.

Nowcast: Legacy Data EXCEL