

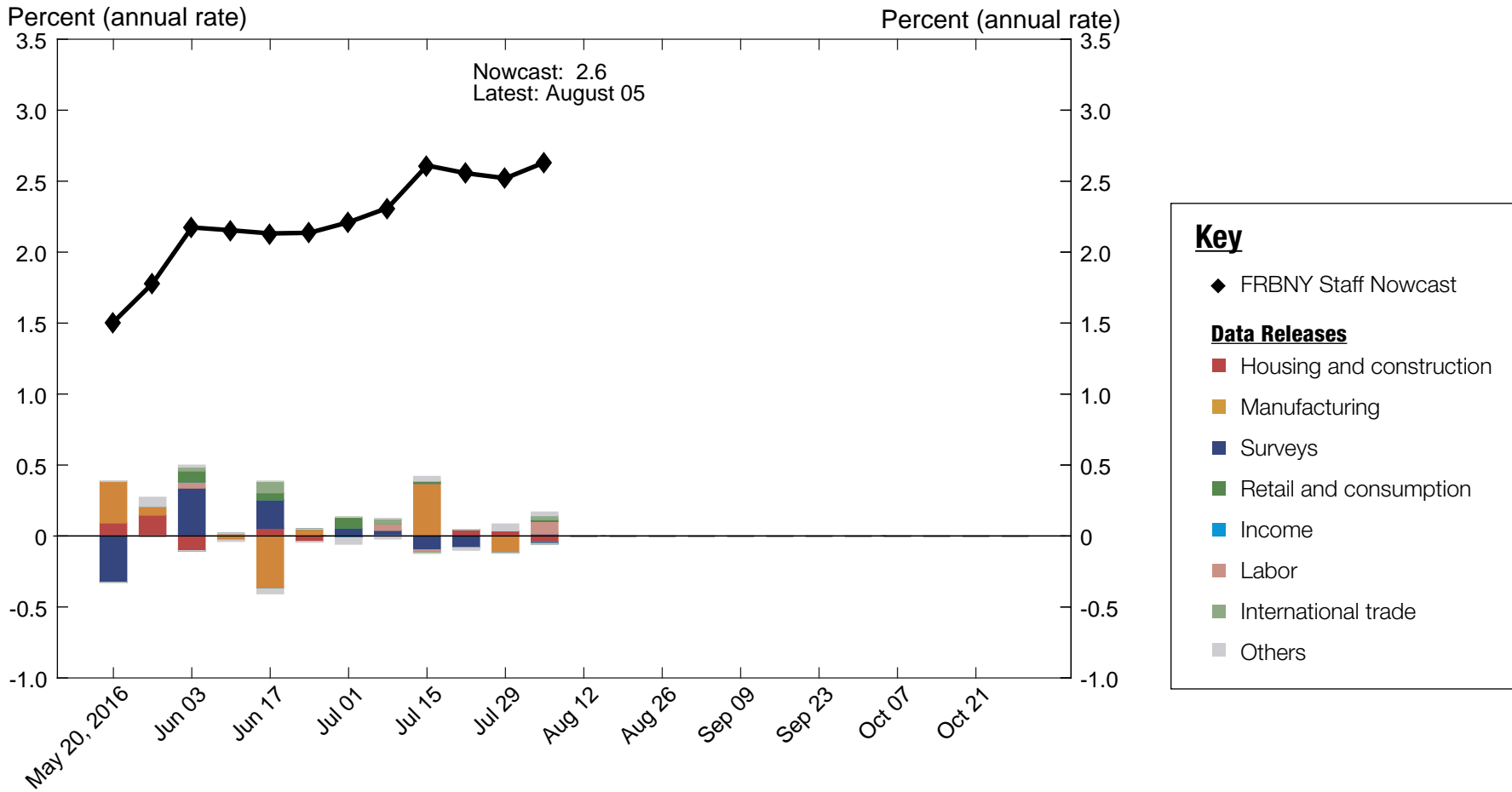
NOWCASTING REPORT

Updated: August 5, 2016

- The FRBNY Staff Nowcast stands at 2.6% for 2016:Q3.
- Overall this week's data releases had a slightly positive effect.
- The largest positive contribution came from labor data.

The FRBNY 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 (FOMC). While we are precluded from publishing our estimates during blackouts surrounding FOMC meetings, we continue to update our model internally and share the analysis in the next Nowcasting Report.

1 | 2016:Q3 GDP Growth



Source: Authors' calculations.
Note: Colored bars reflect the impact of each data release on the nowcast.

1.1 | Nowcast Detail

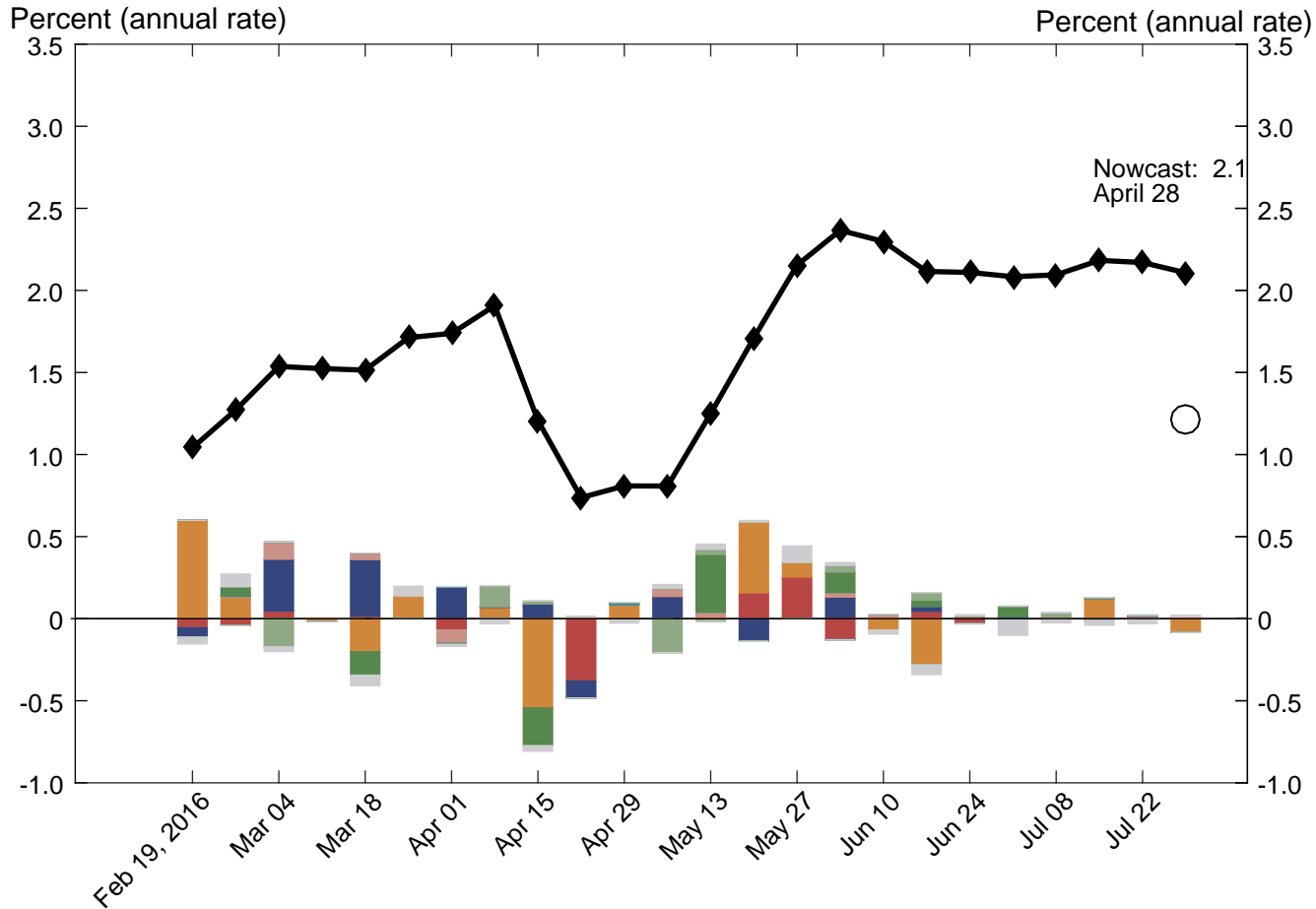
■ Housing and construction
 ■ Manufacturing
 ■ Surveys
 ■ Retail and consumption
 ■ Income
 ■ Labor
 ■ International trade
 ■ Others

| Update | Release Date | Data Series | Reference Period | Units | Forecast | Actual | Weight | Impact | Nowcast GDP Growth | |
|--------|-----------------|---|------------------|------------------------|----------|--------|--------|------------|--------------------|-------------|
| | | | | | [a] | [b] | [c] | [c(b - a)] | | |
| Jul 08 | 10:00 AM Jul 12 | JOLTS: Job openings: Total | May | Level chg. (thousands) | -176.5 | -345.0 | 0.071* | -0.012 | 2.31 | |
| | 10:00 AM Jul 12 | Merchant wholesalers: Inventories: Total | May | MoM % chg. | 0.227 | 0.131 | -0.130 | 0.012 | | |
| | 8:30 AM Jul 13 | Import price index | Jun | MoM % chg. | 1.01 | 0.250 | 0.027 | -0.021 | | |
| | 8:30 AM Jul 13 | Export price index | Jun | MoM % chg. | 0.563 | 0.750 | 0.051 | 0.010 | | |
| | 8:30 AM Jul 14 | PPI: Final demand | Jun | MoM % chg. | 0.195 | 0.545 | 0.057 | 0.020 | | |
| | 8:30 AM Jul 15 | CPI-U: All items | Jun | MoM % chg. | 0.216 | 0.216 | 0.055 | -0.000 | | |
| | 8:30 AM Jul 15 | Retail sales and food services | Jun | MoM % chg. | 0.515 | 0.576 | 0.251 | 0.015 | | |
| | 8:30 AM Jul 15 | CPI-U: All items less food and energy | Jun | MoM % chg. | 0.173 | 0.170 | 0.019 | -0.000 | | |
| | 8:30 AM Jul 15 | Empire State Mfg. Survey: General business conditions | Jul | Index | 7.53 | 0.550 | 0.014 | -0.098 | | |
| | 9:10 AM Jul 15 | Industrial production index | Jun | MoM % chg. | 0.266 | 0.602 | 0.493 | 0.166 | | |
| | 9:20 AM Jul 15 | Capacity utilization | Jun | Ppt. chg. | 0.121 | 0.439 | 0.618 | 0.197 | | |
| | 10:00 AM Jul 15 | Inventories: Total business | May | MoM % chg. | 0.137 | 0.162 | -0.120 | -0.003 | | |
| | | Data revisions | | | | | | 0.013 | | |
| Jul 15 | 8:30 AM Jul 19 | Housing starts | Jun | MoM % chg. | 3.63 | 4.76 | 0.028 | 0.031 | | 2.61 |
| | 8:30 AM Jul 19 | Building permits | Jun | Level chg. (thousands) | 12.0 | 17.0 | 0.003 | 0.014 | | |
| | 8:30 AM Jul 21 | Philly Fed Mfg. business outlook: Current activity | Jul | Index | 3.93 | -2.90 | 0.012 | -0.083 | | |
| | | Data revisions | | | | | | -0.017 | | |
| Jul 21 | 10:00 AM Jul 26 | New single family houses sold | Jun | MoM % chg. | 1.33 | 3.50 | 0.017 | 0.037 | 2.56 | |
| | 8:30 AM Jul 27 | Manufacturers' new orders: Durable goods | Jun | MoM % chg. | 2.78 | -4.04 | 0.029 | -0.198 | | |
| | 8:30 AM Jul 27 | Manufacturers' shipments: Durable goods | Jun | MoM % chg. | 0.964 | 0.378 | 0.125 | -0.073 | | |
| | 8:30 AM Jul 27 | Mfrs.' unfilled orders: All manufacturing industries | Jun | MoM % chg. | 0.319 | -0.851 | -0.026 | 0.031 | | |
| | 8:30 AM Jul 27 | Manufacturers' inventories: Durable goods | Jun | MoM % chg. | -0.031 | -0.188 | -0.497 | 0.078 | | |
| | 8:40 AM Jul 28 | Merchant wholesalers: Inventories: Total | Jun | MoM % chg. | 0.248 | 0.027 | -0.194 | 0.043 | | |
| | 8:30 AM Jul 29 | Real gross domestic product | Q2 | QoQ % chg. AR | 2.01 | 1.21 | -0.013 | 0.010 | | |
| | | Data revisions | | | | | | 0.037 | | |
| Jul 29 | 10:00 AM Aug 01 | ISM mfg.: Pmi composite index | Jul | Index | 51.7 | 52.6 | 0.089 | 0.080 | 2.52 | |
| | 10:00 AM Aug 01 | ISM mfg.: Prices index | Jul | Index | 59.7 | 55.0 | 0.016 | -0.077 | | |
| | 10:00 AM Aug 01 | Value of construction put in place | Jun | MoM % chg. | 0.231 | -0.645 | 0.055 | -0.048 | | |
| | 10:00 AM Aug 01 | ISM mfg.: Employment index | Jul | Index | 49.1 | 49.4 | 0.035 | 0.010 | | |
| | 8:30 AM Aug 02 | PCE less food and energy: Chain price index | Jun | MoM % chg. | 0.140 | 0.068 | 0.109 | -0.008 | | |
| | 8:30 AM Aug 02 | PCE: Chain price index | Jun | MoM % chg. | 0.170 | 0.101 | 0.106 | -0.007 | | |
| | 8:40 AM Aug 02 | Real disposable personal income | Jun | MoM % chg. | 0.297 | 0.075 | 0.035 | -0.008 | | |
| | 8:40 AM Aug 02 | Real personal consumption expenditures | Jun | MoM % chg. | 0.284 | 0.316 | 0.368 | 0.012 | | |
| | 8:05 AM Aug 03 | ADP nonfarm private payroll employment | Jul | Level chg. (thousands) | 134.1 | 179.0 | 0.966* | 0.043 | | |
| | 10:00 AM Aug 03 | ISM nonmanufacturing: NMI composite index | Jul | Index | 55.3 | 55.5 | 0.010 | 0.002 | | |
| | 10:00 AM Aug 04 | Inventories: Total business | Jun | MoM % chg. | 0.144 | 0.149 | -0.228 | -0.001 | | |
| | 8:30 AM Aug 05 | All employees: Total nonfarm | Jul | Level chg. (thousands) | 156.5 | 255.0 | 0.447* | 0.044 | | |
| | 8:30 AM Aug 05 | Civilian unemployment rate | Jul | Ppt. chg. | 0.006 | 0.000 | -0.251 | 0.002 | | |
| | 8:30 AM Aug 05 | Exports: Goods and services | Jun | MoM % chg. | 0.979 | 0.335 | 0.083 | -0.053 | | |
| | 8:30 AM Aug 05 | Imports: Goods and services | Jun | MoM % chg. | 0.518 | 1.86 | 0.061 | 0.082 | | |
| | | Data revisions | | | | | | 0.041 | | |
| Aug 05 | | | | | | | | | 2.63 | |

Source: Authors' calculations.

Notes: MoM % chg. indicates month over month percentage change. QoQ % chg. indicates quarter over quarter percentage change. The weights with the asterisk are multiplied by 1,000 for legibility.

2 | 2016:Q2 GDP Growth



Source: Authors' calculations.

Notes: Colored bars reflect the relative impact of each data release on the nowcast.

2.1 | Nowcast Detail

■ Housing and construction
 ■ Manufacturing
 ■ Surveys
 ■ Retail and consumption
 ■ Income
 ■ Labor
 ■ International trade
 ■ Others

| Update | Release Date | Data Series | Reference Period | Units | Forecast | Actual | Weight | Impact | Nowcast GDP Growth |
|----------------|-----------------|---|------------------|------------------------|------------|-------------|---|------------|--------------------|
| | | | | | [a] | [b] | [c] | [c(b - a)] | |
| Jul 01 | 8:30 AM Jul 06 | Exports: Goods and services | May | MoM % chg. | 0.429 | -0.172 | 0.056 | -0.033 | 2.08 |
| | 8:30 AM Jul 06 | Imports: Goods and services | May | MoM % chg. | 0.046 | 1.57 | 0.043 | 0.066 | |
| | 10:00 AM Jul 06 | ISM nonmanufacturing: NMI composite index | Jun | Index | 54.0 | 56.5 | 0.002 | 0.005 | |
| | 8:05 AM Jul 07 | ADP nonfarm private payroll employment | Jun | Level chg. (thousands) | 184.0 | 172.0 | 0.161* | -0.002 | |
| | 8:30 AM Jul 08 | All employees: Total nonfarm | Jun | Level chg. (thousands) | 78.1 | 287.0 | 0.093* | 0.019 | |
| | 8:30 AM Jul 08 | Civilian unemployment rate | Jun | Ppt. chg. | 0.003 | 0.200 | -0.108 | -0.021 | |
| | | Data revisions | | | | | | -0.022 | |
| Jul 08 | 10:00 AM Jul 12 | JOLTS: Job openings: Total | May | Level chg. (thousands) | -176.5 | -345.0 | 0.037* | -0.006 | 2.09 |
| | 10:00 AM Jul 12 | Merchant wholesalers: Inventories: Total | May | MoM % chg. | 0.227 | 0.131 | -0.095 | 0.009 | |
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| 8:30 AM Jul 21 | | Philly Fed Mfg. business outlook: Current activity | Jul | Index | 3.93 | -2.90 | -0.000 | 0.003 | |
| | | Data revisions | | | | | | -0.031 | |
| Jul 21 | 10:00 AM Jul 26 | New single family houses sold | Jun | MoM % chg. | 1.33 | 3.50 | 0.005 | 0.011 | 2.17 |
| | 8:30 AM Jul 27 | Manufacturers' new orders: Durable goods | Jun | MoM % chg. | 2.78 | -4.04 | 0.011 | -0.074 | |
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| | Data revisions | | | | | | 0.010 | | |
| Jul 29 | 8:30 AM Jul 29 | Real gross domestic product (advance) | Q2 | QoQ % chg. AR | 2.11 | 1.21 | We have concluded our updates of the Q2 nowcast | | 2.11 |

Source: Authors' calculations.

Notes: MoM % chg. indicates month over month percentage change. QoQ % chg. indicates quarter over quarter percentage change. The weights with the asterisk are multiplied by 1,000 for legibility.

Nowcasting Report Q&A

1. What is the ultimate goal of the exercise?

Our model produces a “nowcast” of GDP growth, incorporating a wide range of macroeconomic data as it becomes available. With this approach, we aim to read the real-time flow of information and evaluate its effects on current economic conditions. The platform provides a model-based counterpart to the more routine analysis at the bank, which has traditionally been based on expert knowledge.

2. What is the modeling strategy?

The platform employs Kalman-filtering techniques and a dynamic factor model. The approach has a number of desirable features. It is based on:

- a reliable big data framework that captures in a parsimonious way the salient features of macroeconomic data dynamics;
- a design that digests the data as “news,” mimicking the way markets work.

3. What are the input data? What has been driving the data selection?

We include all the market-moving indicators—the same data that are also constantly monitored by market participants and commentators.

4. Why should we trust the model?

Extensive back-testing of the model, research, 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 best judgment.

The methodology has been tested for accuracy in many countries, including large developed economies (the Euro area, Italy, France,

Germany, Spain, the United Kingdom, Japan, and Canada), small open economies (Australia, Ireland, Belgium, New Zealand, the Czech Republic, and Scotland), fast-growing economies (Brazil, Russia, India, China, and South Africa), and developing economies (Mexico, Indonesia, and Argentina).

5. How should we read the output of the model?

- The model produces forecasts for all variables taking into account their dynamic interactions.
- Since it is a fully specified dynamic model, the platform provides an intuitive reading of the incoming data as “news.”
- The difference between two consecutive forecasts (that is, the forecast revision) is the weighted average of the news during the week.
- News is defined as the difference between released data and model predictions. 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 two charts with colored bars. To make the charts easier to read, we grouped variables in a few broad categories. Detailed information about the composition of the groupings is provided in the accompanying tables.

References

- *Banbura, M., D. Giannone, M. Modugno, and L. Reichlin.* 2013. “Nowcasting and the Real-Time Data Flow.” In G. Elliott and A. Timmermann, eds., *Handbook of Economic Forecasting*, Vol. 2. Amsterdam: Elsevier-North Holland.
- *Giannone, D., L. Reichlin, and D. Small.* 2008. “Nowcasting: The Real-Time Informational Content of Macroeconomic Data.” *Journal of Monetary Economics* 55, no.4 (May): 665-76.

Nowcasting Report FAQs

1. For how long do you report a quarter?

We start reporting the nowcast of GDP growth for a reference quarter about one month before the quarter begins; we stop updating it about one month after the quarter closes.

Precise dates are related to the Commerce Department's schedule for the release of official GDP estimates. For example, we began reporting 2016:Q1 on November 20, 2015, just after the government released the second GDP estimate for 2015:Q3. We stopped updating the nowcast for 2016:Q1 on April 28, 2016, with the release of the advance GDP estimate for the reference quarter. We continued reporting 2016:Q1 until the second GDP estimate for the quarter became available. At that point, we started computing the nowcasts for 2016:Q3.

2. What are the major conceptual differences between the FRBNY Staff Nowcast and the Atlanta Fed's Nowcast?

The FRBNY Staff Nowcast and the Atlanta Fed's GDPNow are both based on statistical filtering techniques applied to a dynamic factor model. These techniques are very common in big data analytics since they effectively summarize the information contained in large data sets through a small

number of common factors. The general framework for macroeconomic nowcasting has been developed in the academic literature over the past ten years, as discussed in the Q&A included in this report. The FRBNY Staff Nowcast is a straightforward application of the most advanced techniques developed in this academic literature. GDPNow adapts these techniques to mimic the methods used by the BEA to estimate real GDP growth, as well explained by GDPNow's own FAQs.

Because GDPNow and the FRBNY Staff Nowcast are different models, they can generate different forecasts of real GDP growth. Our policy is not to comment on or interpret any differences between the forecasts of these two models.

3. Is the “annual rate” the y/y growth rate?

No. We track the annualized quarterly (“q/q”) growth rate of GDP, not the four quarters (“y/y”) growth rate.

Authors

FRBNY Time-Series Analysis Team