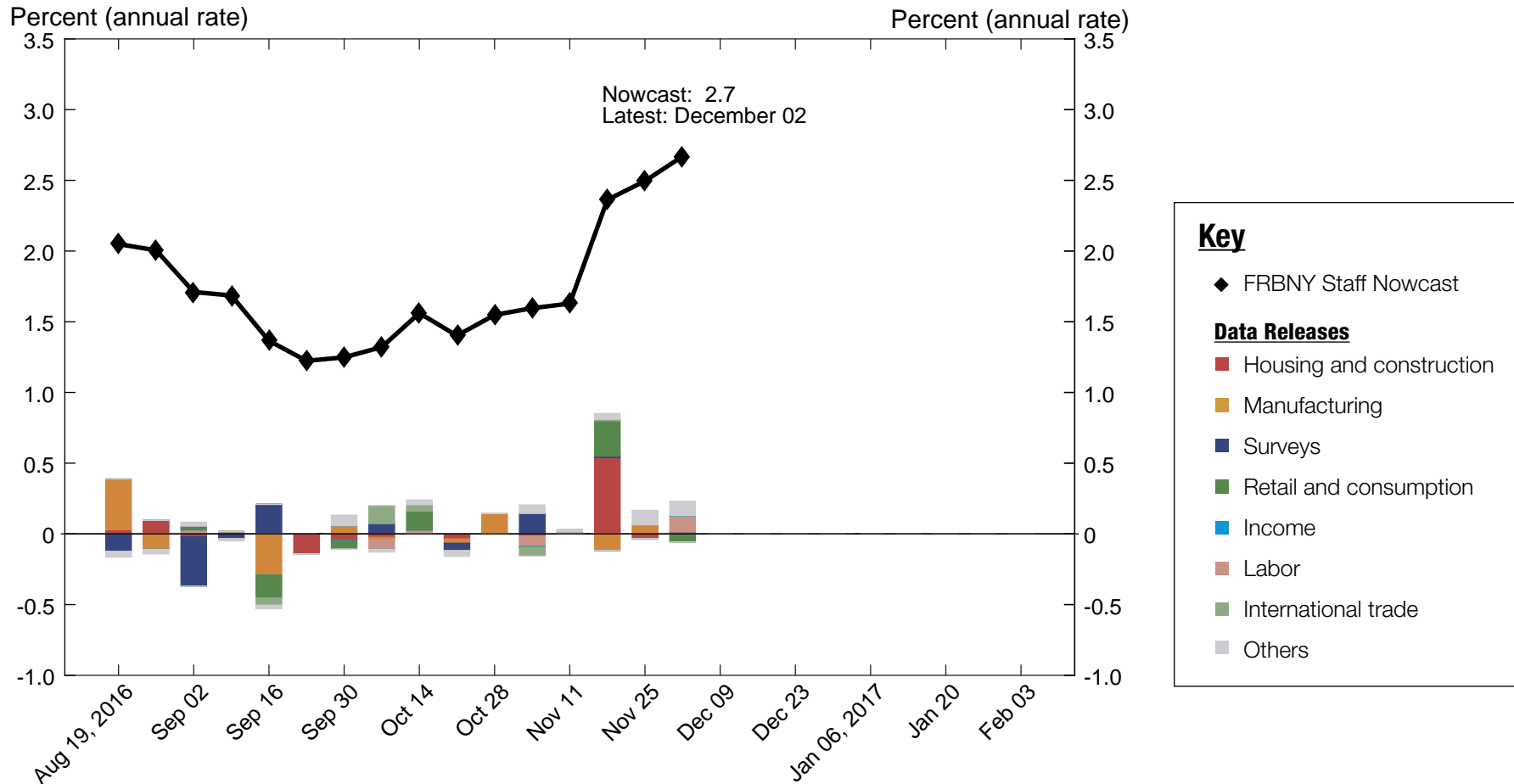# NOWCASTING REPORT

Updated: December 2, 2016

- The FRBNY Staff Nowcast stands at 2.7% for 2016:Q4.

- News from this week's data releases provided mixed signals, but overall had a positive impact on the nowcast.

- Real gross domestic income and labor market data had the largest positive contributions to the nowcast, only slightly offset by negative news from personal consumption expenditures.

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Percent (annual rate)

Percent (annual rate)

Nowcast: 2.7
Latest: December 02

**Key**

◆ FRBNY Staff Nowcast

**Data Releases**

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

Source: Authors' calculations.
Notes: Colored bars reflect the relative impact of each data release on the nowcast.
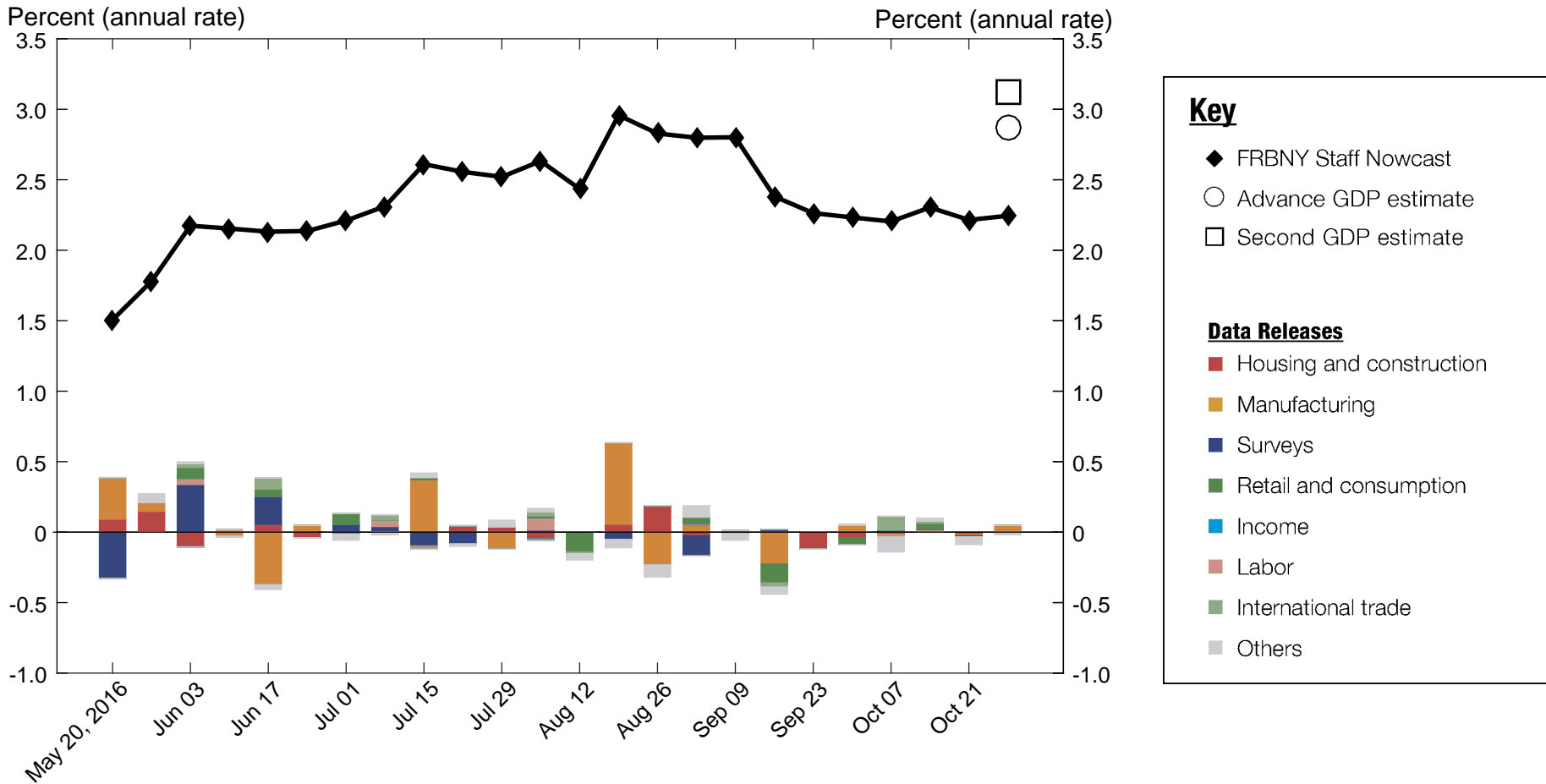
# 1.1 | Nowcast Detail

| Update | Release Date | Data Series | Reference Period | Units | Forecast | Actual | Weight | Impact | Nowcast GDP Growth |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | [a] | [b] | [c] | [c(b − a)] | |
| Nov 04 | | | | | | | | | **1.60** |
| | 11:00 AM Nov 08 | ■ JOLTS: Job openings: Total | Sep | Level chg. (thousands) | 254.9 | 33.0 | -0.064* | 0.014 | |
| | | ■ Data revisions | | | | | | 0.018 | |
| Nov 09 | | | | | | | | | **1.63** |
| | 9:30 AM Nov 15 | ■ Retail sales and food services | Oct | MoM % chg. | 0.127 | 0.824 | 0.357 | 0.249 | |
| | 9:30 AM Nov 15 | ■ Import price index | Oct | MoM % chg. | 0.124 | 0.497 | 0.027 | 0.010 | |
| | 9:30 AM Nov 15 | ■ Export price index | Oct | MoM % chg. | 0.163 | 0.166 | 0.052 | 0.000 | |
| | 9:30 AM Nov 15 | ■ Empire State Mfg. Survey: General business conditions | Nov | Index | 0.242 | 1.50 | 0.007 | 0.009 | |
| | 9:30 AM Nov 16 | ■ PPI: Final demand | Oct | MoM % chg. | 0.139 | 0.000 | 0.064 | -0.009 | |
| | 10:10 AM Nov 16 | ■ Industrial production index | Oct | MoM % chg. | 0.176 | 0.042 | 0.472 | -0.063 | |
| | 10:10 AM Nov 16 | ■ Capacity utilization | Oct | Ppt. chg. | 0.077 | -0.012 | 0.607 | -0.054 | |
| | 9:30 AM Nov 17 | ■ Housing starts | Oct | MoM % chg. | 4.85 | 25.5 | 0.023 | 0.472 | |
| | 9:30 AM Nov 17 | ■ Building permits | Oct | Level chg. (thousands) | -20.8 | 4.00 | 0.003 | 0.067 | |
| | 9:30 AM Nov 17 | ■ Philly Fed Mfg. business outlook: Current activity | Nov | Index | 6.97 | 7.60 | 0.005 | 0.003 | |
| | 9:50 AM Nov 17 | ■ CPI-U: All items | Oct | MoM % chg. | 0.207 | 0.357 | 0.065 | 0.010 | |
| | 9:50 AM Nov 17 | ■ CPI-U: All items less food and energy | Oct | MoM % chg. | 0.145 | 0.149 | 0.050 | 0.000 | |
| | | ■ Data revisions | | | | | | 0.040 | |
| Nov 17 | | | | | | | | | **2.36** |
| | 9:30 AM Nov 23 | ■ Manufacturers' new orders: Durable goods | Oct | MoM % chg. | 0.991 | 4.81 | 0.024 | 0.091 | |
| | 9:30 AM Nov 23 | ■ Manufacturers' shipments: Durable goods | Oct | MoM % chg. | 0.308 | 0.096 | 0.126 | -0.027 | |
| | 9:30 AM Nov 23 | ■ Mfrs.' unfilled orders: All manufacturing industries | Oct | MoM % chg. | 0.018 | 0.735 | -0.034 | -0.024 | |
| | 9:30 AM Nov 23 | ■ Manufacturers' inventories: Durable goods | Oct | MoM % chg. | -0.143 | 0.025 | -0.472 | -0.079 | |
| | 11:00 AM Nov 23 | ■ New single family houses sold | Oct | MoM % chg. | 1.23 | -1.92 | 0.011 | -0.034 | |
| | 9:35 AM Nov 25 | ■ Merchant wholesalers: Inventories: Total | Oct | MoM % chg. | 0.174 | -0.366 | -0.191 | 0.103 | |
| | | ■ Data revisions | | | | | | 0.103 | |
| Nov 25 | | | | | | | | | **2.50** |
| | 9:30 AM Nov 29 | ■ Real gross domestic income | Q3 | QoQ % chg. AR | 2.25 | 5.07 | 0.021 | 0.059 | |
| | 9:10 AM Nov 30 | ■ ADP nonfarm private payroll employment | Nov | Level chg. (thousands) | 141.3 | 216.0 | 1.269* | 0.095 | |
| | 9:30 AM Nov 30 | ■ Real disposable personal income | Oct | MoM % chg. | 0.264 | 0.367 | 0.031 | 0.003 | |
| | 9:30 AM Nov 30 | ■ PCE less food and energy: Chain price index | Oct | MoM % chg. | 0.135 | 0.112 | 0.222 | -0.005 | |
| | 9:30 AM Nov 30 | ■ PCE: Chain price index | Oct | MoM % chg. | 0.164 | 0.243 | 0.132 | 0.010 | |
| | 9:35 AM Nov 30 | ■ Real personal consumption expenditures | Oct | MoM % chg. | 0.201 | 0.053 | 0.378 | -0.056 | |
| | 11:00 AM Dec 01 | ■ ISM mfg.: Pmi composite index | Nov | Index | 52.7 | 53.2 | 0.047 | 0.024 | |
| | 11:00 AM Dec 01 | ■ ISM mfg.: Prices index | Nov | Index | 56.7 | 54.5 | 0.005 | -0.012 | |
| | 11:00 AM Dec 01 | ■ Value of construction put in place | Oct | MoM % chg. | 0.213 | 0.525 | 0.042 | 0.013 | |
| | 11:00 AM Dec 01 | ■ ISM mfg.: Employment index | Nov | Index | 53.2 | 52.3 | 0.014 | -0.013 | |
| | 9:30 AM Dec 02 | ■ All employees: Total nonfarm | Nov | Level chg. (thousands) | 203.5 | 178.0 | 0.165* | -0.004 | |
| | 9:30 AM Dec 02 | ■ Civilian unemployment rate | Nov | Ppt. chg. | -0.047 | -0.300 | -0.089 | 0.023 | |
| | | ■ Data revisions | | | | | | 0.038 | |
| Dec 02 | | | | | | | | | **2.67** |

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.

Percent (annual rate)

Percent (annual rate)



**Key**

- ◆ FRBNY Staff Nowcast
- ○ Advance GDP estimate
- □ Second GDP estimate

**Data Releases**

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

Source: Authors' calculations.
Note: Colored bars reflect the 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)] | |
| Oct 07 | | | | | | | | | **2.20** |
| | 10:00 AM Oct 12 | ■ JOLTS: Job openings: Total | Aug | Level chg. (thousands) | 41.4 | -388.0 | -0.044* | 0.019 | |
| | 8:30 AM Oct 13 | ■ Import price index | Sep | MoM % chg. | -0.077 | 0.083 | 0.011 | 0.002 | |
| | 8:30 AM Oct 13 | ■ Export price index | Sep | MoM % chg. | -0.257 | 0.333 | 0.024 | 0.014 | |
| | 8:30 AM Oct 14 | ■ Retail sales and food services | Sep | MoM % chg. | 0.266 | 0.623 | 0.120 | 0.043 | |
| | 8:30 AM Oct 14 | ■ PPI: Final demand | Sep | MoM % chg. | 0.085 | 0.272 | 0.042 | 0.008 | |
| | | ■ Data revisions | | | | | | 0.014 | |
| Oct 14 | | | | | | | | | **2.30** |
| | 8:40 AM Oct 17 | ■ Empire State Mfg. Survey: General business conditions | Oct | Index | 2.49 | -6.80 | 0.000 | -0.002 | |
| | 9:20 AM Oct 17 | ■ Industrial production index | Sep | MoM % chg. | 0.107 | 0.059 | 0.162 | -0.008 | |
| | 9:20 AM Oct 17 | ■ Capacity utilization | Sep | Ppt. chg. | 0.019 | 0.008 | 0.206 | -0.002 | |
| | 8:40 AM Oct 18 | ■ CPI-U: All items | Sep | MoM % chg. | 0.178 | 0.292 | 0.028 | 0.003 | |
| | 8:40 AM Oct 18 | ■ CPI-U: All items less food and energy | Sep | MoM % chg. | 0.185 | 0.112 | 0.024 | -0.002 | |
| | 8:30 AM Oct 19 | ■ Housing starts | Sep | MoM % chg. | 2.12 | -8.96 | 0.008 | -0.084 | |
| | 8:30 AM Oct 19 | ■ Building permits | Sep | Level chg. (thousands) | -7.54 | 73.0 | 0.001 | 0.068 | |
| | 8:30 AM Oct 20 | ■ Philly Fed Mfg. business outlook: Current activity | Oct | Index | 3.33 | 9.70 | -0.001 | -0.004 | |
| | | ■ Data revisions | | | | | | -0.057 | |
| Oct 20 | | | | | | | | | **2.22** |
| | 8:30 AM Oct 26 | ■ Merchant wholesalers: Inventories: Total | Sep | MoM % chg. | 0.312 | 0.209 | -0.054 | 0.006 | |
| | 10:00 AM Oct 26 | ■ New single family houses sold | Sep | MoM % chg. | 2.28 | 3.13 | 0.004 | 0.004 | |
| | 8:30 AM Oct 27 | ■ Manufacturers' new orders: Durable goods | Sep | MoM % chg. | -0.123 | -0.123 | 0.009 | 0.000 | |
| | 8:30 AM Oct 27 | ■ Manufacturers' shipments: Durable goods | Sep | MoM % chg. | -0.039 | 0.846 | 0.049 | 0.043 | |
| | 8:30 AM Oct 27 | ■ Mfrs.' unfilled orders: All manufacturing industries | Sep | MoM % chg. | 0.184 | -0.350 | 0.002 | -0.001 | |
| | 8:30 AM Oct 27 | ■ Manufacturers' inventories: Durable goods | Sep | MoM % chg. | 0.068 | 0.132 | -0.064 | -0.004 | |
| | | ■ Data revisions | | | | | | -0.018 | |
| Oct 28 | | | | | | | | | **2.24** |
| | 8:30 AM Oct 28 | ■ Real gross domestic product (advance) | Q3 | QoQ % chg. AR | 2.24 | **2.87** | | | |

We have concluded our updates of the Q3 nowcast.

| | 8:30 AM Nov 29 | ■ Real gross domestic product (second) | Q3 | QoQ % chg. AR | | **3.2** | | | |

Nowcast stopped with the second GDP release.

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