# NOWCASTING REPORT

Updated: January 11, 2019

- The New York Fed Staff Nowcast stands at 2.5% for 2018:Q4 and 2.1% for 2019:Q1.

- News from the JOLTS, ISM nonmanufacturing, and CPI releases left the nowcast for both quarters broadly unchanged.

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 (FOMC).
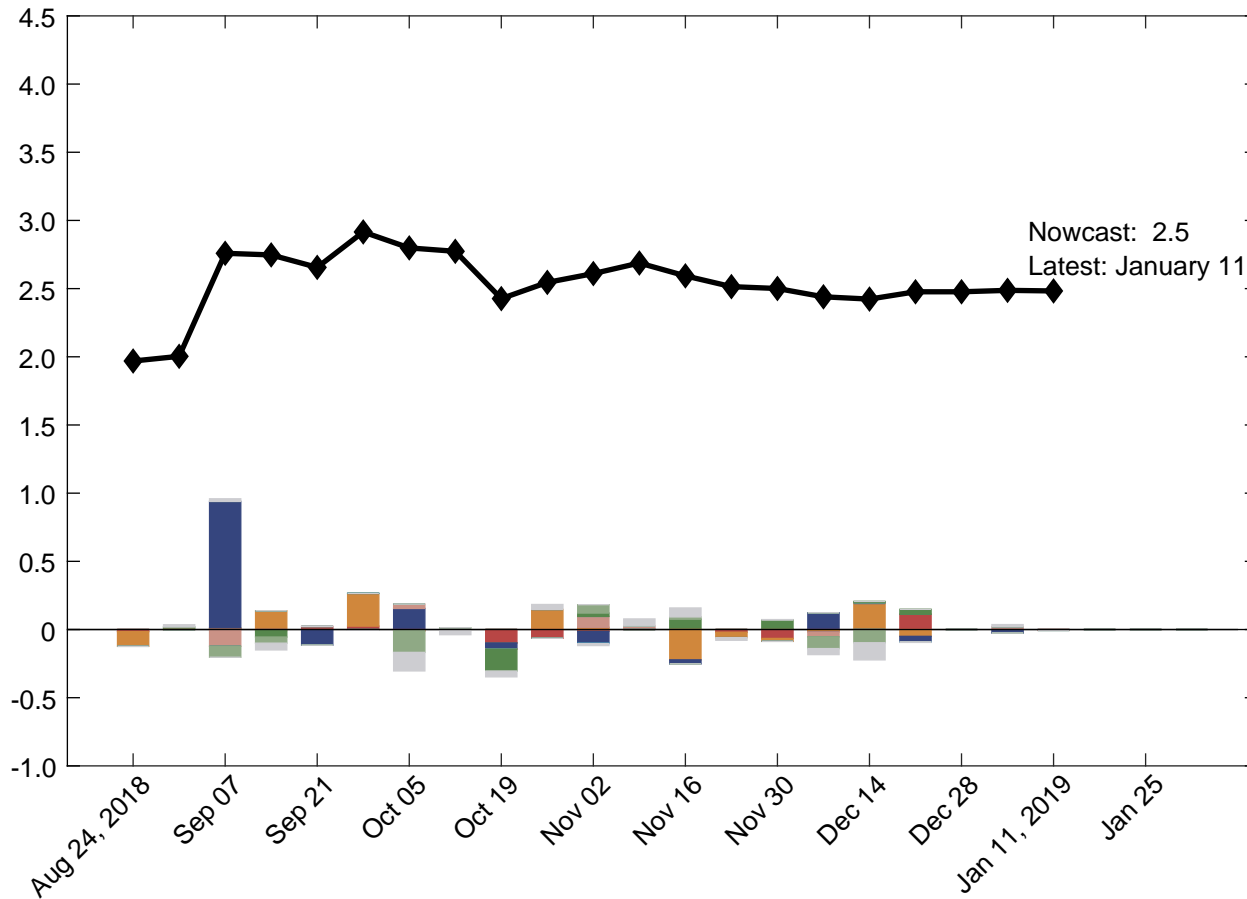
Percent (annual rate)



Nowcast: 2.5
Latest: January 11

**Key**

◆ New York Fed Staff Nowcast

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

Source: Authors' calculations, based on data accessed through Haver Analytics.
Note: Colored bars reflect the impact of each data release on the nowcast.
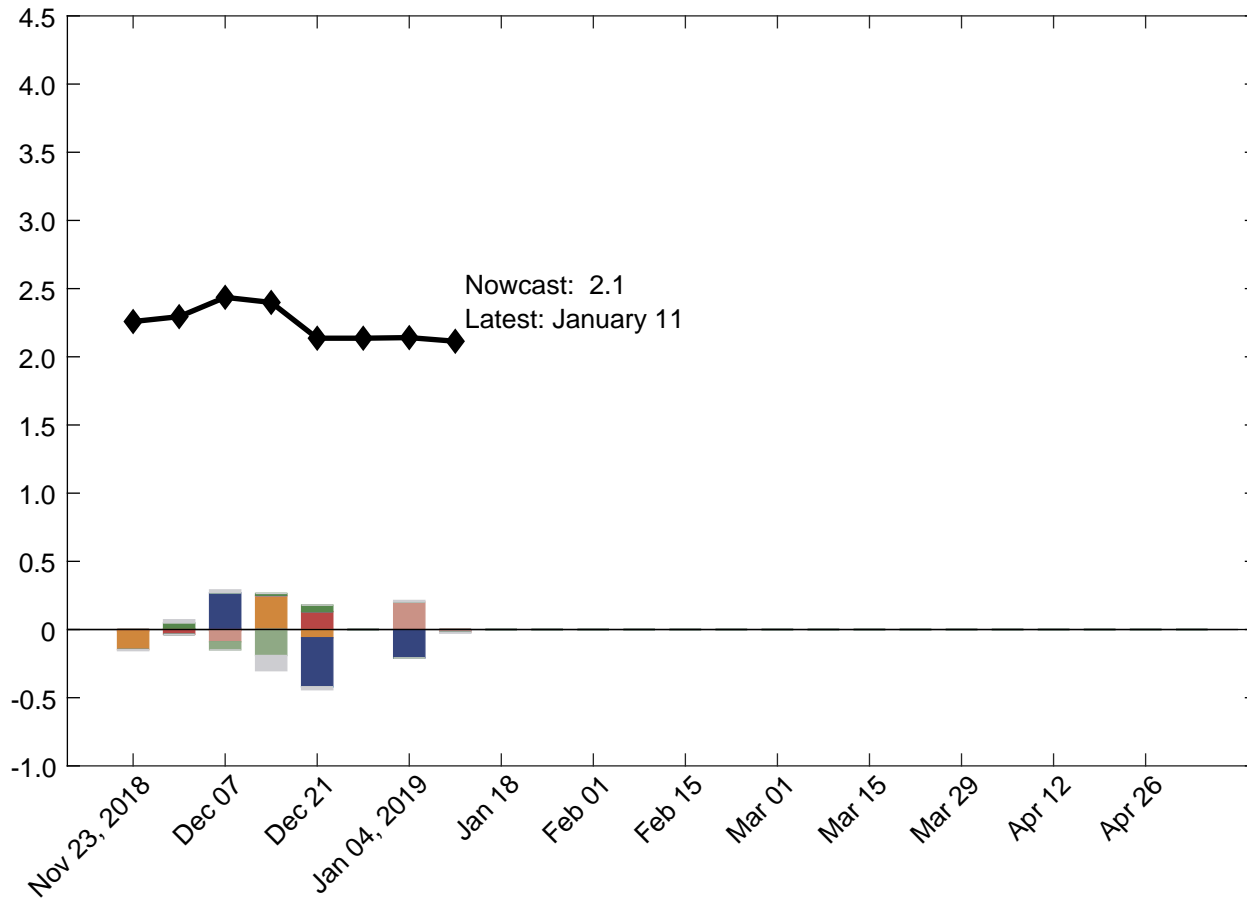
# 1.1 | Nowcast Detail

Legend: ■ 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)] | |
| Dec 14 | | | | | | | | | **2.42** |
| | 8:30 AM Dec 17 | ■ Empire State Mfg. Survey: General business conditions | Dec | Index | 22.1 | 10.9 | 0.003 | -0.033 | |
| | 8:30 AM Dec 18 | ■ Housing starts | Nov | MoM % chg. | 1.47 | 3.20 | 0.012 | 0.021 | |
| | 8:30 AM Dec 18 | ■ Building permits | Nov | Level chg. (thousands) | -0.014 | 63.0 | 0.001 | 0.091 | |
| | 8:30 AM Dec 20 | ■ Phila. Fed Mfg. business outlook: Current activity | Dec | Index | 17.4 | 9.40 | 0.001 | -0.009 | |
| | 8:30 AM Dec 21 | ■ Manufacturers' new orders: Durable goods | Nov | MoM % chg. | 3.08 | 0.758 | 0.014 | -0.033 | |
| | 8:30 AM Dec 21 | ■ Manufacturers' shipments: Durable goods | Nov | MoM % chg. | 0.935 | 0.707 | 0.088 | -0.020 | |
| | 8:30 AM Dec 21 | ■ Mfrs.' unfilled orders: All manufacturing industries | Nov | MoM % chg. | 0.274 | -0.144 | -0.007 | 0.003 | |
| | 8:30 AM Dec 21 | ■ Manufacturers' inventories: Durable goods | Nov | MoM % chg. | 0.256 | 0.256 | -0.134 | 0.000 | |
| | 10:00 AM Dec 21 | ■ Real disposable personal income | Nov | MoM % chg. | 0.188 | 0.184 | 0.017 | -0.000 | |
| | 10:00 AM Dec 21 | ■ PCE less food and energy: Chain price index | Nov | MoM % chg. | 0.148 | 0.148 | 0.163 | 0.000 | |
| | 10:00 AM Dec 21 | ■ PCE: Chain price index | Nov | MoM % chg. | 0.181 | 0.056 | 0.082 | -0.010 | |
| | 10:00 AM Dec 21 | ■ Real personal consumption expenditures | Nov | MoM % chg. | 0.158 | 0.326 | 0.215 | 0.036 | |
| | | ■ Data revisions | | | | | | 0.008 | |
| Dec 21 | | | | | | | | | **2.48** |
| | | No tracked data releases this week | | | | | | | |
| Dec 28 | | | | | | | | | **2.48** |
| | 8:05 AM Jan 03 | ■ ADP nonfarm private payroll employment | Dec | Level chg. (thousands) | 134.7 | 271.0 | 0.233* | 0.032 | |
| | 10:00 AM Jan 03 | ■ ISM mfg.: PMI composite index | Dec | Index | 56.2 | 54.1 | 0.015 | -0.031 | |
| | 10:00 AM Jan 03 | ■ ISM mfg.: Prices index | Dec | Index | 58.2 | 54.9 | 0.002 | -0.006 | |
| | 10:00 AM Jan 03 | ■ ISM mfg.: Employment index | Dec | Index | 55.3 | 56.2 | 0.012 | 0.011 | |
| | 8:30 AM Jan 04 | ■ All employees: Total nonfarm | Dec | Level chg. (thousands) | 184.8 | 312.0 | 0.155* | 0.020 | |
| | 8:30 AM Jan 04 | ■ Civilian unemployment rate | Dec | Ppt. chg. | -0.021 | 0.200 | -0.138 | -0.031 | |
| | | ■ Data revisions | | | | | | 0.002 | |
| | | ■ Parameter revisions | | | | | | 0.013 | |
| Jan 04 | | | | | | | | | **2.49** |
| | 10:00 AM Jan 07 | ■ ISM nonmanufacturing: NMI composite index | Dec | Index | 58.0 | 57.6 | 0.003 | -0.001 | |
| | 10:00 AM Jan 08 | ■ JOLTS: Job openings: Total | Nov | Level chg. (thousands) | -77.8 | -243.0 | 0.032* | -0.005 | |
| | 8:40 AM Jan 11 | ■ CPI-U: All items | Dec | MoM % chg. | 0.099 | -0.057 | 0.047 | -0.007 | |
| | 8:40 AM Jan 11 | ■ CPI-U: All items less food and energy | Dec | MoM % chg. | 0.175 | 0.210 | 0.062 | 0.002 | |
| | | ■ Data revisions | | | | | | 0.007 | |
| Jan 11 | | | | | | | | | **2.48** |

Source: Authors' calculations, based on data accessed through Haver Analytics.
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)

Nowcast: 2.1
Latest: January 11

**Key**

◆ New York Fed Staff Nowcast

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- ■ Others

Source: Authors' calculations, based on data accessed through Haver Analytics.
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)] | |
| Dec 14 | | | | | | | | | **2.40** |
| | 8:30 AM Dec 17 | ■ Empire State Mfg. Survey: General business conditions | Dec | Index | 22.1 | 10.9 | 0.021 | -0.237 | |
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| Dec 28 | | | | | | | | | **2.14** |
| | 8:05 AM Jan 03 | ■ ADP nonfarm private payroll employment | Dec | Level chg. (thousands) | 134.7 | 271.0 | 1.423* | 0.194 | |
| | 10:00 AM Jan 03 | ■ ISM mfg.: PMI composite index | Dec | Index | 56.2 | 54.1 | 0.099 | -0.208 | |
| | 10:00 AM Jan 03 | ■ ISM mfg.: Prices index | Dec | Index | 58.2 | 54.9 | 0.013 | -0.043 | |
| | 10:00 AM Jan 03 | ■ ISM mfg.: Employment index | Dec | Index | 55.3 | 56.2 | 0.046 | 0.042 | |
| | 8:30 AM Jan 04 | ■ All employees: Total nonfarm | Dec | Level chg. (thousands) | 184.8 | 312.0 | 0.646* | 0.082 | |
| | 8:30 AM Jan 04 | ■ Civilian unemployment rate | Dec | Ppt. chg. | -0.021 | 0.200 | -0.337 | -0.074 | |
| | | ■ Data revisions | | | | | | -0.005 | |
| | | ■ Parameter revisions | | | | | | 0.016 | |
| Jan 04 | | | | | | | | | **2.14** |
| | 10:00 AM Jan 07 | ■ ISM nonmanufacturing: NMI composite index | Dec | Index | 58.0 | 57.6 | 0.022 | -0.009 | |
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| | | ■ Data revisions | | | | | | 0.011 | |
| Jan 11 | | | | | | | | | **2.11** |

Source: Authors' calculations, based on data accessed through Haver Analytics.
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.

■ *Bok, B., D. Caratelli, D. Giannone, A. Sbordone, and A. Tambalotti.* 2017. "Macroeconomic Nowcasting and Forecasting with Big Data." *Federal Reserve Bank of New York Staff Reports,* no. 830, November.

■ *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. What is the schedule for reporting and updating the nowcast for each quarter?

We start reporting the 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 2017:Q2 on Friday, March 10, 2017, following the government's second estimate of 2016:Q4 GDP on Tuesday, February 28, 2017. We continue to update the nowcast for a reference quarter until the release of the advance GDP estimate, roughly one month after the end of the quarter. For 2017:Q2, this occurred on July 28, 2017, at which point we stopped updating the nowcast for this quarter. We retain the reference quarter's progression plot and detail table in the Nowcasting Report until the publication of the second GDP estimate, roughly two months after the end of the quarter. Following the second estimate of 2017:Q2 GDP on August 30, 2017, we removed 2017:Q2 from the Nowcasting Report and began reporting the nowcast for 2017:Q4.

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

The New York Fed 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 New York Fed 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 New York Fed 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 real GDP, not the four-quarter ("y/y") growth rate.

### 4. Can we obtain the data underlying this analysis?

To make it easier for nowcast followers to better understand and replicate our results, we share the MATLAB code for our model and a snapshot of data sets from the past year on Github at https://github.com/FRBNY-TimeSeriesAnalysis/Nowcasting. 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.

### Authors

New York Fed Time-Series Analysis Team