

# NOWCASTING REPORT

Updated: February 22, 2019

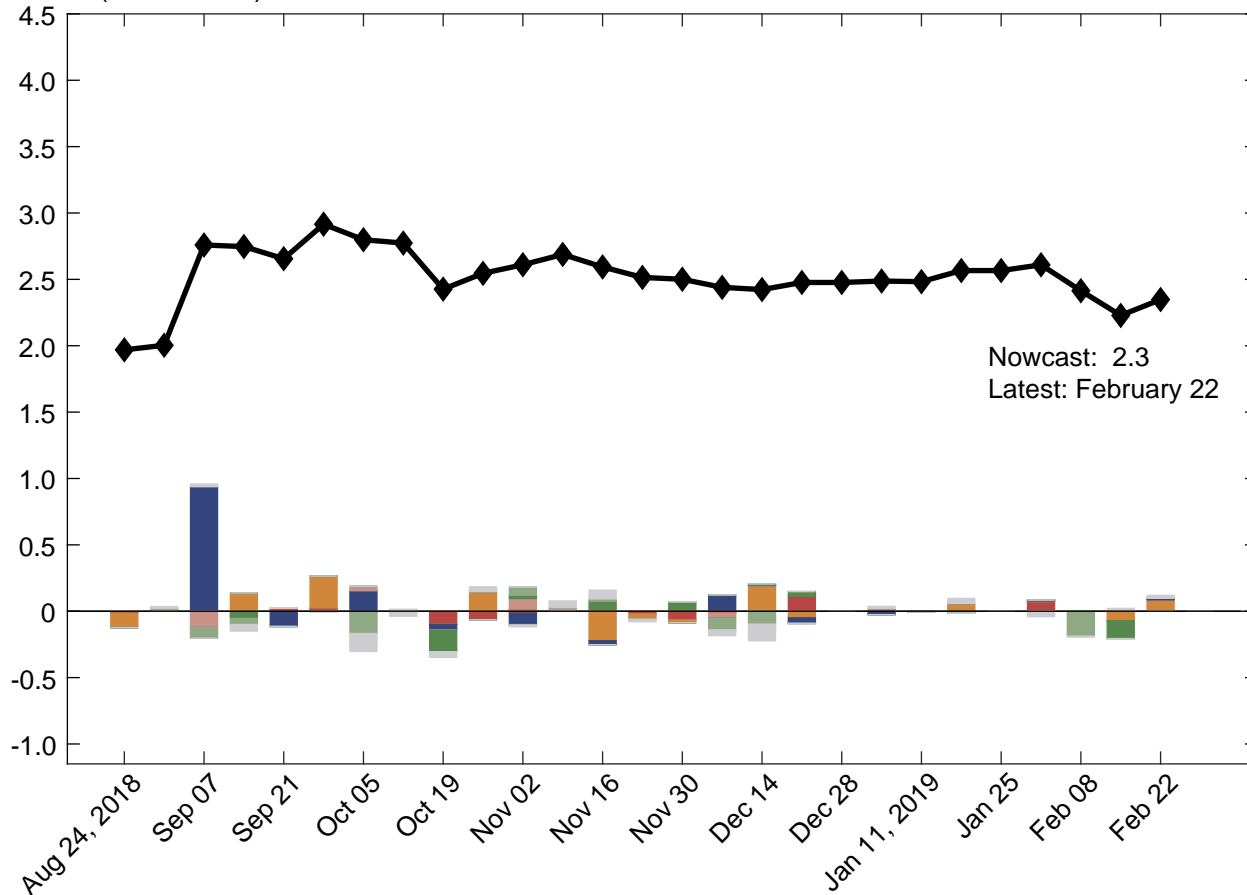
- The New York Fed Staff Nowcast stands at 2.3% for 2018:Q4 and 1.2% for 2019:Q1.
- News from this week's data releases increased the nowcast for both 2018:Q4 and 2019:Q1 by 0.1 percentage point.
- Positive surprises from manufacturing data accounted for most of the increase. A negative surprise from the Philadelphia Fed manufacturing survey partially offset the increase for 2019:Q1.
- The first 2018:Q4 GDP release, originally scheduled for January 30, has been postponed to February 28 as a result of the partial shutdown of the federal government. We will continue to backcast 2018:Q4 GDP growth until then.

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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).

# 1 | 2018:Q4 GDP Growth

Percent (annual rate)



**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.

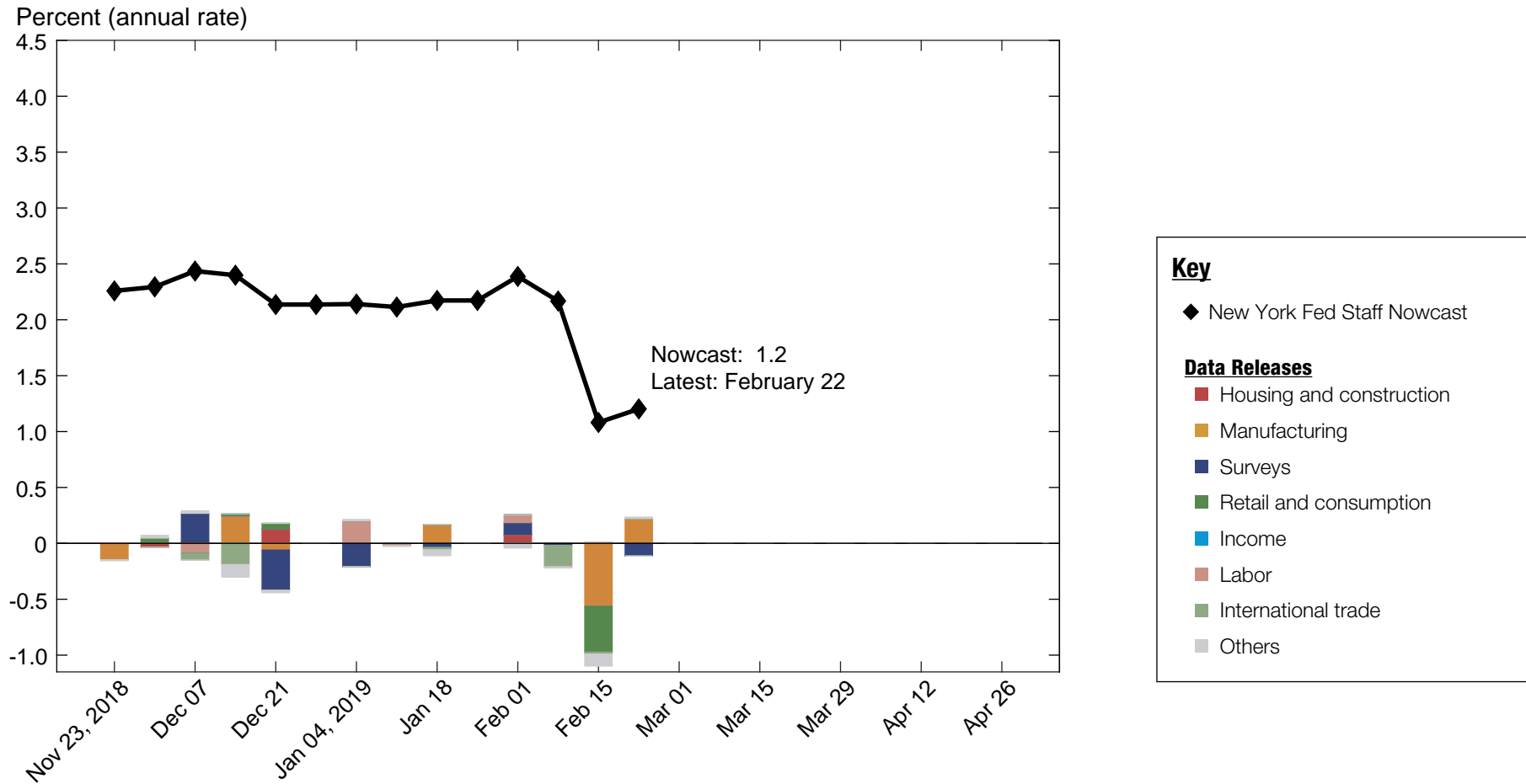
# 1.1 | Nowcast Detail

<span style="color: #c00000;">■</span> Housing and construction <span style="color: #e69d00;">■</span> Manufacturing <span style="color: #000080;">■</span> Surveys <span style="color: #008000;">■</span> Retail and consumption <span style="color: #00b0f0;">■</span> Income <span style="color: #a52a2a;">■</span> Labor <span style="color: #6aa84f;">■</span> International trade <span style="color: #cccccc;">■</span> Others									
Update	Release Date	Data Series	Reference Period	Units	Forecast	Actual	Weight	Impact	Nowcast GDP Growth
					[a]	[b]	[c]	[c(b - a)]	
Jan 25	8:05 AM Jan 30	<span style="color: #c00000;">■</span> ADP nonfarm private payroll employment	Jan	Level chg. (thousands)	198.4	213.0	*0.072	0.001	<b>2.57</b>
	10:00 AM Jan 31	<span style="color: #c00000;">■</span> New single family houses sold	Nov	MoM % chg.	3.01	16.9	0.005	0.066	
	8:30 AM Feb 01	<span style="color: #c00000;">■</span> Civilian unemployment rate	Jan	Ppt. chg.	-0.013	0.100	-0.095	-0.011	
	8:40 AM Feb 01	<span style="color: #c00000;">■</span> All employees: Total nonfarm	Jan	Level chg. (thousands)	155.9	304.0	*0.069	0.010	
	10:00 AM Feb 01	<span style="color: #000080;">■</span> ISM mfg.: PMI composite index	Jan	Index	55.0	56.6	-0.000	-0.000	
	10:00 AM Feb 01	<span style="color: #000080;">■</span> ISM mfg.: Prices index	Jan	Index	55.6	49.6	-0.000	0.000	
	10:00 AM Feb 01	<span style="color: #e69d00;">■</span> Merchant wholesalers: Inventories: Total	Nov	MoM % chg.	0.340	0.259	-0.064	0.005	
	10:00 AM Feb 01	<span style="color: #c00000;">■</span> Value of construction put in place	Nov	MoM % chg.	0.248	0.792	0.012	0.006	
	10:00 AM Feb 01	<span style="color: #000080;">■</span> ISM mfg.: Employment index	Jan	Index	54.3	55.5	0.006	0.006	
		<span style="color: #cccccc;">■</span> Data revisions						-0.041	
Feb 01	10:00 AM Feb 05	<span style="color: #000080;">■</span> ISM nonmanufacturing: NMI composite index	Jan	Index	57.8	56.7	0.000	-0.000	<b>2.61</b>
	8:30 AM Feb 06	<span style="color: #6aa84f;">■</span> Exports: Goods and services	Nov	MoM % chg.	1.04	-0.619	0.039	-0.065	
	8:30 AM Feb 06	<span style="color: #6aa84f;">■</span> Imports: Goods and services	Nov	MoM % chg.	1.05	-2.88	0.031	-0.123	
		<span style="color: #cccccc;">■</span> Data revisions						-0.007	
Feb 08	10:00 AM Feb 12	<span style="color: #c00000;">■</span> JOLTS: Job openings: Total	Dec	Level chg. (thousands)	43.3	169.0	*0.027	0.003	<b>2.41</b>
	8:40 AM Feb 13	<span style="color: #cccccc;">■</span> CPI-U: All items	Jan	MoM % chg.	0.109	-0.020	0.025	-0.003	
	8:40 AM Feb 13	<span style="color: #cccccc;">■</span> CPI-U: All items less food and energy	Jan	MoM % chg.	0.168	0.240	0.034	0.002	
	8:30 AM Feb 14	<span style="color: #008000;">■</span> Retail sales and food services	Dec	MoM % chg.	0.418	-1.24	0.079	-0.132	
	8:30 AM Feb 14	<span style="color: #cccccc;">■</span> PPI: Final demand	Jan	MoM % chg.	0.109	-0.085	0.019	-0.004	
	10:00 AM Feb 14	<span style="color: #e69d00;">■</span> Inventories: Total business	Nov	MoM % chg.	0.320	-0.099	-0.016	0.007	
	8:30 AM Feb 15	<span style="color: #6aa84f;">■</span> Import price index	Jan	MoM % chg.	-0.495	-0.480	0.003	0.000	
	8:30 AM Feb 15	<span style="color: #6aa84f;">■</span> Export price index	Jan	MoM % chg.	-0.153	-0.555	0.009	-0.004	
	8:30 AM Feb 15	<span style="color: #000080;">■</span> Empire State Mfg. Survey: General business conditions	Feb	Index	8.36	8.80	-0.000	-0.000	
	9:20 AM Feb 15	<span style="color: #e69d00;">■</span> Industrial production index	Jan	MoM % chg.	-0.010	-0.579	0.061	-0.035	
	9:20 AM Feb 15	<span style="color: #e69d00;">■</span> Capacity utilization	Jan	Ppt. chg.	-0.044	-0.609	0.078	-0.044	
		<span style="color: #cccccc;">■</span> Data revisions						0.023	
Feb 15	8:30 AM Feb 21	<span style="color: #e69d00;">■</span> Manufacturers' new orders: Durable goods	Dec	MoM % chg.	-0.653	1.18	0.008	0.015	<b>2.23</b>
	8:30 AM Feb 21	<span style="color: #e69d00;">■</span> Manufacturers' shipments: Durable goods	Dec	MoM % chg.	-0.526	0.796	0.050	0.066	
	8:30 AM Feb 21	<span style="color: #e69d00;">■</span> Mfrs.' unfilled orders: All manufacturing industries	Dec	MoM % chg.	0.265	-0.097	-0.000	0.000	
	8:30 AM Feb 21	<span style="color: #e69d00;">■</span> Manufacturers' inventories: Durable goods	Dec	MoM % chg.	0.344	0.210	-0.039	0.005	
	8:30 AM Feb 21	<span style="color: #000080;">■</span> Phila. Fed Mfg. business outlook: Current activity	Feb	Index	16.6	-4.10	-0.001	0.011	
		<span style="color: #cccccc;">■</span> Data revisions						0.022	
Feb 22									<b>2.35</b>

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.

## 2 | 2019:Q1 GDP Growth



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

<span style="color: #c00000;">■</span> Housing and construction <span style="color: #e69d00;">■</span> Manufacturing <span style="color: #000080;">■</span> Surveys <span style="color: #008000;">■</span> Retail and consumption <span style="color: #00b0f0;">■</span> Income <span style="color: #a52a2a;">■</span> Labor <span style="color: #6aa84f;">■</span> International trade <span style="color: #cccccc;">■</span> Others									
Update	Release Date	Data Series	Reference Period	Units	Forecast	Actual	Weight	Impact	Nowcast GDP Growth
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Jan 25	8:05 AM Jan 30	<span style="color: #c00000;">■</span> ADP nonfarm private payroll employment	Jan	Level chg. (thousands)	198.4	213.0	*1.768	0.026	<b>2.17</b>
	10:00 AM Jan 31	<span style="color: #c00000;">■</span> New single family houses sold	Nov	MoM % chg.	3.01	16.9	0.005	0.063	
	8:30 AM Feb 01	<span style="color: #c00000;">■</span> Civilian unemployment rate	Jan	Ppt. chg.	-0.013	0.100	-0.324	-0.036	
	8:40 AM Feb 01	<span style="color: #c00000;">■</span> All employees: Total nonfarm	Jan	Level chg. (thousands)	155.9	304.0	*0.549	0.081	
	10:00 AM Feb 01	<span style="color: #000080;">■</span> ISM mfg.: PMI composite index	Jan	Index	55.0	56.6	0.073	0.119	
	10:00 AM Feb 01	<span style="color: #000080;">■</span> ISM mfg.: Prices index	Jan	Index	55.6	49.6	0.009	-0.054	
	10:00 AM Feb 01	<span style="color: #e69d00;">■</span> Merchant wholesalers: Inventories: Total	Nov	MoM % chg.	0.340	0.259	-0.063	0.005	
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	10:00 AM Feb 01	<span style="color: #000080;">■</span> ISM mfg.: Employment index	Jan	Index	54.3	55.5	0.037	0.042	
		<span style="color: #cccccc;">■</span> Data revisions						-0.042	
Feb 01	10:00 AM Feb 05	<span style="color: #000080;">■</span> ISM nonmanufacturing: NMI composite index	Jan	Index	57.8	56.7	0.016	-0.018	<b>2.39</b>
	8:30 AM Feb 06	<span style="color: #6aa84f;">■</span> Exports: Goods and services	Nov	MoM % chg.	1.04	-0.619	0.043	-0.071	
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	9:20 AM Feb 15	<span style="color: #e69d00;">■</span> Capacity utilization	Jan	Ppt. chg.	-0.044	-0.609	0.569	-0.322	
		<span style="color: #cccccc;">■</span> Data revisions						-0.086	
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	8:30 AM Feb 21	<span style="color: #e69d00;">■</span> Mfrs.' unfilled orders: All manufacturing industries	Dec	MoM % chg.	0.265	-0.097	-0.026	0.010	
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	8:30 AM Feb 21	<span style="color: #000080;">■</span> Phila. Fed Mfg. business outlook: Current activity	Feb	Index	16.6	-4.10	0.005	-0.114	
		<span style="color: #cccccc;">■</span> Data revisions						0.013	
Feb 22									<b>1.20</b>

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