# NOWCASTING REPORT

Updated: August 30, 2019

- The New York Fed Staff Nowcast stands at 1.8% for 2019:Q3.

- News from manufacturing, prices, and personal consumption data were small, leaving the nowcast 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).

1| 2019:Q3 GDP Growth
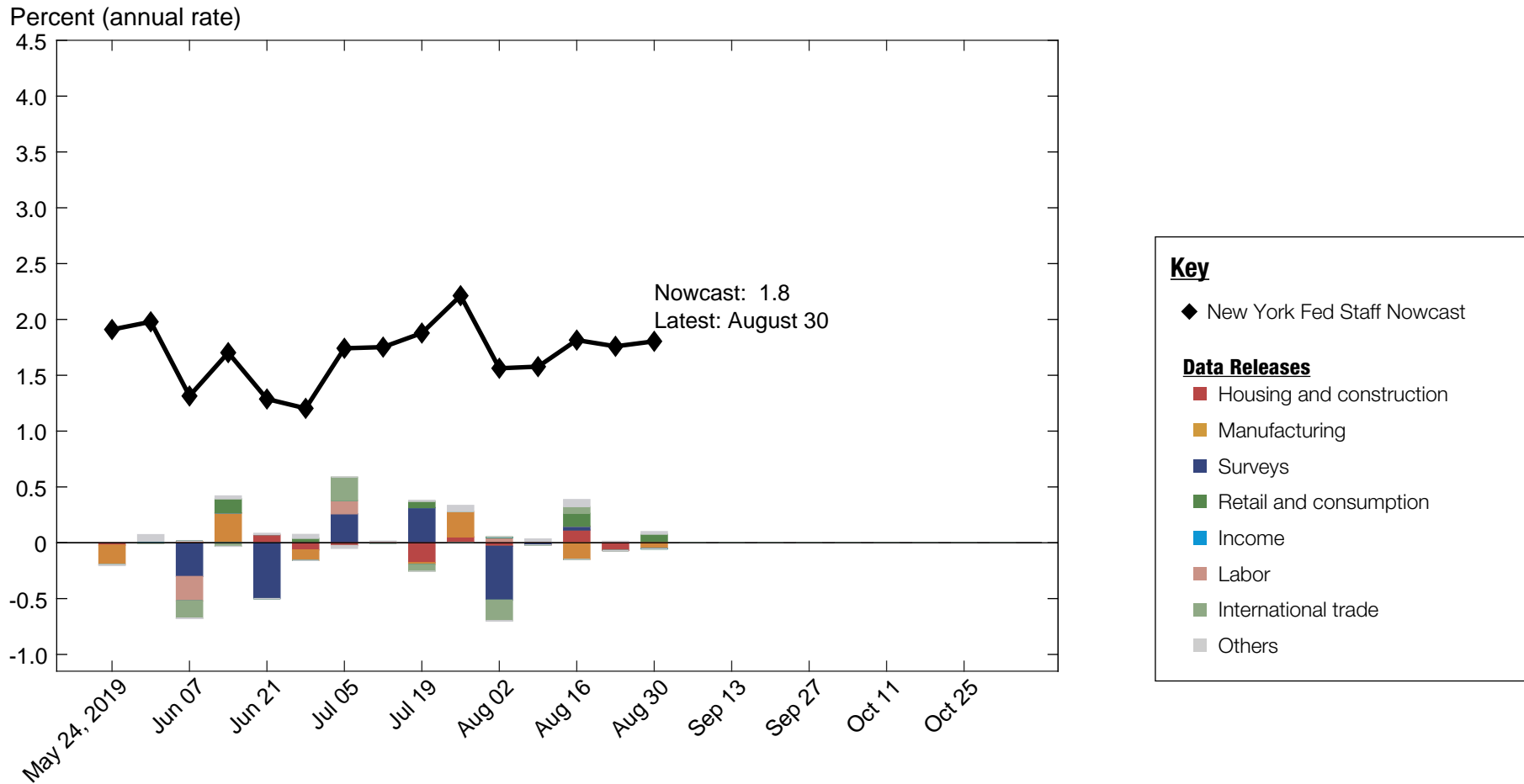
Percent (annual rate)

Nowcast: 1.8
Latest: August 30

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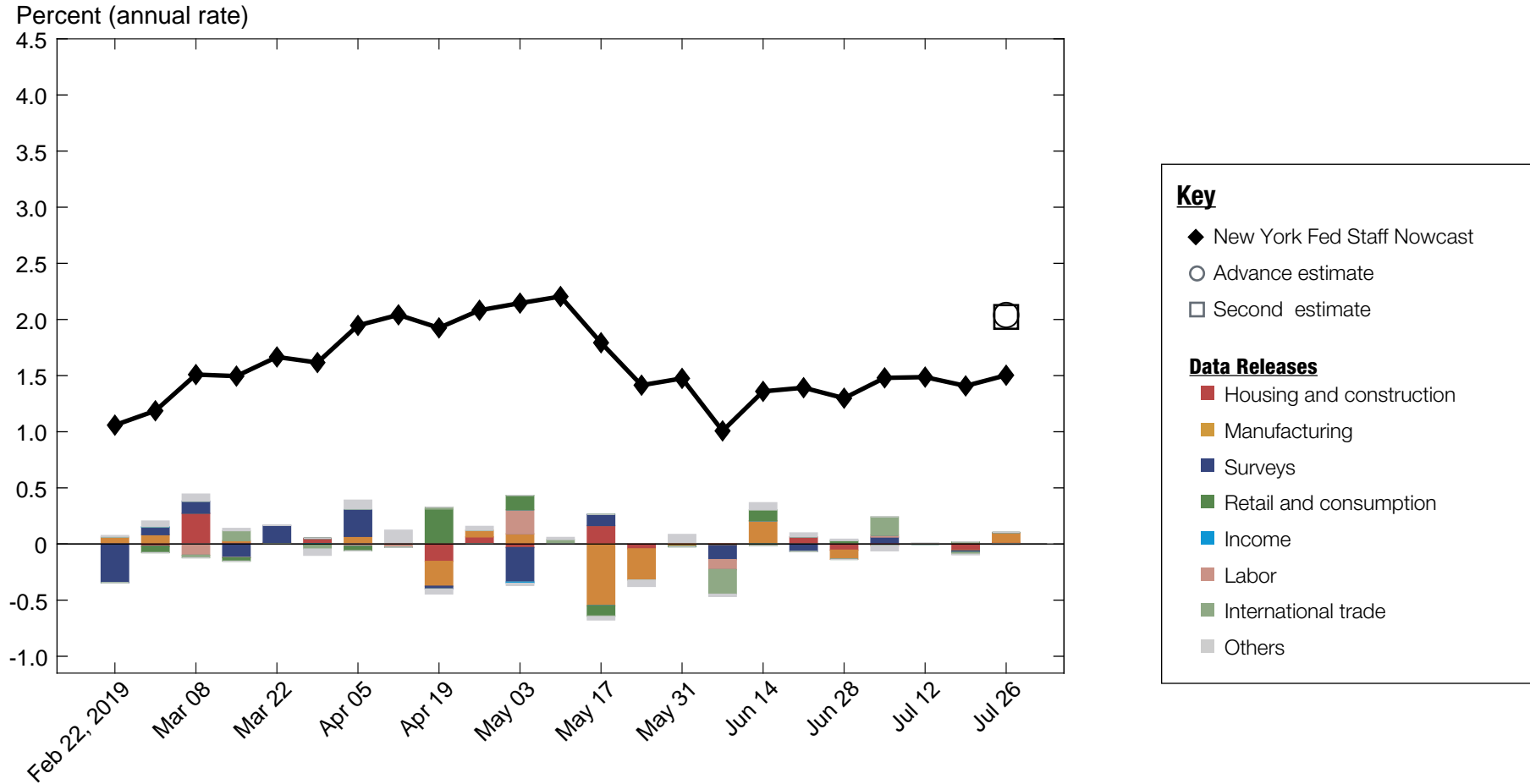Note: Colored bars reflect the impact of each data release on the nowcast.

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)]	
Aug 02									**1.56**
	10:00 AM Aug 05	■ ISM nonmanufacturing: NMI composite index	Jul	Index	55.1	53.7	0.014	-0.018	
	10:00 AM Aug 06	■ JOLTS: Job openings: Total	Jun	Level chg. (thousands)	-12.2	-36.0	*0.047	-0.001	
	8:30 AM Aug 09	■ PPI: Final demand	Jul	MoM % chg.	0.113	0.169	0.086	0.005	
		■ Data revisions						0.029	
Aug 09									**1.58**
	8:40 AM Aug 13	■ CPI-U: All items	Jul	MoM % chg.	0.089	0.335	0.128	0.031	
	8:40 AM Aug 13	■ CPI-U: All items less food and energy	Jul	MoM % chg.	0.200	0.291	0.153	0.014	
	8:30 AM Aug 14	■ Import price index	Jul	MoM % chg.	-0.713	0.159	0.035	0.031	
	8:30 AM Aug 14	■ Export price index	Jul	MoM % chg.	-0.237	0.238	0.062	0.029	
	8:30 AM Aug 15	■ Retail sales and food services	Jul	MoM % chg.	0.159	0.703	0.210	0.114	
	8:30 AM Aug 15	■ Empire State Mfg. Survey: General business conditions	Aug	Index	4.98	4.80	0.007	-0.001	
	8:30 AM Aug 15	■ Phila. Fed Mfg. business outlook: Current activity	Aug	Index	10.5	16.8	0.005	0.035	
	8:30 AM Aug 15	■ Nonfarm business sector: Unit labor cost	Q2	QoQ % chg. AR	0.358	2.35	0.001	0.001	
	9:10 AM Aug 15	■ Industrial production index	Jul	MoM % chg.	-0.061	-0.218	0.338	-0.053	
	9:10 AM Aug 15	■ Capacity utilization	Jul	Ppt. chg.	-0.086	-0.304	0.439	-0.096	
	8:30 AM Aug 16	■ Housing starts	Jul	MoM % chg.	0.748	-4.03	0.019	-0.091	
	8:30 AM Aug 16	■ Building permits	Jul	Level chg. (thousands)	11.3	104.0	0.002	0.205	
		■ Data revisions						0.018	
Aug 16									**1.82**
	10:00 AM Aug 23	■ New single family houses sold	Jul	MoM % chg.	-5.88	-12.8	0.010	-0.069	
		■ Data revisions						0.013	
Aug 23									**1.76**
	8:30 AM Aug 26	■ Manufacturers' new orders: Durable goods	Jul	MoM % chg.	-0.818	2.05	0.020	0.058	
	8:30 AM Aug 26	■ Manufacturers' shipments: Durable goods	Jul	MoM % chg.	-0.491	-1.14	0.121	-0.079	
	8:30 AM Aug 26	■ Mfrs.' unfilled orders: All manufacturing industries	Jul	MoM % chg.	-0.037	0.059	-0.019	-0.002	
	8:30 AM Aug 26	■ Manufacturers' inventories: Durable goods	Jul	MoM % chg.	0.134	0.354	-0.217	-0.048	
	8:30 AM Aug 29	■ Merchant wholesalers: Inventories: Total	Jul	MoM % chg.	0.323	0.187	-0.127	0.017	
	8:30 AM Aug 29	■ Real gross domestic income	Q2	QoQ % chg. AR	1.50	2.09	0.012	0.007	
	8:30 AM Aug 30	■ Real personal consumption expenditures	Jul	MoM % chg.	0.137	0.428	0.266	0.078	
	8:30 AM Aug 30	■ Real disposable personal income	Jul	MoM % chg.	0.154	0.059	0.019	-0.002	
	8:30 AM Aug 30	■ PCE less food and energy: Chain price index	Jul	MoM % chg.	0.145	0.178	0.243	0.008	
	8:30 AM Aug 30	■ PCE: Chain price index	Jul	MoM % chg.	0.116	0.210	0.142	0.013	
		■ Data revisions						-0.006	
Aug 30									**1.80**

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)

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

Key

◆ New York Fed Staff Nowcast
○ Advance estimate
□ Second estimate

Data Releases

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

2.1 | 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)]	
Jun 28									**1.30**
	10:00 AM Jul 01	■ ISM mfg.: PMI composite index	Jun	Index	50.8	51.7	0.020	0.018	
	10:00 AM Jul 01	■ ISM mfg.: Prices index	Jun	Index	50.9	47.9	0.003	-0.008	
	10:00 AM Jul 01	■ Value of construction put in place	May	MoM % chg.	0.191	-0.777	0.014	-0.013	
	10:00 AM Jul 01	■ ISM mfg.: Employment index	Jun	Index	50.1	54.5	0.012	0.052	
	8:05 AM Jul 03	■ ADP nonfarm private payroll employment	Jun	Level chg. (thousands)	44.4	102.0	*0.185	0.011	
	8:30 AM Jul 03	■ Exports: Goods and services	May	MoM % chg.	0.476	2.05	0.041	0.065	
	8:30 AM Jul 03	■ Imports: Goods and services	May	MoM % chg.	0.628	3.31	0.036	0.097	
	10:00 AM Jul 03	■ ISM nonmanufacturing: NMI composite index	Jun	Index	55.3	55.1	0.002	-0.000	
	10:00 AM Jul 03	■ Inventories: Total business	May	MoM % chg.	0.257	0.362	-0.013	-0.001	
	8:30 AM Jul 05	■ All employees: Total nonfarm	Jun	Level chg. (thousands)	90.3	224.0	*0.150	0.020	
	8:30 AM Jul 05	■ Civilian unemployment rate	Jun	Ppt. chg.	0.007	0.100	-0.136	-0.013	
		■ Data revisions						0.002	
		■ Parameter revisions						-0.048	
Jul 05									**1.48**
	10:00 AM Jul 09	■ JOLTS: Job openings: Total	May	Level chg. (thousands)	39.5	-49.0	*0.026	-0.002	
	8:40 AM Jul 11	■ CPI-U: All items	Jun	MoM % chg.	0.104	0.059	0.045	-0.002	
	8:40 AM Jul 11	■ CPI-U: All items less food and energy	Jun	MoM % chg.	0.144	0.294	0.056	0.008	
	8:30 AM Jul 12	■ PPI: Final demand	Jun	MoM % chg.	0.122	0.085	0.034	-0.001	
		■ Data revisions						0.004	
Jul 12									**1.49**
	8:30 AM Jul 15	■ Empire State Mfg. Survey: General business conditions	Jul	Index	-2.31	4.30	0.000	0.001	
	8:30 AM Jul 16	■ Retail sales and food services	Jun	MoM % chg.	0.166	0.426	0.069	0.018	
	8:30 AM Jul 16	■ Import price index	Jun	MoM % chg.	-0.069	-0.946	0.006	-0.005	
	8:30 AM Jul 16	■ Export price index	Jun	MoM % chg.	-0.076	-0.710	0.016	-0.010	
	9:20 AM Jul 16	■ Industrial production index	Jun	MoM % chg.	-0.075	-0.035	0.115	0.005	
	9:20 AM Jul 16	■ Capacity utilization	Jun	Ppt. chg.	-0.097	-0.165	0.147	-0.010	
	8:30 AM Jul 17	■ Housing starts	Jun	MoM % chg.	0.156	-0.949	0.006	-0.007	
	8:30 AM Jul 17	■ Building permits	Jun	Level chg. (thousands)	-8.62	-79.0	0.001	-0.048	
	8:30 AM Jul 18	■ Phila. Fed Mfg. business outlook: Current activity	Jul	Index	4.24	21.8	-0.001	-0.016	
		■ Data revisions						-0.006	
Jul 19									**1.41**
	10:00 AM Jul 24	■ New single family houses sold	Jun	MoM % chg.	1.77	6.95	0.003	0.016	
	8:30 AM Jul 25	■ Manufacturers' new orders: Durable goods	Jun	MoM % chg.	0.840	2.05	0.008	0.009	
	8:30 AM Jul 25	■ Merchant wholesalers: Inventories: Total	Jun	MoM % chg.	0.322	0.239	-0.011	0.001	
	8:30 AM Jul 25	■ Manufacturers' shipments: Durable goods	Jun	MoM % chg.	-0.288	1.39	0.048	0.080	
	8:30 AM Jul 25	■ Mfrs.' unfilled orders: All manufacturing industries	Jun	MoM % chg.	-0.085	-0.670	0.004	-0.002	
	8:30 AM Jul 25	■ Manufacturers' inventories: Durable goods	Jun	MoM % chg.	0.209	0.309	-0.014	-0.001	
		■ Data revisions						-0.008	
Jul 26									**1.50**
	8:30 AM Jul 26	■ Real gross domestic product (advance)	Q2	QoQ % chg. AR	1.50	**2.06**			

We have concluded our updates of the Q2 nowcast

| | 8:30 AM Aug 29 | ■ Real gross domestic product (second) | Q2 | QoQ % chg. AR | 1.50 | **2.04** | | | |

Nowcast stopped with the second GDP release

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