# NOWCASTING REPORT

Updated: May 10, 2019

- The New York Fed Staff Nowcast stands at 2.2% for 2019:Q2.

- News from the JOLTS, CPI, PPI, and international trade releases left the nowcast for 2019:Q1 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).
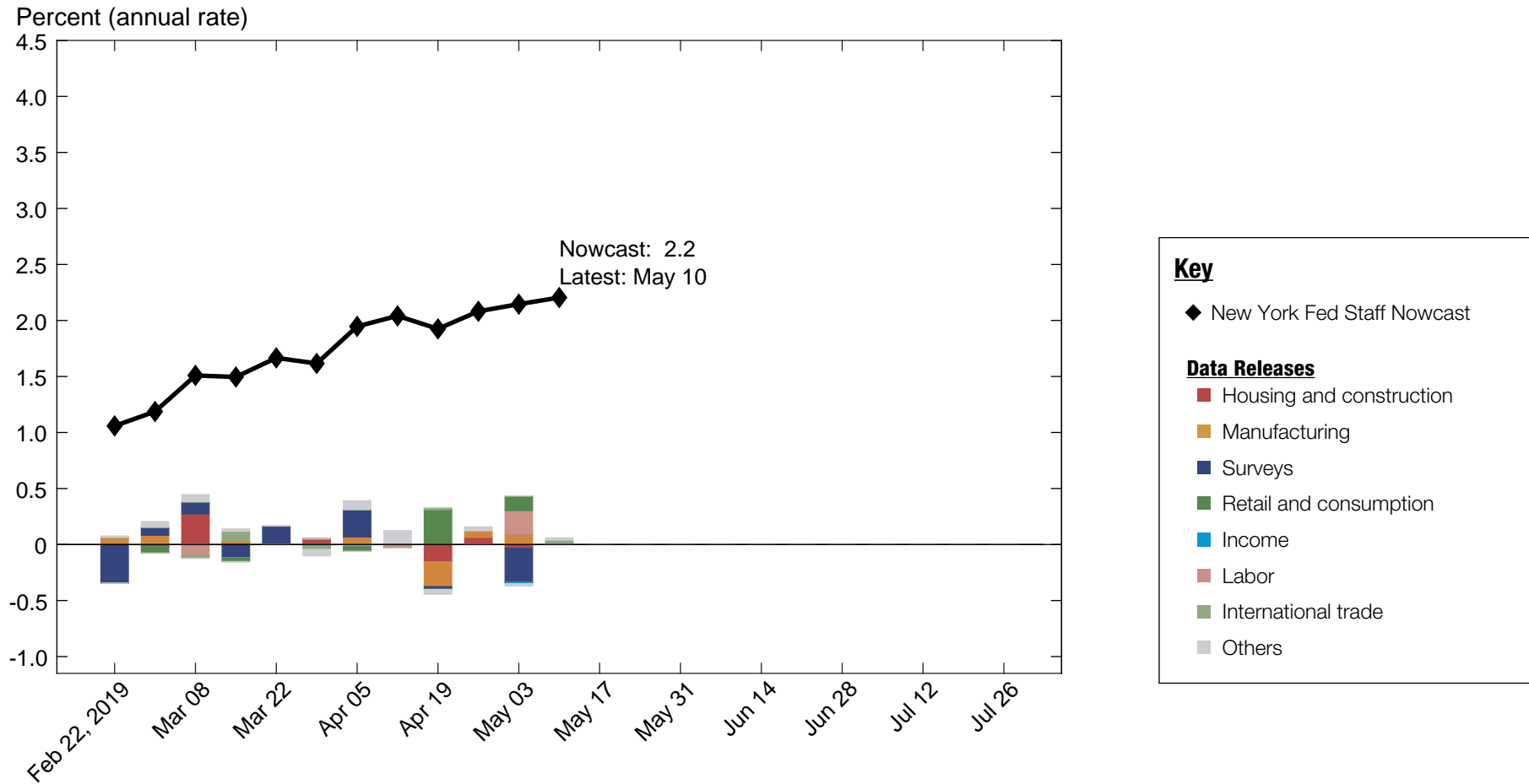
Percent (annual rate)

Nowcast: 2.2
Latest: May 10

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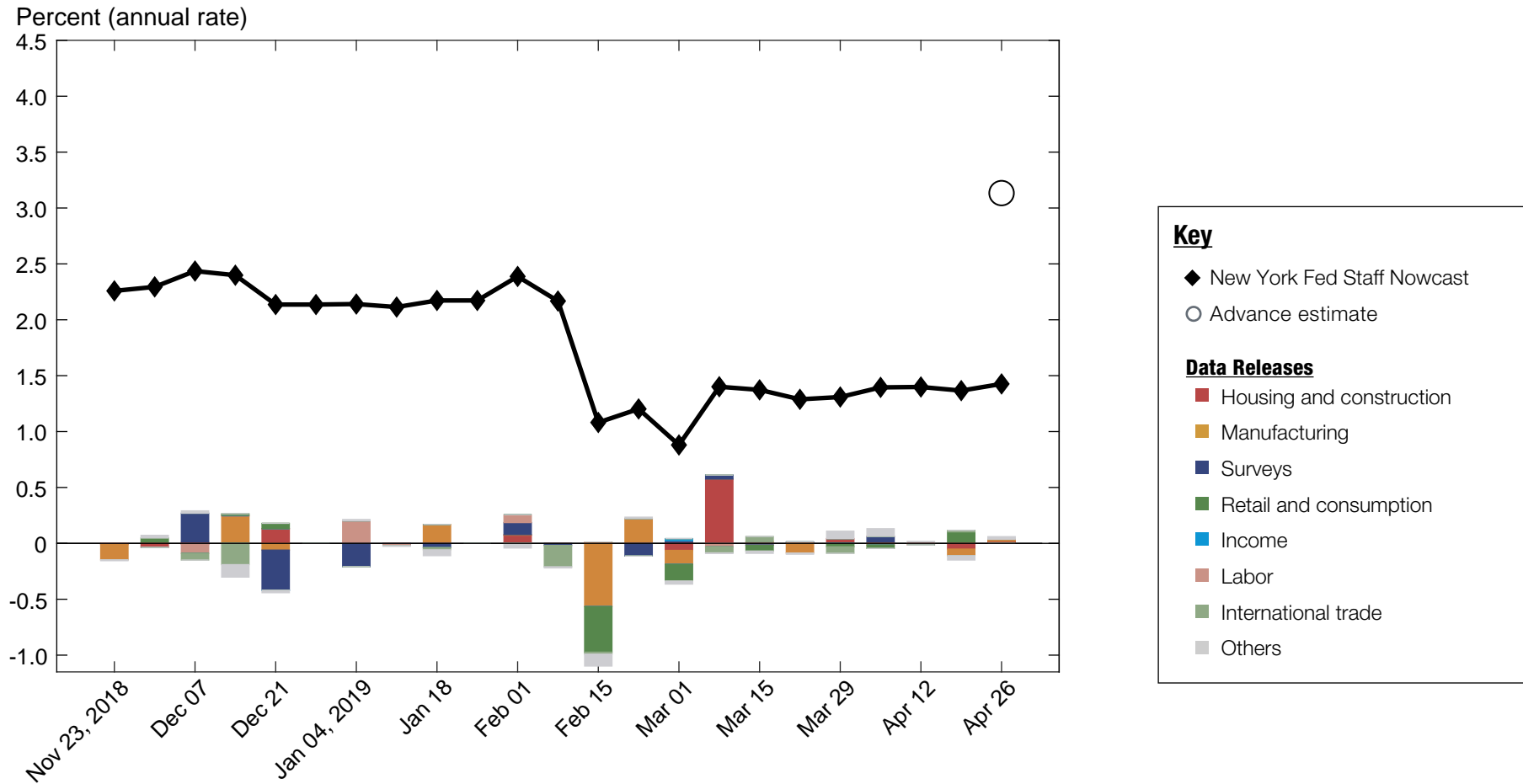Note: Colored bars reflect the impact of each data release on the nowcast.

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 [a]	Actual [b]	Weight [c]	Impact [c(b−a)]	Nowcast GDP Growth
Apr 12									**2.04**
	8:30 AM Apr 15	■ Empire State Mfg. Survey: General business conditions	Apr	Index	7.48	10.1	0.016	0.042	
	9:20 AM Apr 16	■ Industrial production index	Mar	MoM % chg.	0.113	-0.105	0.421	-0.092	
	9:20 AM Apr 16	■ Capacity utilization	Mar	Ppt. chg.	0.044	-0.220	0.546	-0.145	
	8:30 AM Apr 17	■ Exports: Goods and services	Feb	MoM % chg.	0.181	1.13	0.043	0.040	
	8:30 AM Apr 17	■ Imports: Goods and services	Feb	MoM % chg.	1.01	0.226	0.029	-0.023	
	10:00 AM Apr 17	■ Merchant wholesalers: Inventories: Total	Feb	MoM % chg.	0.530	0.209	-0.049	0.016	
	8:30 AM Apr 18	■ Retail sales and food services	Mar	MoM % chg.	0.271	1.57	0.240	0.311	
	8:30 AM Apr 18	■ Phila. Fed Mfg. business outlook: Current activity	Apr	Index	14.1	8.50	0.012	-0.067	
	10:00 AM Apr 18	■ Inventories: Total business	Feb	MoM % chg.	0.356	0.283	0.013	-0.001	
	8:30 AM Apr 19	■ Housing starts	Mar	MoM % chg.	5.18	-0.263	0.019	-0.101	
	8:30 AM Apr 19	■ Building permits	Mar	Level chg. (thousands)	1.66	-22.0	0.002	-0.053	
		■ Data revisions						-0.043	
Apr 19									**1.92**
	10:00 AM Apr 23	■ New single family houses sold	Mar	MoM % chg.	-2.18	4.53	0.009	0.063	
	8:30 AM Apr 25	■ Manufacturers' new orders: Durable goods	Mar	MoM % chg.	0.948	2.69	0.019	0.033	
	8:30 AM Apr 25	■ Manufacturers' shipments: Durable goods	Mar	MoM % chg.	0.257	0.337	0.121	0.010	
	8:30 AM Apr 25	■ Mfrs.' unfilled orders: All manufacturing industries	Mar	MoM % chg.	0.334	0.271	-0.017	0.001	
	8:30 AM Apr 25	■ Manufacturers' inventories: Durable goods	Mar	MoM % chg.	0.399	0.325	-0.205	0.015	
	8:30 AM Apr 26	■ Real gross domestic product	Q1	QoQ % chg. AR	1.43	3.13	-0.012	-0.021	
		■ Data revisions						0.056	
Apr 26									**2.08**
	8:30 AM Apr 29	■ Real disposable personal income	Feb	MoM % chg.	0.234	0.041	0.007	-0.001	
	8:30 AM Apr 29	■ Real disposable personal income	Mar	MoM % chg.	0.222	-0.194	0.024	-0.010	
	8:30 AM Apr 29	■ PCE: Chain price index	Feb	MoM % chg.	0.074	0.104	0.090	0.003	
	8:30 AM Apr 29	■ PCE: Chain price index	Mar	MoM % chg.	0.153	0.197	0.170	0.008	
	8:30 AM Apr 29	■ Real personal consumption expenditures	Feb	MoM % chg.	0.116	-0.021	0.105	-0.014	
	8:30 AM Apr 29	■ Real personal consumption expenditures	Mar	MoM % chg.	0.221	0.670	0.318	0.143	
	8:30 AM Apr 29	■ PCE less food and energy: Chain price index	Feb	MoM % chg.	0.139	0.056	0.151	-0.013	
	8:30 AM Apr 29	■ PCE less food and energy: Chain price index	Mar	MoM % chg.	0.141	0.046	0.289	-0.028	
	8:05 AM May 01	■ ADP nonfarm private payroll employment	Apr	Level chg. (thousands)	153.2	275.0	*0.944	0.115	
	10:00 AM May 01	■ ISM mfg.: PMI composite index	Apr	Index	54.8	52.8	0.083	-0.167	
	10:00 AM May 01	■ ISM mfg.: Prices index	Apr	Index	55.0	50.0	0.011	-0.053	
	10:00 AM May 01	■ Value of construction put in place	Mar	MoM % chg.	0.460	-0.860	0.024	-0.032	
	10:00 AM May 01	■ ISM mfg.: Employment index	Apr	Index	55.0	52.4	0.038	-0.096	
	8:30 AM May 02	■ Nonfarm business sector: Unit labor cost	Q1	QoQ % chg. AR	1.54	-0.917	0.001	-0.002	
	8:30 AM May 03	■ All employees: Total nonfarm	Apr	Level chg. (thousands)	190.6	263.0	*0.580	0.042	
	8:30 AM May 03	■ Civilian unemployment rate	Apr	Ppt. chg.	-0.021	-0.200	-0.333	0.060	
	8:30 AM May 03	■ Merchant wholesalers: Inventories: Total	Mar	MoM % chg.	0.479	-0.041	-0.120	0.063	
	8:30 AM May 03	■ Inventories: Total business	Mar	MoM % chg.	0.338	0.014	-0.087	0.028	
	10:00 AM May 03	■ ISM nonmanufacturing: NMI composite index	Apr	Index	54.9	55.5	0.017	0.010	
		■ Data revisions						0.010	
May 03									**2.15**
	10:00 AM May 07	■ JOLTS: Job openings: Total	Mar	Level chg. (thousands)	212.5	346.0	*0.050	0.007	
	8:30 AM May 09	■ PPI: Final demand	Apr	MoM % chg.	0.210	0.170	0.089	-0.004	
	8:30 AM May 09	■ Exports: Goods and services	Mar	MoM % chg.	0.716	0.982	0.066	0.018	
	8:30 AM May 09	■ Imports: Goods and services	Mar	MoM % chg.	0.724	1.07	0.045	0.016	
	8:30 AM May 10	■ CPI-U: All items	Apr	MoM % chg.	0.255	0.319	0.135	0.009	
	8:30 AM May 10	■ CPI-U: All items less food and energy	Apr	MoM % chg.	0.157	0.138	0.159	-0.003	
		■ Data revisions						0.017	
May 10									**2.20**

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)

Key

- ◆ New York Fed Staff Nowcast
- ○ Advance estimate

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.

2.1 | Nowcast Detail

Update	Release Date	Data Series	Reference Period	Units	Forecast [a]	Actual [b]	Weight [c]	Impact [c(b − a)]	Nowcast GDP Growth
Mar 29									**1.31**
	8:30 AM Apr 01	■ Retail sales and food services	Feb	MoM % chg.	0.043	-0.199	0.125	-0.030	
	10:00 AM Apr 01	■ ISM mfg.: PMI composite index	Mar	Index	54.7	55.3	0.017	0.011	
	10:00 AM Apr 01	■ Value of construction put in place	Feb	MoM % chg.	0.945	0.992	0.015	0.001	
	10:00 AM Apr 01	■ Inventories: Total business	Jan	MoM % chg.	0.445	0.847	-0.049	-0.020	
	10:00 AM Apr 01	■ ISM mfg.: Employment index	Mar	Index	53.3	57.5	0.013	0.055	
	10:00 AM Apr 01	■ ISM mfg.: Prices index	Mar	Index	51.5	54.3	0.002	0.006	
	8:30 AM Apr 02	■ Manufacturers' new orders: Durable goods	Feb	MoM % chg.	-0.319	-1.63	0.013	-0.018	
	8:30 AM Apr 02	■ Manufacturers' shipments: Durable goods	Feb	MoM % chg.	0.170	0.201	0.084	0.003	
	8:30 AM Apr 02	■ Mfrs.' unfilled orders: All manufacturing industries	Feb	MoM % chg.	0.385	-0.307	-0.007	0.005	
	8:30 AM Apr 02	■ Manufacturers' inventories: Durable goods	Feb	MoM % chg.	0.453	0.318	-0.108	0.015	
	8:05 AM Apr 03	■ ADP nonfarm private payroll employment	Mar	Level chg. (thousands)	226.7	129.0	*0.207	-0.020	
	10:00 AM Apr 03	■ ISM nonmanufacturing: NMI composite index	Mar	Index	59.4	56.1	0.003	-0.011	
	8:30 AM Apr 05	■ All employees: Total nonfarm	Mar	Level chg. (thousands)	61.5	196.0	*0.168	0.023	
	8:30 AM Apr 05	■ Civilian unemployment rate	Mar	Ppt. chg.	-0.003	0.000	-0.151	-0.000	
		■ Data revisions						0.064	
		■ Parameter revisions						0.004	
Apr 05									**1.40**
	10:00 AM Apr 09	■ JOLTS: Job openings: Total	Feb	Level chg. (thousands)	-33.4	-538.0	*0.028	-0.014	
	8:30 AM Apr 10	■ CPI-U: All items	Mar	MoM % chg.	0.194	0.409	0.049	0.011	
	8:30 AM Apr 10	■ CPI-U: All items less food and energy	Mar	MoM % chg.	0.148	0.148	0.062	-0.000	
	8:30 AM Apr 11	■ PPI: Final demand	Mar	MoM % chg.	0.145	0.597	0.037	0.017	
	8:30 AM Apr 12	■ Import price index	Mar	MoM % chg.	0.816	0.556	0.011	-0.003	
	8:30 AM Apr 12	■ Export price index	Mar	MoM % chg.	0.411	0.713	0.024	0.007	
		■ Data revisions						-0.014	
Apr 12									**1.40**
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		■ Data revisions						0.023	
Apr 26									**1.43**
	8:30 AM Apr 26	■ Real gross domestic product (advance)	Q1	QoQ % chg. AR	1.43	**3.2**			

We have concluded our updates of the Q1 nowcast

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

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