

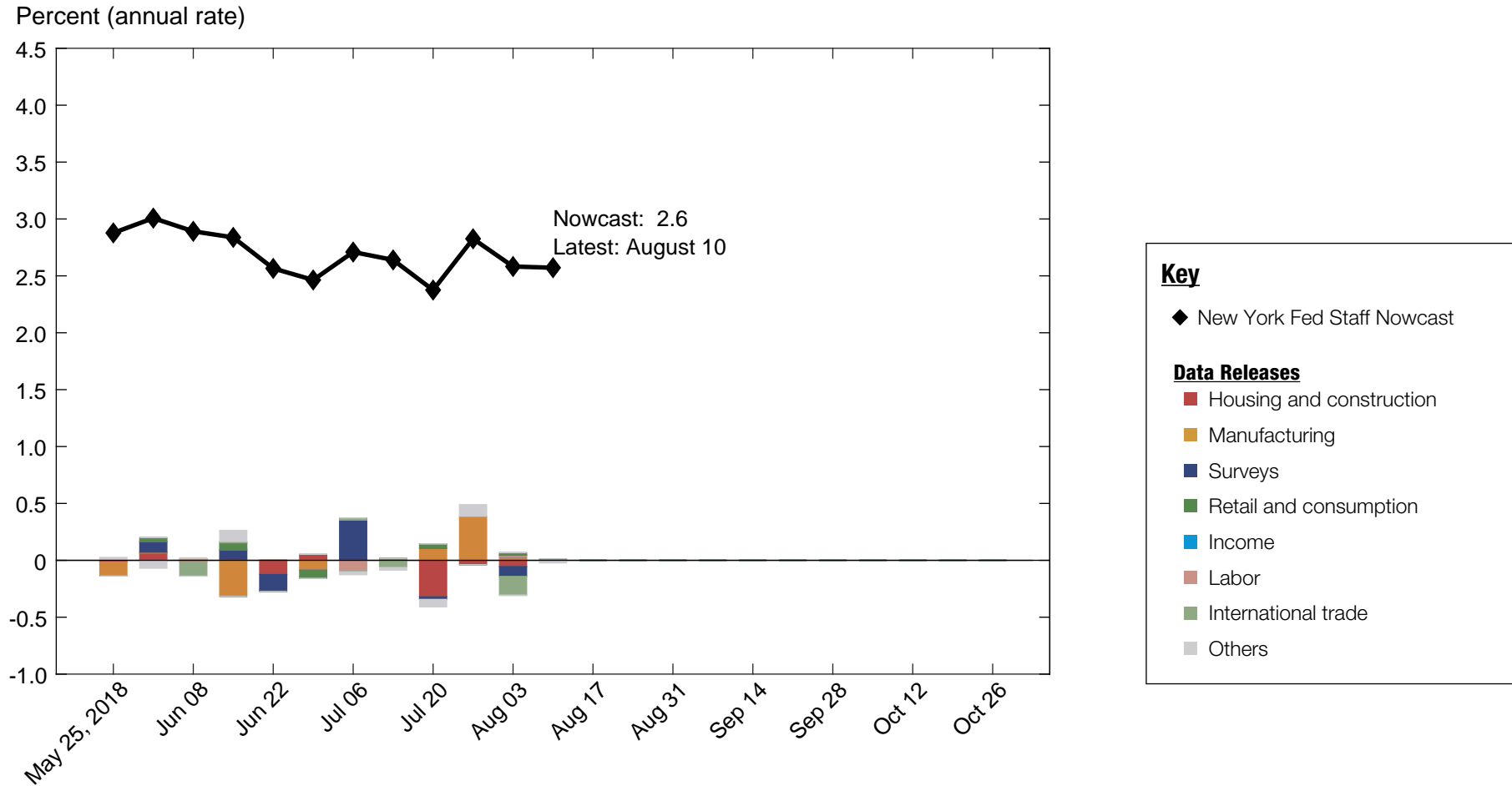
NOWCASTING REPORT

Updated: August 10, 2018

- The New York Fed Staff Nowcast for 2018:Q3 stands at 2.6%.
- News from this week's data releases left the nowcast for 2018:Q3 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 | 2018:Q3 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.

1.1 | Nowcast Detail

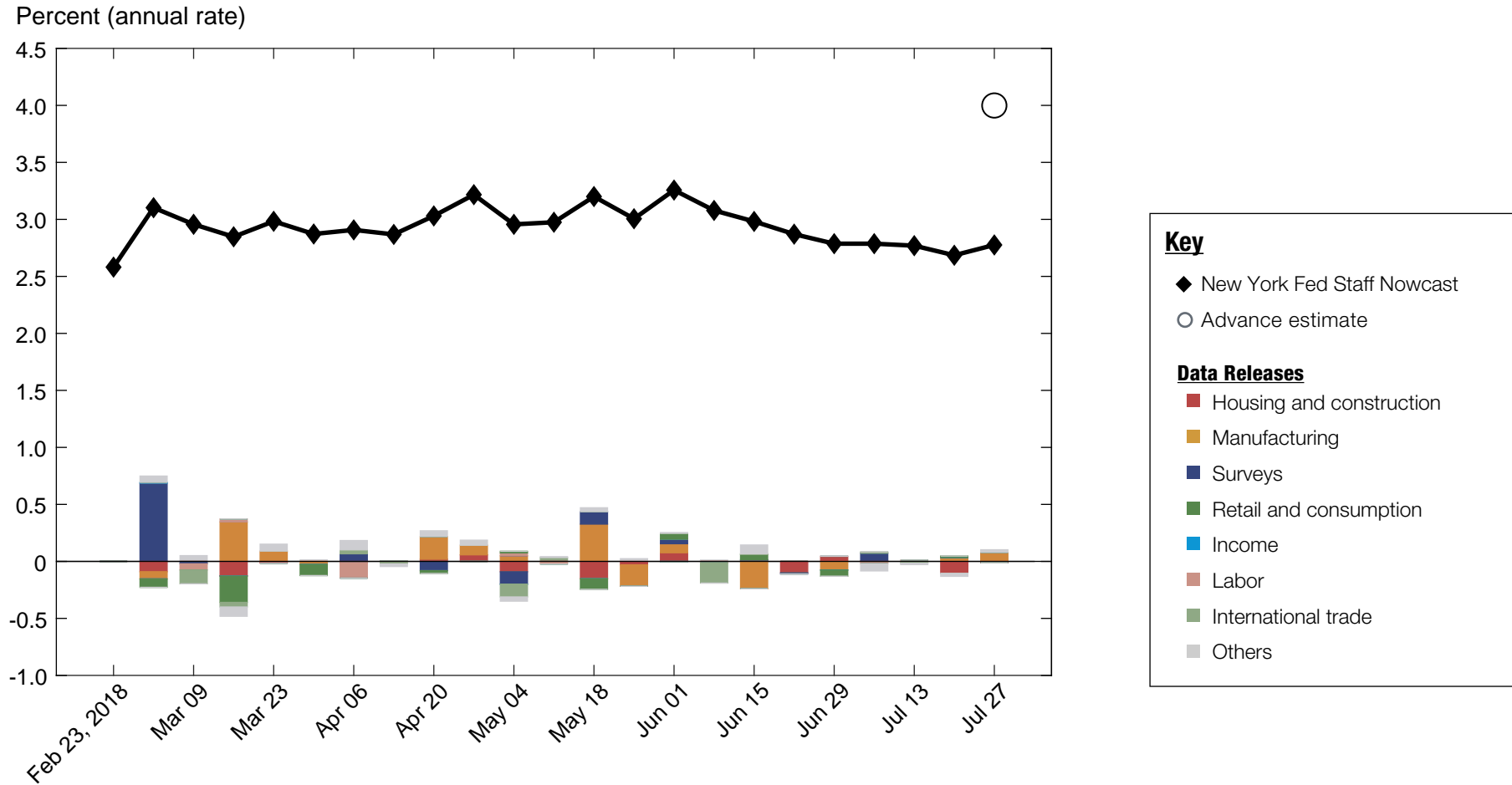
■ Housing and construction
 ■ Manufacturing
 ■ Surveys
 ■ Retail and consumption
 ■ Income
 ■ Labor
 ■ International trade
 ■ Others

Update	Release Date	Data Series	Reference Period	Units	Forecast	Actual	Weight	Impact	Nowcast GDP Growth
					[a]	[b]	[c]	[c(b - a)]	
Jul 13	8:30 AM Jul 16	■ Retail sales and food services	Jun	MoM % chg.	0.369	0.485	0.339	0.039	2.64
	8:30 AM Jul 16	■ Empire State Mfg. Survey: General business conditions	Jul	Index	23.3	22.6	0.018	-0.012	
	9:20 AM Jul 17	■ Industrial production index	Jun	MoM % chg.	0.424	0.619	0.408	0.080	
	9:20 AM Jul 17	■ Capacity utilization	Jun	Ppt. chg.	0.291	0.338	0.536	0.025	
	8:30 AM Jul 18	■ Housing starts	Jun	MoM % chg.	-0.601	-12.3	0.018	-0.206	
	8:30 AM Jul 18	■ Building permits	Jun	Level chg. (thousands)	23.0	-28.0	0.002	-0.114	
	8:30 AM Jul 19	■ Phila. Fed Mfg. business outlook: Current activity	Jul	Index	26.7	25.7	0.012	-0.013	
		■ Data revisions						-0.064	
Jul 20	10:00 AM Jul 25	■ New single family houses sold	Jun	MoM % chg.	-1.28	-5.26	0.010	-0.039	2.38
	8:30 AM Jul 26	■ Manufacturers' new orders: Durable goods	Jun	MoM % chg.	1.02	0.995	0.020	-0.000	
	8:30 AM Jul 26	■ Merchant wholesalers: Inventories: Total	Jun	MoM % chg.	0.709	0.014	-0.144	0.100	
	8:30 AM Jul 26	■ Manufacturers' shipments: Durable goods	Jun	MoM % chg.	0.584	1.67	0.123	0.133	
	8:30 AM Jul 26	■ Mfrs.' unfilled orders: All manufacturing industries	Jun	MoM % chg.	0.706	0.376	-0.017	0.006	
	8:30 AM Jul 26	■ Manufacturers' inventories: Durable goods	Jun	MoM % chg.	0.463	-0.107	-0.262	0.149	
	8:30 AM Jul 27	■ Real gross domestic product	Q2	QoQ % chg. AR	2.76	4.00	0.003	0.003	
		■ Data revisions						0.099	
Jul 27	8:30 AM Jul 31	■ Real disposable personal income	Jun	MoM % chg.	0.219	0.320	0.023	0.002	2.83
	8:40 AM Jul 31	■ PCE less food and energy: Chain price index	Jun	MoM % chg.	0.158	0.108	0.284	-0.014	
	8:40 AM Jul 31	■ PCE: Chain price index	Jun	MoM % chg.	0.189	0.103	0.170	-0.015	
	9:30 AM Jul 31	■ Real personal consumption expenditures	Jun	MoM % chg.	0.247	0.309	0.313	0.020	
	8:05 AM Aug 01	■ ADP nonfarm private payroll employment	Jul	Level chg. (thousands)	175.7	219.0	1.029*	0.045	
	10:00 AM Aug 01	■ Value of construction put in place	Jun	MoM % chg.	0.743	-1.12	0.029	-0.054	
	10:00 AM Aug 01	■ ISM mfg.: PMI composite index	Jul	Index	58.7	58.1	0.093	-0.052	
	10:00 AM Aug 01	■ ISM mfg.: Prices index	Jul	Index	74.7	73.2	0.015	-0.023	
	10:00 AM Aug 01	■ ISM mfg.: Employment index	Jul	Index	55.7	56.5	0.040	0.031	
	10:00 AM Aug 02	■ Inventories: Total business	Jun	MoM % chg.	0.323	0.053	-0.098	0.026	
	8:30 AM Aug 03	■ All employees: Total nonfarm	Jul	Level chg. (thousands)	205.9	157.0	0.516*	-0.025	
	8:30 AM Aug 03	■ Civilian unemployment rate	Jul	Ppt. chg.	-0.107	-0.100	-0.163	-0.001	
	8:30 AM Aug 03	■ Exports: Goods and services	Jun	MoM % chg.	0.976	-0.711	0.075	-0.127	
	8:30 AM Aug 03	■ Imports: Goods and services	Jun	MoM % chg.	1.27	0.632	0.057	-0.036	
	10:00 AM Aug 03	■ ISM nonmanufacturing: NMI composite index	Jul	Index	58.4	55.7	0.016	-0.044	
		■ Data revisions						0.024	
Aug 03	10:00 AM Aug 07	■ JOLTS: Job openings: Total	Jun	Level chg. (thousands)	165.4	3.00	-0.074*	0.012	2.58
	8:30 AM Aug 09	■ PPI: Final demand	Jul	MoM % chg.	0.169	0.000	0.152	-0.026	
	8:40 AM Aug 10	■ CPI-U: All items	Jul	MoM % chg.	0.161	0.171	0.123	0.001	
	8:40 AM Aug 10	■ CPI-U: All items less food and energy	Jul	MoM % chg.	0.161	0.243	0.145	0.012	
		■ Data revisions						-0.010	
Aug 10								2.57	

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 | 2018:Q2 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

■ 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 29										2.79
	10:00 AM Jul 02	ISM mfg.: PMI composite index	Jun	Index	57.6	60.2	0.025	0.065		
	10:00 AM Jul 02	ISM mfg.: Prices index	Jun	Index	77.1	76.8	0.003	-0.001		
	10:00 AM Jul 02	ISM mfg.: Employment index	Jun	Index	55.7	56.0	0.013	0.004		
	10:10 AM Jul 02	Value of construction put in place	May	MoM % chg.	0.577	0.386	0.015	-0.003		
	10:00 AM Jul 03	Inventories: Total business	May	MoM % chg.	0.484	0.375	-0.039	0.004		
	8:05 AM Jul 05	ADP nonfarm private payroll employment	Jun	Level chg. (thousands)	215.3	177.0	0.131*	-0.005		
	10:00 AM Jul 05	ISM nonmanufacturing: NMI composite index	Jun	Index	58.7	59.1	0.003	0.001		
	8:30 AM Jul 06	All employees: Total nonfarm	Jun	Level chg. (thousands)	205.5	213.0	0.123*	0.001		
	8:30 AM Jul 06	Exports: Goods and services	May	MoM % chg.	1.01	1.94	0.049	0.046		
	8:30 AM Jul 06	Imports: Goods and services	May	MoM % chg.	1.28	0.413	0.040	-0.035		
	8:30 AM Jul 06	Civilian unemployment rate	Jun	Ppt. chg.	-0.060	0.200	-0.055	-0.014		
		Data revisions						-0.001		
		Parameter revisions						-0.061		
Jul 06										2.79
	10:00 AM Jul 10	JOLTS: Job openings: Total	May	Level chg. (thousands)	19.5	-202.0	-0.049*	0.011		
	8:30 AM Jul 11	PPI: Final demand	Jun	MoM % chg.	0.242	0.258	0.061	0.001		
	8:40 AM Jul 12	CPI-U: All items	Jun	MoM % chg.	0.239	0.129	0.043	-0.005		
	8:40 AM Jul 12	CPI-U: All items less food and energy	Jun	MoM % chg.	0.168	0.162	0.053	-0.000		
	8:30 AM Jul 13	Import price index	Jun	MoM % chg.	0.776	-0.390	0.011	-0.012		
	8:30 AM Jul 13	Export price index	Jun	MoM % chg.	0.449	0.313	0.023	-0.003		
		Data revisions						-0.009		
Jul 13										2.77
	8:30 AM Jul 16	Retail sales and food services	Jun	MoM % chg.	0.369	0.485	0.106	0.012		
	8:30 AM Jul 16	Empire State Mfg. Survey: General business conditions	Jul	Index	23.3	22.6	0.000	-0.000		
	9:20 AM Jul 17	Industrial production index	Jun	MoM % chg.	0.424	0.619	0.133	0.026		
	9:20 AM Jul 17	Capacity utilization	Jun	Ppt. chg.	0.291	0.338	0.173	0.008		
	8:30 AM Jul 18	Housing starts	Jun	MoM % chg.	-0.601	-12.3	0.006	-0.069		
	8:30 AM Jul 18	Building permits	Jun	Level chg. (thousands)	23.0	-28.0	0.001	-0.035		
	8:30 AM Jul 19	Phila. Fed Mfg. business outlook: Current activity	Jul	Index	26.7	25.7	-0.001	0.001		
		Data revisions						-0.027		
Jul 20										2.69
	10:00 AM Jul 25	New single family houses sold	Jun	MoM % chg.	-1.28	-5.26	0.003	-0.012		
	8:30 AM Jul 26	Manufacturers' new orders: Durable goods	Jun	MoM % chg.	1.02	0.995	0.007	-0.000		
	8:30 AM Jul 26	Merchant wholesalers: Inventories: Total	Jun	MoM % chg.	0.709	0.014	-0.025	0.017		
	8:30 AM Jul 26	Manufacturers' shipments: Durable goods	Jun	MoM % chg.	0.584	1.67	0.047	0.051		
	8:30 AM Jul 26	Mfrs.' unfilled orders: All manufacturing industries	Jun	MoM % chg.	0.706	0.376	0.002	-0.001		
	8:30 AM Jul 26	Manufacturers' inventories: Durable goods	Jun	MoM % chg.	0.463	-0.107	-0.022	0.012		
		Data revisions						0.023		
Jul 27										2.78
	8:30 AM Jul 27	Real gross domestic product (advance)	Q2	QoQ % chg. AR	2.78	4.1				
We have concluded our updates of the Q2 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?

We are not making the underlying data available at this time. The tables list the data series employed in calculating our estimates. Sources include the U.S. Bureau of Labor Statistics, Institute for Supply Management, U.S. Census Bureau, U.S. Bureau of Economic Analysis, the New York and Philadelphia Feds, the Fed Board of Governors, and the ADP (Automatic Data Processing, Inc.).

Authors

New York Fed Time-Series Analysis Team