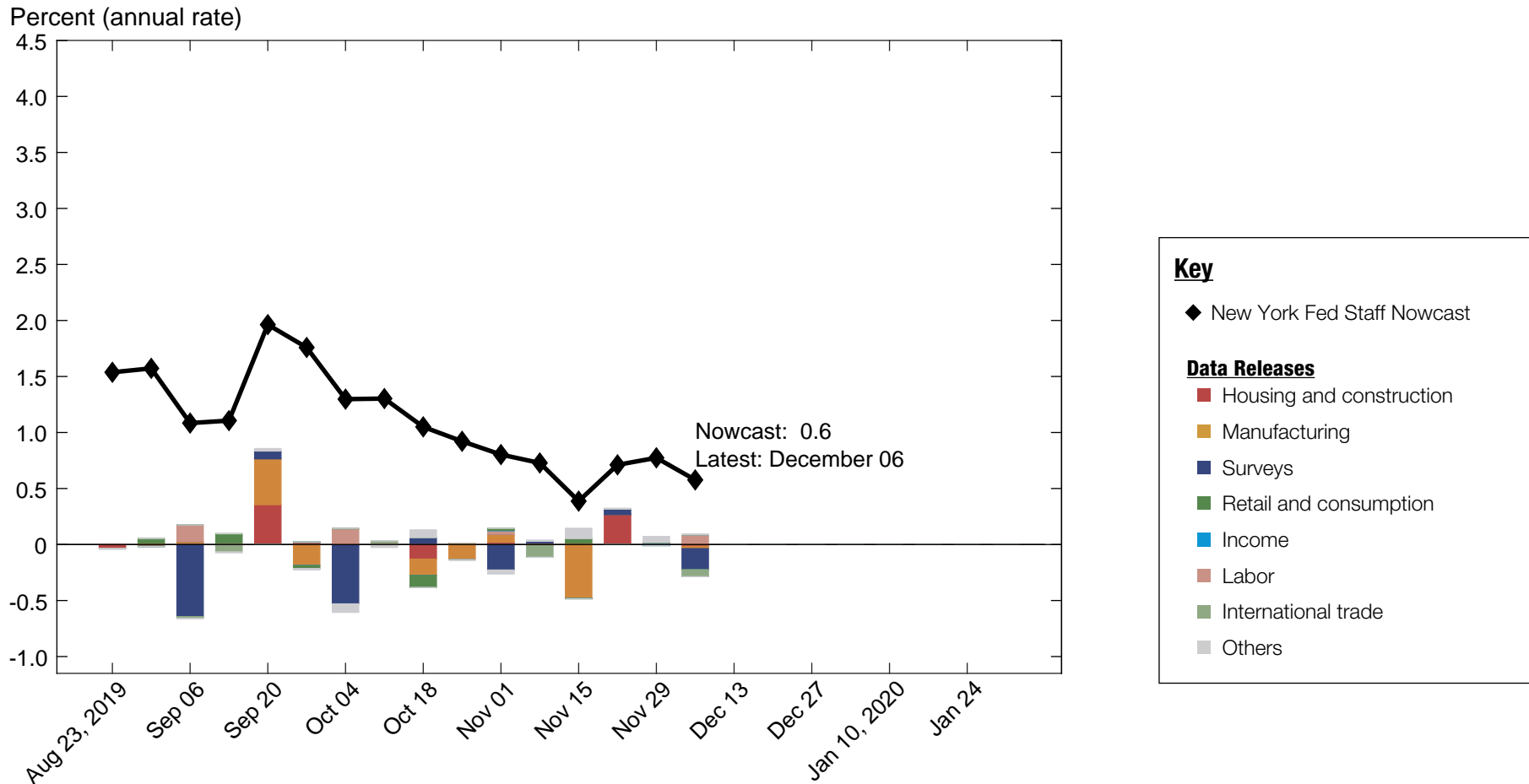# NOWCASTING REPORT

Updated: December 6, 2019

- The New York Fed Staff Nowcast stands at 0.6% for 2019:Q4 and 0.7% for 2020:Q1.

- News from this week's data releases decreased the nowcast for 2019:Q4 by 0.2 percentage point and decreased the nowcast for 2020:Q1 by 0.3 percentage point.

- Negative surprises from the ISM manufacturing survey were only partially offset by positive surprises from employment data.

1| 2019:Q4 GDP Growth

Percent (annual rate)

Nowcast: 0.6
Latest: December 06

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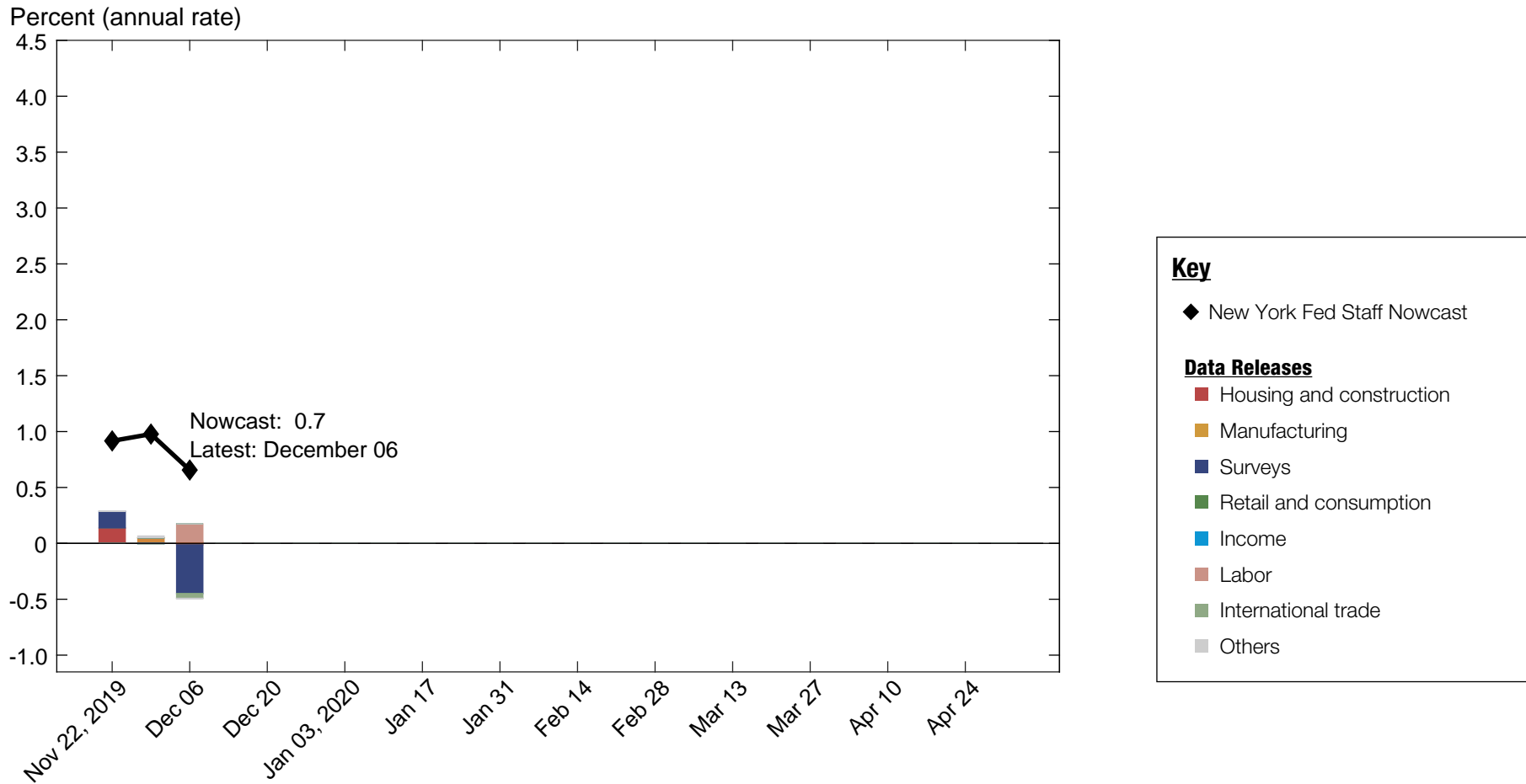Note: Colored bars reflect the impact of each data release on the nowcast.

1.1 | Nowcast Detail

		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)]	
Nov 08									**0.73**
	8:40 AM Nov 13	▪ CPI-U: All items	Oct	MoM % chg.	0.041	0.356	0.125	0.040	
	8:40 AM Nov 13	▪ CPI-U: All items less food and energy	Oct	MoM % chg.	0.147	0.157	0.145	0.002	
	8:30 AM Nov 14	▪ PPI: Final demand	Oct	MoM % chg.	0.028	0.423	0.077	0.030	
	8:30 AM Nov 15	▪ Retail sales and food services	Oct	MoM % chg.	0.012	0.263	0.215	0.054	
	8:30 AM Nov 15	▪ Export price index	Oct	MoM % chg.	-0.185	-0.080	0.041	0.004	
	8:30 AM Nov 15	▪ Empire State Mfg. Survey: General business conditions	Nov	Index	3.25	2.90	0.009	-0.003	
	8:30 AM Nov 15	▪ Import price index	Oct	MoM % chg.	-0.114	-0.480	0.022	-0.008	
	9:10 AM Nov 15	▪ Industrial production index	Oct	MoM % chg.	-0.196	-0.842	0.341	-0.220	
	9:10 AM Nov 15	▪ Capacity utilization	Oct	Ppt. chg.	-0.195	-0.782	0.440	-0.258	
		▪ Data revisions						0.020	
Nov 15									**0.39**
	8:30 AM Nov 19	▪ Housing starts	Oct	MoM % chg.	-0.120	3.79	0.021	0.081	
	8:30 AM Nov 19	▪ Building permits	Oct	Level chg. (thousands)	-15.5	70.0	0.002	0.186	
	8:30 AM Nov 21	▪ Phila. Fed Mfg. business outlook: Current activity	Nov	Index	1.86	10.4	0.006	0.050	
		▪ Data revisions						0.007	
Nov 22									**0.71**
	8:30 AM Nov 26	▪ Merchant wholesalers: Inventories: Total	Oct	MoM % chg.	0.139	0.169	-0.229	-0.007	
	10:00 AM Nov 26	▪ New single family houses sold	Oct	MoM % chg.	-1.91	-0.678	0.010	0.012	
	8:30 AM Nov 27	▪ Manufacturers' new orders: Durable goods	Oct	MoM % chg.	-0.458	0.599	0.019	0.021	
	8:30 AM Nov 27	▪ Manufacturers' shipments: Durable goods	Oct	MoM % chg.	-0.448	0.014	0.116	0.054	
	8:30 AM Nov 27	▪ Mfrs.' unfilled orders: All manufacturing industries	Oct	MoM % chg.	0.029	0.116	-0.018	-0.002	
	8:30 AM Nov 27	▪ Manufacturers' inventories: Durable goods	Oct	MoM % chg.	0.009	0.334	-0.184	-0.060	
	8:30 AM Nov 27	▪ Real gross domestic income	Q3	QoQ % chg. AR	1.64	2.36	0.012	0.009	
	10:00 AM Nov 27	▪ Real disposable personal income	Oct	MoM % chg.	0.144	-0.261	0.023	-0.009	
	10:00 AM Nov 27	▪ PCE less food and energy: Chain price index	Oct	MoM % chg.	0.113	0.081	0.242	-0.008	
	10:00 AM Nov 27	▪ PCE: Chain price index	Oct	MoM % chg.	0.030	0.186	0.142	0.022	
	10:00 AM Nov 27	▪ Real personal consumption expenditures	Oct	MoM % chg.	0.078	0.084	0.266	0.002	
		▪ Data revisions						0.029	
Nov 29									**0.77**
	10:00 AM Dec 02	▪ ISM mfg.: PMI composite index	Nov	Index	50.3	48.1	0.050	-0.110	
	10:00 AM Dec 02	▪ ISM mfg.: Prices index	Nov	Index	47.4	46.7	0.008	-0.006	
	10:00 AM Dec 02	▪ Value of construction put in place	Oct	MoM % chg.	-0.224	-0.822	0.025	-0.015	
	10:00 AM Dec 02	▪ ISM mfg.: Employment index	Nov	Index	49.6	46.6	0.024	-0.074	
	8:05 AM Dec 04	▪ ADP nonfarm private payroll employment	Nov	Level chg. (thousands)	84.8	67.0	*0.471	-0.008	
	10:00 AM Dec 04	▪ ISM nonmanufacturing: NMI composite index	Nov	Index	53.8	53.9	0.006	0.000	
	8:30 AM Dec 05	▪ Exports: Goods and services	Oct	MoM % chg.	-0.278	-0.208	0.061	0.004	
	8:30 AM Dec 05	▪ Imports: Goods and services	Oct	MoM % chg.	-0.370	-1.67	0.050	-0.065	
	10:00 AM Dec 05	▪ Inventories: Total business	Oct	MoM % chg.	-0.004	0.212	-0.101	-0.022	
	8:30 AM Dec 06	▪ All employees: Total nonfarm	Nov	Level chg. (thousands)	65.5	266.0	*0.310	0.062	
	8:30 AM Dec 06	▪ Civilian unemployment rate	Nov	Ppt. chg.	0.063	-0.100	-0.210	0.034	
		▪ Data revisions						0.002	
Dec 06									**0.58**

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: 0.7
Latest: December 06

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.

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)]	
Nov 08									**0.83**
	8:40 AM Nov 13	■ CPI-U: All items	Oct	MoM % chg.	0.041	0.356	0.140	0.044	
	8:40 AM Nov 13	■ CPI-U: All items less food and energy	Oct	MoM % chg.	0.147	0.157	0.160	0.002	
	8:30 AM Nov 14	■ PPI: Final demand	Oct	MoM % chg.	0.028	0.423	0.082	0.032	
	8:30 AM Nov 15	■ Retail sales and food services	Oct	MoM % chg.	0.012	0.263	0.133	0.033	
	8:30 AM Nov 15	■ Export price index	Oct	MoM % chg.	-0.185	-0.080	0.053	0.006	
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	9:10 AM Nov 15	■ Capacity utilization	Oct	Ppt. chg.	-0.195	-0.782	0.280	-0.165	
		■ Data revisions						0.007	
Nov 15									**0.63**
	8:30 AM Nov 19	■ Housing starts	Oct	MoM % chg.	-0.120	3.79	0.011	0.041	
	8:30 AM Nov 19	■ Building permits	Oct	Level chg. (thousands)	-15.5	70.0	0.001	0.096	
	8:30 AM Nov 21	■ Phila. Fed Mfg. business outlook: Current activity	Nov	Index	1.86	10.4	0.018	0.150	
		■ Data revisions						0.003	
Nov 22									**0.92**
	8:30 AM Nov 26	■ Merchant wholesalers: Inventories: Total	Oct	MoM % chg.	0.139	0.169	-0.026	-0.001	
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	10:00 AM Nov 27	■ Real personal consumption expenditures	Oct	MoM % chg.	0.078	0.084	0.178	0.001	
		■ Data revisions						-0.003	
Nov 29									**0.98**
	10:00 AM Dec 02	■ ISM mfg.: PMI composite index	Nov	Index	50.3	48.1	0.122	-0.269	
	10:00 AM Dec 02	■ ISM mfg.: Prices index	Nov	Index	47.4	46.7	0.022	-0.016	
	10:00 AM Dec 02	■ Value of construction put in place	Oct	MoM % chg.	-0.224	-0.822	0.021	-0.013	
	10:00 AM Dec 02	■ ISM mfg.: Employment index	Nov	Index	49.6	46.6	0.051	-0.153	
	8:05 AM Dec 04	■ ADP nonfarm private payroll employment	Nov	Level chg. (thousands)	84.8	67.0	*1.112	-0.020	
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	8:30 AM Dec 06	■ Civilian unemployment rate	Nov	Ppt. chg.	0.063	-0.100	-0.308	0.050	
		■ Data revisions						-0.005	
Dec 06									**0.66**

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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