NOWCASTING REPORT

Updated: January 18, 2019

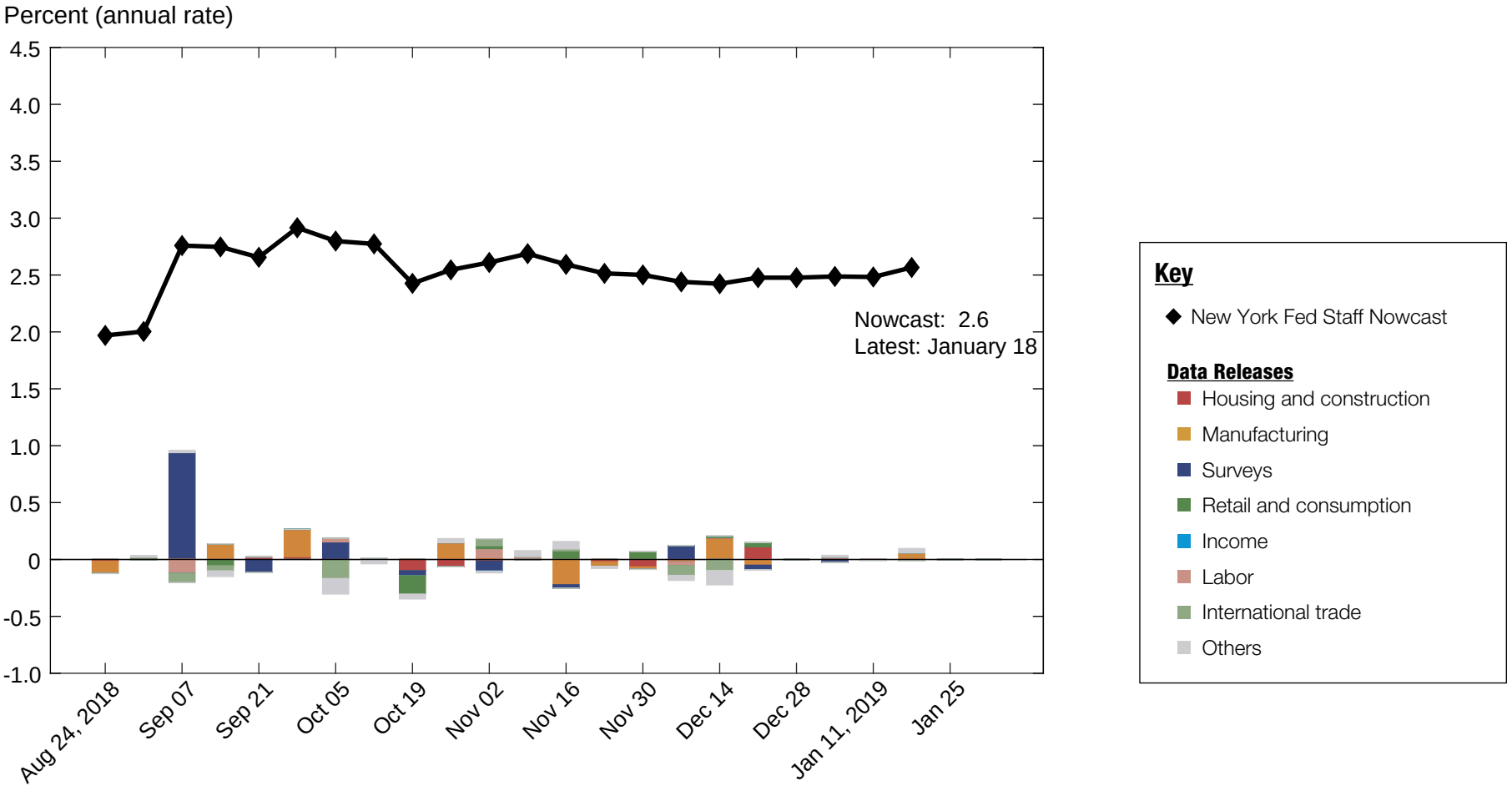
- The New York Fed Staff Nowcast stands at 2.6% for 2018:Q4 and 2.2% for 2019:Q1.

- 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 industrial production and capacity utilization data accounted for most of the increase. A negative surprise from the Empire State Manufacturing Survey was partially offset by a positive surprise from the Manufacturing Business Outlook Survey.

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



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

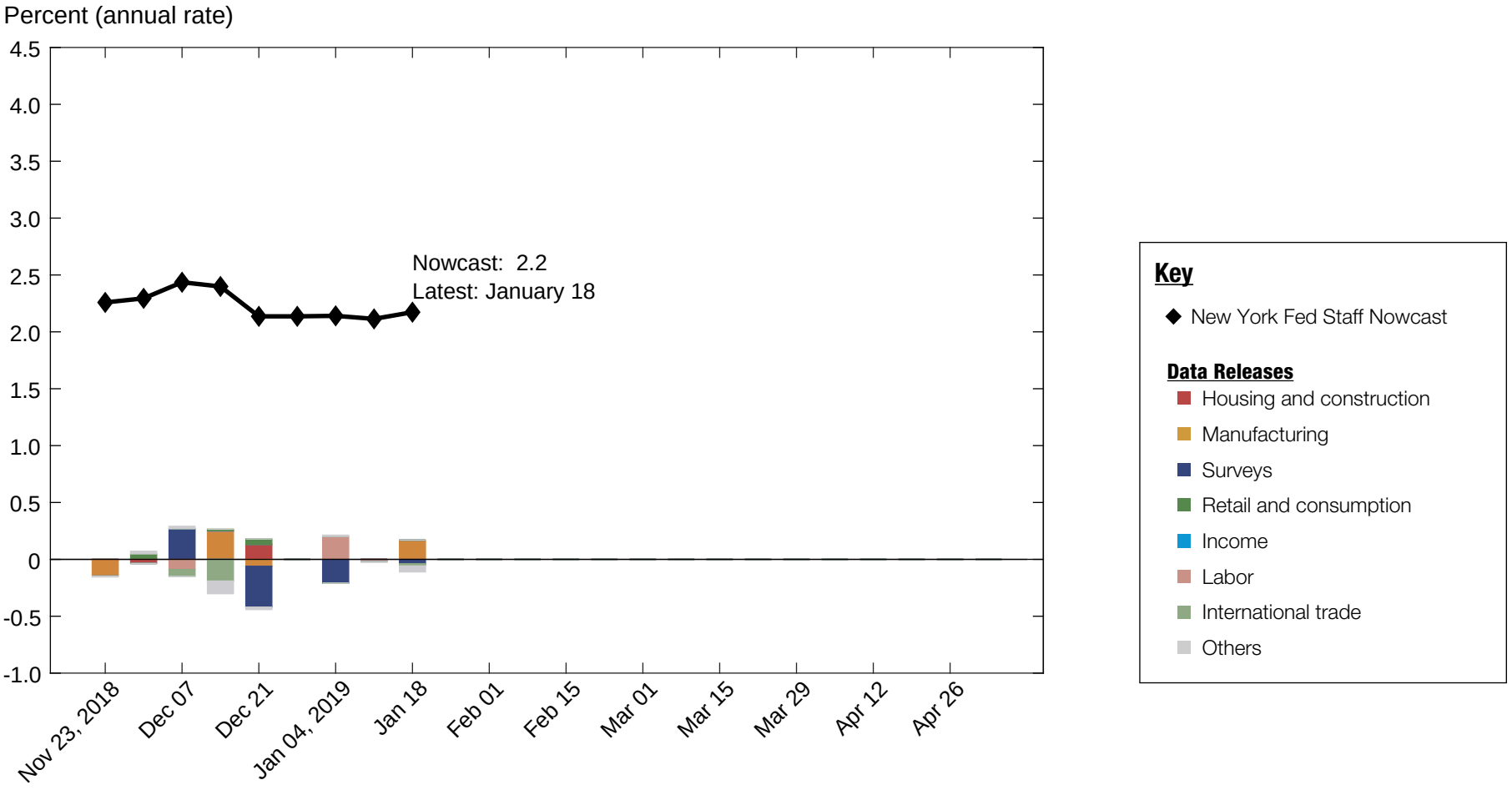
1.1 | Nowcast Detail

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)]	
Dec 21									**2.48**
		No tracked data releases this week							
Dec 28									**2.48**
	8:05 AM Jan 03	ADP nonfarm private payroll employment	Dec	Level chg. (thousands)	134.7	271.0	0.233*	0.032	
	10:00 AM Jan 03	ISM mfg.: PMI composite index	Dec	Index	56.2	54.1	0.015	-0.031	
	10:00 AM Jan 03	ISM mfg.: Prices index	Dec	Index	58.2	54.9	0.002	-0.006	
	10:00 AM Jan 03	ISM mfg.: Employment index	Dec	Index	55.3	56.2	0.012	0.011	
	8:30 AM Jan 04	All employees: Total nonfarm	Dec	Level chg. (thousands)	184.8	312.0	0.155*	0.020	
	8:30 AM Jan 04	Civilian unemployment rate	Dec	Ppt. chg.	-0.021	0.200	-0.138	-0.031	
		Data revisions						0.002	
		Parameter revisions						0.013	
Jan 04									**2.49**
	10:00 AM Jan 07	ISM nonmanufacturing: NMI composite index	Dec	Index	58.0	57.6	0.003	-0.001	
	10:00 AM Jan 08	JOLTS: Job openings: Total	Nov	Level chg. (thousands)	-77.8	-243.0	0.032*	-0.005	
	8:40 AM Jan 11	CPI-U: All items	Dec	MoM % chg.	0.099	-0.057	0.047	-0.007	
	8:40 AM Jan 11	CPI-U: All items less food and energy	Dec	MoM % chg.	0.175	0.210	0.062	0.002	
		Data revisions						0.007	
Jan 11									**2.48**
	8:30 AM Jan 15	PPI: Final demand	Dec	MoM % chg.	0.132	-0.171	0.034	-0.010	
	8:30 AM Jan 15	Empire State Mfg. Survey: General business conditions	Jan	Index	12.0	3.90	-0.000	0.000	
	8:30 AM Jan 16	Export price index	Dec	MoM % chg.	-0.240	-0.630	0.023	-0.009	
	8:30 AM Jan 16	Import price index	Dec	MoM % chg.	-1.18	-0.953	0.010	0.002	
	8:30 AM Jan 17	Phila. Fed Mfg. business outlook: Current activity	Jan	Index	9.34	17.0	-0.001	-0.006	
	9:20 AM Jan 18	Industrial production index	Dec	MoM % chg.	0.066	0.347	0.136	0.038	
	9:20 AM Jan 18	Capacity utilization	Dec	Ppt. chg.	0.015	0.130	0.175	0.020	
		Data revisions						0.049	
Jan 18									**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 | 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

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)]	
Dec 21									**2.14**
		No tracked data releases this week							
Dec 28									**2.14**
	8:05 AM Jan 03	ADP nonfarm private payroll employment	Dec	Level chg. (thousands)	134.7	271.0	1.423*	0.194	
	10:00 AM Jan 03	ISM mfg.: PMI composite index	Dec	Index	56.2	54.1	0.099	-0.208	
	10:00 AM Jan 03	ISM mfg.: Prices index	Dec	Index	58.2	54.9	0.013	-0.043	
	10:00 AM Jan 03	ISM mfg.: Employment index	Dec	Index	55.3	56.2	0.046	0.042	
	8:30 AM Jan 04	All employees: Total nonfarm	Dec	Level chg. (thousands)	184.8	312.0	0.646*	0.082	
	8:30 AM Jan 04	Civilian unemployment rate	Dec	Ppt. chg.	-0.021	0.200	-0.337	-0.074	
		Data revisions						-0.005	
		Parameter revisions						0.016	
Jan 04									**2.14**
	10:00 AM Jan 07	ISM nonmanufacturing: NMI composite index	Dec	Index	58.0	57.6	0.022	-0.009	
	10:00 AM Jan 08	JOLTS: Job openings: Total	Nov	Level chg. (thousands)	-77.8	-243.0	0.068*	-0.011	
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		Data revisions						-0.023	
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Source: Authors' calculations, based on data accessed through Haver Analytics.
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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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