

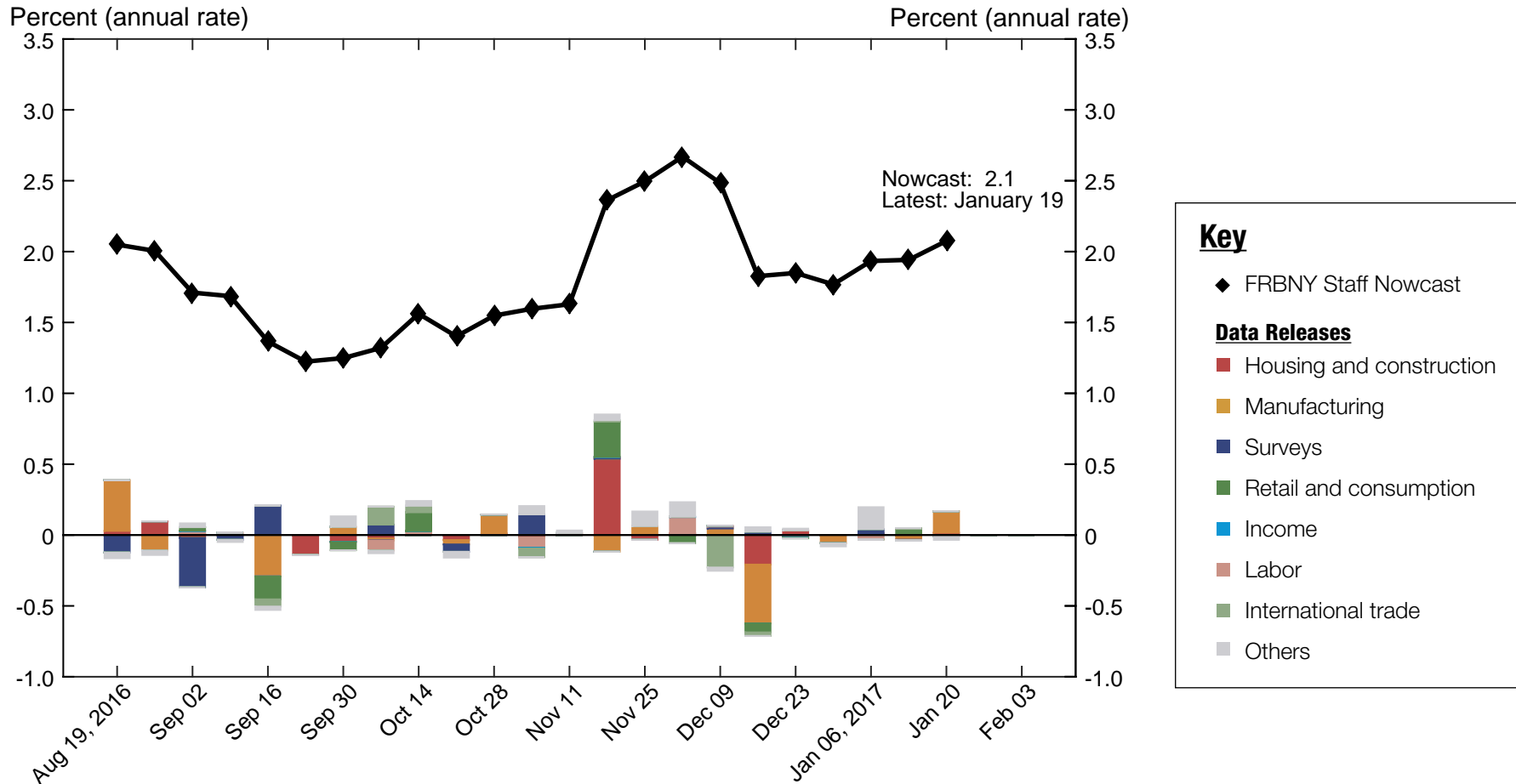
NOWCASTING REPORT

Updated: January 20, 2017

- The FRBNY Staff Nowcast stands at 2.1% for 2016:Q4 and at 2.7% for 2017:Q1.
- This week's news had positive impact, moving the 2016:Q4 nowcast up by 0.2 percentage point and the 2017:Q1 nowcast up by 0.6 percentage point.
- The largest positive surprise came from industrial production and capacity utilization data.

The FRBNY 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). While we are precluded from publishing our estimates during blackouts surrounding FOMC meetings, we continue to update our model internally and share the analysis in the next Nowcasting Report.

1 | 2016:Q4 GDP Growth



Source: Authors' calculations.
Notes: Colored bars reflect the relative impact of each data release on the nowcast.

1.1 | Nowcast Detail

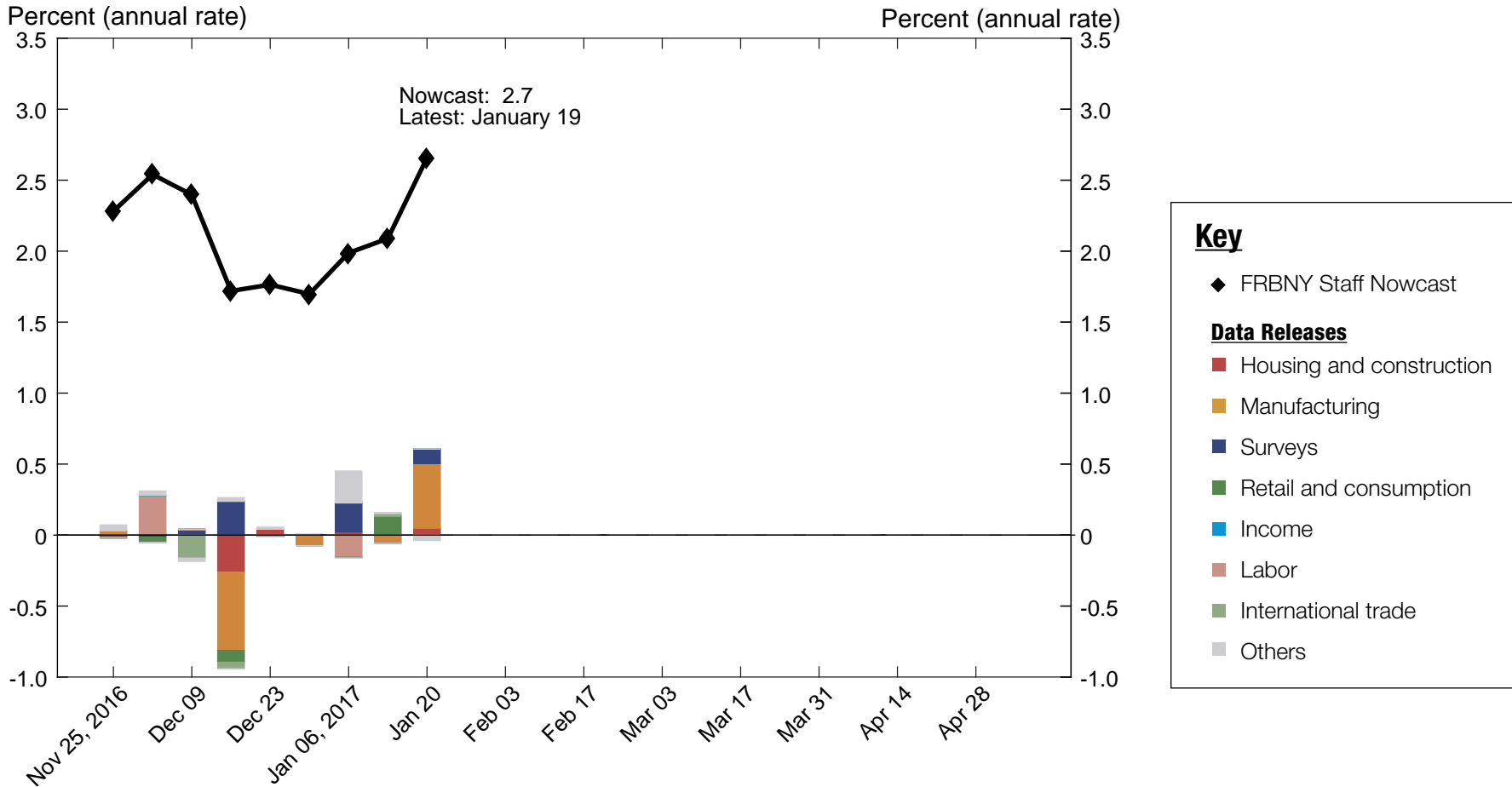
■ Housing and construction
 ■ Manufacturing
 ■ Surveys
 ■ Retail and consumption
 ■ Income
 ■ Labor
 ■ International trade
 ■ Others

Update	Release Date	Data Series	Reference Period	Units	Forecast	Actual	Weight	Impact	Nowcast GDP Growth
					[a]	[b]	[c]	[c(b - a)]	
Dec 23	9:30 AM Dec 29	■ Merchant wholesalers: Inventories: Total ■ Data revisions	Nov	MoM % chg.	0.345	0.913	-0.102	-0.058	1.85
Dec 29								-0.023	1.77
	11:00 AM Jan 03	■ ISM mfg.: Pmi composite index	Dec	Index	54.5	54.7	0.023	0.006	
	11:00 AM Jan 03	■ ISM mfg.: Prices index	Dec	Index	55.4	65.5	0.003	0.027	
	11:00 AM Jan 03	■ Value of construction put in place	Nov	MoM % chg.	0.243	0.910	0.019	0.013	
	11:00 AM Jan 03	■ ISM mfg.: Employment index	Dec	Index	53.5	53.1	0.008	-0.003	
	9:20 AM Jan 05	■ ADP nonfarm private payroll employment	Dec	Level chg. (thousands)	240.2	152.0	0.197*	-0.017	
	11:00 AM Jan 05	■ ISM nonmanufacturing: NMI composite index	Dec	Index	57.7	57.2	0.001	-0.000	
	9:30 AM Jan 06	■ All employees: Total nonfarm	Dec	Level chg. (thousands)	168.5	156.0	0.127*	-0.002	
	9:30 AM Jan 06	■ Civilian unemployment rate	Dec	Ppt. chg.	-0.007	0.100	-0.118	-0.013	
	9:30 AM Jan 06	■ Exports: Goods and services	Nov	MoM % chg.	0.574	-0.240	0.046	-0.038	
	9:30 AM Jan 06	■ Imports: Goods and services	Nov	MoM % chg.	0.011	1.06	0.036	0.037	
		■ Data revisions						-0.005	
		■ Parameter revisions						0.160	
Jan 06									1.93
	10:00 AM Jan 10	■ JOLTS: Job openings: Total	Nov	Level chg. (thousands)	130.5	71.0	0.035*	-0.002	
	10:00 AM Jan 10	■ Inventories: Total business	Nov	MoM % chg.	0.306	0.741	-0.077	-0.034	
	8:30 AM Jan 12	■ Import price index	Dec	MoM % chg.	0.152	0.414	0.008	0.002	
	8:30 AM Jan 12	■ Export price index	Dec	MoM % chg.	0.135	0.331	0.019	0.004	
	8:30 AM Jan 13	■ Retail sales and food services	Dec	MoM % chg.	0.240	0.627	0.110	0.043	
	8:30 AM Jan 13	■ PPI: Final demand	Dec	MoM % chg.	0.192	0.270	0.015	0.001	
		■ Data revisions						-0.006	
Jan 13									1.94
	8:30 AM Jan 17	■ Empire State Mfg. Survey: General business conditions	Jan	Index	10.2	6.50	0.001	-0.002	
	8:30 AM Jan 18	■ CPI-U: All items	Dec	MoM % chg.	0.222	0.282	0.024	0.001	
	8:30 AM Jan 18	■ CPI-U: All items less food and energy	Dec	MoM % chg.	0.158	0.230	0.034	0.002	
	9:10 AM Jan 18	■ Industrial production index	Dec	MoM % chg.	0.252	0.830	0.134	0.077	
	9:10 AM Jan 18	■ Capacity utilization	Dec	Ppt. chg.	0.126	0.566	0.169	0.074	
	8:30 AM Jan 19	■ Housing starts	Dec	MoM % chg.	7.41	11.3	0.008	0.030	
	8:30 AM Jan 19	■ Building permits	Dec	Level chg. (thousands)	14.9	-2.00	0.001	-0.013	
	8:30 AM Jan 19	■ Philly Fed Mfg. business outlook: Current activity	Jan	Index	12.7	23.6	-0.000	-0.005	
		■ Data revisions						-0.032	
Jan 19									2.08

Source: Authors' calculations.

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 | 2017:Q1 GDP Growth



Source: Authors' calculations.

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

2.1 | Nowcast Detail

■ Housing and construction
 ■ Manufacturing
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Dec 29								0.008	1.70
	11:00 AM Jan 03	■ ISM mfg.: Pmi composite index	Dec	Index	54.5	54.7	0.123	0.030	
	11:00 AM Jan 03	■ ISM mfg.: Prices index	Dec	Index	55.4	65.5	0.020	0.201	
	11:00 AM Jan 03	■ Value of construction put in place	Nov	MoM % chg.	0.243	0.910	0.035	0.023	
	11:00 AM Jan 03	■ ISM mfg.: Employment index	Dec	Index	53.5	53.1	0.051	-0.020	
	9:20 AM Jan 05	■ ADP nonfarm private payroll employment	Dec	Level chg. (thousands)	240.2	152.0	1.404*	-0.124	
	11:00 AM Jan 05	■ ISM nonmanufacturing: NMI composite index	Dec	Index	57.7	57.2	0.014	-0.007	
	9:30 AM Jan 06	■ All employees: Total nonfarm	Dec	Level chg. (thousands)	168.5	156.0	0.468*	-0.006	
	9:30 AM Jan 06	■ Civilian unemployment rate	Dec	Ppt. chg.	-0.007	0.100	-0.260	-0.028	
	9:30 AM Jan 06	■ Exports: Goods and services	Nov	MoM % chg.	0.574	-0.240	0.061	-0.050	
	9:30 AM Jan 06	■ Imports: Goods and services	Nov	MoM % chg.	0.011	1.06	0.042	0.045	
		■ Data revisions						-0.006	
		■ Parameter revisions						0.231	
Jan 06									1.99
	10:00 AM Jan 10	■ JOLTS: Job openings: Total	Nov	Level chg. (thousands)	130.5	71.0	0.063*	-0.004	
	10:00 AM Jan 10	■ Inventories: Total business	Nov	MoM % chg.	0.306	0.741	-0.123	-0.053	
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	8:30 AM Jan 19	■ Building permits	Dec	Level chg. (thousands)	14.9	-2.00	0.003	-0.043	
	8:30 AM Jan 19	■ Philly Fed Mfg. business outlook: Current activity	Jan	Index	12.7	23.6	0.015	0.160	
		■ Data revisions						-0.049	
Jan 19									2.66

Source: Authors' calculations.

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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.
- *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. For how long do you report a quarter?

We start reporting the nowcast of GDP growth for a reference quarter about one month before the quarter begins; we stop updating it about one month after the quarter closes.

Precise dates are related to the Commerce Department's schedule for the release of official GDP estimates. For example, we began reporting 2016:Q1 on November 20, 2015, just after the government released the second GDP estimate for 2015:Q3. We stopped updating the nowcast for 2016:Q1 on April 28, 2016, with the release of the advance GDP estimate for the reference quarter. We continued reporting 2016:Q1 until the second GDP estimate for the quarter became available. At that point, we started computing the nowcasts for 2016:Q3.

2. What are the major conceptual differences between the FRBNY Staff Nowcast and the Atlanta Fed's Nowcast?

The FRBNY 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 FRBNY 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 FRBNY 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 GDP, not the four quarters (“y/y”) growth rate.

Authors

FRBNY Time-Series Analysis Team