

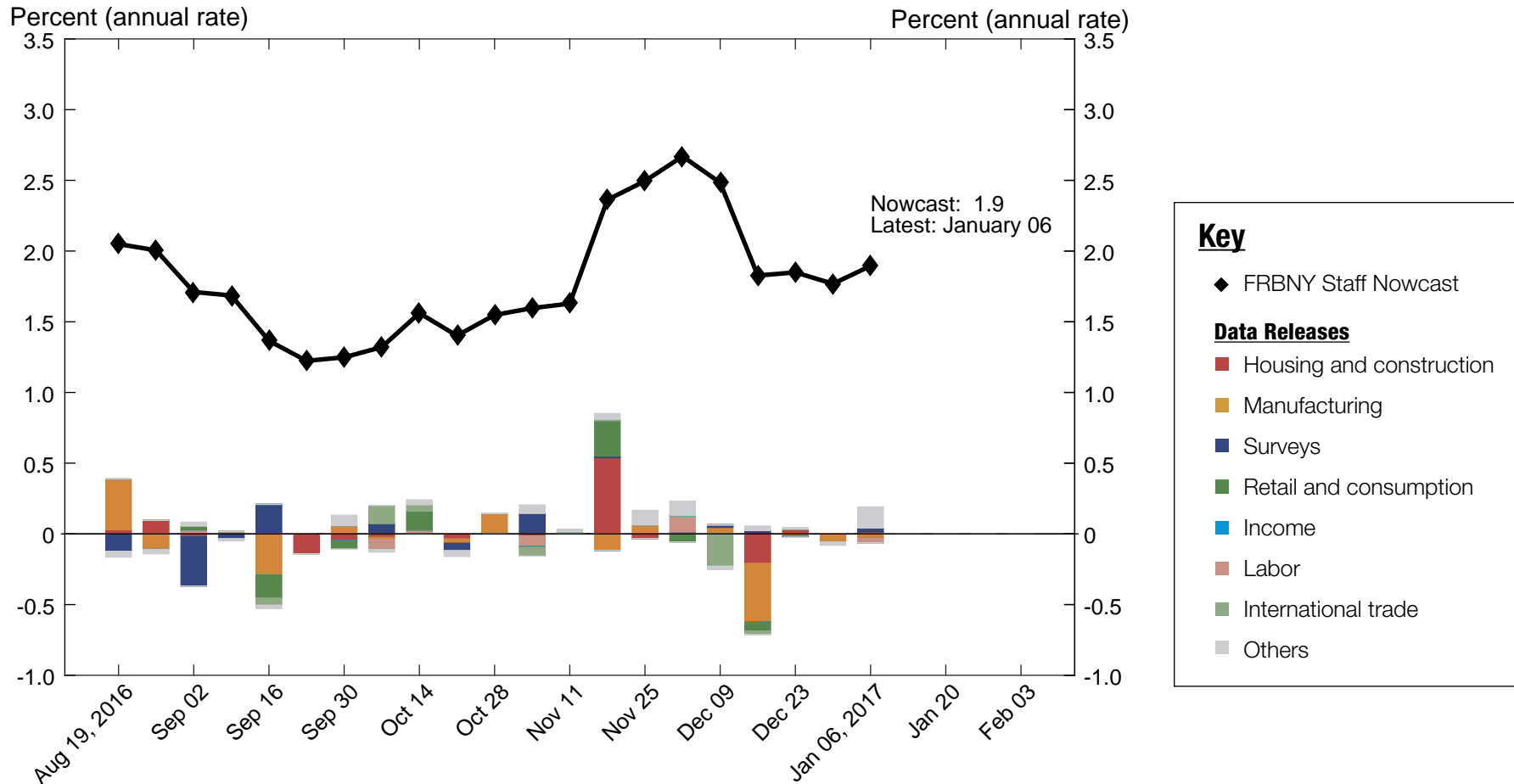
NOWCASTING REPORT

Updated: January 6, 2017

- The FRBNY Staff Nowcast stands at 1.9% for both 2016:Q4 and 2017:Q1.
- The 2016:Q4 nowcast moved up 0.1 percentage point; this increase was largely due to parameter revisions.
- The 2017:Q1 nowcast moved up 0.2 percentage point; this increase was mainly due to parameter revisions and positive surprises from ISM survey 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

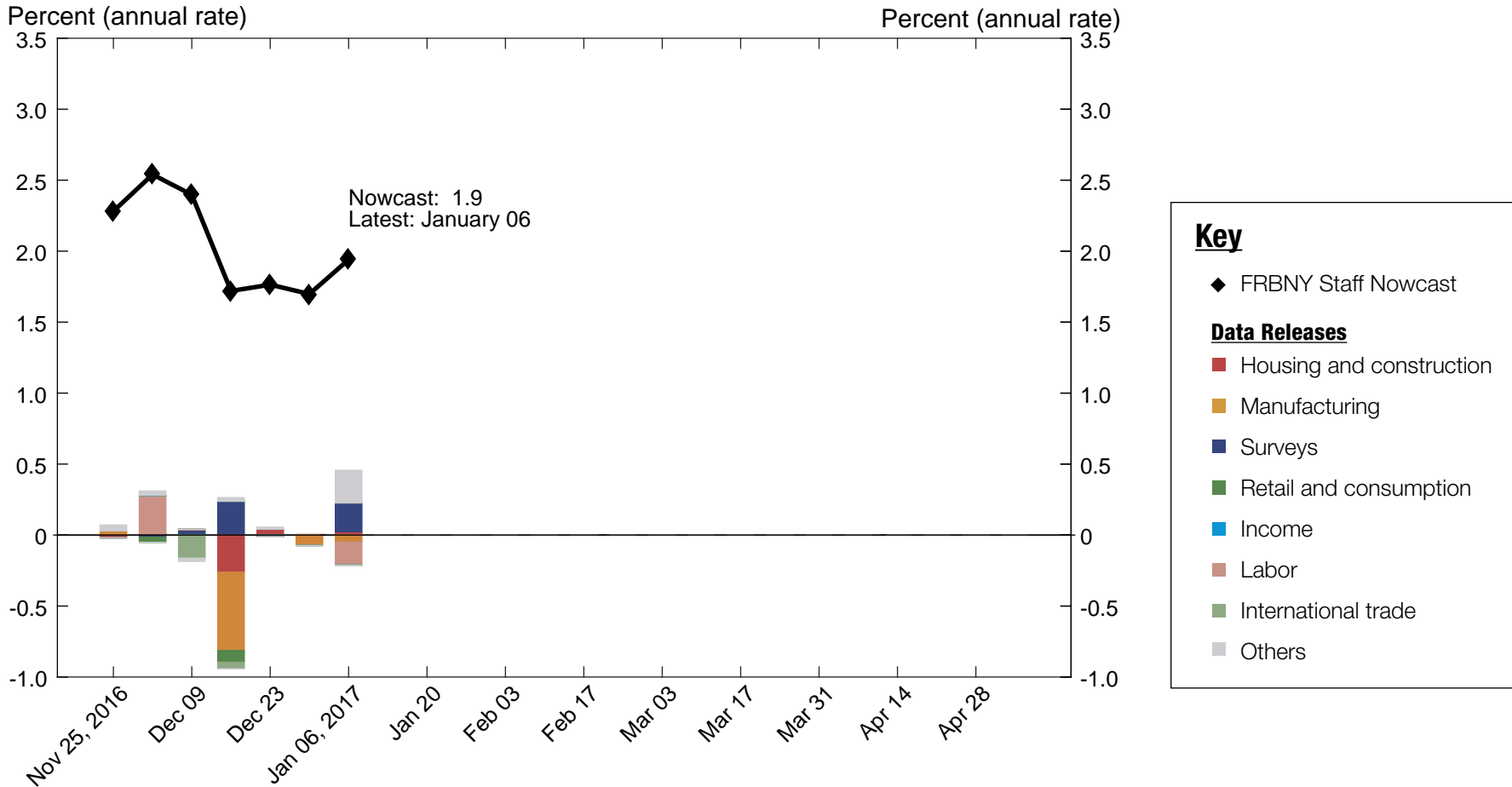
■ Housing and construction
 ■ Manufacturing
 ■ Surveys
 ■ Retail and consumption
 ■ Income
 ■ Labor
 ■ International trade
 ■ Others

Update	Release Date	Data Series	Reference Period	Units	Forecast	Actual	Weight	Impact	Nowcast GDP Growth
					[a]	[b]	[c]	[c(b - a)]	
Dec 09									2.48
	8:30 AM Dec 13	Export price index	Nov	MoM % chg.	0.186	-0.083	0.041	-0.011	
	8:30 AM Dec 13	Import price index	Nov	MoM % chg.	0.387	-0.330	0.020	-0.014	
	8:30 AM Dec 14	Retail sales and food services	Nov	MoM % chg.	0.429	0.081	0.181	-0.063	
	8:30 AM Dec 14	PPI: Final demand	Nov	MoM % chg.	0.098	0.362	0.048	0.013	
	9:10 AM Dec 14	Industrial production index	Nov	MoM % chg.	0.216	-0.441	0.321	-0.211	
	9:10 AM Dec 14	Capacity utilization	Nov	Ppt. chg.	0.114	-0.382	0.411	-0.204	
	8:30 AM Dec 15	CPI-U: All items	Nov	MoM % chg.	0.242	0.201	0.045	-0.002	
	8:30 AM Dec 15	CPI-U: All items less food and energy	Nov	MoM % chg.	0.156	0.151	0.037	-0.000	
	8:30 AM Dec 15	Empire State Mfg. Survey: General business conditions	Dec	Index	5.38	9.00	0.002	0.008	
	8:30 AM Dec 15	Philly Fed Mfg. business outlook: Current activity	Dec	Index	8.51	21.5	0.001	0.016	
	8:30 AM Dec 16	Housing starts	Nov	MoM % chg.	-10.8	-18.7	0.016	-0.123	
	8:30 AM Dec 16	Building permits	Nov	Level chg. (thousands)	-11.3	-59.0	0.002	-0.086	
		Data revisions						0.020	
Dec 16									1.83
	8:30 AM Dec 22	Manufacturers' new orders: Durable goods	Nov	MoM % chg.	-1.92	-4.60	0.017	-0.044	
	8:30 AM Dec 22	Manufacturers' shipments: Durable goods	Nov	MoM % chg.	0.086	0.068	0.088	-0.002	
	8:30 AM Dec 22	Mfrs.' unfilled orders: All manufacturing industries	Nov	MoM % chg.	0.655	-0.199	-0.013	0.011	
	8:30 AM Dec 22	Manufacturers' inventories: Durable goods	Nov	MoM % chg.	0.234	0.149	-0.246	0.021	
	10:00 AM Dec 22	Real disposable personal income	Nov	MoM % chg.	0.155	-0.051	0.022	-0.005	
	10:00 AM Dec 22	PCE less food and energy: Chain price index	Nov	MoM % chg.	0.141	0.004	0.147	-0.020	
	10:00 AM Dec 22	PCE: Chain price index	Nov	MoM % chg.	0.190	0.041	0.081	-0.012	
	10:20 AM Dec 22	Real personal consumption expenditures	Nov	MoM % chg.	0.161	0.145	0.272	-0.004	
	10:00 AM Dec 23	New single family houses sold	Nov	MoM % chg.	0.323	5.15	0.007	0.033	
		Data revisions						0.044	
Dec 23									1.85
	8:30 AM Dec 29	Merchant wholesalers: Inventories: Total	Nov	MoM % chg.	0.345	0.913	-0.102	-0.058	
		Data revisions						-0.023	
Dec 29									1.77
	10:00 AM Jan 03	ISM mfg.: Pmi composite index	Dec	Index	54.5	54.7	0.023	0.006	
	10:00 AM Jan 03	ISM mfg.: Prices index	Dec	Index	55.4	65.5	0.003	0.027	
	10:00 AM Jan 03	Value of construction put in place	Nov	MoM % chg.	0.243	0.910	0.019	0.013	
	10:00 AM Jan 03	ISM mfg.: Employment index	Dec	Index	53.5	53.1	0.008	-0.003	
	8:20 AM Jan 05	ADP nonfarm private payroll employment	Dec	Level chg. (thousands)	240.2	152.0	0.197*	-0.017	
	10:00 AM Jan 05	ISM nonmanufacturing: NMI composite index	Dec	Index	57.7	57.2	0.001	-0.000	
	8:30 AM Jan 06	All employees: Total nonfarm	Dec	Level chg. (thousands)	169.0	156.0	0.130*	-0.002	
	8:30 AM Jan 06	Civilian unemployment rate	Dec	Ppt. chg.	-0.008	0.100	-0.122	-0.013	
	8:30 AM Jan 06	Exports: Goods and services	Nov	MoM % chg.	0.576	-0.240	0.046	-0.038	
	8:30 AM Jan 06	Imports: Goods and services	Nov	MoM % chg.	0.016	1.06	0.035	0.037	
	10:00 AM Jan 06	Inventories: Total business	Nov	MoM % chg.	0.299	0.713	-0.077	-0.032	
		Data revisions						-0.011	
		Parameter revisions						0.160	
Jan 06									1.89

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
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		Data revisions						-0.001	
		Parameter revisions						0.231	
Jan 06									1.94

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