

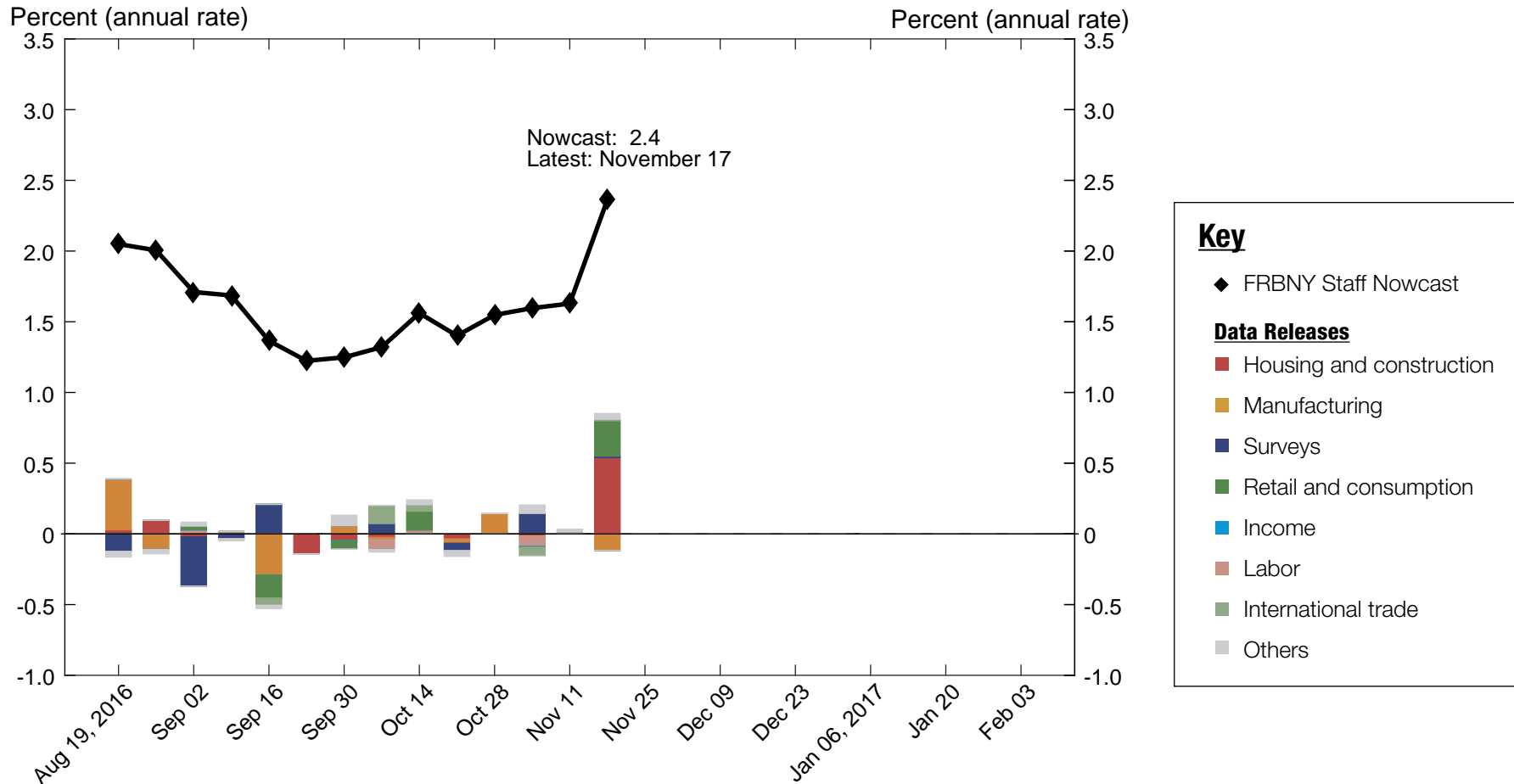
NOWCASTING REPORT

Updated: November 18, 2016

- The FRBNY Staff Nowcast stands at 2.4% for 2016:Q4.
- The current nowcast is 0.8 percentage point higher than two weeks ago, when the previous report was published.
- The improvement was driven by large positive news from retail sales and housing starts.

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

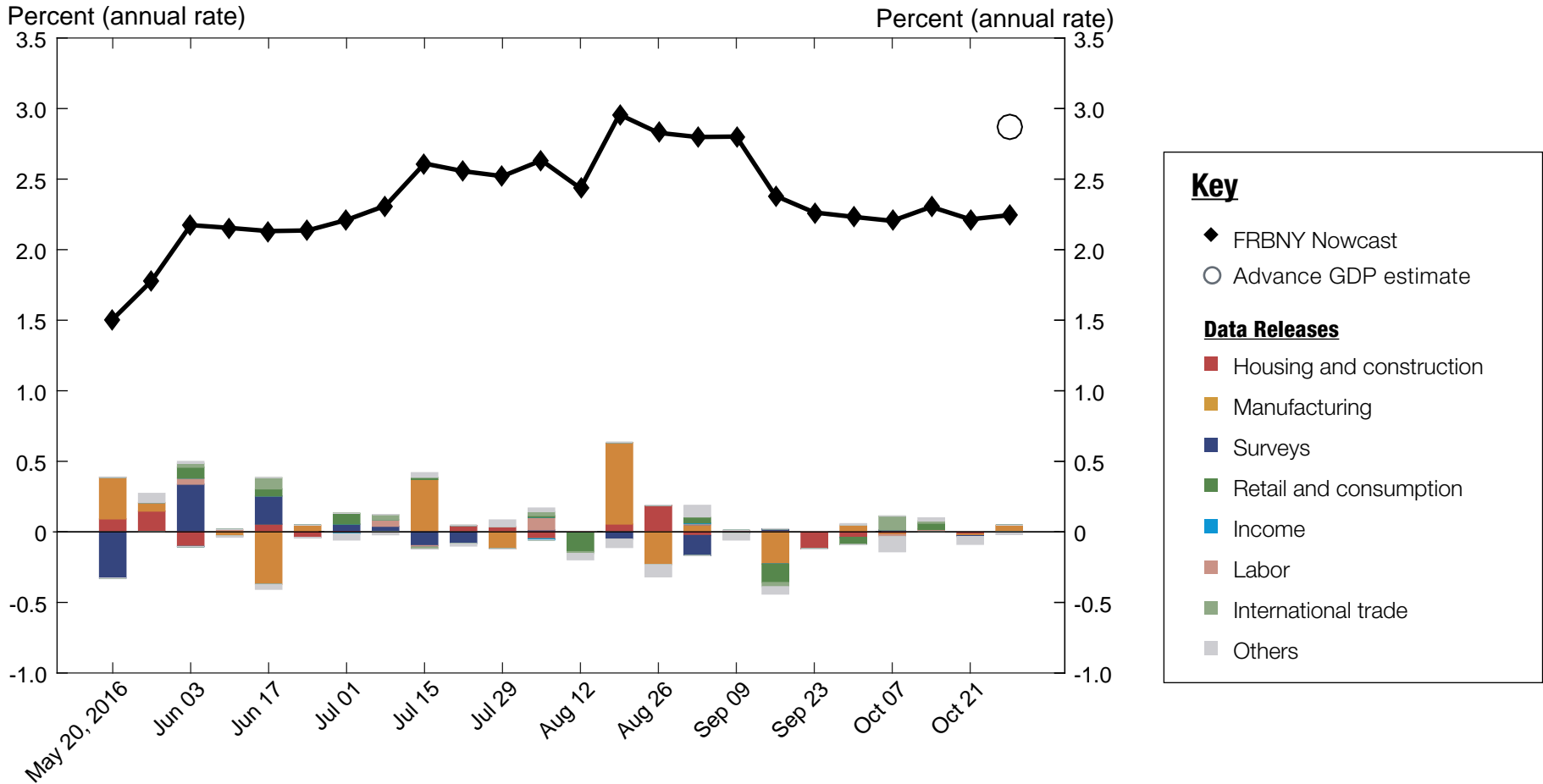
■ Housing and construction
 ■ Manufacturing
 ■ Surveys
 ■ Retail and consumption
 ■ Income
 ■ Labor
 ■ International trade
 ■ Others

Update	Release Date	Data Series	Reference Period	Units	Forecast	Actual	Weight	Impact	Nowcast GDP Growth	
					[a]	[b]	[c]	[c(b - a)]		
Oct 20	8:30 AM Oct 26	■ Merchant wholesalers: Inventories: Total	Sep	MoM % chg.	0.312	0.209	-0.321	0.033	1.40	
	10:00 AM Oct 26	■ New single family houses sold	Sep	MoM % chg.	2.28	3.13	0.014	0.012		
	8:30 AM Oct 27	■ Manufacturers' new orders: Durable goods	Sep	MoM % chg.	-0.123	-0.123	0.024	0.000		
	8:30 AM Oct 27	■ Manufacturers' shipments: Durable goods	Sep	MoM % chg.	-0.039	0.846	0.127	0.112		
	8:30 AM Oct 27	■ Mfrs.' unfilled orders: All manufacturing industries	Sep	MoM % chg.	0.184	-0.350	-0.030	0.016		
	8:30 AM Oct 27	■ Manufacturers' inventories: Durable goods	Sep	MoM % chg.	0.068	0.132	-0.443	-0.029		
	8:30 AM Oct 28	■ Real gross domestic product	Q3	QoQ % chg. AR	2.24	2.87	0.004	0.002		
		■ Data revisions						0.000		
Oct 28	8:30 AM Oct 31	■ Real disposable personal income	Sep	MoM % chg.	0.215	0.050	0.032	-0.005	1.55	
	8:30 AM Oct 31	■ PCE less food and energy: Chain price index	Sep	MoM % chg.	0.153	0.111	0.261	-0.011		
	8:30 AM Oct 31	■ PCE: Chain price index	Sep	MoM % chg.	0.151	0.214	0.161	0.010		
	8:40 AM Oct 31	■ Real personal consumption expenditures	Sep	MoM % chg.	0.267	0.264	0.396	-0.001		
	10:00 AM Nov 01	■ ISM mfg.: Pmi composite index	Oct	Index	51.5	51.9	0.097	0.036		
	10:00 AM Nov 01	■ ISM mfg.: Prices index	Oct	Index	53.3	54.5	0.013	0.015		
	10:00 AM Nov 01	■ Value of construction put in place	Sep	MoM % chg.	-0.049	-0.380	0.048	-0.016		
	10:00 AM Nov 01	■ ISM mfg.: Employment index	Oct	Index	49.6	52.9	0.035	0.114		
	8:05 AM Nov 02	■ ADP nonfarm private payroll employment	Oct	Level chg. (thousands)	198.3	146.0	1.442*	-0.075		
	10:00 AM Nov 03	■ ISM nonmanufacturing: NMI composite index	Oct	Index	56.5	54.8	0.012	-0.019		
	10:00 AM Nov 03	■ Inventories: Total business	Sep	MoM % chg.	0.156	0.157	-0.169	-0.000		
	10:10 AM Nov 03	■ Nonfarm business sector: Unit labor cost	Q3	QoQ % chg. AR	0.988	0.320	-0.000	0.000		
	8:30 AM Nov 04	■ All employees: Total nonfarm	Oct	Level chg. (thousands)	162.9	161.0	0.279*	-0.001		
	8:30 AM Nov 04	■ Civilian unemployment rate	Oct	Ppt. chg.	-0.072	-0.100	-0.122	0.003		
	8:30 AM Nov 04	■ Exports: Goods and services	Sep	MoM % chg.	0.343	0.551	0.089	0.019		
	8:30 AM Nov 04	■ Imports: Goods and services	Sep	MoM % chg.	-0.039	-1.31	0.063	-0.080		
		■ Data revisions						0.060		
Nov 04	11:00 AM Nov 08	■ JOLTS: Job openings: Total	Sep	Level chg. (thousands)	254.9	33.0	-0.064*	0.014	1.60	
		■ Data revisions						0.018		
Nov 09	9:30 AM Nov 15	■ Retail sales and food services	Oct	MoM % chg.	0.127	0.824	0.357	0.249	1.63	
	9:30 AM Nov 15	■ Import price index	Oct	MoM % chg.	0.124	0.497	0.027	0.010		
	9:30 AM Nov 15	■ Export price index	Oct	MoM % chg.	0.163	0.166	0.052	0.000		
	9:30 AM Nov 15	■ Empire State Mfg. Survey: General business conditions	Nov	Index	0.242	1.50	0.007	0.009		
	9:30 AM Nov 16	■ PPI: Final demand	Oct	MoM % chg.	0.139	0.000	0.064	-0.009		
	10:10 AM Nov 16	■ Industrial production index	Oct	MoM % chg.	0.176	0.042	0.472	-0.063		
	10:10 AM Nov 16	■ Capacity utilization	Oct	Ppt. chg.	0.077	-0.012	0.607	-0.054		
	9:30 AM Nov 17	■ Housing starts	Oct	MoM % chg.	4.85	25.5	0.023	0.472		
	9:30 AM Nov 17	■ Building permits	Oct	Level chg. (thousands)	-20.8	4.00	0.003	0.067		
	9:30 AM Nov 17	■ Philly Fed Mfg. business outlook: Current activity	Nov	Index	6.97	7.60	0.005	0.003		
	9:50 AM Nov 17	■ CPI-U: All items	Oct	MoM % chg.	0.207	0.357	0.065	0.010		
	9:50 AM Nov 17	■ CPI-U: All items less food and energy	Oct	MoM % chg.	0.145	0.149	0.050	0.000		
		■ Data revisions						0.040		
Nov 17										2.36

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 | 2016:Q3 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
 ■ Surveys
 ■ Retail and consumption
 ■ Income
 ■ Labor
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Update	Release Date	Data Series	Reference Period	Units	Forecast	Actual	Weight	Impact	Nowcast GDP Growth
					[a]	[b]	[c]	[c(b - a)]	
Sep 30	10:00 AM Oct 03	■ ISM mfg.: Pmi composite index	Sep	Index	51.1	51.5	0.024	0.011	2.23
	10:00 AM Oct 03	■ ISM mfg.: Prices index	Sep	Index	55.3	53.0	0.002	-0.005	
	10:00 AM Oct 03	■ Value of construction put in place	Aug	MoM % chg.	-0.214	-0.738	0.024	-0.012	
	10:00 AM Oct 03	■ ISM mfg.: Employment index	Sep	Index	49.8	49.7	0.006	-0.001	
	8:05 AM Oct 05	■ ADP nonfarm private payroll employment	Sep	Level chg. (thousands)	180.2	154.0	0.202*	-0.005	
	8:30 AM Oct 05	■ Exports: Goods and services	Aug	MoM % chg.	-0.156	0.789	0.058	0.055	
	8:30 AM Oct 05	■ Imports: Goods and services	Aug	MoM % chg.	0.216	1.17	0.045	0.043	
	10:00 AM Oct 05	■ ISM nonmanufacturing: NMI composite index	Sep	Index	52.8	57.1	0.002	0.010	
	10:00 AM Oct 05	■ Inventories: Total business	Aug	MoM % chg.	0.038	0.183	-0.059	-0.009	
	8:30 AM Oct 07	■ All employees: Total nonfarm	Sep	Level chg. (thousands)	165.2	156.0	0.057*	-0.001	
	8:30 AM Oct 07	■ Civilian unemployment rate	Sep	Ppt. chg.	-0.047	0.100	-0.046	-0.007	
			■ Data revisions					0.015	
			■ Parameter revisions					-0.122	
	Oct 07	10:00 AM Oct 12	■ JOLTS: Job openings: Total	Aug	Level chg. (thousands)	41.4	-388.0	-0.044*	
8:30 AM Oct 13		■ Import price index	Sep	MoM % chg.	-0.077	0.083	0.011	0.002	
8:30 AM Oct 13		■ Export price index	Sep	MoM % chg.	-0.257	0.333	0.024	0.014	
8:30 AM Oct 14		■ Retail sales and food services	Sep	MoM % chg.	0.266	0.623	0.120	0.043	
8:30 AM Oct 14		■ PPI: Final demand	Sep	MoM % chg.	0.085	0.272	0.042	0.008	
			■ Data revisions					0.014	
Oct 14	8:40 AM Oct 17	■ Empire State Mfg. Survey: General business conditions	Oct	Index	2.49	-6.80	0.000	-0.002	2.30
	9:20 AM Oct 17	■ Industrial production index	Sep	MoM % chg.	0.107	0.059	0.162	-0.008	
	9:20 AM Oct 17	■ Capacity utilization	Sep	Ppt. chg.	0.019	0.008	0.206	-0.002	
	8:40 AM Oct 18	■ CPI-U: All items	Sep	MoM % chg.	0.178	0.292	0.028	0.003	
	8:40 AM Oct 18	■ CPI-U: All items less food and energy	Sep	MoM % chg.	0.185	0.112	0.024	-0.002	
	8:30 AM Oct 19	■ Housing starts	Sep	MoM % chg.	2.12	-8.96	0.008	-0.084	
	8:30 AM Oct 19	■ Building permits	Sep	Level chg. (thousands)	-7.54	73.0	0.001	0.068	
	8:30 AM Oct 20	■ Philly Fed Mfg. business outlook: Current activity	Oct	Index	3.33	9.70	-0.001	-0.004	
			■ Data revisions					-0.057	
Oct 20	8:30 AM Oct 26	■ Merchant wholesalers: Inventories: Total	Sep	MoM % chg.	0.312	0.209	-0.054	0.006	2.22
	10:00 AM Oct 26	■ New single family houses sold	Sep	MoM % chg.	2.28	3.13	0.004	0.004	
	8:30 AM Oct 27	■ Manufacturers' new orders: Durable goods	Sep	MoM % chg.	-0.123	-0.123	0.009	0.000	
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	8:30 AM Oct 27	■ Manufacturers' inventories: Durable goods	Sep	MoM % chg.	0.068	0.132	-0.064	-0.004	
			■ Data revisions					-0.018	
Oct 28	8:30 AM Oct 28	■ Real gross domestic product (advance)	Q3	QoQ % chg. AR	2.24	2.87	We have concluded our updates of the Q3 nowcast		2.24

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.

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

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