

# NOWCASTING REPORT

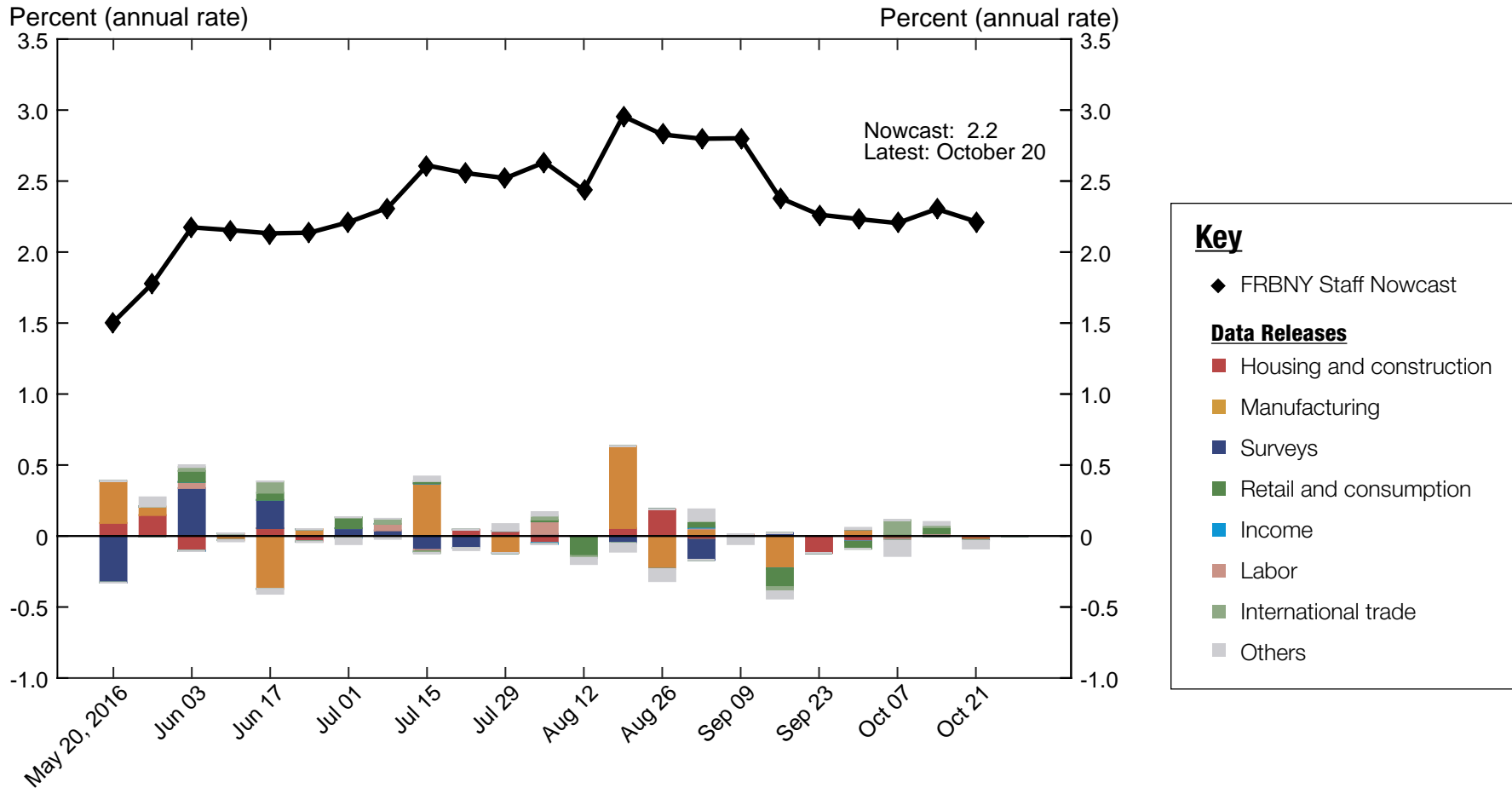
Updated: October 21, 2016

- The FRBNY Staff Nowcast stands at 2.2% for 2016:Q3 and 1.4% for 2016:Q4.
- Overall this week's news had a negative effect on the nowcast.
- The most notable developments were in the housing sector and in regional surveys, in which a mix of positive and negative news largely offset each other.

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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:Q3 GDP Growth



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

# 1.1 | Nowcast Detail

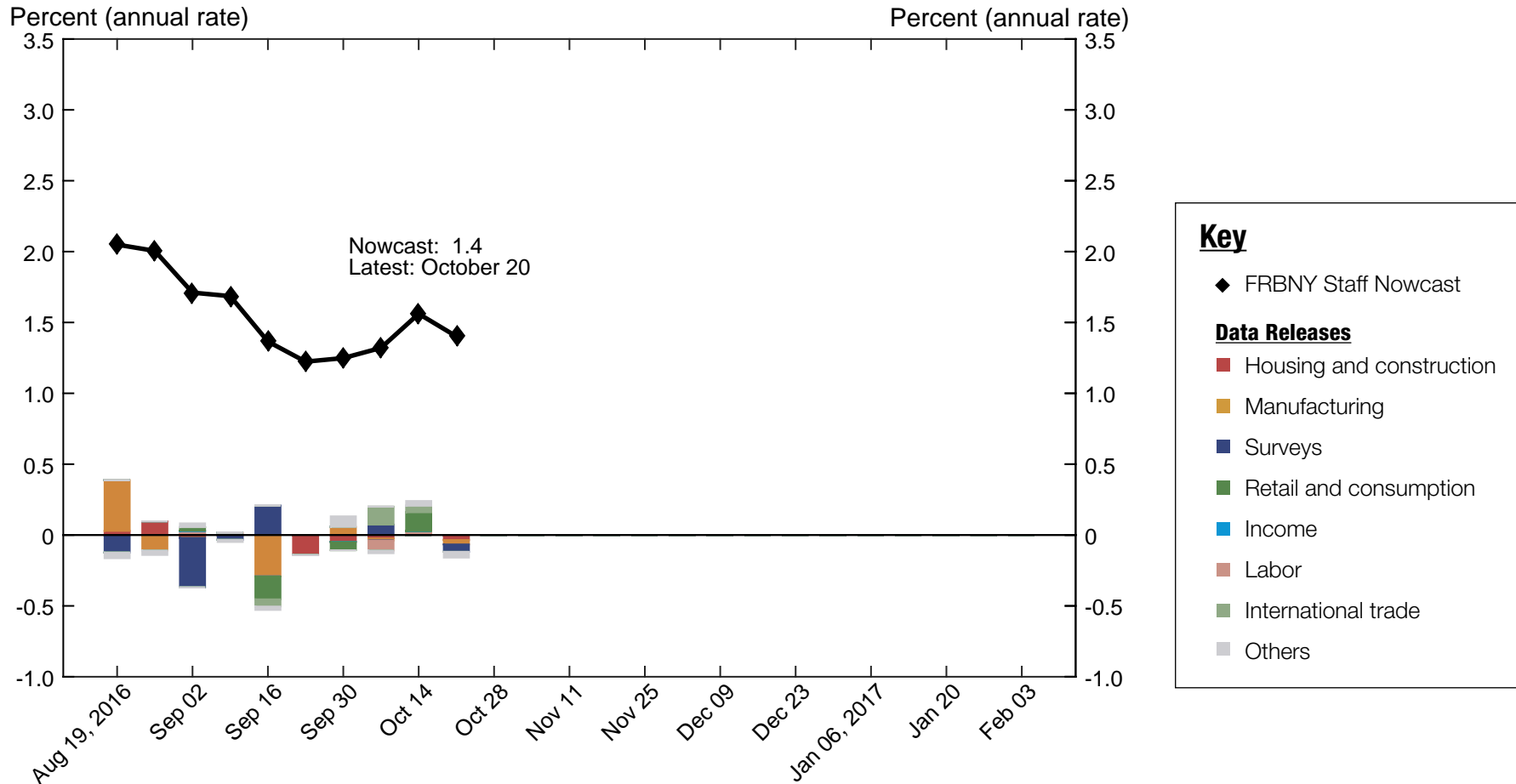
■ Housing and construction 
 ■ Manufacturing 
 ■ Surveys 
 ■ Retail and consumption 
 ■ Income 
 ■ Labor 
 ■ International trade 
 ■ Others

Update	Release Date	Data Series	Reference Period	Units	Forecast	Actual	Weight	Impact	Nowcast GDP Growth		
					[a]	[b]	[c]	[c(b - a)]			
Sep 20	10:00 AM Sep 26	<span style="color: #c00000;">■</span> New single family houses sold	Aug	MoM % chg.	-4.10	-7.59	0.011	-0.039	<b>2.26</b>		
	8:30 AM Sep 28	<span style="color: #e69d00;">■</span> Manufacturers' new orders: Durable goods	Aug	MoM % chg.	-1.72	-0.037	0.021	0.035			
	8:30 AM Sep 28	<span style="color: #e69d00;">■</span> Manufacturers' shipments: Durable goods	Aug	MoM % chg.	-0.177	-0.357	0.090	-0.016			
	8:30 AM Sep 28	<span style="color: #e69d00;">■</span> Mfrs.' unfilled orders: All manufacturing industries	Aug	MoM % chg.	0.069	-0.133	-0.010	0.002			
	8:30 AM Sep 28	<span style="color: #e69d00;">■</span> Manufacturers' inventories: Durable goods	Aug	MoM % chg.	0.085	0.133	-0.259	-0.013			
	8:30 AM Sep 29	<span style="color: #e69d00;">■</span> Merchant wholesalers: Inventories: Total	Aug	MoM % chg.	0.249	-0.149	-0.101	0.040			
	8:30 AM Sep 30	<span style="color: #000080;">■</span> Real disposable personal income	Aug	MoM % chg.	0.137	0.083	0.023	-0.001			
	8:30 AM Sep 30	<span style="color: #cccccc;">■</span> PCE less food and energy: Chain price index	Aug	MoM % chg.	0.137	0.178	0.076	0.003			
	8:30 AM Sep 30	<span style="color: #cccccc;">■</span> PCE: Chain price index	Aug	MoM % chg.	0.072	0.144	0.062	0.004			
	8:40 AM Sep 30	<span style="color: #008000;">■</span> Real personal consumption expenditures	Aug	MoM % chg.	0.094	-0.096	0.260	-0.049			
			<span style="color: #cccccc;">■</span> Data revisions					0.002			
	Sep 30	10:00 AM Oct 03	<span style="color: #000080;">■</span> ISM mfg.: Pmi composite index	Sep	Index	51.1	51.5	0.024		0.011	<b>2.23</b>
10:00 AM Oct 03		<span style="color: #000080;">■</span> ISM mfg.: Prices index	Sep	Index	55.3	53.0	0.002	-0.005			
10:00 AM Oct 03		<span style="color: #c00000;">■</span> Value of construction put in place	Aug	MoM % chg.	-0.214	-0.738	0.024	-0.012			
10:00 AM Oct 03		<span style="color: #000080;">■</span> ISM mfg.: Employment index	Sep	Index	49.8	49.7	0.006	-0.001			
8:05 AM Oct 05		<span style="color: #a52a2a;">■</span> ADP nonfarm private payroll employment	Sep	Level chg. (thousands)	180.2	154.0	0.202*	-0.005			
8:30 AM Oct 05		<span style="color: #008000;">■</span> Exports: Goods and services	Aug	MoM % chg.	-0.156	0.789	0.058	0.055			
8:30 AM Oct 05		<span style="color: #008000;">■</span> Imports: Goods and services	Aug	MoM % chg.	0.216	1.17	0.045	0.043			
10:00 AM Oct 05		<span style="color: #000080;">■</span> ISM nonmanufacturing: NMI composite index	Sep	Index	52.8	57.1	0.002	0.010			
10:00 AM Oct 05		<span style="color: #e69d00;">■</span> Inventories: Total business	Aug	MoM % chg.	0.038	0.183	-0.059	-0.009			
8:30 AM Oct 07		<span style="color: #a52a2a;">■</span> All employees: Total nonfarm	Sep	Level chg. (thousands)	165.2	156.0	0.057*	-0.001			
8:30 AM Oct 07		<span style="color: #a52a2a;">■</span> Civilian unemployment rate	Sep	Ppt. chg.	-0.047	0.100	-0.046	-0.007			
			<span style="color: #cccccc;">■</span> Data revisions					0.015			
			<span style="color: #cccccc;">■</span> Parameter revisions					-0.122			
Oct 07		10:00 AM Oct 12	<span style="color: #a52a2a;">■</span> JOLTS: Job openings: Total	Aug	Level chg. (thousands)	41.4	-388.0	-0.044*	0.019	<b>2.20</b>	
		8:30 AM Oct 13	<span style="color: #008000;">■</span> Import price index	Sep	MoM % chg.	-0.077	0.083	0.011	0.002		
	8:30 AM Oct 13	<span style="color: #008000;">■</span> Export price index	Sep	MoM % chg.	-0.257	0.333	0.024	0.014			
	8:30 AM Oct 14	<span style="color: #008000;">■</span> Retail sales and food services	Sep	MoM % chg.	0.266	0.623	0.120	0.043			
	8:30 AM Oct 14	<span style="color: #cccccc;">■</span> PPI: Final demand	Sep	MoM % chg.	0.085	0.272	0.042	0.008			
			<span style="color: #cccccc;">■</span> Data revisions					0.014			
Oct 14	8:40 AM Oct 17	<span style="color: #000080;">■</span> Empire State Mfg. Survey: General business conditions	Oct	Index	2.49	-6.80	0.000	-0.002	<b>2.30</b>		
	9:20 AM Oct 17	<span style="color: #e69d00;">■</span> Industrial production index	Sep	MoM % chg.	0.107	0.059	0.162	-0.008			
	9:20 AM Oct 17	<span style="color: #e69d00;">■</span> Capacity utilization	Sep	Ppt. chg.	0.019	0.008	0.206	-0.002			
	8:40 AM Oct 18	<span style="color: #cccccc;">■</span> CPI-U: All items	Sep	MoM % chg.	0.178	0.292	0.028	0.003			
	8:40 AM Oct 18	<span style="color: #cccccc;">■</span> CPI-U: All items less food and energy	Sep	MoM % chg.	0.185	0.112	0.024	-0.002			
	8:30 AM Oct 19	<span style="color: #c00000;">■</span> Housing starts	Sep	MoM % chg.	2.12	-8.96	0.008	-0.084			
	8:30 AM Oct 19	<span style="color: #c00000;">■</span> Building permits	Sep	Level chg. (thousands)	-7.54	73.0	0.001	0.068			
	8:30 AM Oct 20	<span style="color: #000080;">■</span> Philly Fed Mfg. business outlook: Current activity	Oct	Index	3.33	9.70	-0.001	-0.004			
			<span style="color: #cccccc;">■</span> Data revisions					-0.057			
	Oct 20									<b>2.22</b>	

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:Q4 GDP Growth



Source: Authors' calculations.

Notes: Colored bars reflect the relative 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 20	10:00 AM Sep 26	<span style="color: #c00000;">■</span> New single family houses sold	Aug	MoM % chg.	-4.10	-7.59	0.014	-0.048	<b>1.22</b>
	8:30 AM Sep 28	<span style="color: #e69d00;">■</span> Manufacturers' new orders: Durable goods	Aug	MoM % chg.	-1.72	-0.037	0.024	0.040	
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	8:30 AM Sep 28	<span style="color: #e69d00;">■</span> Manufacturers' inventories: Durable goods	Aug	MoM % chg.	0.085	0.133	-0.384	-0.019	
	8:30 AM Sep 29	<span style="color: #e69d00;">■</span> Merchant wholesalers: Inventories: Total	Aug	MoM % chg.	0.249	-0.149	-0.129	0.051	
	8:30 AM Sep 30	<span style="color: #000080;">■</span> Real disposable personal income	Aug	MoM % chg.	0.137	0.083	0.029	-0.002	
	8:30 AM Sep 30	<span style="color: #cccccc;">■</span> PCE less food and energy: Chain price index	Aug	MoM % chg.	0.137	0.178	0.117	0.005	
	8:30 AM Sep 30	<span style="color: #cccccc;">■</span> PCE: Chain price index	Aug	MoM % chg.	0.072	0.144	0.118	0.008	
	8:40 AM Sep 30	<span style="color: #008000;">■</span> Real personal consumption expenditures	Aug	MoM % chg.	0.094	-0.096	0.306	-0.058	
		<span style="color: #cccccc;">■</span> Data revisions					0.061		
Sep 30	10:00 AM Oct 03	<span style="color: #000080;">■</span> ISM mfg.: Pmi composite index	Sep	Index	51.1	51.5	0.120	0.053	<b>1.25</b>
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Oct 14	8:40 AM Oct 17	<span style="color: #000080;">■</span> Empire State Mfg. Survey: General business conditions	Oct	Index	2.49	-6.80	0.013	-0.124	<b>1.56</b>
	9:20 AM Oct 17	<span style="color: #e69d00;">■</span> Industrial production index	Sep	MoM % chg.	0.107	0.059	0.493	-0.024	
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	8:30 AM Oct 19	<span style="color: #c00000;">■</span> Building permits	Sep	Level chg. (thousands)	-7.54	73.0	0.003	0.223	
	8:30 AM Oct 20	<span style="color: #000080;">■</span> Philly Fed Mfg. business outlook: Current activity	Oct	Index	3.33	9.70	0.011	0.072	
		<span style="color: #cccccc;">■</span> Data revisions					-0.046		
Oct 20								<b>1.40</b>	

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**

FRBNY Time-Series Analysis Team