

# NOWCASTING REPORT

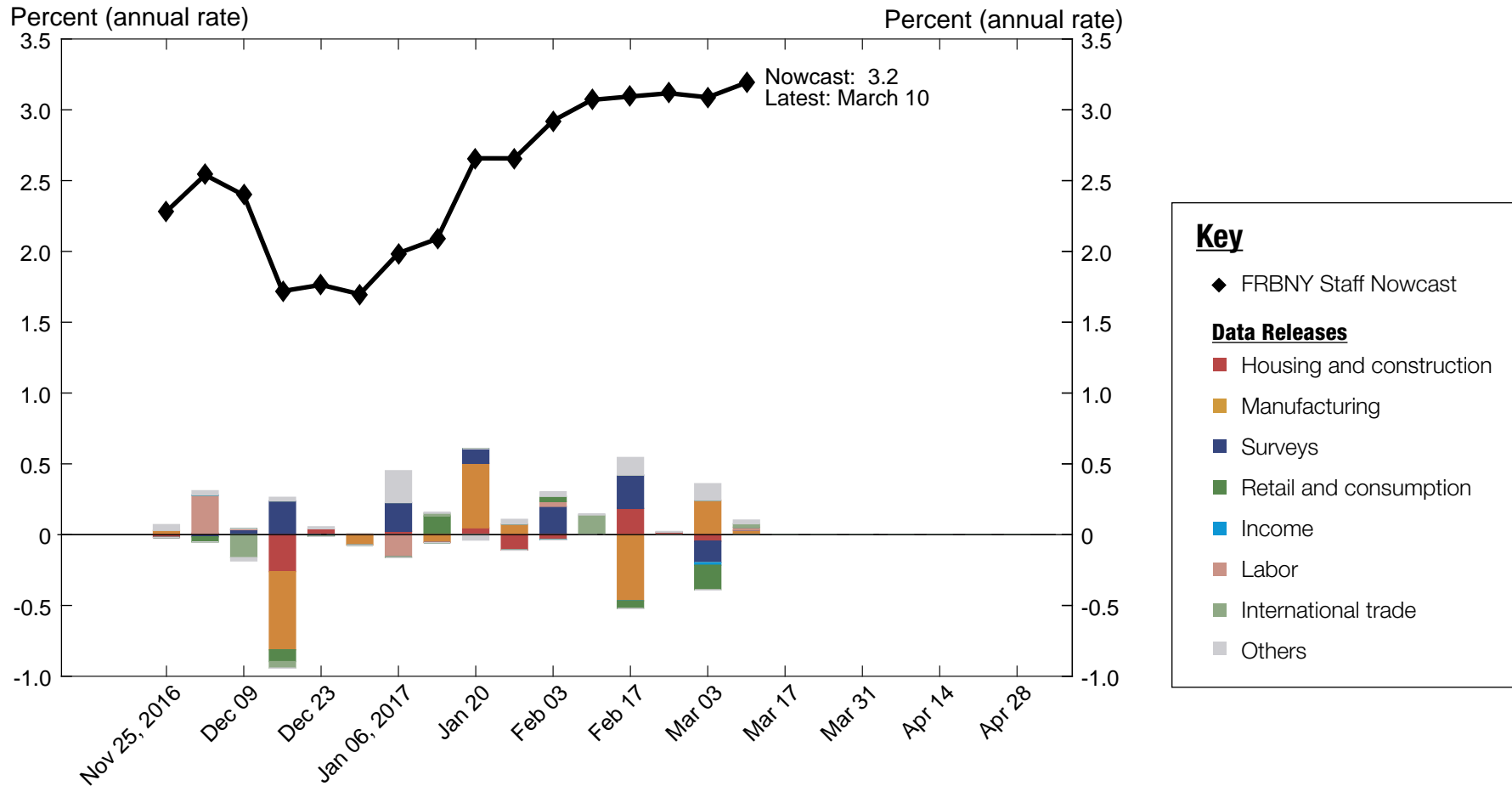
Updated: March 10, 2017

- The FRBNY Staff Nowcast stands at 3.2% for 2017:Q1 and 3.0% for 2017:Q2.
- This week's news nudged up the nowcast for both Q1 and Q2 by about 0.1 percentage point each.
- The small increase was driven by inventories, international trade, and labor market data.

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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).

# 1 | 2017:Q1 GDP Growth



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

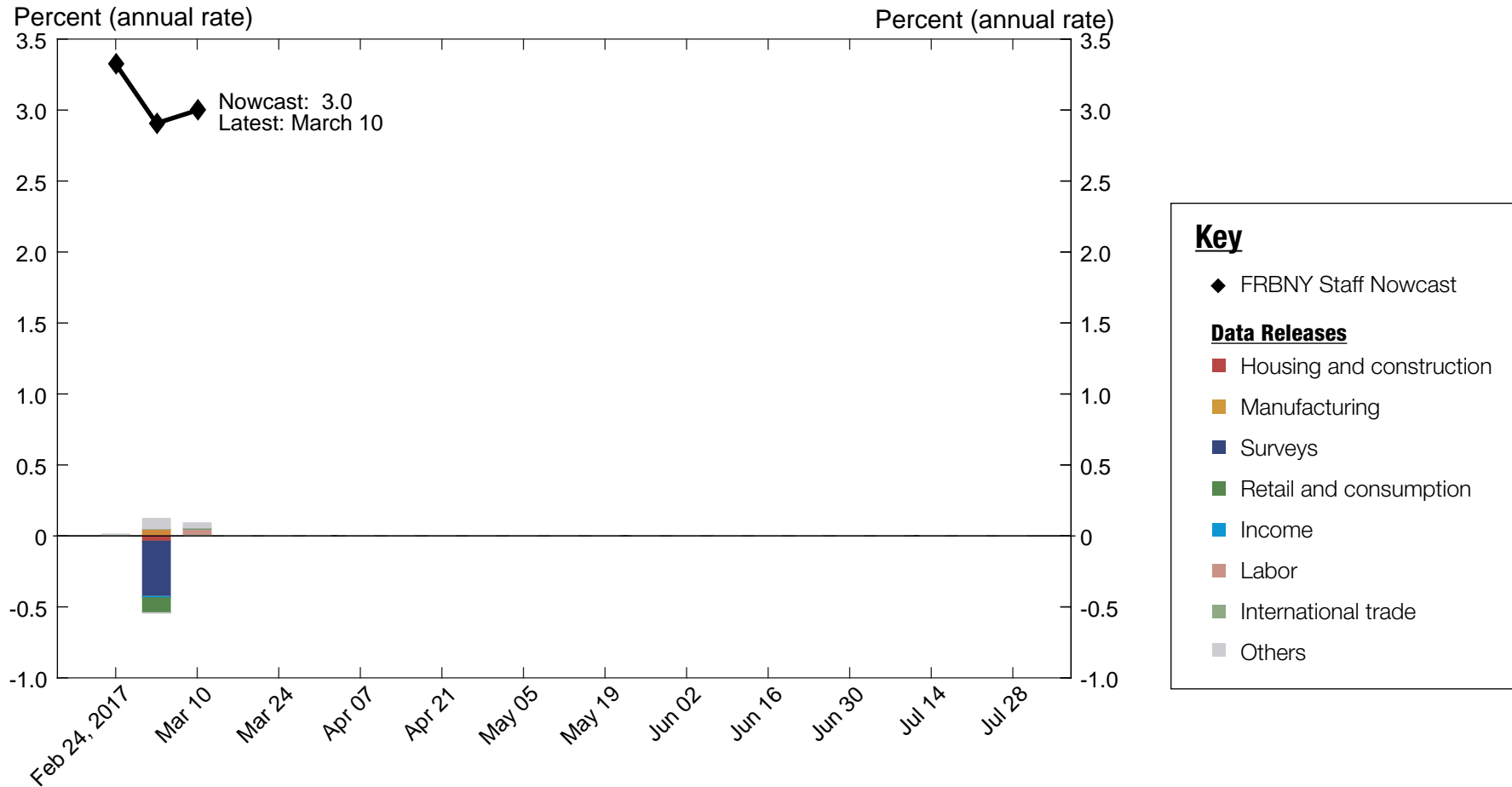
# 1.1 | Nowcast Detail

<span style="color: #c00000;">■</span> Housing and construction <span style="color: #e69d00;">■</span> Manufacturing <span style="color: #000080;">■</span> Surveys <span style="color: #008000;">■</span> Retail and consumption <span style="color: #0000ff;">■</span> Income <span style="color: #a52a2a;">■</span> Labor <span style="color: #808000;">■</span> International trade <span style="color: #cccccc;">■</span> Others									
Update	Release Date	Data Series	Reference Period	Units	Forecast	Actual	Weight	Impact	Nowcast GDP Growth
					[a]	[b]	[c]	[c(b - a)]	
Feb 10									<b>3.07</b>
	8:30 AM Feb 14	<span style="color: #cccccc;">■</span> PPI: Final demand	Jan	MoM % chg.	0.162	0.629	0.040	0.018	
	8:30 AM Feb 15	<span style="color: #008000;">■</span> Retail sales and food services	Jan	MoM % chg.	0.563	0.357	0.262	-0.054	
	8:30 AM Feb 15	<span style="color: #000080;">■</span> Empire State Mfg. Survey: General business conditions	Feb	Index	11.1	18.7	0.008	0.061	
	8:40 AM Feb 15	<span style="color: #cccccc;">■</span> CPI-U: All items	Jan	MoM % chg.	0.283	0.551	0.058	0.015	
	8:40 AM Feb 15	<span style="color: #cccccc;">■</span> CPI-U: All items less food and energy	Jan	MoM % chg.	0.180	0.308	0.072	0.009	
	9:10 AM Feb 15	<span style="color: #e69d00;">■</span> Industrial production index	Jan	MoM % chg.	0.321	-0.251	0.388	-0.222	
	9:10 AM Feb 15	<span style="color: #e69d00;">■</span> Capacity utilization	Jan	Ppt. chg.	0.204	-0.287	0.499	-0.245	
	8:30 AM Feb 16	<span style="color: #000080;">■</span> Philly Fed Mfg. business outlook: Current activity	Feb	Index	19.5	43.3	0.007	0.175	
	8:40 AM Feb 16	<span style="color: #c00000;">■</span> Housing starts	Jan	MoM % chg.	-3.78	-2.58	0.024	0.028	
	8:40 AM Feb 16	<span style="color: #c00000;">■</span> Building permits	Jan	Level chg. (thousands)	-5.29	57.0	0.003	0.157	
		<span style="color: #cccccc;">■</span> Data revisions						0.081	
Feb 16									<b>3.09</b>
	10:00 AM Feb 24	<span style="color: #c00000;">■</span> New single family houses sold	Jan	MoM % chg.	2.34	3.74	0.013	0.018	
		<span style="color: #cccccc;">■</span> Data revisions						0.005	
Feb 24									<b>3.12</b>
	8:30 AM Feb 27	<span style="color: #e69d00;">■</span> Manufacturers' new orders: Durable goods	Jan	MoM % chg.	1.88	1.78	0.022	-0.002	
	8:30 AM Feb 27	<span style="color: #e69d00;">■</span> Manufacturers' shipments: Durable goods	Jan	MoM % chg.	0.360	-0.091	0.108	-0.049	
	8:30 AM Feb 27	<span style="color: #e69d00;">■</span> Mfrs.' unfilled orders: All manufacturing industries	Jan	MoM % chg.	0.350	-0.359	-0.038	0.027	
	8:30 AM Feb 27	<span style="color: #e69d00;">■</span> Manufacturers' inventories: Durable goods	Jan	MoM % chg.	0.406	0.015	-0.399	0.156	
	8:30 AM Feb 28	<span style="color: #e69d00;">■</span> Merchant wholesalers: Inventories: Total	Jan	MoM % chg.	0.501	-0.131	-0.176	0.111	
	8:30 AM Mar 01	<span style="color: #0000ff;">■</span> Real disposable personal income	Jan	MoM % chg.	0.300	-0.153	0.041	-0.019	
	8:30 AM Mar 01	<span style="color: #cccccc;">■</span> PCE less food and energy: Chain price index	Jan	MoM % chg.	0.150	0.299	0.210	0.031	
	8:30 AM Mar 01	<span style="color: #cccccc;">■</span> PCE: Chain price index	Jan	MoM % chg.	0.200	0.434	0.108	0.025	
	8:40 AM Mar 01	<span style="color: #008000;">■</span> Real personal consumption expenditures	Jan	MoM % chg.	0.265	-0.263	0.329	-0.174	
	10:00 AM Mar 01	<span style="color: #c00000;">■</span> Value of construction put in place	Jan	MoM % chg.	0.391	-0.991	0.033	-0.046	
	10:00 AM Mar 01	<span style="color: #000080;">■</span> ISM mfg.: Pmi composite index	Feb	Index	58.6	57.7	0.055	-0.049	
	10:00 AM Mar 01	<span style="color: #000080;">■</span> ISM mfg.: Prices index	Feb	Index	68.9	68.0	0.008	-0.007	
	10:00 AM Mar 01	<span style="color: #000080;">■</span> ISM mfg.: Employment index	Feb	Index	58.6	54.2	0.021	-0.092	
	10:00 AM Mar 03	<span style="color: #000080;">■</span> ISM nonmanufacturing: NMI composite index	Feb	Index	58.2	57.6	0.005	-0.003	
		<span style="color: #cccccc;">■</span> Data revisions						0.061	
Mar 03									<b>3.09</b>
	10:00 AM Mar 06	<span style="color: #e69d00;">■</span> Inventories: Total business	Jan	MoM % chg.	0.436	0.275	-0.192	0.031	
	8:30 AM Mar 07	<span style="color: #008000;">■</span> Exports: Goods and services	Jan	MoM % chg.	0.956	0.565	0.068	-0.026	
	8:30 AM Mar 07	<span style="color: #008000;">■</span> Imports: Goods and services	Jan	MoM % chg.	1.07	2.26	0.049	0.058	
	8:05 AM Mar 08	<span style="color: #a52a2a;">■</span> ADP nonfarm private payroll employment	Feb	Level chg. (thousands)	268.5	299.0	0.575*	0.018	
	8:30 AM Mar 09	<span style="color: #008000;">■</span> Import price index	Feb	MoM % chg.	0.691	0.245	0.017	-0.007	
	8:30 AM Mar 09	<span style="color: #008000;">■</span> Export price index	Feb	MoM % chg.	0.316	0.329	0.035	0.000	
	8:30 AM Mar 10	<span style="color: #a52a2a;">■</span> All employees: Total nonfarm	Feb	Level chg. (thousands)	242.4	235.0	0.250*	-0.002	
	8:30 AM Mar 10	<span style="color: #a52a2a;">■</span> Civilian unemployment rate	Feb	Ppt. chg.	-0.072	-0.100	-0.186	0.005	
		<span style="color: #cccccc;">■</span> Data revisions						0.027	
Mar 10									<b>3.19</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 | 2017:Q2 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 
 ■ International trade 
 ■ Others

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					[a]	[b]	[c]	[c(b - a)]	
Feb 10	8:30 AM Feb 14	PPI: Final demand	Jan	MoM % chg.	0.162	0.629	0.042	0.020	<b>2.82</b>
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	8:40 AM Feb 16	Housing starts	Jan	MoM % chg.	-3.78	-2.58	0.012	0.015	
	8:40 AM Feb 16	Building permits	Jan	Level chg. (thousands)	-5.29	57.0	0.001	0.082	
		Data revisions					0.020		
Feb 16	10:00 AM Feb 24	New single family houses sold	Jan	MoM % chg.	2.34	3.74	0.007	0.009	<b>3.31</b>
		Data revisions					0.003		
Feb 24	8:30 AM Feb 27	Manufacturers' new orders: Durable goods	Jan	MoM % chg.	1.88	1.78	0.013	-0.001	<b>3.33</b>
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	10:00 AM Mar 01	Value of construction put in place	Jan	MoM % chg.	0.391	-0.991	0.027	-0.037	
	10:00 AM Mar 01	ISM mfg.: Pmi composite index	Feb	Index	58.6	57.7	0.132	-0.116	
	10:00 AM Mar 01	ISM mfg.: Prices index	Feb	Index	68.9	68.0	0.021	-0.019	
	10:00 AM Mar 01	ISM mfg.: Employment index	Feb	Index	58.6	54.2	0.055	-0.242	
	10:00 AM Mar 03	ISM nonmanufacturing: NMI composite index	Feb	Index	58.2	57.6	0.019	-0.011	
		Data revisions					0.012		
Mar 03	10:00 AM Mar 06	Inventories: Total business	Jan	MoM % chg.	0.436	0.275	-0.006	0.001	<b>2.91</b>
	8:30 AM Mar 07	Exports: Goods and services	Jan	MoM % chg.	0.956	0.565	0.046	-0.018	
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	8:30 AM Mar 10	Civilian unemployment rate	Feb	Ppt. chg.	-0.072	-0.100	-0.256	0.007	
		Data revisions					0.034		
Mar 10									

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