

# NOWCASTING REPORT

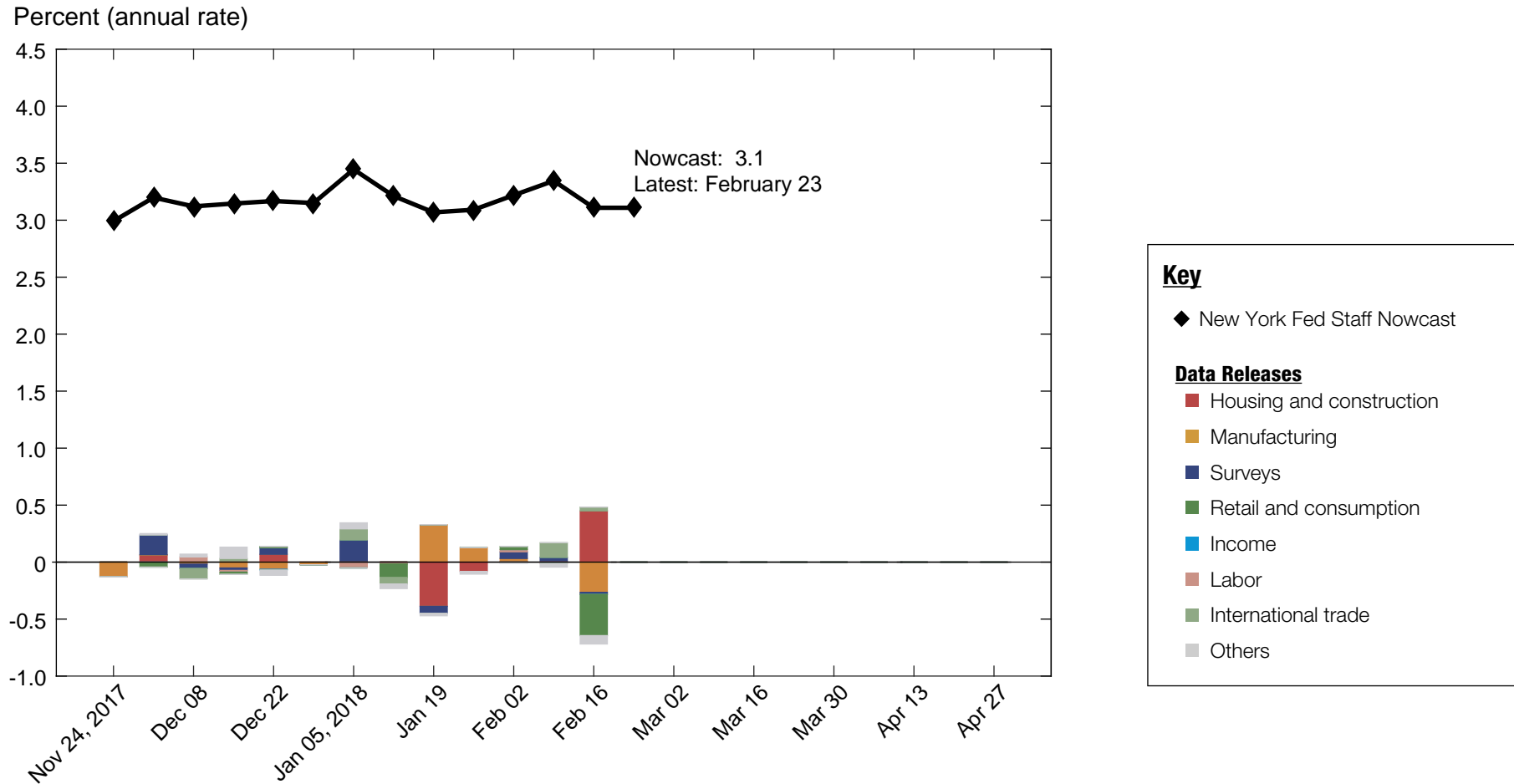
Updated: February 23, 2018

- The New York Fed Staff Nowcast for 2018:Q1 stands at 3.1%.
- This week there were no new releases on the variables tracked by the model.

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The New York Fed 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 | 2018:Q1 GDP Growth



Source: Authors' calculations, based on data accessed through Haver Analytics.  
Note: Colored bars reflect the impact of each data release on the nowcast.

# 1.1 | Nowcast Detail

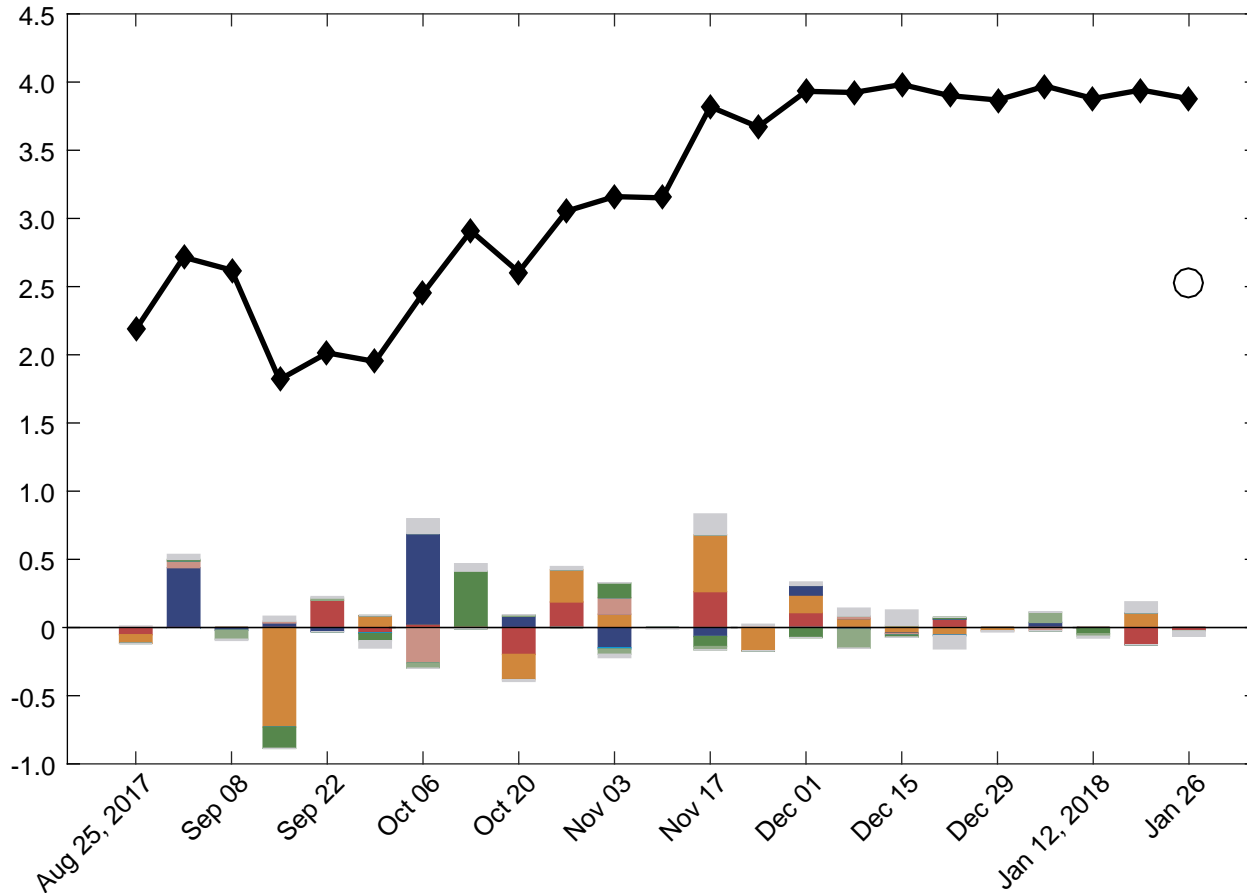
<span style="color: red;">■</span> Housing and construction <span style="color: orange;">■</span> Manufacturing <span style="color: blue;">■</span> Surveys <span style="color: green;">■</span> Retail and consumption <span style="color: cyan;">■</span> Income <span style="color: brown;">■</span> Labor <span style="color: olive;">■</span> International trade <span style="color: gray;">■</span> Others										
Update	Release Date	Data Series	Reference Period	Units	Forecast	Actual	Weight	Impact	Nowcast GDP Growth	
					[a]	[b]	[c]	[c(b - a)]		
Jan 18	10:00 AM Jan 25	<span style="color: red;">■</span> New single family houses sold	Dec	MoM % chg.	-3.31	-9.29	0.014	-0.082	<b>3.07</b>	
	8:30 AM Jan 26	<span style="color: orange;">■</span> Manufacturers' new orders: Durable goods	Dec	MoM % chg.	1.08	2.89	0.021	0.038		
	8:30 AM Jan 26	<span style="color: orange;">■</span> Merchant wholesalers: Inventories: Total	Dec	MoM % chg.	0.598	0.200	-0.151	0.060		
	8:30 AM Jan 26	<span style="color: orange;">■</span> Manufacturers' shipments: Durable goods	Dec	MoM % chg.	0.656	0.609	0.117	-0.005		
	8:30 AM Jan 26	<span style="color: orange;">■</span> Mfrs.' unfilled orders: All manufacturing industries	Dec	MoM % chg.	0.588	0.604	-0.029	-0.000		
	8:30 AM Jan 26	<span style="color: orange;">■</span> Manufacturers' inventories: Durable goods	Dec	MoM % chg.	0.426	0.320	-0.342	0.036		
	8:40 AM Jan 26	<span style="color: gray;">■</span> Real gross domestic product	Q4	QoQ % chg. AR	3.92	2.53	0.020	-0.028		
Jan 26		<span style="color: gray;">■</span> Data revisions						0.005	<b>3.09</b>	
	8:40 AM Jan 29	<span style="color: blue;">■</span> Real disposable personal income	Dec	MoM % chg.	0.275	0.219	0.037	-0.002		
	8:40 AM Jan 29	<span style="color: gray;">■</span> PCE less food and energy: Chain price index	Dec	MoM % chg.	0.142	0.177	0.254	0.009		
	8:40 AM Jan 29	<span style="color: gray;">■</span> PCE: Chain price index	Dec	MoM % chg.	0.222	0.110	0.152	-0.017		
	8:40 AM Jan 29	<span style="color: green;">■</span> Real personal consumption expenditures	Dec	MoM % chg.	0.209	0.286	0.343	0.026		
	8:05 AM Jan 31	<span style="color: brown;">■</span> ADP nonfarm private payroll employment	Jan	Level chg. (thousands)	221.5	233.0	1.727*	0.020		
	8:30 AM Feb 01	<span style="color: brown;">■</span> Nonfarm business sector: Unit labor cost	Q4	QoQ % chg. AR	0.952	1.94	0.001	0.001		
	10:00 AM Feb 01	<span style="color: blue;">■</span> ISM mfg.: Pmi composite index	Jan	Index	58.2	59.1	0.089	0.084		
	10:00 AM Feb 01	<span style="color: blue;">■</span> ISM mfg.: Prices index	Jan	Index	67.4	72.7	0.014	0.072		
	10:00 AM Feb 01	<span style="color: red;">■</span> Value of construction put in place	Dec	MoM % chg.	0.528	0.662	0.040	0.005		
	10:00 AM Feb 01	<span style="color: blue;">■</span> ISM mfg.: Employment index	Jan	Index	57.1	54.2	0.034	-0.098		
	8:30 AM Feb 02	<span style="color: brown;">■</span> All employees: Total nonfarm	Jan	Level chg. (thousands)	165.1	200.0	0.495*	0.017		
	8:30 AM Feb 02	<span style="color: brown;">■</span> Civilian unemployment rate	Jan	Ppt. chg.	-0.059	0.000	-0.303	-0.018		
	10:00 AM Feb 02	<span style="color: orange;">■</span> Inventories: Total business	Dec	MoM % chg.	0.449	0.313	-0.196	0.027		
Feb 02		<span style="color: gray;">■</span> Data revisions						0.001	<b>3.22</b>	
	10:00 AM Feb 05	<span style="color: blue;">■</span> ISM nonmanufacturing: NMI composite index	Jan	Index	56.2	59.9	0.011	0.042		
	8:30 AM Feb 06	<span style="color: green;">■</span> Exports: Goods and services	Dec	MoM % chg.	1.06	1.77	0.069	0.049		
	8:30 AM Feb 06	<span style="color: green;">■</span> Imports: Goods and services	Dec	MoM % chg.	0.841	2.49	0.048	0.079		
	10:00 AM Feb 06	<span style="color: brown;">■</span> JOLTS: Job openings: Total	Dec	Level chg. (thousands)	21.3	-167.0	0.065*	-0.012		
Feb 09		<span style="color: gray;">■</span> Data revisions						-0.032	<b>3.35</b>	
	8:30 AM Feb 14	<span style="color: green;">■</span> Retail sales and food services	Jan	MoM % chg.	0.736	-0.263	0.362	-0.362		
	9:00 AM Feb 14	<span style="color: gray;">■</span> CPI-U: All items	Jan	MoM % chg.	0.237	0.539	0.095	0.029		
	9:00 AM Feb 14	<span style="color: gray;">■</span> CPI-U: All items less food and energy	Jan	MoM % chg.	0.185	0.349	0.105	0.017		
	8:30 AM Feb 15	<span style="color: gray;">■</span> PPI: Final demand	Jan	MoM % chg.	0.132	0.437	0.037	0.011		
	8:30 AM Feb 15	<span style="color: blue;">■</span> Empire State Mfg. Survey: General business conditions	Feb	Index	18.5	13.1	0.006	-0.032		
	8:30 AM Feb 15	<span style="color: blue;">■</span> Philly Fed Mfg. business outlook: Current activity	Feb	Index	23.4	25.8	0.006	0.015		
	9:20 AM Feb 15	<span style="color: orange;">■</span> Industrial production index	Jan	MoM % chg.	0.237	-0.052	0.366	-0.106		
	9:20 AM Feb 15	<span style="color: orange;">■</span> Capacity utilization	Jan	Ppt. chg.	0.131	-0.205	0.477	-0.160		
	8:30 AM Feb 16	<span style="color: red;">■</span> Housing starts	Jan	MoM % chg.	2.73	9.68	0.025	0.177		
	8:30 AM Feb 16	<span style="color: green;">■</span> Import price index	Jan	MoM % chg.	0.334	0.956	0.019	0.012		
	8:30 AM Feb 16	<span style="color: red;">■</span> Building permits	Jan	Level chg. (thousands)	-5.77	96.0	0.003	0.273		
	8:30 AM Feb 16	<span style="color: green;">■</span> Export price index	Jan	MoM % chg.	0.238	0.802	0.036	0.020		
		<span style="color: gray;">■</span> Data revisions						-0.131		
	Feb 16									<b>3.11</b>

Source: Authors' calculations, based on data accessed through Haver Analytics.

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:Q4 GDP Growth

Percent (annual rate)



### Key

- ◆ New York Fed Staff Nowcast
- Advance estimate

### Data Releases

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

Source: Authors' calculations, based on data accessed through Haver Analytics.

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

## 2.1 | Nowcast Detail

<span style="color: red;">■</span> Housing and construction <span style="color: orange;">■</span> Manufacturing <span style="color: blue;">■</span> Surveys <span style="color: green;">■</span> Retail and consumption <span style="color: cyan;">■</span> Income <span style="color: brown;">■</span> Labor <span style="color: olive;">■</span> International trade <span style="color: gray;">■</span> Others										
Update	Release Date	Data Series	Reference Period	Units	Forecast	Actual	Weight	Impact	Nowcast GDP Growth	
					[a]	[b]	[c]	[c(b - a)]		
Dec 28										<b>3.87</b>
	10:00 AM Jan 03	ISM mfg.: Prices index	Dec	Index	65.1	69.0	0.003	0.011		
	10:00 AM Jan 03	Value of construction put in place	Nov	MoM % chg.	0.626	0.795	0.019	0.003		
	10:00 AM Jan 03	ISM mfg.: Employment index	Dec	Index	58.8	57.0	0.008	-0.015		
	10:20 AM Jan 03	ISM mfg.: Pmi composite index	Dec	Index	57.9	59.7	0.023	0.042		
	8:05 AM Jan 04	ADP nonfarm private payroll employment	Dec	Level chg. (thousands)	209.3	251.0	0.210*	0.009		
	8:30 AM Jan 05	All employees: Total nonfarm	Dec	Level chg. (thousands)	271.2	148.0	0.137*	-0.017		
	8:30 AM Jan 05	Civilian unemployment rate	Dec	Ppt. chg.	-0.072	0.000	-0.133	-0.010		
	8:30 AM Jan 05	Exports: Goods and services	Nov	MoM % chg.	1.48	2.27	0.045	0.035		
	8:30 AM Jan 05	Imports: Goods and services	Nov	MoM % chg.	1.30	2.46	0.034	0.040		
	10:00 AM Jan 05	ISM nonmanufacturing: NMI composite index	Dec	Index	58.0	55.9	0.002	-0.004		
		Data revisions						-0.011		
		Parameter revisions						0.018		
Jan 05										<b>3.97</b>
	10:20 AM Jan 05	Inventories: Total business	Nov	MoM % chg.	0.304	0.389	-0.080	-0.007		
	10:00 AM Jan 09	JOLTS: Job openings: Total	Nov	Level chg. (thousands)	171.8	-46.0	0.039*	-0.008		
	8:30 AM Jan 10	Import price index	Dec	MoM % chg.	0.766	0.080	0.010	-0.007		
	8:30 AM Jan 10	Export price index	Dec	MoM % chg.	0.414	-0.080	0.022	-0.011		
	8:30 AM Jan 11	PPI: Final demand	Dec	MoM % chg.	0.228	-0.087	0.023	-0.007		
	8:30 AM Jan 12	Retail sales and food services	Dec	MoM % chg.	0.670	0.352	0.118	-0.038		
	8:40 AM Jan 12	CPI-U: All items	Dec	MoM % chg.	0.307	0.150	0.035	-0.006		
	8:40 AM Jan 12	CPI-U: All items less food and energy	Dec	MoM % chg.	0.149	0.277	0.042	0.005		
		Data revisions						-0.013		
Jan 12										<b>3.88</b>
	8:30 AM Jan 16	Empire State Mfg. Survey: General business conditions	Jan	Index	19.9	17.7	0.000	-0.001		
	9:20 AM Jan 17	Industrial production index	Dec	MoM % chg.	0.461	0.894	0.126	0.054		
	9:20 AM Jan 17	Capacity utilization	Dec	Ppt. chg.	0.300	0.636	0.161	0.054		
	8:30 AM Jan 18	Housing starts	Dec	MoM % chg.	3.96	-8.24	0.008	-0.101		
	8:30 AM Jan 18	Building permits	Dec	Level chg. (thousands)	27.9	-1.00	0.001	-0.025		
	8:30 AM Jan 18	Philly Fed Mfg. business outlook: Current activity	Jan	Index	24.4	22.2	-0.001	0.001		
		Data revisions						0.080		
Jan 18										<b>3.94</b>
	10:00 AM Jan 25	New single family houses sold	Dec	MoM % chg.	-3.31	-9.29	0.004	-0.025		
		Data revisions						-0.039		
Jan 26										<b>3.88</b>
	8:30 AM Jan 26	Real gross domestic product (advance)	Q4	QoQ % chg. AR	3.88	<b>2.6</b>				
We have concluded our updates of the Q4 nowcast										

Source: Authors' calculations, based on data accessed through Haver Analytics.

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 the nowcast for 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 New York Fed Staff Nowcast and the Atlanta Fed's Nowcast?**

The New York Fed 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 New York Fed 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 New York Fed 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 real GDP, not the four-quarter (“y/y”) growth rate.

### **4. Can we obtain the data underlying this analysis?**

We are not making the underlying data available at this time. The tables list the data series employed in calculating our estimates. Sources include the U.S. Bureau of Labor Statistics, Institute for Supply Management, U.S. Census Bureau, U.S. Bureau of Economic Analysis, the New York and Philadelphia Feds, the Fed Board of Governors, and the ADP (Automatic Data Processing, Inc.).

### **Authors**

New York Fed Time-Series Analysis Team