

# NOWCASTING REPORT

Updated: March 9, 2018

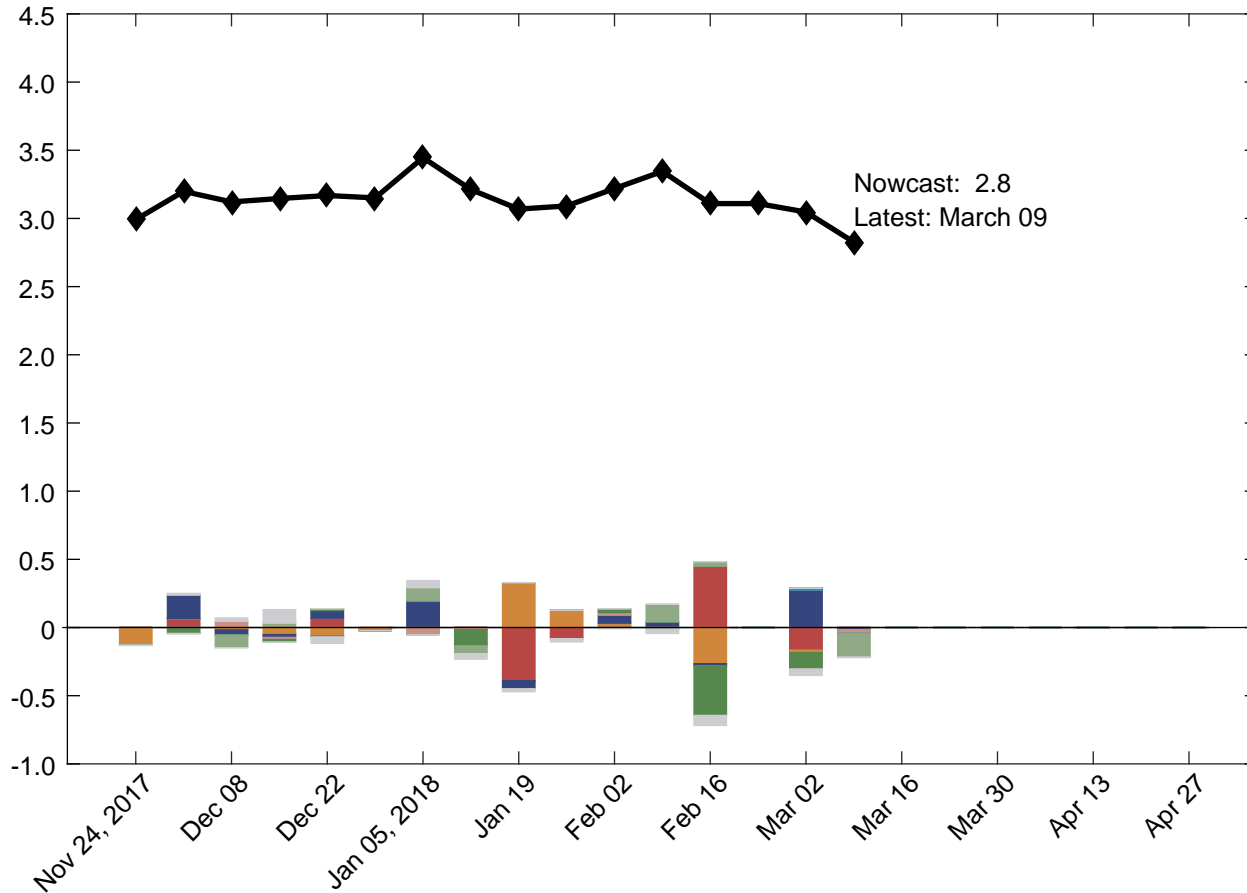
- The New York Fed Staff Nowcast stands at 2.8% for 2018:Q1 and 3.0% for 2018:Q2.
- News from this week's data releases decreased the nowcast for 2018:Q1 by 0.2 percentage point and decreased the nowcast for 2018:Q2 by 0.1 percentage point.
- A negative surprise from exports data accounted for most of the decrease.

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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

Percent (annual rate)



## Key

◆ New York Fed Staff Nowcast

## 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.

# 1.1 | Nowcast Detail

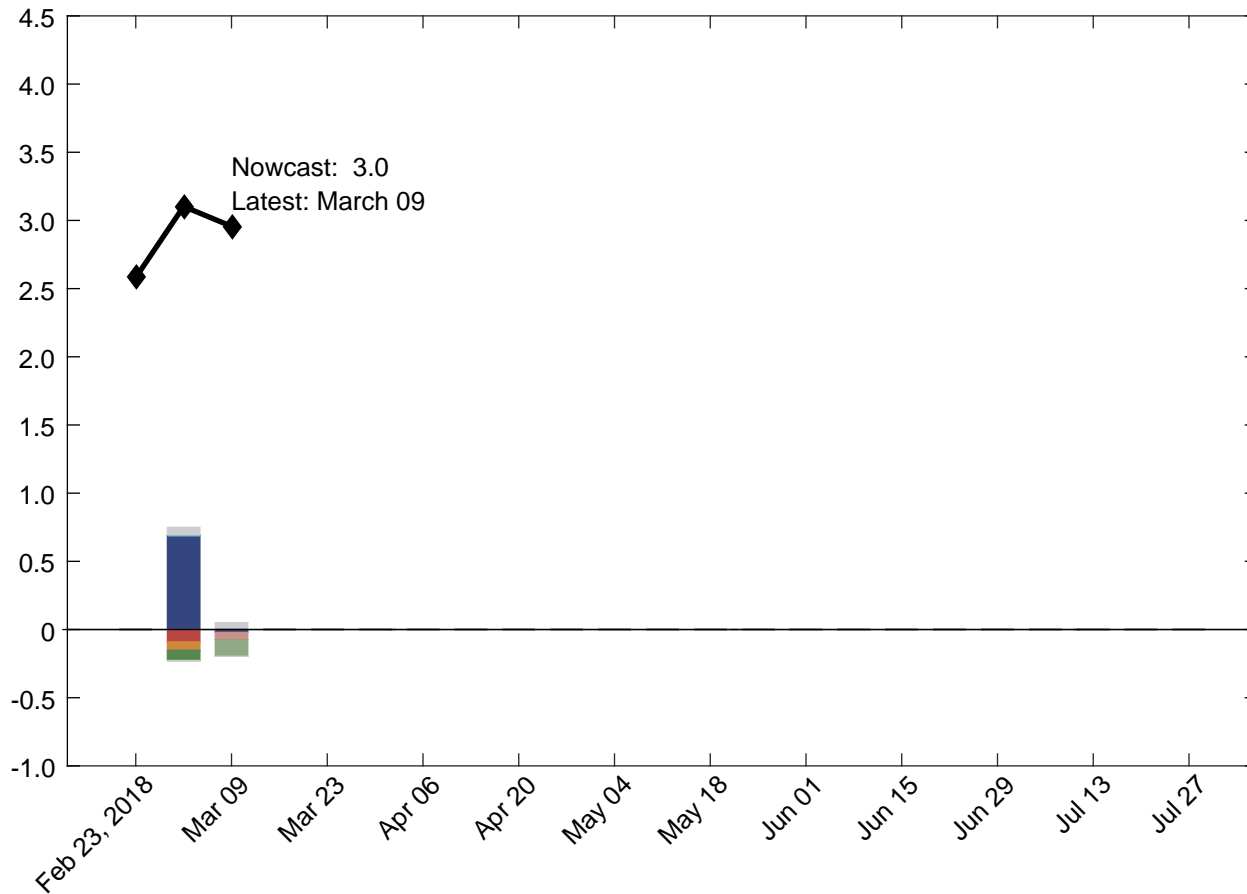
<span style="color: #c00000;">■</span> Housing and construction <span style="color: #e69d00;">■</span> Manufacturing <span style="color: #000080;">■</span> Surveys <span style="color: #008000;">■</span> Retail and consumption <span style="color: #00b0f0;">■</span> Income <span style="color: #a52a2a;">■</span> Labor <span style="color: #6aa84f;">■</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 09									<b>3.35</b>	
	8:30 AM Feb 14	<span style="color: #008000;">■</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: #cccccc;">■</span> CPI-U: All items	Jan	MoM % chg.	0.237	0.539	0.095	0.029		
	9:00 AM Feb 14	<span style="color: #cccccc;">■</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: #cccccc;">■</span> PPI: Final demand	Jan	MoM % chg.	0.132	0.437	0.037	0.011		
	8:30 AM Feb 15	<span style="color: #000080;">■</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: #000080;">■</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: #e69d00;">■</span> Industrial production index	Jan	MoM % chg.	0.237	-0.052	0.366	-0.106		
	9:20 AM Feb 15	<span style="color: #e69d00;">■</span> Capacity utilization	Jan	Ppt. chg.	0.131	-0.205	0.477	-0.160		
	8:30 AM Feb 16	<span style="color: #c00000;">■</span> Housing starts	Jan	MoM % chg.	2.73	9.68	0.025	0.177		
	8:30 AM Feb 16	<span style="color: #008000;">■</span> Import price index	Jan	MoM % chg.	0.334	0.956	0.019	0.012		
	8:30 AM Feb 16	<span style="color: #c00000;">■</span> Building permits	Jan	Level chg. (thousands)	-5.77	96.0	0.003	0.273		
	8:30 AM Feb 16	<span style="color: #008000;">■</span> Export price index	Jan	MoM % chg.	0.238	0.802	0.036	0.020		
		<span style="color: #cccccc;">■</span> Data revisions						-0.131		
Feb 16		No tracked data releases this week								<b>3.11</b>
Feb 23										<b>3.11</b>
	10:00 AM Feb 26	<span style="color: #c00000;">■</span> New single family houses sold	Jan	MoM % chg.	2.85	-7.78	0.014	-0.145		
	8:30 AM Feb 27	<span style="color: #e69d00;">■</span> Manufacturers' new orders: Durable goods	Jan	MoM % chg.	0.173	-3.68	0.021	-0.080		
	8:30 AM Feb 27	<span style="color: #e69d00;">■</span> Merchant wholesalers: Inventories: Total	Jan	MoM % chg.	0.730	0.693	-0.161	0.006		
	8:30 AM Feb 27	<span style="color: #e69d00;">■</span> Manufacturers' shipments: Durable goods	Jan	MoM % chg.	0.721	0.238	0.115	-0.056		
	8:30 AM Feb 27	<span style="color: #e69d00;">■</span> Mfrs.' unfilled orders: All manufacturing industries	Jan	MoM % chg.	0.783	-0.272	-0.028	0.030		
	8:30 AM Feb 27	<span style="color: #e69d00;">■</span> Manufacturers' inventories: Durable goods	Jan	MoM % chg.	0.545	0.307	-0.336	0.080		
	8:30 AM Mar 01	<span style="color: #00b0f0;">■</span> Real disposable personal income	Jan	MoM % chg.	0.162	0.553	0.036	0.014		
	8:30 AM Mar 01	<span style="color: #cccccc;">■</span> PCE less food and energy: Chain price index	Jan	MoM % chg.	0.154	0.271	0.210	0.025		
	8:30 AM Mar 01	<span style="color: #cccccc;">■</span> PCE: Chain price index	Jan	MoM % chg.	0.183	0.368	0.121	0.022		
	8:30 AM Mar 01	<span style="color: #008000;">■</span> Real personal consumption expenditures	Jan	MoM % chg.	0.218	-0.141	0.330	-0.118		
	10:00 AM Mar 01	<span style="color: #c00000;">■</span> Value of construction put in place	Jan	MoM % chg.	0.581	0.007	0.035	-0.020		
	10:00 AM Mar 01	<span style="color: #000080;">■</span> ISM mfg.: Pmi composite index	Feb	Index	58.3	60.8	0.056	0.141		
	10:00 AM Mar 01	<span style="color: #000080;">■</span> ISM mfg.: Prices index	Feb	Index	71.2	74.2	0.008	0.024		
	10:00 AM Mar 01	<span style="color: #000080;">■</span> ISM mfg.: Employment index	Feb	Index	54.4	59.7	0.021	0.110		
		<span style="color: #cccccc;">■</span> Data revisions						-0.094		
Mar 01										<b>3.05</b>
	10:00 AM Mar 05	<span style="color: #000080;">■</span> ISM nonmanufacturing: NMI composite index	Feb	Index	60.6	59.5	0.007	-0.008		
	10:00 AM Mar 06	<span style="color: #e69d00;">■</span> Inventories: Total business	Jan	MoM % chg.	0.561	0.599	-0.190	-0.007		
	8:05 AM Mar 07	<span style="color: #a52a2a;">■</span> ADP nonfarm private payroll employment	Feb	Level chg. (thousands)	282.8	235.0	0.534*	-0.026		
	8:30 AM Mar 07	<span style="color: #008000;">■</span> Exports: Goods and services	Jan	MoM % chg.	0.862	-1.32	0.066	-0.145		
	8:30 AM Mar 07	<span style="color: #008000;">■</span> Imports: Goods and services	Jan	MoM % chg.	0.576	-0.002	0.047	-0.027		
	8:30 AM Mar 09	<span style="color: #a52a2a;">■</span> All employees: Total nonfarm	Feb	Level chg. (thousands)	259.3	313.0	0.298*	0.016		
	8:30 AM Mar 09	<span style="color: #a52a2a;">■</span> Civilian unemployment rate	Feb	Ppt. chg.	-0.086	0.000	-0.218	-0.019		
		<span style="color: #cccccc;">■</span> Data revisions						-0.005		
Mar 09										<b>2.83</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 | 2018:Q2 GDP Growth

Percent (annual rate)



### Key

◆ New York Fed Staff Nowcast

### 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: #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: #00b0f0;">■</span> Income <span style="color: #c00000;">■</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 09									<b>2.72</b>
	8:30 AM Feb 14	<span style="color: #008000;">■</span> Retail sales and food services	Jan	MoM % chg.	0.736	-0.263	0.217	-0.217	
	9:00 AM Feb 14	<span style="color: #cccccc;">■</span> CPI-U: All items	Jan	MoM % chg.	0.237	0.539	0.114	0.034	
	9:00 AM Feb 14	<span style="color: #cccccc;">■</span> CPI-U: All items less food and energy	Jan	MoM % chg.	0.185	0.349	0.124	0.020	
	8:30 AM Feb 15	<span style="color: #cccccc;">■</span> PPI: Final demand	Jan	MoM % chg.	0.132	0.437	0.049	0.015	
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	8:30 AM Feb 15	<span style="color: #000080;">■</span> Philly Fed Mfg. business outlook: Current activity	Feb	Index	23.4	25.8	0.019	0.045	
	9:20 AM Feb 15	<span style="color: #e69d00;">■</span> Industrial production index	Jan	MoM % chg.	0.237	-0.052	0.236	-0.068	
	9:20 AM Feb 15	<span style="color: #e69d00;">■</span> Capacity utilization	Jan	Ppt. chg.	0.131	-0.205	0.303	-0.102	
	8:30 AM Feb 16	<span style="color: #c00000;">■</span> Housing starts	Jan	MoM % chg.	2.73	9.68	0.013	0.090	
	8:30 AM Feb 16	<span style="color: #008000;">■</span> Import price index	Jan	MoM % chg.	0.334	0.956	0.029	0.018	
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		<span style="color: #cccccc;">■</span> Data revisions						-0.066	
Feb 16		No tracked data releases this week							<b>2.58</b>
Feb 23									<b>2.58</b>
	10:00 AM Feb 26	<span style="color: #c00000;">■</span> New single family houses sold	Jan	MoM % chg.	2.85	-7.78	0.007	-0.073	
	8:30 AM Feb 27	<span style="color: #e69d00;">■</span> Manufacturers' new orders: Durable goods	Jan	MoM % chg.	0.173	-3.68	0.013	-0.052	
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	10:00 AM Mar 01	<span style="color: #000080;">■</span> ISM mfg.: Employment index	Feb	Index	54.4	59.7	0.053	0.278	
		<span style="color: #cccccc;">■</span> Data revisions						0.003	
Mar 01									<b>3.10</b>
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		<span style="color: #cccccc;">■</span> Data revisions						0.050	
Mar 09									<b>2.96</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.

# 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