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I WANT MY GDP

NOWCAST PREVIEW FOR Q4 2016

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KEY TAKEAWAYS

With the first (“advance”) estimate of GDP for Q4 2016 coming at the end of the week, Fed NowCast models are forecasting an average real growth of 2.5%.

Over time, NowCast models have been no more accurate than economist consensus forecasts, but they provide greater transparency on the forecast drivers.

NowCasts can help provide insight on the impact of individual economic releases as well as how different economic sectors are performing.

On Friday, January 27, 2017, the Bureau of Economic Analysis (BEA) will release the first (“advance”) estimate of U.S. gross domestic product (GDP) for the fourth quarter of 2016. While this is our first official look at GDP for the quarter, data that feed through to GDP started coming out several months ago, starting with data for October 2016, the first month of the quarter. As a result, compared with more frequent economic data points, GDP is quite backwards looking. By the time the BEA actually reports GDP, some of the data will be based on economic activity that had taken place almost four months prior.

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Given the delay from actual activity to the release, the regional Federal Reserve Banks (Fed) of Atlanta and New York have independently developed GDP NowCast models, models that estimate what a quarter’s GDP number will be as the quarter progresses all the way up to the release of the first estimate, based on already released data and forecasts for data that are not yet available. While the models share some basic features, and both incorporate best practices in econometrics, they are quite different in how they ultimately arrive at their forecasts. As of Friday, January 20, 2017, the Atlanta Fed’s NowCast model was forecasting that the estimate for fourth quarter 2016 real GDP growth will be 2.8%, and the New York Fed’s model was forecasting an estimate of 2.1%.

WHY NOWCASTS NOW?

So what are these NowCasts good for? Are they any better than economist consensus forecasts? In the Q&A at the end of the New York Fed’s NowCast report, the Fed modestly states, “The model produces forecasts that are as accurate as, and strongly correlated with, predictions based on best judgment.” The Atlanta Fed, on its NowCast site, states similarly that accuracy metrics “do not give compelling evidence that the model is more accurate than professional forecasters.” This seems little reason for excitement, although even getting to that level of consistency from a model of something as complicated as GDP is a meaningful accomplishment.

Nevertheless, the NowCasts have received increasing attention from the financial media and pundits of late. In part this has simply been because of the Fed’s

continuous efforts to facilitate broad access to economic data and analysis. There also have been some quarters in which the NowCasts have been particularly accurate (as any reasonable forecasting method would be from time to time), which has drawn added attention. We've also gone through periods when the NowCasts have implied that the economist surveys were too optimistic, which has temporarily drawn the attention of pessimists in the blogosphere and on social media, but these periods come and go (the Atlanta Fed's NowCast has been more optimistic than the Blue Chip consensus for much of the last quarter).

USING THE NOWCASTS

Despite modest claims to accuracy, there are still many ways in which the NowCasts are useful. First, a forecast that is just as accurate as consensus

expert opinion but uses a different method can provide valuable added information; it just shouldn't be viewed as a straightforward replacement for expert judgment. There is also value in the rapid feedback you get on how a particular economic report has impacted growth expectations. When we track the NowCasts, we do look at the forecast for overall GDP growth (although we don't consider it any better than the consensus forecasts), but follow more closely the impact of particular economic releases. For example, based on the New York Fed's model, we can see that the major driver of a 0.14 percentage point improvement in the projection for Q4 2016 was stronger manufacturing data than previously projected [Figure 1]. We also track trends in the level of forecasted GDP to help gauge whether more data-driven expectations set up an overly optimistic or pessimistic backdrop.

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NOWCASTS HELP ESTIMATE THE ECONOMIC IMPACT OF DATA RELEASES

New York Fed NowCast—Impact of Data Releases Between 1/13/17 and 1/20/17 on Q4 2016 Real GDP Forecast

Data Series	Category	Forecast <i>a</i>	Actual <i>b</i>	Weight <i>c</i>	Impact <i>c*(b-a)</i>	NowCast GDP Growth
Q4 2016 GDP Forecast 1/13/17						1.94
Empire State Manufacturing	Surveys	10.2	6.5	0.001	-0.002	
CPI-U: All Items	Others	0.222	0.282	0.024	0.001	
CPI-U: All Items Less Food and Energy	Others	0.158	0.230	0.034	0.002	
Industrial Production Index	Manufacturing	0.252	0.830	0.134	0.077	
Capacity Utilization	Manufacturing	0.126	0.566	0.169	0.074	
Housing Starts	Housing and Construction	7.41	11.3	0.008	0.030	
Building Permits	Housing and Construction	14.9	-2	0.001	-0.013	
Philly Fed Manufacturing Business Outlook	Surveys	12.7	23.6	0.000	-0.005	
Data Revisions	Others				-0.032	
Q4 2016 GDP Forecast 1/20/17						2.06

Source: LPL Research, New York Fed 01/23/17

The Consumer Price Index (CPI) is a measure of the average change over time in the prices paid by urban consumers for a market basket of consumer goods and services.

Economic forecasts may not develop as predicted.

Another advantage of the NowCasts—both versions provide some insight on the impact of the data on major areas of the economy, so you don't only get an estimate of the size of the impact, but where it is taking place. For example, the Atlanta Fed's model currently shows the start of a potential shift in the mix of growth drivers of GDP away from a heavy emphasis on consumer spending to business spending, although net export data is expected to be somewhat disappointing [Figure 2].

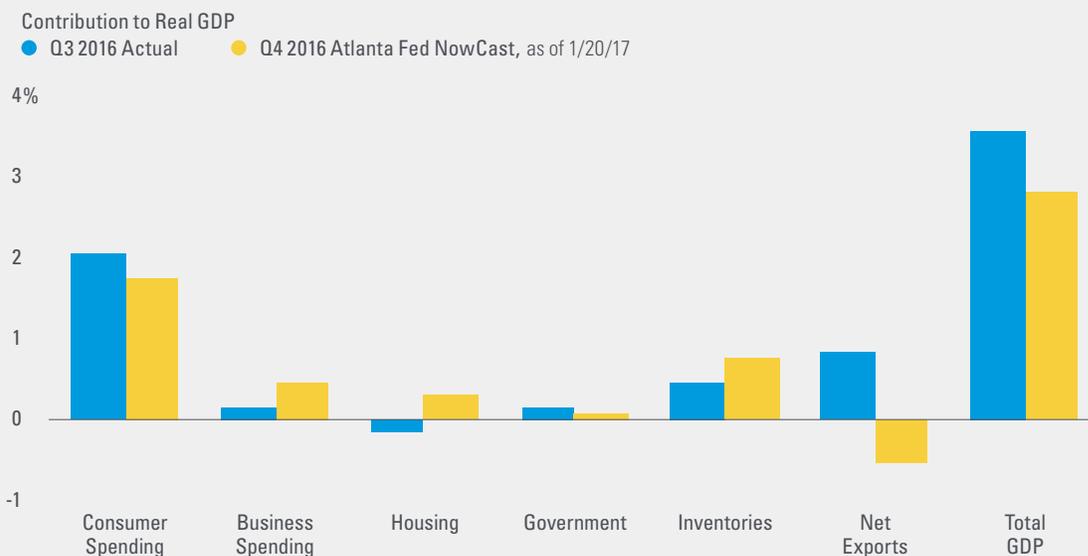
Finally, with consensus forecasts we only have a final number. With NowCasts, we have transparency on how each new data release flows through the model and changes the forecast. While it's hard to call the NowCasts transparent given their inherent complexity, they are transparent in their methodology, and the final output is strictly driven by the models and their inputs once the models are put in motion. In fact, if you really wanted to take a deep dive into how the New York Fed NowCast works, the Fed rewrote the program

that produces the forecast from its original MatLab implementation, a commercial language, into the open source programming language Julia so that the entire code for the forecasts could be made available to the public.

NOWCASTS AND THE ADVANCE ESTIMATE

It's also important to keep in mind that the aim of a NowCast is only to capture the advance estimate of GDP growth, the first number that comes in, and since a lot of data has come in by the time this estimate is released, the NowCasts do tend to hone in on what the number will be as the GDP release date approaches (as do expert forecasts for the same reason). Once we get the advance estimate from the BEA, the NowCasts do not continue to track GDP for that quarter. However, there are ways in which the advance estimate from the BEA itself is a NowCast. Even when the GDP estimate is released on Friday, all the data is not yet in. Some

2 NOWCASTS PROVIDE A LOOKTHROUGH TO ECONOMIC SECTORS



Source: LPL Research, Atlanta Fed, BEA 01/23/17

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of the data must still be estimated by models, and much of the data is still subject to revision.

This brings us back to a basic point about understanding economic data, which is that the data is often less precise than it is portrayed to be. There are a lot of reasons for this. First, the data you collect is never a perfect representation of what you're trying to capture. There are always assumptions that have to be built in to data collection of this type—you just can't escape it. Collecting data is also subject to noise (distortions you can't put a finger on that tend to be pretty random). It's never as simple as just counting beans. That said, the U.S. is a global leader when it comes to the care with which it collects and analyzes data and provides a high level of transparency on sources and methods.

CONCLUSION

As the release of fourth quarter 2016 GDP report approaches, what has the data been telling us?

Likely, that we'll see the start of a shift in the mix of economic drivers of GDP. We might also begin to see some post-election impact as businesses and consumers respond to the end of election uncertainty and the prospect of less regulation and lower taxes. At the same time, a fair amount of policy uncertainty remains for many businesses, especially if President Trump continues to use personal intervention in financial and economic markets via social media as a bargaining chip in advancing policy goals. Still, growth around 2.5%, the average of the NowCasts and near the Blue Chip consensus, would be a solid quarter for the current expansion. Looking forward, with many policy developments in motion and Trump's ambitious agenda for his first 100 days, NowCasts in the first quarter of 2017 may help provide a timely window on economic developments over the next several months. The New York Fed NowCast, which looks a quarter ahead, is currently forecasting 2.7% growth for the quarter, although early forecasts tend to be more volatile. ■

IMPORTANT DISCLOSURES

The opinions voiced in this material are for general information only and are not intended to provide specific advice or recommendations for any individual. To determine which investment(s) may be appropriate for you, consult your financial advisor prior to investing. All performance reference is historical and is no guarantee of future results. All indexes are unmanaged and cannot be invested into directly.

The economic forecasts set forth in the presentation may not develop as predicted.

DEFINITIONS

Gross Domestic Product (GDP) is the monetary value of all the finished goods and services produced within a country's borders in a specific time period, though GDP is usually calculated on an annual basis. It includes all of private and public consumption, government outlays, investments and exports less imports that occur within a defined territory.

The Bureau of Economic Analysis is a division of the U.S. federal government's Department of Commerce that is responsible for the analysis and reporting of economic data used to confirm and predict economic trends and business cycles. Reports from the Bureau of Economic Analysis are the foundation upon which many economic policy decisions are made by government, and many investment decisions are made in the private sector by companies and individual investors.

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