OBSERVATION

TD Economics

November 10, 2015

TRUST, BUT VERIFY: FED TO REMAIN CAUTIOUS WITH RATE HIKES EVEN AFTER THE FIRST

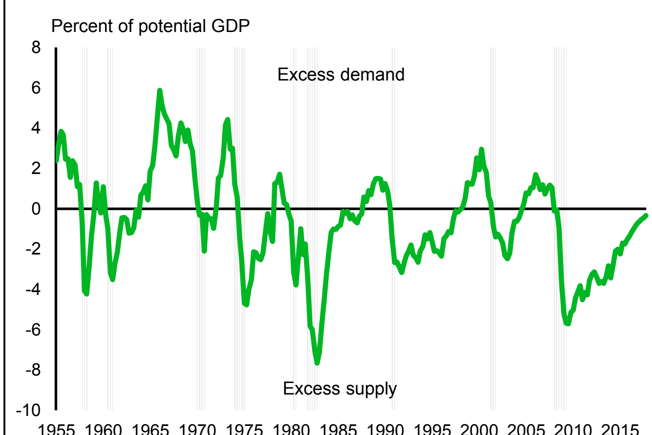
Highlights

- The persistent strength in U.S. demand was cemented by the broad strength in the October employment report. We expect the Federal Reserve to begin the process of normalizing interest rates by raising the federal funds rate at its next meeting on December 16th. This would mark the first increase in its policy rate since October 2006.
- The move off the zero lower bound would end one major monetary policy debate, but not another. Gauging the path of future rate hikes requires an understanding of where the economy sits relative to its potential (i.e. the output gap). Unfortunately, there is no simple rule of thumb of this measurement. Even with an unemployment rate at 5.0%, other indicators point to ongoing economic slack.
- The precise size of the output gap is inherently uncertain and its relationship with inflation is not static over history. Combined with the unprecedented size of the Federal Reserve's balance sheet, this means the next steps for monetary policy will be just as data dependent and cautious as the first.

The last few years have been a hotbed of debate among economists on the timing of the Federal Reserve's lift-off in interest rates from the zero-bound floor. Expectations have finally solidified around the FOMC meeting on December 16th. However, should it occur, it will not put to rest division among economists. Expect to see as much disagreement over the most critical question of all: the path of future increases. This is what ultimately matters for financial conditions and the broader economy.

Critical to determining the path of interest rates is an understanding of where the economy currently sits in the business cycle. Economists and central banks often try to figure this out in the context of the output gap (Chart 1). In its simplest form, this measure tries to capture how close the economy is to its potential (or full-capacity) level. For a central bank, the closer the economy is to this point, the less the need for accommodative monetary policy. Pushing activity beyond full capacity risks stoking inflation above the central bank's target or desired level. So, getting the estimate of the output gap wrong could be the difference between a gradual, evenhanded rise in interest rates and an aggressive, abrupt tightening cycle.

CHART 1: THE U.S. "OUTPUT GAP"



Source: Historical data to 2001 by the Congressional Budget Office. Estimates & forecasts thereafter by TD Economics.

There is an old joke that if you put two economists in a room, you'll get three opinions. Nowhere does this ring more true than with respect to the output gap. The reasons are multifold. First, in an ideal world, there would be a single metric or figure to cite, but there is not a hitchhiker's guide to measuring the output gap. It requires consideration of a mix of data, spanning estimates of potential GDP, an array of employment metrics, and even attention to how the global environment is influencing domestic inflation

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dynamics.

Second, the calculation of output gaps reflects a series of analyst assumptions. In turn, these assumptions and the indicators that make up their building blocks are subject to historical revisions and measurement error. The end result is that analysts are required to inject a greater degree of judgement regarding an output gap's accuracy and signal.

Third, the empirical relationships between gaps and inflation are generally not static, contributing to the debate around the usefulness and interpretation of the various measures. In October, this latter point played out in a very public way among Federal Reserve members, governor Tarullo and governor Brainard, who challenged the empirical relationship between unemployment and inflation known as the Phillips curve.

All these challenges speak to why the path of higher interest rates is ultimately an exercise in trial and error. The current persistent strength of domestic fundamentals makes a compelling case for the Fed to start raising rates in December (see here), but every next step in raising rates will remain equally data dependent as the first. In other words, the Fed will begin the journey, but continue to move slowly as it wades through the array of data, signals and judgement of the business cycle.

Is 5 the Answer to the Ultimate Question on Where We Are in the Business Cycle?

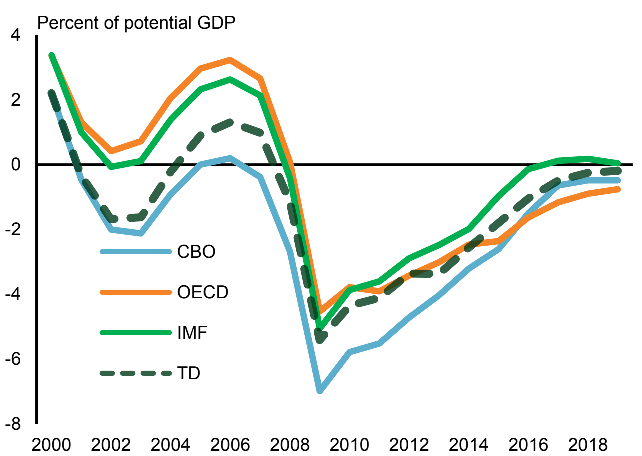
A popular measure of the output gap is where the unemployment rate sits relative to its perceived long-term or structural rate. Six years to the month after hitting a peak of 10%, the U.S. unemployment rate fell to 5.0% in October. This is the level widely consistent with estimates of "normal" that reflect an economy in balance. It is also consistent with long-term estimates by the Federal Reserve and the Congressional Budget Office (CBO). This raises the question as to whether the economy has already returned to full capacity. More importantly, if so, does the current exceptional stimulative monetary policy setting present a risk that future rate adjustments will need to occur in faster or larger steps?

Not if you look at the economy holistically. Returning to the notion of where GDP currently sits relative to its potential output offers a different estimate. The OECD, the IMF, and the CBO estimate that economic output in 2015 is on average 1.0% to 2.5% below potential (Chart 2). The OECD does not expect the U.S. output gap to close until 2017, while the CBO and IMF are tracking sometime next year.[1] Our internal estimate agrees with this analysis.

But, as noted earlier, measures of potential or "normal" are especially prone to revisions. All of the major estimates of potential GDP have come down following the recession, as analysts deepen their understanding of the long-run implications of a financial crisis on investment, productivity, and labor supply. The most commonly cited CBO estimate of potential GDP growth from 2008 and 2018 has fallen 0.9 percentage points relative to its vintage 2008 estimate of 2.5%. The output gap calculated using this old estimate and actual real GDP growth would be just shy of an eye-popping -12%, instead of its current estimate of -1.7%. In other words, most of the closing in the output gap has been due to downward revisions to potential economic growth.

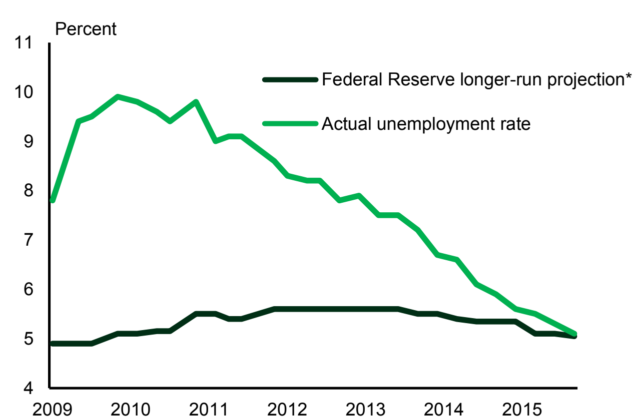
Estimates of the structural rate of unemployment have

CHART 2: OUTPUT GAP ESTIMATES



Source: TD, CBO, OECD, IMF.

CHART 3: ACTUAL UNEMPLOYMENT RATE & FEDERAL RESERVE LONG RUN PROJECTION

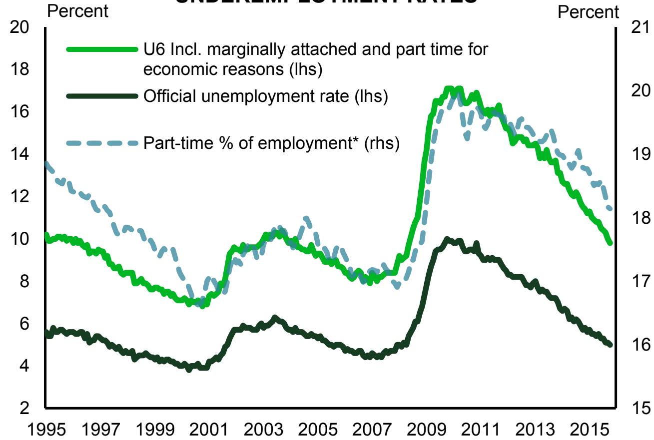


*Mean central tendency projection of Federal Reserve Board Members and Federal Reserve Bank Presidents. Source: Federal Reserve Board also moved lower. The average central tendency of Federal Reserve projections rose as high as 5.6% in 2013, before edging back to the current level of 5.0% (Chart 3). There is room for these estimates to move down even further. Downward revisions seem to show persistence and a number of metrics that capture labor force engagement have failed to respond as analysts had predicted, even after accounting for the effects of an aging population.

Along this vein, the conventional unemployment rate is not a catch-all measurement of slack. Other indicators like the hiring rate, labor force participation rate, and alternative unemployment rates that Fed Chair Yellen has mentioned in her dashboard of labor market indicators are considerably below their pre-recession levels. For instance, the so-called U6 "underemployment" rate adds in marginally attached workers (people who want a job, but are not currently looking and those employed part time for economic reasons). It is sitting at 9.8% and has fallen significantly from a peak of 17.1%. But, it remains 1.4 percentage points above its pre-recession level in late 2007 (Chart 4). Likewise, the employment-to-population ratio of the core working age group (25-to-54 year olds) is still 3 percentage points below its pre-recession level (Chart 5).

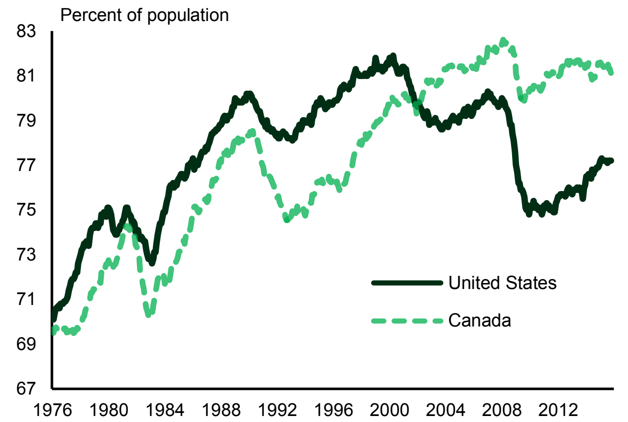
Piecing together all the moving parts leaves two impressions. First, the suite of indicators is universally showing a marked improvement alongside the persistent strength in domestic demand. The degree of slack in the economy is relentlessly narrowing. If the economy continues to expand at roughly 2.5% (as we expect), the remaining output gap will dissipate over the next 12 to 18 months. The remainder of the gap is likely to be closed by drawing down the "shadow" slack of people currently outside of the labor force rather than further reductions in official unemployment.

CHART 4: UNEMPLOYMENT & UNDEREMPLOYMENT RATES



*Three-month moving average. Source: Bureau of Labor Statistics.

CHART 5: EMPLOYMENT TO POPULATION RATIO 25-54 YEARS



Source: Bureau of Labor Statistics, Statistics Canada

But, the second point to make is that the dispersion of various GDP and labor metrics does not leave a sense of urgency in normalizing interest rates. The Fed can proceed with caution as it wades through the data. This is particularly true given evidence that the output gap's relationship as a guidepost to inflationary pressures has diminished significantly over the last two decades, the view put forth recently by Fed members Brainard and Tarullo.

The Phillips curve ain't what it used to be

In large part, this reflects the success of central bankers in anchoring inflation expectations. To see the changing nature of the relationship between inflation and the output gap, we ran rolling regressions on quarterly data over 10 year windows beginning in the 1960s and ending in the third quarter of 2015.[2] The results show both the coefficient on the output gap (measured as the gap between actual unemployment and the structural rate) as well as its statistical significance have been diminishing. At the same time, the coefficient on inflation expectations has risen. This is why Federal Reserve governor Brainard commented that "a variety of econometric estimates would suggest that the classic Phillips curve influence of resource utilization on inflation is, at best, very weak at the moment." In Brainard's opinion, this necessitates fuller exploration of the contributing factors to the inflation outlook including global influences and commodity prices.

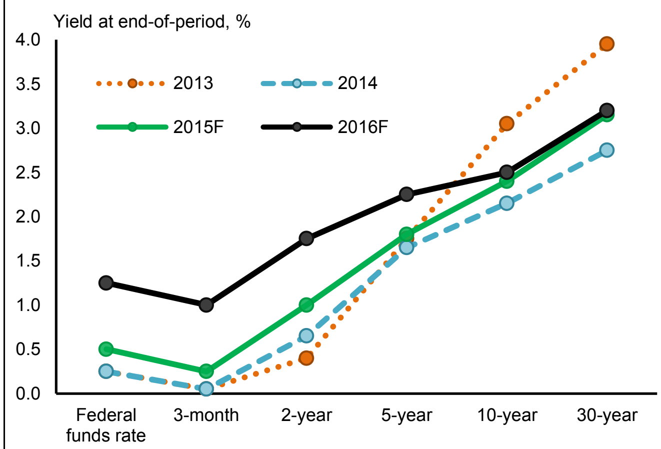
The bottom line

In our view, Brainard's observation does not necessarily mean that the Fed should refrain from raising rates, but rather that it should take a cautious approach to the speed of adjustment. We agree that even as remaining slack is absorbed, inflation is likely to remain relatively benign as weak global growth and the strong U.S. dollar keep commodity and import prices in check. However, as Fed Chair Yellen has noted, given the lags in monetary policy, the Fed cannot wait until capacity pressures are evident before beginning to normalize monetary policy. One would think this is particularly true when the starting point is zero.

A December lift-off affords the Fed to pause to assess new information. That's why we anticipate rate adjustments of roughly only 75 basis points in the first year (Chart 6). Adjusting for inflation, this will leave the fed funds rate in negative territory.

Part of the go-slow approach will also reflect the fact that the Fed has an unprecedented balance sheet that it must slowly unwind. The Fed has signaled an intention to do this gradually by ceasing reinvestments in maturing Treasury and MBS assets after it has begun to raise the fed funds rate. It has not yet specified a date or framework for this process to begin, but rather notes that "the timing will depend on how economic and financial conditions and the economic outlook evolve."

CHART 6: INTEREST RATES



Source: TD Economics. Forecast as of November 2016

This combination of asset run-off and rate hikes offers a dual tightening in financial conditions, particularly if the greenback maintains strength as other major global players like the euroarea, Japan and China continue to favor easier monetary policy. All this suggests that the Fed's guideposts for the first 75 basis points in tightening may not be the same as the next 75 basis points. Instead, policy normalization is likely to be an evolving and fluid process.

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ENDNOTES

1 The Congressional Budget Office has the output gap return to a steady state of -0.5%, consistent with its estimates of its average historical level.

2 Core PCE inflation is modelled as a function of inertia (lagged core PCE inflation), inflation expectations (drawn from the FRB/US model based on 10-year out expectations taken from the Survey of Professional Forecasters), a gap measure (the difference between the unemployment rate and CBO's natural rate estimate), and a supply shock measure (lagged import price growth deflated by core PCE).