# The St. Louis Fed's New Characterization of the Outlook for the U.S. Economy[1]

## James Bullard

*President and CEO*
Federal Reserve Bank of St. Louis

June 17, 2016

<u>Overview</u>

The Federal Reserve Bank of St. Louis is changing its characterization of the U.S. macroeconomic and monetary policy outlook. An older narrative that the Bank has been using since the financial crisis ended has now likely outlived its usefulness, and so it is being replaced by a new narrative. The hallmark of the new narrative is to think of medium- and longer-term macroeconomic outcomes in terms of regimes. The concept of a single, long-run steady state to which the economy is converging is abandoned, and is replaced by a set of possible regimes that the economy may visit. Regimes are generally viewed as persistent, and optimal monetary policy is viewed as regime dependent. Switches between regimes are viewed as not forecastable.

The upshot is that the new approach delivers a very simple forecast of U.S. macroeconomic outcomes over the next 2 ½ years. Over this horizon, the forecast is for real output growth of 2 percent, an unemployment rate of 4.7 percent, and trimmed-mean PCE inflation[2] of 2 percent. In light of this new approach and the associated forecast, the appropriate regime-dependent policy rate path is 63 basis points over the forecast horizon.[3] The discussion below describes how this regime could be upset by switches in fundamental factors that may cause changes in the recommended policy path setting.

<u>Why now?</u>

It is a good time to consider a regime-based conception of medium- and longer-term macroeconomic outcomes. Key macroeconomic variables including real output growth, the unemployment rate, and inflation appear to be at or near values that are likely to persist over the forecast horizon. Any further cyclical adjustment going forward is likely to be relatively minor. We therefore think of the current values for real output growth, the unemployment rate, and inflation as being close to the mean outcome of the "current regime."

Of course, the situation can and will change in the future, but exactly how is difficult to predict. Therefore, the best that we can do today is to forecast that the current regime will persist and set policy appropriately for this regime. If there is a switch to a new regime in the future, then that will likely affect all variables—including the policy rate—but such a switch is not forecastable.

---

[2] We will refer to inflation as measured by the 12-month Dallas Fed trimmed-mean inflation rate throughout this memo as we think it is the best indicator of inflation trends. The most current reading is 1.84 percent.
[3] This choice of a policy rate path is partly informed by the current and ongoing large liquidity premium on short-term government debt, as discussed below.

Consistent with the regime-based concept, the new approach does not contain projected long-run values for macroeconomic variables or for the policy rate. That is, the forecast simply stops at 2 ½ years.

We do not think of the current regime as "pessimistic." Output grows at the trend pace of two percent, but the unemployment rate remains quite low, and inflation remains at two percent. In addition, as we will describe below, output growth could improve if productivity growth improves.

The previous narrative and the end of its usefulness

The St. Louis Fed's previous narrative emphasized eventual convergence to a single, long-run steady state. The output growth rate was consistently forecast to be above trend in the medium term, and the unemployment rate was forecast to decline. Inflation (net of commodity price effects) was forecast to return to and then exceed two percent over the medium term. The policy rate was forecast to eventually rise in order to be consistent with the single, long-run steady state.

Some aspects of this previous narrative worked well. From the third quarter of 2013 through the second quarter of 2015, a period of two years, the average quarterly real GDP growth rate was 2.75 percent, well above our estimate of a trend rate of two percent. The unemployment rate declined from 7.1 percent in July 2013 to 5.3 percent as of July 2015. Inflation, however, barely moved. The trimmed-mean PCE inflation rate was 1.56 percent in July 2013 and had only increased to 1.64 percent as of July 2015.

In the last year, the usefulness of this narrative may have come to an end. The average quarterly real GDP growth rate from the third quarter of 2015 through the present quarter (using a tracking estimate for 2016 Q2[4]) is about 1.75 percent, somewhat below our estimate of trend. The unemployment rate is currently at 4.7 percent. It may not fall much further, considering that during the last expansion, the average unemployment rate from January 2006 to December 2007 was about 4.6 percent. Trimmed-mean inflation, at 1.84 percent, is now closer to two percent but has not been rising rapidly.

On balance, real output growth, the unemployment rate, and inflation may be at or near mean values that could be sustained over the forecast horizon provided there are no major shocks to the economy. We seek to describe this situation in the new narrative we are adopting.

---

[4] We use the Atlanta Fed's GDPNow forecast of 2.8 percent as of June 14, 2016.

## Multiple productivity regimes

The new narrative views medium- and longer-term macroeconomic outcomes in terms of a set of possible regimes that the economy may visit instead of a single, unique steady state. By doing this, we are backing off the idea that we have dogmatic certainty about where the U.S. economy is headed in the medium and longer run. We are trying to replace that certainty with a manageable expression of the uncertainty surrounding medium- and longer-run outcomes. By doing so, we hope to provide a better description of the nature of the data dependence of monetary policy going forward.

Fundamental factors determine the nature of the regimes in play. One important fundamental is productivity growth. The productivity growth rate has been low on average at least since 2011. We think of this as a low productivity growth regime. We know from past observation of the U.S. economy that productivity could switch to a higher growth regime. If such a switch occurred, it might have important effects on many variables, but especially on output growth, which would be higher.

Because we view the low productivity growth regime as very persistent, for the purposes of forecasting we simply assume we will remain in the low productivity growth regime (and hence the low output growth regime) through the forecast horizon. The idea that productivity may switch to a high growth regime is not incorporated in the forecast directly, but is an upside risk to the forecast. The switch to the high growth regime is viewed as possible, but not forecastable.

Simply having high and low productivity growth regimes is insufficient to describe the current macroeconomic situation. There are at least two other fundamental factors that have to remain in their current state in order to maintain the status quo. We now turn to describing these.

## Multiple real rate regimes

Another important fundamental is the real rate of return on short-term government debt. This is very low today by recent historical standards, perhaps less than negative one percent. In our framework, we view this as a low real rate regime. The alternative regime, which has been observed historically, is for a considerably higher value of this rate. Again, we view the current low real rate regime as very persistent, and so for purposes of forecasting, we simply assume we will remain in the low real rate regime through the forecast horizon. A switch to the higher real rate regime is possible, and if it occurred would likely affect many variables in the system,

including the appropriate policy rate, but the possibility of such a switch does not enter directly in the forecast. Instead it is a risk to the forecast.

While the real return to short-term government debt is low today, the real return to capital does not appear to have declined meaningfully.[5] For this reason we prefer to interpret the low real rate of return on short-term government debt not as reflecting low real returns throughout the economy (as in a simple New Keynesian model), but instead as reflecting an abnormally large liquidity premium on government debt.[6] It is this liquidity premium which is the fundamental factor. We sometimes refer to this conception of the low value of the real return on short-term government debt as $r^\dagger$ ("r-dagger") to distinguish it from the more commonly discussed $r^*$ ("r-star").[7]

### The state of the business cycle

A third fundamental is the possibility of recession, perhaps driven in part by a collapse in asset prices (as occurred for housing prices during 2006-2009) or other factors. We are currently in a no recession state, but it is possible that we could switch to a recession state. If such a switch occurred, all variables would be affected but most notably, the unemployment rate would rise substantially. Again, the possibility of such a switch does not enter directly into the forecast because we have no reason to forecast a recession given the data available today. The possibility of recession is instead a risk to the forecast.[8]

### The policy rate path

We have described a very basic set of fundamental factors as following regime-switching stochastic processes. The current configuration is: (a) low growth, (b) low real rate, and (c) no recession. Conditional on this configuration, our forecast is for real output growth of two percent, an unemployment rate of 4.7 percent, and trimmed-mean inflation of two percent over the 2½ year forecast horizon.

The associated recommended policy rate path is regime dependent. We have already argued that the unemployment and inflation gaps are essentially zero. The value of 63 basis points for the policy rate could therefore be viewed in terms of a one-year Fisher equation with expected inflation at two percent. The value of the real rate in the low real return regime on short-term

---

[5] See Gomme et al. (2011, 2015), Monge-Naranjo et al. (2015), and Dupor (2015).
[6] For some analysis along this line, see Lagos (2010).
[7] For a discussion of $r^*$, see Laubach and Williams (2003).
[8] Handling recession possibilities this way is not too different from common practice.

government debt, $r^\dagger$, would have to be the value that would solve this equation. This value is -137 basis points.


Risks to the forecast

What are the risks to this forecast?

There are risks to this forecast in the sense that any of these fundamental factors could switch to alternative values, thus knocking the system out of the current regime. Policy would then have to react.

In addition, we think a key risk not expressed in the regime switching part of the description may be on inflation. We have described a situation in which Phillips curve effects on inflation are negligible. Low unemployment and generally strong labor markets, despite being in place throughout the forecast horizon, do not put upward pressure on inflation in the forecast we have described. It could be that meaningful Phillips curve effects return and drive inflation higher even though nothing else about the situation as we describe it has changed. This is one risk.

In addition, this forecast says little about incoming data on inflation expectations, which according to market-based measures seem to be too low to be consistent with the forecast we are describing. This is a second risk.

The approach presented here also says little about asset price bubble risk, a factor that often enters the actual policy discussion.


A schematic diagram

Figure 1 provides a schematic diagram of the new narrative. We can start on the left side of the diagram with the question, "What is a reasonable forecast for real output growth, the unemployment rate, and inflation over the next 2 ½ years?" First, we have no reason based on current data to forecast a recession, and so we adopt a "no recession" baseline scenario. Next, we assume that the very large liquidity premium on short-term government debt will remain in place over the forecast horizon, the low $r^\dagger$ regime. Moving further to the right, we assume that the low productivity regime will remain in place over the forecast horizon. These considerations lead to the baseline forecast at the right on the diagram. We recognize that regimes could switch, and this is the area labelled "upside risk" in the diagram. Policy is regime dependent—it is set to be consistent with the current regime.

Summary:  The main difference between the old and new narratives

The forecast values for output growth, inflation, and the unemployment rate in the new St. Louis Fed forecast are only somewhat different from those given under the previous narrative. The main difference in the new approach is in the characterization of recommended future monetary policy via the forecast policy rate.  In the previous narrative, we had a medium- and long-run outcome for the economy expressed in terms of a single, long-run steady state.  In that formulation, all variables trended toward values that were consistent with the assumed long-run outcome.  This includes the policy rate, which trended toward a value 350 basis points higher than it is today.  If the Committee moved at a pace of 25 basis points per year, it would take 14 years to reach such a value.

In the new narrative, uncertainty about possible medium- and longer-run outcomes is more explicitly taken into account.  The economy does not necessarily converge to a single steady state, but instead may visit many possible regimes.  Regimes can be persistent, as we think the current one may be.  The timing of a switch to an alternative regime is viewed as not forecastable, and so we simply forecast that the current regime will persist.  Policy is regime dependent, leading to a recommended policy rate path which is essentially flat over the forecast horizon.  Of course, the flat policy rate characterization is conditional on no switches occurring—if a switch does occur, then the policy rate would have to change appropriately. This is a form of data dependence.

We have described some of the risks to this forecast, and taking these risks into account we think that, on balance, the policy rate path may be somewhat higher than the one we are forecasting over the next 2 ½ years.  In this sense we think there is some upside risk to our forecast.  Nevertheless, by describing the expected policy path as essentially flat with some upside risk—and with no presumption about a long-run outcome—we hope we can provide a better description of our view of the current policy situation in this narrative as opposed to the previous formulation.

References

Dupor, William. "Liftoff and the natural rate of interest." St. Louis Fed *On the Economy*, June 5, 2015.

Gomme, Paul; Ravikumar, B. and Rupert, Peter. "The return to capital and the business cycle." *Review of Economic Dynamics*, April 2011, *14*(2), pp. 262-78.

Gomme, Paul; Ravikumar, B. and Rupert, Peter. "Secular stagnation and returns on capital." *Economic Synopses*, August 2015, No. 19.

Lagos, Ricardo. "Asset prices and liquidity in an exchange economy." *Journal of Monetary Economics*, November 2010, *57*(8), pp. 913-30.

Laubach, Thomas, and Williams, John. "Measuring the natural rate of interest." *The Review of Economics and Statistics*, November 2003, *85*(4), pp. 1063-70.

Monge-Naranjo, Alexander; Sánchez, Juan M. and Santaeulalia-Llopis, Raul. "Natural resources and global misallocation." FRB of St. Louis *Working Paper No. 2015-036A*, October 2015.

**Figure 1**

**Schematic of the St. Louis Fed's New Characterization of the U.S. Macroeconomic Outlook**

$r^{\dagger}$ = real rate of return on short-term government debt

$\lambda$ = productivity growth