What’s the Future of Interest Rates? The Answer’s in the Stars

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President Williams delivered similar remarks to the Community Banking in the 21st Century Research and Policy Conference in St. Louis, Missouri, on October 5, 2017.

Introduction

Good afternoon everyone. As the famous philosopher, Yogi Berra once said: “It’s difficult to make predictions, especially about the future.” But that’s exactly what I’m going to do today, talk about where I predict interest rates are headed and why.

Why am I talking about interest rates? First, as President of the San Francisco Fed it’s a favorite subject of mine! Second, there are a lot of misperceptions out there about what’s going to happen to interest rates, when they’ll rise, and by how much. From business leaders to citizens, interest rates play an important role in all our lives, so I thought that you might appreciate a deeper dive into this topic.
I frequently hear people say, “as things return to normal, and rates rise, we’ll be able to do A, B, or C.” It’s true that, post-financial crisis, things are returning to normal. But normal may look and feel quite a bit different from what you’re used to, so I want to talk about this “new normal.”

Since it’s clear I’m going to be talking about interest rates, now is the perfect time to insert the usual Fed disclaimer that the views I express are mine alone and do not necessarily reflect those of anyone else in the Federal Reserve System.

First, the good news: The economy continues to grow at a moderate pace. It’s been more than eight years since the end of the recession, making this the third longest economic expansion on record. As a result of the progress we’ve made getting our economy back on track, we’re in the process of slowly moving interest rates back up to more normal levels. But that begs the question: What does “normal” mean?

I know that for some the word normal conjures memories of the ’90s, when interest rates were often above 4 percent. But like the pager, the Walkman, and
the Macarena, we’re unlikely to see such rates return. Bottom line: In the new world of moderate economic growth, we all need to plan for relatively low rates for the foreseeable future.

Why is this? To explain why, I’m going to talk a bit about something called r-star, which is shorthand for normal interest rates. Then I’m going to talk about growth, inflation, and discuss some recent research into why inflation’s remained stubbornly low (despite strong employment). Finally, I’m going to switch tacks and talk about the Fed’s balance sheet and what it means for longer-term rates.

I know this is a lot of ground to cover, but I promise I’ll leave plenty of time for Q&A and discussion.

**R-star**

With that road map in mind, let’s dive right into r-star. R-star is what economists call the natural rate of interest; it’s the rate expected to prevail when the economy is at full strength, and it’s a helpful way to understand the new normal both in the short and longer term. While a central bank like the Fed sets short-
term interest rates, r-star is a result of structural economic factors beyond the influence of central banks and monetary policy.

Economists tend to think of r-star in terms of the real, or inflation-adjusted, interest rate. My own view is that r-star today is around 0.5 percent. Assuming inflation is running at our goal of 2 percent in the future, the typical, or normal short-term interest rate would be 2.5 percent.¹ That’s a full 2 percentage points below what a normal interest rate looked like 20 years ago.

This isn’t just affecting the U.S. economy – lower r-star is a global phenomenon. In fact, the average r-star in Canada, the euro area, Japan, and the United Kingdom is a bit below 0.5 percent.²

A variety of factors have pushed r-star to this low level, and they appear poised to stay that way.³ The major one is that the sustainable growth rate of the economy has slowed dramatically from prior decades.⁴

¹ For comparison, the median longer-run value of the federal funds rate in the Federal Open Market Committee’s (FOMC) most recent economic projections is 2.75 percent (Board of Governors 2017b).
² Holston, Laubach, and Williams (2017), Fujiwara et al. (2016).
³ Williams (2017).
⁴ Population aging and longer lifespans also have contributed; see Carvalho, Ferrero, and Nechio (2017).
Perhaps *unsurprisingly*, economists call the sustainable growth rate g-star, and I put g-star at 1.5 percent for inflation-adjusted GDP. This is the slowest pace we’ve seen in our lifetimes, and it reflects a one-two punch of a sharp decline in labor force growth and slower productivity growth.\(^5\)

I’ll take each of these in turn.

What’s caused the decline in labor force growth? Two main things: First, the baby boomers are retiring in droves. Second, the fertility rate in the United States has been declining to very low levels, which directly translates to fewer people joining the workforce.\(^6\)

We see something similar with productivity growth, which has declined compared with earlier decades. In the go-go years of the late 1990s and early 2000s, productivity growth averaged 2 to 3 percent a year. In contrast, productivity gains since the recession have generally hovered below 1 percent.

\(^5\) Fernald (2016).
There’s been a lot of research into why productivity growth has slowed, despite all the advances in technology. The key takeaway is that, unless the trend line makes a dramatic turn, the new normal for productivity growth is likely to be around 1 percent.

This discussion of r-star has two major implications: First, we all need to get accustomed to, and make plans based on, a new normal of moderate growth and relatively low interest rates.

Second, it means that conventional monetary policy has less room to stimulate the economy during an economic downturn. In the event of a future recession we will need to lean more heavily on unconventional tools, like central bank balance sheets, keeping interest rates very low for a long time, and potentially even negative policy rates.⁷

⁷ Reifschneider (2016).
Thank you for indulging my foray into r-star and what it means for the new normal for interest rates. I’ll now discuss how the outlook for growth, inflation, and employment shape the path of rates back to the new normal.

**Growth**

Starting with growth, a question I’m getting asked a lot at the moment is: “What will the recent hurricanes mean for the economy?” Before I get into the details, it’s important to recognize that the hurricanes have had a tragic effect on the lives not of thousands, but millions of people. For our part, my colleagues at the Federal Reserve have been working tirelessly to ensure that there’s enough cash in the affected areas.⁸

Sadly, the U.S. is no stranger to natural catastrophes, so past experience can give us a good indication of the likely effect on growth and jobs.⁹ In the near term, the main effect will be declines in employment and production in the hardest-hit areas: This was reflected in an outright drop in employment in September’s

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⁹ See, for example, Strobl (2011) regarding the significant local effects but limited national effects of past U.S. hurricanes and Wilson (2017) regarding the effects of storm damage on local employment growth.
report. But as people return to their homes and resume their lives, those jobs will return and the affected regions will bounce back.

Looking beyond the near term, I expect the economy will continue on the same moderate growth path.

Aside from the hurricanes, the other feature of discussions about growth is a sense of disappointment that Fed forecasts are not more optimistic. But as I’ve already said, changes in demographics and slow gains in productivity mean the economy’s growth potential (g-star) is moderate too. Given the current conditions, if growth were to increase too much, it could lead to a financial bubble or other problems like high inflation. This is exactly what we want to avoid in order to keep the economy on an even footing and reduce the likelihood of another deep recession. Put simply, the goal of monetary policy is to keep the expansion going as long as possible, which means maintaining a sustainable pace.

**Inflation**

Turning to inflation, I feel the agony of Sisyphus, as core inflation rolled back down the hill after being so near to our 2 percent goal earlier this year. This low
inflation, against a background of steady growth and strong employment, has been attracting a lot of attention from Fed commentators in recent months.

For context, the Fed’s preferred measure of inflation has been running a little under 1.5 percent. That’s below our longer-term goal of 2 percent. In July, the Financial Times described the Fed as being “baffled” by low inflation numbers.¹⁰

I assure you that Fed economists are rarely baffled, but when they do see something that doesn’t make sense, they work hard to figure out what’s going on.

My own staff at the San Francisco Fed recently took a closer look at what’s been holding inflation down. They distinguished between prices of goods and services that tend to move up and down with the overall economy and those that mostly move in response to factors unique to their industry or sector.

They found that inflation rates for prices that tend to be sensitive to the state of the economy have moved back up to around pre-recession levels as the economy has recovered. So, no mystery there.

¹⁰ Martin (2017).
But, they also found that inflation rates for other categories that tend to be less sensitive to the economy had fallen a lot and have remained very low. Some of this is the result of outsize drops in prices for pharmaceuticals, airline tickets, and cellular phone services. In the past, such sharp price movements in these industries have proven to have a temporary effect on inflation, and I don’t expect them to have a lasting effect this time either.

An even bigger contribution to low inflation has been coming from the health-care sector. Mandated cuts to Medicare payment growth have reduced prices, and these changes tend to be incorporated into payments for other health-care providers.\footnote{Clemens, Gottlieb, and Shapiro (2016).} These changes have been a key factor holding inflation below the Fed’s 2 percent target, despite a strengthening economy.\footnote{If you’d like an even deeper dive into the behavior of inflation over the past few years, I highly recommend reading the recent speech by Chair Yellen (2017).}

As these effects wane and the strong economy pushes inflation higher for prices that tend to be sensitive to the economy, I am optimistic that inflation will move up to our 2 percent goal over the next couple of years.
Employment

Which brings me to employment – Congress has given the Federal Reserve two key monetary policy goals: price stability and maximum employment. When it comes to our employment goal, I think of this in terms of the unemployment rate relative to the natural or “normal” rate of unemployment. Now, you’re going to be really shocked to hear that this is what economists call u-star. We can’t know precisely what the normal rate of unemployment is, but I put it at about 4¾ percent.13

The unemployment rate fell further to 4.2 percent in September – meaning that we’ve not only reached the full employment mark, we’ve exceeded it. After accounting for the effects of the hurricanes, the trend in job growth remains strong. I expect the unemployment rate to decline further over the next year, ultimately falling below 4 percent. We’ve only experienced such a low unemployment rate a few times during my lifetime, at the end of the 1960s and again at the end of the 1990s.

13 For comparison, the Congressional Budget Office (2017) puts the natural rate at 4.7 percent, the median value from the Survey of Professional Forecasters (Federal Reserve Bank of Philadelphia 2017) is 4.5 percent, and the median projection from the FOMC (Board of Governors 2017c) is 4.6 percent.
These favorable employment trends, combined with the findings on inflation and the steady pace of growth, are all behind my confidence that rates will need to continue rising to their new normal levels.

To be specific, based on my outlook for employment and inflation, I view a gradual pace of increases over the next two years, bringing the federal funds rate to its new normal of 2.5 percent, to be appropriate.

**Long-term interest rates and the Fed balance sheet**

I’ve discussed the new normal of short-term rates, so as promised I’m now going to turn, briefly, to longer-term rates and the Fed’s balance sheet.

In response to the recession and slow recovery, the Fed purchased trillions of dollars of long-term Treasury and mortgage-backed securities. The goal was to lower long-term interest rates and give the economy an extra boost. In the pursuit of getting interest rates back to new normal levels, we’re now starting the process of gradually reducing these holdings.\(^{14}\)

\(^{14}\) Board of Governors (2017a).
It should take about four years to shrink the balance sheet to the point that we’re holding no more securities than necessary to implement monetary policy effectively.\(^\text{15}\) Unwinding the balance sheet will tend to push long-term rates back up gradually over the next few years.

I want to emphasize that we will continue to use conventional monetary policy tools to bring interest rates to their “new normal” levels.\(^\text{16}\) The process of shrinking the balance sheet will happen in the background, in a gradual and predictable manner.

**Conclusion**

Ladies and gentlemen: The stars are aligned. They all point to a new normal for interest rates. For those of you still listening to a Walkman, it may be time to get a smartphone. The new normal is likely to be 2.5 percent, and we all need to prepare accordingly.

That is, of course, until the data tell us something different.

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\(^{16}\) Board of Governors (2017b).
References


Martin, Felix. 2017. “Back to the Future on Inflation.” *Financial Times*, July 27. [https://www.ft.com/content/e2cdc6c0-72a3-11e7-99f383b09ff9](https://www.ft.com/content/e2cdc6c0-72a3-11e7-99f383b09ff9)


