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# **Lower for Longer in Today's Banking Environment**

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FEDERAL RESERVE BANK OF CHICAGO

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## Introduction

Thank you for the introduction and for inviting me to speak to you today. Settings like this are valuable for policymakers like me because they offer us a chance to hear a broad array of comments and observations from people who run financial institutions day in and day out, as well as those involved in banking supervision. You are an important source of views and perspectives for us at the Federal Reserve as we continually take stock of monetary policy, financial markets and the banking industry. In many cases, you are the first to feel the changing rhythms of our economy. This event also provides an opportunity to bring together bankers, supervisors and academics, with the aim of advancing research in how we can improve upon the community bank business model.

In my meetings with bankers, I consistently hear about the ways an increase in the target federal funds rate would benefit community banks, including their ability to increase lending and build capital. It's worth mentioning that this feedback can come in the unlikeliest of places. Take, for instance, a recent trip I took to Georgia to visit my older brother. He has told his friends about my job responsibilities. As we were crossing the parking lot on our way to lunch, one of his banker friends saw us and yelled, "Hey, Evans, when are you going to raise rates?" It's a friendly bunch down in Columbus. This was in February, just after the Federal Open Market Committee (FOMC) had raised the target range for the federal funds rate in December. So I yelled back, good-naturedly, of course, "We already did!" Without skipping a beat, the banker yelled back, "But when are you going to raise long rates and steepen the yield curve?"<sup>1</sup> I paused and then yelled back, "That's not me. You have to go track down Mr. Market for that one."

Well, I apologize if this all seems a bit flippant as an answer to a serious question — namely, what is the relationship between short-term policy rates and the yield curve for safe assets? A more serious, but perhaps no more satisfying, answer would have been this: The FOMC raised the target rate in December of last year, and the median projection at that time was for four more increases in 2016. However, economic developments — many of them global in nature — intervened in January and again in the summer: We refrained from further policy rate increases, and market-determined long-term rates on safe assets also moved lower. The point is the low interest rate environment is not just a U.S. phenomenon, or simply a situation engineered by Federal Reserve policy. Rather, it is a global phenomenon with underpinnings in economic fundamentals that are central to the framing of monetary policy.

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<sup>1</sup> A yield curve is the line plotting the yields or interest rates of assets of the same credit quality but with differing maturity dates at a certain point in time. These assets, such as U.S. Treasury securities, typically yield incrementally more at longer maturities.

As you know, the Federal Open Market Committee currently envisions only a gradual increase in the funds rate over the next couple of years, and there is good reason to think that even once policy normalizes, interest rates may be a good deal lower than they were in the past. Today I will discuss the rationale behind this “lower-for-longer” interest rate scenario. I’ll then turn to some observations about what this scenario may mean for financial institutions’ profitability.

Before I continue, though, I’d like to note that the views I’ll be expressing are my own and not necessarily those of the Federal Open Market Committee or the Federal Reserve System.

### **Elements of Low Interest Rates**

Let’s start with a thought experiment. Think about a world in which the economy is at full employment; output is growing along its long-run trend path; and inflation and inflationary expectations are well anchored at the central bank’s inflation target, which is 2 percent in the U.S.<sup>2</sup> This is also the inflation target in most other advanced economies. Economists call the real interest rate consistent with this economic environment, subtracting out the inflation target, the “equilibrium real rate of interest.”<sup>3</sup> What determines this rate? A crucial element is long-run trend output growth. The greater this growth rate, the greater the real returns are to business and household capital investment — and the greater the returns are to the financial instruments funding that investment, which, of course, includes bank lending. These higher returns then imply a higher equilibrium real interest rate. The saving preferences of households and businesses also influence this rate. The more they want to save (for instance, either for retirement purposes or as a precautionary buffer), the greater the supply of loanable funds and the lower the equilibrium real interest rate.

Note that I didn’t mention monetary policy as a primary element in determining the equilibrium *real* rate. This is because the effects of monetary policy on the long-run growth potential of the economy or the saving preferences of economic players are small and indirect. True, the Fed would still be setting the federal funds rate in this hypothetical situation, but with the economy at full employment and inflation at target, the Fed’s job simply would be to guide the target fed funds rate to the equilibrium determined by these nonmonetary factors.

Now, monetary policy does have a direct influence on the equilibrium *nominal* interest rate, which is the sum of the equilibrium real rate and expected inflation. This influence depends on the central bank’s choice of an inflation target and its success at achieving that target over time. As long as the public believes that policy authorities are committed to symmetrically achieving that target, expected inflation should equal the central bank’s inflation objective over the long run.

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<sup>2</sup> This was first acknowledged in Federal Open Market Committee (2012). The 2 percent inflation target (as measured by the annual change in the Price Index for Personal Consumption Expenditures) was reaffirmed in the most recent statement of our longer-run goals; see Federal Open Market Committee (2016a).

<sup>3</sup> The equilibrium interest rate is sometimes called the “natural” or “neutral” interest rate.

A lot is made of the Federal Reserve's role in engineering today's low nominal interest rate environment. Certainly, following the Great Recession, in order to provide the accommodation necessary to get economic activity back up to its long-run potential and bring inflation back up to target, the FOMC has attempted to steer interest rates below their equilibrium levels. However, to a great degree, the current low levels of nominal interest rates likely also reflect changes in the equilibrium real rate of interest that are largely beyond the scope of monetary policy. And, importantly, the factors weighing on equilibrium real rates could be quite persistent, meaning that low real and (given our 2 percent inflation target) nominal interest rates could be with us for some time — even after policy rates return to a neutral setting.

### **Persistence of Low Rates**

Why do I think the equilibrium real rate may be lower than before the financial crisis? I begin with the observation that the average annual pace of growth over the recovery has been about 2 percent. By comparison, over the previous three expansions, real gross domestic product (GDP) growth averaged closer to an annual rate of 3-1/2 percent. The weak recent pace certainly makes one sit back and take notice. What's going on? Well, in part, the disappointing growth, particularly early in the recovery, reflects the severe disruptions to market functioning caused by the financial crisis. But something even more long-lasting appears to be going on as well.

First and foremost is the possibility that there has been a reduction in the long-run trend in economic growth. There are a number of reasons underlying this slowdown. Demographics are playing an essential role. In the U.S., growth in the workforce is slowing because of both the movement of the baby-boom cohort into retirement age and lower labor force participation rates, particularly among the youth. Also, a plateauing in educational achievement and the retirement of highly experienced workers mean that improvements in the quality of the workforce are already contributing less to productivity growth than they have in the past.

Another key element of productivity growth is something economists call "total factor productivity," or TFP for short. This refers to the technologies and operational systems that businesses use to combine various inputs into outputs.<sup>4</sup> The recent trends relating to TFP have not been good. John Fernald at the San Francisco Fed and his co-authors<sup>5</sup> estimate that the current trend in TFP growth is only about one-half of 1 percent; that compares unfavorably with the trend TFP growth rate of 1-3/4 percent during the heady days of the productivity surge that lasted from the mid-1990s through the mid-2000s. Therefore, according to these estimates, just from TFP alone, overall productivity growth in the U.S. economy today is more than 1 percentage point lower than it was during that high-growth period.

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<sup>4</sup> In other words, TFP captures the residual growth in total output of the national economy that cannot be explained by the accumulation of measured inputs, such as labor and capital.

<sup>5</sup> Byrne, Fernald and Reinsdorf (2016) and Fernald (2016).

Some economists, such as Robert Gordon at Northwestern University,<sup>6</sup> think this slowdown is possibly here to stay. They argue that we have already picked the low overhanging fruit, so future transformative technologies will be increasingly more difficult to harvest. Others disagree, pointing to the huge productivity advances we've seen in medicine and energy production. Such innovations may indeed be “transformative,” but their effects have yet to make their way through the pipeline to show up as measurable increases in total factor productivity. We'll have to wait and see. But at this point, many are assuming that modest TFP growth will be with us for years to come.

Productivity and potential output growth are also influenced by the quantity and quality of the capital stock that workers employ in the production of goods and services. Business investment in structures, equipment and intellectual property declined sharply during the Great Recession, and has grown only modestly during the recovery. This has left the level of capital spending quite low, and increases in capital per worker — what economists call “capital deepening” — have been weak. This reduced pace of capital formation translates directly into lower growth in potential output.

Sluggish capital spending may in part reflect low expectations for growth over the longer run. I often hear this from business executives. They feel their firms' productive capacity is about right-sized to the current level of demand and their modest baseline expectations for growth in sales. Many of you who work at banks or supervise them may have heard similar sentiments from your community lending base.

There are other factors that will likely keep market interest rates low for quite a while in the U.S. and other advanced economies. High on this list is the enormous worldwide demand for safe assets. In their well-known “conundrum” and “global savings glut” speeches, former Fed chairs Alan Greenspan and Ben Bernanke both pointed to such growing demand as an important factor reducing interest rates on long-term safe assets in the U.S.<sup>7</sup> Greenspan's “conundrum” commentary explicitly cited these demands as leading to a flattening of the Treasury yield curve.

For all these reasons, the outlook for interest rates is vastly more complicated today than it was before. Most analysts have come to expect that both short-run money rates and longer-term interest rates will be lower over the long run than they had expected just a few years ago.

As of March 2010, the *Blue Chip* consensus — an average of about 50 private sector economic forecasters — expected the three-month Treasury rate would average 4-1/4 percent over the long run. As of March 2016, that number was just 3 percent. Over the same time period, the outlook for long-term interest rates had come down as well (falling by over 1-1/2 percentage points).<sup>8</sup> In addition, as reported in the FOMC's most recent Summary of Economic Projections, or SEPs, the Fed's median long-run fed

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<sup>6</sup> Gordon (2016).

<sup>7</sup> Greenspan (2005) and Bernanke (2005).

<sup>8</sup> See the March 10, 2010, and March 10, 2016, issues of the *Blue Chip Economic Indicators*.

funds projection has fallen to about 3 percent.<sup>9</sup>

Currently, at 25 to 50 basis points, the target range for the federal funds rate appears to be quite low. However, to accurately gauge the stance of monetary policy, you must compare policy rates relative to their equilibrium level<sup>10</sup> — not against some simple historical norm. In general, a lower equilibrium interest rate means that monetary policy is not as accommodative as it otherwise might seem. On top of that, because the economy faces a variety of headwinds, the equilibrium federal funds rate today likely is even lower than its eventual long-run level. These observations strongly suggest that U.S. policy today is less expansionary than what is often calibrated from simple monetary policy rules or other historical comparisons you might read about in the press. And this, in turn, means that the risk of overshooting our 2 percent inflation objective is lower — and the likelihood that we actually get to 2 percent is smaller — than what these comparisons would imply.

### **Impact on the Banking Sector**

Why do I bring all of this up to you today? Well, if this analysis holds, community banks are going to have to adjust to a new normal with regard to how interest rates enter their business models.

Such challenges are not new to people in this room. Since the Great Recession, banks have maintained their profitability by aggressively cutting rates paid on deposits and by enforcing interest rate floors on floating rate loans. In the end, the median net interest margin (NIM) for community banks moved down only about 40 basis points between mid-2007 and late last year, whereas the target federal funds rate fell over 500 basis points over that same period.<sup>11</sup>

Nevertheless, headwinds still exist for banks, particularly for community banks. Deposit pricing for banks appears to have hit its lower bound in 2015.<sup>12</sup> Given deposits make up such a large portion of community banks' liability profiles and, hence, their funding costs, community bankers are likely going to have to focus more on the asset side of the balance sheet in order to maintain their institutions' performance levels.

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<sup>9</sup> Federal Open Market Committee (2016b).

<sup>10</sup> The equilibrium federal funds rate is the funds rate associated with a neutral monetary policy (policy that is neither expansionary nor contractionary).

<sup>11</sup> Federal Reserve Bank of Chicago Supervision and Regulation (S&R) staff calculations based on data from the Federal Financial Institutions Examination Council, *Consolidated Reports of Income and Condition* ("call reports"). Net interest margin equals interest income generated by a bank minus the interest paid on its borrowed funds, divided by the average value of the assets on which it earned income. For the path of the target federal funds rate over this span, see Board of Governors of the Federal Reserve System (2015).

<sup>12</sup> Chicago Fed S&R staff calculations based on call report data from March 31, 2009, to June 30, 2016, for all U.S. commercial banks.

I'd now like to discuss two general approaches to addressing low interest rates that appear to be emerging among financial services firms. As I see it, the first approach recognizes the need to adopt sound business practices for operating in a world in which interest rates will most likely be low for a long time. The second one involves altering strategies and standards — sometimes in a less prudent fashion — out of impatience with the low interest rate environment.

Here is an example of the first approach. I recently had a meeting with a number of executives from the life insurance industry, whose business models rely on investing funds to cover anticipated long-term liabilities. They talked about the challenges posed by the low interest rate environment to their business models and their bottom lines. But they also discussed how they and other real money investors — such as investment managers for pension funds — are reassessing the yield curve environment. They are increasingly coming around to the view that persistently slow output growth in the U.S. and abroad may keep real interest rates low for a long time — longer than they likely thought one, two or certainly three years ago. As a result, these long-horizon investors are developing strategies to manage their business operations based, at least in part, on the low yields that are currently achievable on longer-term fixed-income instruments. What strategies have community banks used? Most have extended loan tenures. The weighted average maturity of loans originated by community banks has been rising at a pace above that of loans originated by bigger banks in recent years.<sup>13</sup> Holding longer-term assets and short-term liabilities is the classic carry trade that has historically been the bedrock of community bank profitability. The ability to act as an intermediary between the public's need for longer-term project financing and its desire for short-term investment vehicles is essential to the business model of community banks. However, we all know the interest rate risk exposure inherent in this structure.

Now, in addition to extending loan duration, many financial institutions — and community banks are certainly among them — have decided to adopt alternative strategies in an effort to improve earnings (what I've referred to as the second approach). Such strategies may involve starting new business lines, emphasizing fee-based products and services or, of course, loosening credit underwriting. When thoughtfully conceived, some of these strategies can be prudent adjustments to address thinning profitability in commoditized sectors. But when financial institutions increase their risk-taking without a proper roadmap or appreciation of their potential exposures, they are "reaching for yield" in a perilous fashion.

So, are the lengthening of loan duration and the implementation of alternative business strategies at community banks today being done in a prudent manner? Or are they instead posing an undue level of interest rate and credit risk on banks' books? To help answer these questions, I would highlight the importance of gauging risk tolerance and testing deposit sensitivity in relation to changes in the interest rate environment. A lower-for-longer interest rate environment does not absolve firms of

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<sup>13</sup> Chicago Fed S&R staff calculations of call report data from 2009 through 2016 for all U.S. commercial banks with total assets lower than \$10 billion, as well as all U.S. commercial banks with total assets greater than or equal to \$10 billion (for comparative purposes).

interest rate risk management; nor does it mean we have eliminated uncertainty over future rates or other factors influencing current credit conditions. In recognition of this uncertainty, bankers should continue to simulate their firms' earnings and equity performance under different interest rate scenarios as part of their ongoing risk management. These exercises are valuable in helping institutions understand the impact of interest rate changes and other economic developments on their overall performance over both the short and long run.

Let us focus on deposits for a moment. Some of the key assumptions during these exercises surround deposits — specifically, estimating both their duration and the interest rate the bank would be willing to offer to attract them. Deposit volumes in the banking system are at an all-time high,<sup>14</sup> even as deposit pricing, as I mentioned earlier, appears to have reached its lower bound last year. Just think about that for a moment. The financial system has more deposit funding than it has ever seen, and it has attracted that funding at a very minimal price. So a risk manager needs to consider whether or not customers will continue to provide such cheap funding.

Because deposits represent such a large portion of a community bank's liabilities, assumptions about the duration and costs of deposits are fundamental to the modeling exercises. A prudent institution will make reasonable baseline assumptions and also recognize the uncertainty surrounding those assumptions. The possible range of outcomes from such sensitivity tests can be extremely valuable to a firm's board of directors as they set the overall tolerance of how far a firm is willing to lengthen its asset duration or make other changes to its business practices.

Now, what other strategies are we seeing in the field? Well, in my District located in the upper Midwest, we have seen some examples of what could be labeled as less well-thought-out "reaching for yield." And conversely, we have also seen numerous examples of community banks making prudent, thoughtful changes to their strategic plans. I'd like to round out my comments with a pair of composite sketches that illustrate both types of behaviors.

Let's say there's a rural community bank that had throughout the recovery maintained a policy of avoiding longer-term fixed-rate loans, given forecasts for rising interest rates in the not too distant future. (Is this sounding familiar?) This community bank held fast to this standard even after it lost some longtime customers to nearby competitors who were willing to offer fixed rates on commercial loans for ten years or even longer. Still, after years of weak earnings, the community bank's shareholders and executives were both getting restless. So this year the bank began issuing commercial real estate (CRE) and commercial and industrial (C&I) loans for terms matching or exceeding its competitors'. And the resulting new loan volume pulled in by the bank has indeed begun to boost its net interest margin. The bank is finding a lot of growth in these particular sectors after just a few months. However, even as this bank boosts its short-term

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<sup>14</sup> Chicago Fed S&R staff calculations based on call report data for all U.S. commercial banks (for domestic deposit total volumes).



profits, its lack of prudent planning and risk analysis could lead to difficulties if credit conditions were to change.

OK, so let's consider a better alternative. Suppose there's a community bank with identical business lines as the previous one I discussed. It too stayed disciplined throughout the recovery. And similarly, its board and management were getting restless after years of low yields. So at a recent board meeting, they made changes to the bank's strategic plan and decided to loosen its underwriting policies to offer longer-term fixed-rate loans for established CRE projects, for which there has been steady demand in the bank's local markets. However, its board set a conservative lending limit to control the bank's total exposure to the new longer-term fixed-rate loans, and mandated regular reviews of its credit concentration risk, along with liquidity targets to maintain, as it funded this activity. In addition, the bank also began running broader interest rate simulations to inform its board of the interest rate risks associated with this strategy. Compared to the first example, this second example provides a sensible roadmap for how to address the challenges posed by a lower-for-longer interest rate environment. Note that these illustrations are rather simplistic. In reality, both the bankers and the supervisors in this room could fill in the many complexities that make it difficult to evaluate the underlying risks and trade-offs in these new strategies. Such complexities present challenges both to bankers who are balancing risk-taking with the appropriate controls and to supervisors who are evaluating the adequacy of how bankers have struck that balance. These are hard jobs, but necessary ones.

### **Conclusion**

To conclude, I feel we will likely be in a low interest rate environment for some time, which leaves monetary policymakers with less room to navigate future downside shocks should they occur. This is one reason that monetary policy is expected to normalize at a very gradual pace. And even once it has normalized, the new equilibrium likely will be one with lower interest rates than we have experienced in the past.

This environment has been and will continue to be a challenging one for community banking performance. Deposit behavior is a particularly important topic to be further explored by academics and policymakers. I'm also interested in how this lower-for-longer scenario plays into the discussion about community banking performance at this afternoon's research session on profitability and bank size. It is important for banks, particularly community banks, to carefully plan for the lower-for-longer rate environment and to think hard about its impact on both current and long-term earnings. And it also is critical for banks to recognize — and supervisors to evaluate — the potential effects of alternative strategies on the baseline path. Finally, it is crucial that banks have appropriate controls in place to address the associated risks to their balance sheets.

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