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WHY HAVE LONG-TERM INTEREST RATES RISEN?

Remarks by
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I am pleased to be here tonight and honored to be involved in recognizing your support of the Southeast Missouri University Foundation. As I am sure you will all agree, higher education is a critical element of our society. From a central banking perspective, its impact on achieving higher standards of living here and, indeed, throughout the world is enormous. But higher education needs substantial private support, even at public institutions. In this regard, I am impressed with the Foundation's results in marshalling such support, and I applaud you for your efforts.

Unfortunately, some of the benefits of such efforts can be neutralized when rapid, unanticipated increases in long-term interest rates occur, as they have over the past year. The yield on a 30-year U.S. Treasury bond, the bellwether for long-term interest rates in this country, for example, has risen about 150 basis points from its low last fall. It has gone from less than 6 percent in October to about 7.4 percent recently, a very sizable jump in just a matter of months. In the process, financial markets have been disrupted, and the values of fixed income portfolios, the Foundation's included I presume, have plummeted. In fact, 30-year bond prices have fallen by almost 20 percent over this period, a startling decline. In addition, the cost of long-term capital for individuals and businesses has gone up, making it more difficult, for example, to purchase homes or expand plant and equipment.

Why have long-term interest rates risen? I think many would respond that long rates went up because the Federal

Reserve raised short-term rates. Further, some have said that the Fed took these actions because of unwarranted fears of inflation, disregarding the adverse effects of higher interest rates on economic growth. This view, though widely held, reflects a misunderstanding of how interest rates are determined and the interaction between Fed actions, interest rates and growth. In my remarks this evening, I would like to address why I think long-term interest rates rose and how the Fed's recent actions, rather than being anti-growth, are in fact consistent with achieving maximum sustainable growth.

Let me begin by laying out a simple framework for thinking about interest rates, a framework that we can later relate to the question about rising interest rates. For an investor who plans to hold a bond to maturity, nominal interest rates--that is, those we observe day-to-day in financial markets--can be divided into three components: a real rate of return, plus an expected inflation component, plus a default premium.

The real rate of return component is the rate investors receive as compensation for parting with their capital for a period of time. On average, U.S. Treasury bonds have yielded real returns--that is, inflation-adjusted returns--of 2 to 3 percent since World War II.

Investors generally will not allow their real returns to be eroded by inflation. In an inflationary environment, a dollar in the future will have less purchasing power than a dollar today, and investors will demand an interest rate that

compensates them for the expected decline in purchasing power. Investors must also allow for uncertainty about their estimates of future inflation, a risk premium that can vary over time. Even in a non-inflationary setting, interest rates may incorporate a premium for uncertainty about the future. Thus, the expected inflation component of a nominal interest rate embodies both estimates of future inflation and a risk premium for uncertainty associated with that estimate.

Finally, there is a default risk component to many interest rates, by which I mean compensation to the investor for the risk of default. But I will focus on yields of long-term U.S. Treasuries, so that the risk of default can be ignored. We are left, then, with the notion of interest rates on U.S. government securities being composed of a real return of about 2 to 3 percent, plus an expected inflation component. With 30-year Treasuries currently around 7.4 percent, the arithmetic implies an expected inflation component of about 5 percent.

While my framework is admittedly simple, it highlights the fact that expectations of future inflation play an important role in determining long-term interest rates. And this is supported by the evidence: an analysis of the data from different countries with different average inflation rates indicates that countries with high average inflation tend to have high nominal interest rates. Again, this is because investors must demand compensation for any likely reduction in the purchasing power of the funds they are

lending. Inflation expectations can be influenced in a great many ways and are, at times, quite volatile.

So why have long-term interest rates risen since October? Logic would suggest exploring whether inflation expectations have increased. But first, let's consider the possibility that the stepped-up pace of economic activity last fall and winter bid up the real component of long-term interest rates. Certainly, real activity did increase at a rapid pace over this period, capped by the 7 percent rate of growth in real GDP in the fourth quarter of 1993. This may have led firms to aggressively seek out capital to finance investment opportunities.

My view, however, is that this effect was probably minor since the market for capital is worldwide. While U.S. growth was rapid, many other industrial economies were in recession, so that the increased demand for capital in some locations was countered by depressed demand in others. I think world capital markets are now sufficiently integrated that funds can flow across borders to absorb substantial changes in demand caused by differences in the pace of economic activity. So this is not a very likely explanation, at least for the bulk of long Treasuries' 150 basis-point rise since last fall.

In my simple framework, then, if it is not a matter of the real rate, long rates must have risen because expectations of inflation increased sharply over this period. I think that this is likely the case, and as many of you know, this is the same explanation given by a number of market participants.

Inflation expectations are a good place to focus our attention because they are based on investor sentiment, and investor sentiment is just the type of variable that can move rapidly over a relatively short time horizon.

What might have caused market participants' expectations of inflation to increase? There are a number of different reasons, in my view. First, the Fed for some time had been in a very accommodative policy stance. Short-term interest rates had fallen dramatically since before the recession began in mid-1990, and in fact the federal funds rate remained at about 3 percent throughout 1993. The Fed's consistently accommodative stance for nearly three years following the end of the relatively shallow 1990-91 recession led to legitimate worries in the markets about the risks of higher inflation.

This easy stance was reflected in the narrow measures of money, including the monetary base and M1, which grew at rapid rates for more than two years prior to last fall. Over long periods of time, the rate of money growth is a major factor in determining the economy's rate of inflation. So in the absence of a move by the Fed to contain money growth, I think accelerating inflation was a natural conjecture.

Second, real economic growth was gaining momentum, and there is a widespread belief that prices are procyclical. That is, many believe that rapid economic growth is invariably followed by higher inflation, though in fact, peak inflation rates often do not occur until after economic growth has turned down. Whatever the merits of this view, I do think

stronger economic growth had an important effect on inflation expectations.

I might mention that the evidence on this matter is mixed. A recent study published in the American Economic Review found that in 10 industrialized countries since World War II, prices were typically countercyclical, meaning that they trended downward when the pace of economic growth was trending up. Perhaps closer to home is the evidence of the U.S. experience in the 1980s. Much of the last decade was broadly characterized by rapid growth in real output, along with steady or declining inflation. It seems to me that the long-run inflation rate experienced in a country results primarily from policy decisions made by the central bank, and that trend inflation is largely independent of real activity. Again, however, I cite procyclical prices as a common viewpoint that has contributed to increases in the expected rate of inflation and, through this channel, to higher long-term interest rates.

A third reason why inflation expectations likely increased is that there was some direct evidence over this period that inflation was accelerating. The GDP deflator, a broad measure of inflation, increased from a 1.3 percent rate in the fourth quarter of 1993 to a 2.6 percent rate in the first quarter of this year. Other broad measures of general price movements seemed to be trending upward as well. Some commodity price indexes also showed significant gains in the fall and through most of the spring. These and other pieces

of evidence suggested to many analysts that a more rapid rate of price increases might be in the offing.

Fourth, as many of you may know, the dollar has been weak recently against foreign currencies, including the Japanese yen. A story that is sometimes told is that a weak dollar might contribute to U.S. inflation because it forces foreign firms selling in this country to raise their prices. This, the story goes, might allow U.S. firms to increase their prices. I have my doubts, however, as this view ignores the fact that domestic firms compete with each other. Still, the notion that a weak dollar implies upward pressure on U.S. prices has probably contributed to rising inflation expectations.

Finally, I think market participants could be worried about the future of the Fed. Last year, proposals were introduced in Congress that could limit the Fed's insulation from short-term political influence. Let me say that the issues brought up in these proposals certainly deserve thorough public debate. But whatever legitimacy may exist in discussing alternatives to the current system of monetary policymaking, the net effect of putting these proposals on the table has been to lead the market to wonder about the Fed's ability to hold the line on inflation.

It is my view, then, that inflation expectations have been the major contributor to rising long-term interest rates since last October. Though it is perhaps unfortunate that

volatile inflation expectations play such a large role in interest rate determination, it is a reality nonetheless.

In fact, expectations sometimes react to even the most unlikely of stories. Earlier this year, for example, there was a view that the Fed had some kind of "special information" on inflation, data not yet available to the general public. While there are a number of economists in the Federal Reserve who look at the economy from virtually every perspective, they in fact analyze the same data that are available to the general public. There are no secret data, but this view nonetheless fostered higher inflation expectations for a time this spring.

So what about the accusation that the Fed's actions in raising short-term rates caused long-term rates to rise? And were these actions anti-growth? The fact is that long-term rates began to rise well before any action had been taken by the Fed. From their lows in October to when the Fed first allowed short rates to rise modestly in February, long rates had already risen substantially. Why? Because inflation expectations were already rising.

When the Fed increased short rates by 125 basis points, in four successive steps, long-term rates admittedly continued to rise. But as market participants became convinced that these actions would contain inflationary pressures, long rates increased less than short rates, and, in the case of the most recent 50 basis-point increase in short rates, actually declined. Thus, by demonstrating its resolve to fight

inflation, the Fed dampened inflation expectations and helped to lower long-term interest rates relative to what they would have been in the absence of a policy change.

I want to finish with a theme I mentioned at the beginning of my talk, namely that I think a low inflation policy is ultimately a plus for economic growth, not a negative as it is usually portrayed. Low inflation is not an end in itself. The Fed seeks a stable, low inflation environment for a very pragmatic reason: relatively steady prices contribute to better economic decision-making and more rapid economic growth.

There are, for instance, many developed countries that have run higher inflation policies in the post-World War II era than the United States. They do this essentially through monetary policies aimed at keeping short-term interest rates low, which foster relatively high monetary growth rates over time. These economies, on average, have grown no faster than those of countries pursuing low inflation policies, including the U.S. If anything, they have grown more slowly.

A similar conclusion holds for developing countries. Recent work at MIT considers the effects of inflation policy on economic growth in Latin America, Asia and Africa. Looking across countries from these regions, this study found that countries with relatively high average inflation rates tended to grow more slowly than countries closer to price stability, even after taking account of other factors that can influence long-run growth rates.

Fostering inflation in the hope of more rapid economic growth is akin to someone lost in the desert chasing a mirage. Just as this person will crawl a long distance, under harsh conditions, and end up without water, a number of countries have endured higher inflation rates and ended up without any additional economic growth. In the meantime, consumers and firms have had a harder time distinguishing between price changes due to inflation and those due to variations in underlying supply and demand conditions. This confusion needlessly causes people to make mistakes in their decision-making and leads to inefficiency in the economy.

So the main contribution the Fed can make to the economy in the long run is to keep inflation low and inflation uncertainty to a minimum. This means maintaining a consistent policy over a long period of time with a credible commitment to low inflation. In this way, monetary policy can provide a stable price backdrop that will contribute to achieving the maximum sustainable rate of economic growth. That is a pro-growth policy, and one that I think the Federal Reserve should continue to pursue.