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## Why Interest Rates Are Rising

By John H. Makin

The bond “conundrum” that Alan Greenspan spoke of toward the end of his tenure at the Federal Reserve is disappearing. Chairman Greenspan was drawing attention to unusually low long-term interest rates worldwide on bonds.<sup>1</sup> More recently, however, in less than a month interest rates on U.S. ten-year notes have risen by 60 basis points with no change in expected inflation. The shift is all the more unusual because of its abruptness and relative magnitude: in statistical terms, it is a rise of three standard deviations in “real” (inflation-adjusted) rates in a market that has been quiet over the past five years. Moreover, the few “surprise” moves since the tech-stock bubble burst in 2000 have mostly been in a downward direction.

The rate on the U.S. ten-year note moved up above 5 percent, then rose by another 25 basis points, attracting extra attention because this represented a decisive break through a twenty-five-year downward trend line for interest rates.

### Reasons for Higher Interest Rates

This sharp rise in real rates occurred globally. With the benefit of hindsight and more data than was available before, we can see two primary causes. The first was the onset of a global demand surge from consumption, led by China and the United States. China’s chronic currency undervaluation required so much currency market intervention (that is, dollar buying) that it finally overwhelmed Chinese efforts to control its impact on the supply of money and credit. Stock prices

and spending surged, and Chinese inflation—especially in prices for food proteins—surged as well.

In the United States, consumers have just kept spending, and the 4 percent growth in their outlays, financed by higher income and borrowing, contributing mightily to global demand growth.<sup>2</sup> During the first quarter of this year, the 60 percent of U.S. consumption growth *not* financed by rising wages and salaries was financed by additional borrowing through sales of stocks and bonds, use of credit cards, and increased use of home equity lines of credit. The recycling of massive Asian savings into global markets—even as spending rose strongly in most of Asia and certainly in China—created the easy market conditions that enabled American consumers to keep spending simply by running up more debt.

With both borrowers in America and lenders in Asia boosting their spending, the demand for credit rose even more than the supply. Higher interest rates were a result.

The second major cause of higher real interest rates on low-risk assets such as government bonds was an investor move that began late in 2006 toward higher-yielding risky assets. The move was briefly interrupted by a Chinese stock market scare and then resumed in earnest. Investors “learned” after Chinese policymakers stepped in to stop the February 27 stock market collapse that such risky asset sell-offs represented a buying opportunity. The results were less willingness to add to holdings of low-risk, low-yielding sovereign debt (government bonds) and even more eagerness to acquire risky assets. It is telling that the global rise in yields on government bonds began

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immediately after the Chinese stock scare was quieted at the end of February.

More consumption growth in Asia as well as in the United States and a rising preference for riskier, higher-yielding assets by managers of \$5 trillion in foreign-exchange reserves and \$2.5 trillion in sovereign wealth funds in emerging markets—not to mention pension fund managers worldwide—have combined to push interest rates back up to average historical levels. How high will rates go? What will the shift mean for economies and asset markets? Even with the many questions posed by higher interest rates, one thing is clear: U.S. interest rates are now being determined by events in the global economy to a degree not seen since the 1920s and early 1930s.

## How High Can Interest Rates Go?

The fate of America's housing sector, of debt-dependent American consumption growth, and of leveraged purchases of risky assets—along with myriad other factors critical to continued global growth and wealth creation—depend on the answer to this question.

Over the long run, yields of about 5 percent on high-quality government bonds make sense with a 3 percent real yield and a 2 percent allowance for expected inflation. Three percent represents a long-run real return tied to sustainable trend growth that, in turn, determines the long-run sustainable return on stocks, which are, after all, claims on the real return to capital. Long-run stock returns usually turn out to be higher (about 7 percent) to compensate investors for inflation and for additional risks attached to holding claims on companies whose fortunes and ability to pay dividends may vary more than the government's tax-based ability to pay interest on its debt.

When the return on alternative assets rises, the real return on low-risk assets rises with it. During the late 1990s, when the tech bubble was inflating, investing in tech stocks was so attractive that it drew money away from low-risk, low-return government securities. At that time, up until the collapse of the tech bubble in early 2000, the real yield on ten-year treasury notes was well above 4 percent, far higher than the current estimated real yield of about 2.8 percent. With 4 percent real yields between mid-1999 and mid-2000, market returns on

ten-year U.S. notes were about 6 percent, after adding on about 2 percentage points for inflation.

Yields can go much higher if investors fear inflation. Higher and more volatile inflation boosts yields in two ways. First, higher inflation adds to interest rates, point-for-point, to compensate note and bond holders for a loss of purchasing power of their interest earnings. Second, greater volatility—always a component of higher inflation—makes bonds a riskier store of value, so real yields must be higher to compensate investors for more risk. U.S. government bond yields reached 14 percent in the early 1980s, when inflation was in double digits.

Fortunately, today the Fed has learned the lesson that rising inflation and rising inflation expectations must be avoided at all costs. That is why its pronouncements have consistently stressed avoiding inflation risk as a primary goal. Markets have increasingly realized that the Fed will not ease under any circumstances until inflation is between 1 and 2 percent. Since that criterion appears, under current conditions, to preclude any Fed rate cuts, especially as global growth remains high and energy prices keep rising, real rates on notes and bonds have risen.

In a period of some monetary restraint with inflation expectations around 2.5 percent and with real yields above 3 percent, it would not be surprising to see interest rates around 5.5 percent, plus or minus 25 basis points, on U.S. ten-year notes. Rates could go higher if more monetary restraint is required to bring inflation consistently down to or below 2 percent; less high if inflation is better behaved. Changing returns on alternative assets could also further affect the path of global interest rates.

## Other Factors Impacting Rates

Investors are constantly comparing the risk and return properties of alternative means of storing wealth. The attraction of sovereign bonds is low risk, while the attraction of riskier alternative assets, such as tech stocks rising at 20 percent a year, is higher expected returns. As noted above, it is probably no accident that the run-up in real interest rates on sovereign bonds that began late in 2006 was first interrupted by and then subsequently intensified by the rapid sell-off and recovery in the Chinese stock market.

Chinese stocks fall into the category of emerging market stocks, which have risen rapidly in value over

the past year, outstripping the gains in stock markets of other advanced industrial economies. As emerging markets follow the example of advanced economies by reducing regulation, increasing the access of women to the workforce and broadly improving the management of their economies with an eye to enhancing growth, the expected return on investments in these countries rises. With so many investors making leveraged investments in such assets, and with those investments financed, in turn, by borrowing in markets in which low sovereign yields have helped to keep borrowing rates low, there is eventual pressure on real interest rates to rise.

Added to these rate-boosting pressures are the activities inside advanced economies of leveraged buyout (LBO) firms, which issue debt to finance buybacks of stock. The standard LBO practice of restructuring corporate balance sheets by substituting debt with tax-deductible interest payments for equity with non-deductible dividends increases the supply of bonds and drives up real interest rates. Since LBO borrowing rates are tied to sovereign bond yields, higher interest rates on commercial debt push up interest rates on sovereign debt unless spreads are compressed.

In a world where more and more investors are eager to buy risky assets by borrowing or to sustain rising consumption by borrowing more, it is no surprise that interest rates are rising. To put the same thing a different way, as Bank of England governor Mervyn King did at the start of 2006, if monetary policy settings to maintain stable growth are low enough to encourage heavy borrowing to make leveraged asset purchases, then asset prices will rise until one of two results occur: either higher asset prices will boost aggregate demand, pushing up inflation, and cause central banks to tighten, or, alternatively, as we may yet see in 2007, the heavy borrowing will push real interest rates up to a level that makes borrowing in order to finance leveraged purchases of risky assets unattractive.

### More Interest Rate Volatility

Interest rates often rise along an uneven path. Part of the reason lies with the rapid growth of contracts that may be written conditional on a given set of expected interest rates. The best example lies in the U.S. mortgage market.

Mortgage issuers try to balance the term structure of their assets and liabilities by buying bonds to add to the maturity structure of their holdings when interest rates are falling and homebuyers are taking out shorter-term mortgages. Conversely, when homeowners are switching into longer-term mortgages as adjustable-rate mortgages mature and longer-term mortgage loans become more attractive, mortgage lenders sell long-term treasury instruments to shorten the term structure of their holdings.

The sharp run-up in U.S. yields at the end of May triggered a need for so-called convexity selling by mortgage issuers, which meant that they were compelled to sell treasury notes as interest rates rose, thereby pushing interest rates up abruptly as they balanced their mortgage portfolios. Other such contractual structures may be embedded in credit or derivative markets. Rising interest rates essentially cut through a set of tripwires that can trigger self-reinforcing movements of interest rates in one direction or another, thereby

causing what appears to be an overshooting of interest rate movements as volatility rises. The rise in volatility itself contributes to higher interest rates as risk premia on bonds rise.

By encouraging a further debt-financed flow into risky assets, the Chinese Monetary Authority's February 27 stock market rescue put an additional burden on other central banks. As the global flow into risky assets accelerated, the pressure on central banks in Europe and other Asian nations to tighten and restrain credit growth became greater. The result of increased borrowing to finance greater acquisition of risky assets is to force central banks to signal possible further tightening and thereby to boost real interest rates. Otherwise, prices of risky assets can rise even more, further boosting wealth, consumption, and, eventually, inflation.

The rise in real interest rates on sovereign debt as investors move more aggressively into risky assets is part of a self-equilibrating process. More rapidly rising prices of risky assets tend to attract more investors, while more rapidly rising real interest rates or borrowing costs tend to slow the move into risky assets and increase the attractiveness of low-risk assets. Some combination of an unsustainable run-up in assets prices coupled with higher real interest rates causes asset prices first to stabilize and then

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to fall. If asset purchases have been financed with leveraged borrowing, rapidly falling prices can produce a highly unstable situation wherein the need to sell assets intensifies just as the credit available to finance margin calls becomes scarce in an environment of elevated risk.

In terms of asset prices and interest rates, markets may be some distance from such a disruptive situation. Given today's expected earnings for U.S. companies in the S&P 500 Index, the interest rate on ten-year treasuries could rise as high as 6 percent without pushing S&P stocks below fair value. To put the same thing another way, the S&P 500 Index is about 15 percent below where it would normally be, given the current level of expected earnings for next year and a 5.25 percent yield on treasury notes.

### Adjusting to “Normal” Interest Rates

The actual resolution in markets of the increasing tension between rising real rates and rising prices of risky assets will, no doubt, be far messier than many theoretical constructs suggest. Fair value in the stock market is a concept of averages. Actual prices tend to be far away from fair value, on both sides, for most of the time, resulting in a potentially misleading notion that fair value represents a comfortable home for stock prices, given levels of expected earnings and interest rates.

The move up in real interest rates is a signal that the period of abnormally low and stable interest rates—in particular of abnormally low real interest rates that emerged after the collapse of the tech bubble and has since supported prices of risky assets worldwide—is coming to an end. A combination of more perceived inflation risks, work left undone by central banks that need to tighten further, and simply more market risks will add risk premia to long-term interest rates while subtracting from the sustainable level of prices of risky assets.

The “surprise” rise in interest rates this year humbled many “sophisticated” market watchers, myself included. A look at the movement of interest rates over the past century provides numerous reminders that, while it is possible, after the fact, to provide numerous reasons for a given path, it is very difficult to predict the paths of interest rates and prices of risky assets. More broadly, there are plenty of examples of unexplained changes in important economic indexes. In 1974, U.S. productivity growth inexplicably fell sharply and remained weak for twenty years until it recovered in 1995. While many have tried, no one has satisfactorily explained that sequence of developments in productivity growth. Likewise, the path of interest rates over the last decade, not to mention over the last several centuries, includes several mysteries, not the least of which is the remarkably low level of real interest rates on sovereign loans over the past half decade and what appears to be the move back toward more normal, long-term levels that is occurring in 2007.

At the very least, the rapidity of the exit from low and stable interest rates has reminded market participants that risks abound in today's rapidly globalizing and highly leveraged markets. If the new reminder on risk makes us more humble, and perhaps a little more cautious, the world will be a better place for wealth managers and their clients.

### Notes

1. John H. Makin, “Bond Market Bubble?” *Economic Outlook* (February 2006), available at [www.aei.org/publication/23794/](http://www.aei.org/publication/23794/).
2. John H. Makin, “The Remarkable American Consumer,” *Economic Outlook* (June 2007), available at [www.aei.org/publication/26268/](http://www.aei.org/publication/26268/).