

WEEKLY MARKET MONITOR FEBRUARY 5, 2007

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WHY INFLATION-LINKED BONDS?

February, 2007, marks 10 years since the federal government introduced U.S. inflation-linked bonds (now called TIPS, or Treasury Inflation-Protected Securities). TIAA-CREF was instrumental in supporting the first issuance of TIPS by the U.S. Treasury and it subsequently created the first variable annuity account based on these bonds. Today, TIAA-CREF participants have invested over \$3.5 billion in the CREF Inflation-Linked Bond variable annuity account and the related TIAA-CREF Inflation-Linked Bond mutual funds.

On the occasion of this anniversary, participants may wish to know what our current thinking is on this asset class.

- What role do inflation-linked bonds play in long-term portfolios?
- How have inflation-linked bonds behaved over the last decade?
- How might this asset class develop over the next decade?

The first thing to note about TIPS is that the U.S. is not alone and was not the first to issue inflation-linked bonds. Over 20 countries, including the U.K., Canada, Sweden, France, and more recently Japan, issue similar government securities. Some of these countries did so in response to the extraordinary inflationary period of the late 1970s and early 1980s.

The existence of inflation-linked bonds provides an opportunity for investors who are worried about the effects of inflation to buy securities that will, over time, help protect their purchasing power. For example, a modest inflation rate averaging 3% will cut the real value of a person's nest egg in half over about 23 years. Inflation-linked bonds also provide an explicit "report card" on the ability of governments to bring inflation down and keep it low.



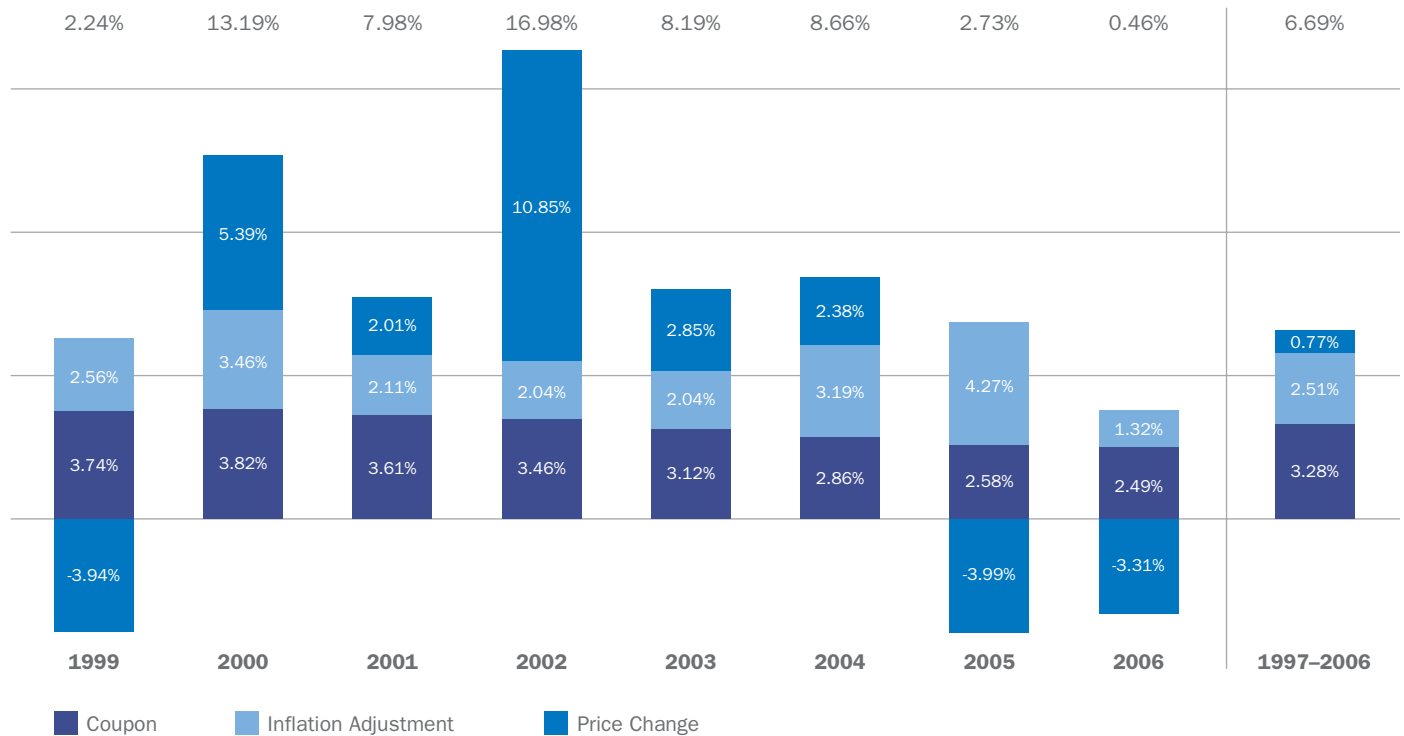
Investors can find TIPS attractive for several reasons. One is that TIPS are tied directly to inflation. In the bond market, a nominal government bond's return is composed of two basic parts, a return associated with the bond's coupon or interest rate that was set when it was issued and a price return that can fluctuate with demand, depending on how investors think interest rates are likely to change in the future. In contrast, TIPS returns have three basic components. One is a "real" coupon that is set when the bond is issued. It is a real interest rate because it doesn't include inflation. The second component is an inflation return that is explicitly linked to the U.S. Consumer Price Index (with a three-month lag) so that any change in inflation, up or down, is reflected in the payment that a TIPS holder receives. The third component is the price return that varies with investor demand, depending on how investors think real interest rates and inflation will behave in the future. An investor interested in inflation

protection can purchase TIPS or a fund that focuses on TIPS and, over the long run, have the potential or opportunity to track inflation with an extra return associated with real interest rates.

Another reason to include TIPS in a long-term portfolio is that they can or have the potential to act as a diversifier. Since inception, TIPS returns haven't been highly correlated with nominal bonds or stocks because changes in the price of TIPS aren't sensitive to actual changes in inflation. So they may be a good source of return when other asset classes are faltering, thus offering additional risk protection for the entire portfolio. For example, when inflation goes up unexpectedly, the price of nominal bonds tends to drop and market yields (interest rates) rise. In contrast, when inflation goes up unexpectedly (other things being equal) the price of an inflation bond will remain steady or even rise due to it

COMPOSITION OF U.S. TIPS RETURN

PERCENTAGES BASED ON MONTHLY RETURNS FROM 3/97-12/06



Source: Barclays Capital

being a safe haven in an inflation storm. On the other hand, when inflation falls unexpectedly, nominal bond prices tend to rise while market yields (interest rates) fall, so that the nominal bond holder experiences a windfall. In contrast, inflation-bond prices may fall due to an unexpected drop in inflation since the income from the inflation component of the return will fall as well.

This dynamic goes a long way towards explaining the behavior of TIPS over the last decade. Real returns have remained relatively consistent, and inflation hasn't fluctuated nearly as much as it did in most of the 1980s and 1990s. But price returns have fluctuated significantly.

When TIPS were first issued in 1997, the real coupon was over 4% and inflation was over 3%. In addition, due to the relatively small supply of TIPS in the marketplace, inflation or diversification-minded investors tended to bid up their price. So total returns were favorable. As shown in the history of the TIPS index, in 1999 a drop in inflation as well as unprecedented interest in growth stocks reduced demand for inflation bonds, causing their price to drop. Then, from 2000 through 2004, TIPS enjoyed a string of strong returns fueled by demand from investors interested in their ability to provide a safe haven in the aftermath of a downturn in the stock market. This was despite a decline in inflation in the early part of the decade, as shown by the inflation return component in the following exhibit. Then, for the last two years, returns have slowed considerably as investors once again began to look to other investments for returns and as inflation fears diminished. So marked-to-market TIPS have shown some volatility.

Despite these fluctuations, the overall return of the TIPS index has been as expected, about 7% per year as shown in the preceding exhibit. Moreover, the exhibit also shows that despite considerable year-to-year fluctuation in price returns, the average price return for TIPS has been a modest 0.77% per year. This supports the thought that, over the long run, the real coupon and inflation return components have the potential to dominate TIPS' total return, thus helping investors to track inflation with an extra real return. Interestingly, since 1997 the overall volatility of TIPS total returns has been a relatively modest 6%.

Today, the U.S. TIPS market is over \$300 billion, only a small portion of about \$5 trillion in tradable U.S. government notes and bonds. But the TIPS market continues to grow as the government issues more of these bonds on a regular basis. Therefore, we expect that TIPS will continue to be seen as a way to help shield investments against short and long-term inflation as well as to diversify portfolios. It is also possible that inflation-bond issuance by private companies, now a very small market, will increase over time.

In any event, the behavior of TIPS is different by design from that of nominal bonds. As such, they are truly a new and different asset class that can be especially helpful to an investor who is approaching or in retirement. At that point in time the investor may have or be contemplating a drop in salary income, which often tracks inflation quite well. Then, the investor has the challenge of replacing that inflation protection with Social Security and investment payouts. The inclusion of some inflation bonds with Social Security can help with this goal.

You should consider the investment objectives, risks, charges and expenses carefully before investing. Please call 877-518-9161 or log on to www.tiaa-cref.org for a prospectus that contains this and other information. Please read the prospectus carefully before investing. TIPS are also subject to interest rate risk: an increase in real interest rates may result in lower prices for TIPS.

TIAA-CREF is a national financial services organization and the leading provider of retirement services in the academic, research, medical and cultural fields with over \$400 billion in combined assets under management (12/31/06). Further information can be found at www.tiaa-cref.org.

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