

Understanding Real Yields (...and Negative Real Yields in TIPS)



What is a real yield?

A real yield, or a real interest rate, is the rate of return in excess of expected future inflation that clears the market of supply and demand for a particular investment opportunity. While investments compete for capital on the basis of the real yield they offer (given their associated risk), inflation-linked bonds are unique in that the real yield they offer is directly observable. By contrast, conventional Treasuries trade on a nominal yield, which is comprised of the real yield plus the yield compensation for expected future inflation. In the absence of the Treasury Inflation Protected Securities (“TIPS”) market, however, the exact level of these two components is unclear.

Understanding negative real yields

If an asset is offering a negative real yield on investment, it can mean either that the asset is not a productive use of capital (perhaps an old warehouse), or that the asset is attractive but faces excess demand relative to its supply. When real yields are negative, the expected return on investment is less than the level of expected inflation; investors actually expect to lose wealth in terms of purchasing power. Since this is not attractive compensation for committing capital, the existence of negative real yields can create an

incentive to drive capital to other more potentially attractive investments, and in so doing create equilibrium across the total supply of capital and the universe of investment opportunities that compete for capital.

Negative real yields in TIPS: What happened?

Much has been made about the occurrence of negative real yields in the U.S. TIPS market during the first quarter of 2008. The presence of negative real yields did not reflect something “broken” with the TIPS market nor did it reflect a desire of investors to pay a premium for the explicit inflation hedging that TIPS uniquely provide (though in a significant inflation scare that is a possible outcome). Rather, the temporary move from positive to negative real yields reflected the combined effect of three main forces:

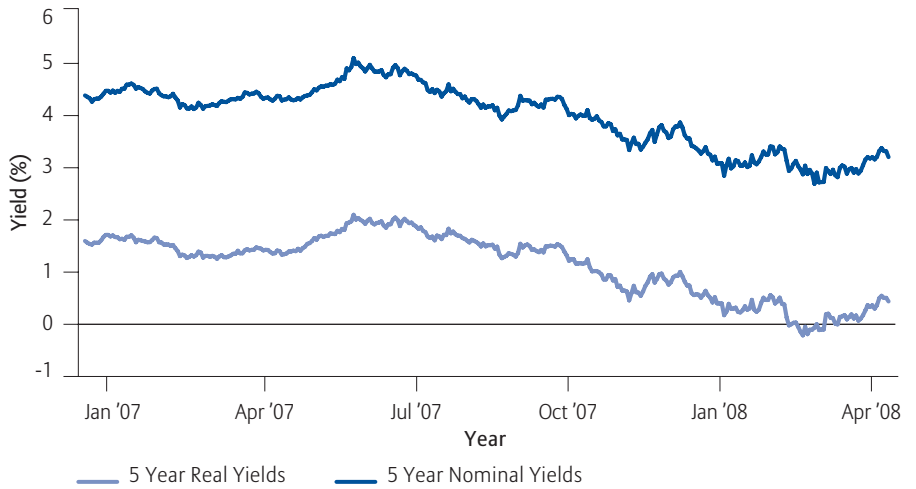
- Reduced expectations of real growth in the U.S. economy. Slower economic growth implies lower rates of expected return across investments, which in turn lowers the level of real yields required to clear the TIPS markets.
- Increased expectations of easing by the Fed in response to slower economic growth, policy makers lower short-term nominal rates to create

negative expected real returns on savings. This savings “penalty” in turn creates incentive for investors to reduce savings and deploy capital elsewhere in the economy;

- Increased short-term demand amid a credit crisis. Investor demand for government guaranteed debt rose sharply as sub-prime induced risk aversion and increased need for liquid assets drove a pronounced “flight to quality.”

Also, the temporary move from positive to negative real yields was not limited to TIPS. Both TIPS and conventional nominal Treasuries experienced negative real yields, though this was only directly observable in the TIPS market. This is intuitive, since TIPS and nominal Treasuries are both Treasuries and are therefore priced to have the same return if the market’s expectation of future inflation is realized (this is the “breakeven inflation” concept). Chart A shows the recent relationship of 5-year real yields and 5-year nominal Treasury yields. Two notable points stand out. First, real and nominal yields have moved very much in line with each other, as the spread between them (inflation expectations, also called breakeven inflation) has remained stable around 2.3%. Second, negative real yields existed for the period between February 29 and March 19, 2008. This is seen directly in the TIPS market, which trades on real yields, and is implied for the nominal Treasury market after adjusting for breakeven inflation.

CHART A
5 Year Treasury Yields (Real and Nominal)



Source: Bloomberg.

It is also notable that negative real yields did not exist across the maturity spectrum. As markets anticipated slower near-term real GDP growth and an accommodative monetary policy response, short-term yields fell more than long-term yields. Negative real yields only materialized for short maturity Treasuries (roughly 5 years to maturity and less). This upward sloping term structure of real and nominal yields is shown in Chart B.

Does a negative real yield mean you get a negative coupon?

No. Negative real yields, whether explicit as in the TIPS market or implied as in the nominal market, are achieved through an adjustment in price, not coupon. Treasury bond coupons (the actual cash payments) are fixed and set when the bond is issued. Therefore, given a fixed coupon, a lower yield to maturity (YTM) is achieved by paying a premium for the

bond. Similarly for TIPS, there are no negative coupon payments, but rather investors “pay” the negative real yield by paying a premium for the bond at purchase. Related, if real yields were negative during the auction of a new TIPS issue, the Treasury would set a 0% real coupon for the TIPS issue and adjust to the market level of real yields by issuing the bonds at the appropriate premium.

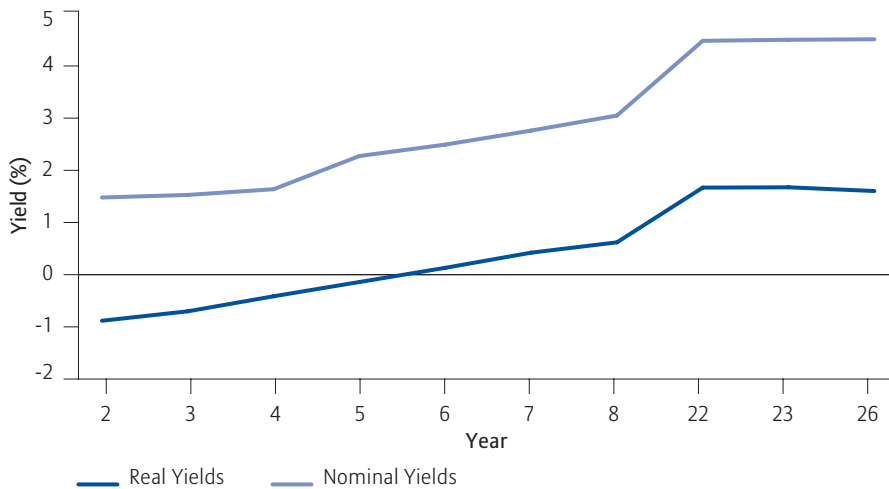
Role of TIPS: Where do we go from here?

As we look to the future, TIPS remain an important asset to hold in the context of a well diversified strategic asset allocation. TIPS can provide three key benefits to investors:

1. A predictable real return¹
2. Low volatility
3. Diversification versus stocks and bonds

¹ When held to maturity, TIPS provide a government guaranteed real return, commensurate with the real yield of the bond at the time of purchase, regardless of the level of inflation over the holding period.

CHART B
U.S. Treasury Yields as of 3/10/2008



Source: Bloomberg.

These benefits can be critical for investors. Because the future spending requirements of many institutions and individuals grows as inflation rises, it is imperative to hold assets that both preserve and enhance the purchasing power of savings, regardless of the level of future inflation. TIPS can help achieve this goal by providing returns that are explicitly linked to actual future inflation. As such, TIPS should represent a core holding within a fixed income allocation, helping to enhance purchasing power, reduce total portfolio volatility and diversify the disinflationary/deflationary bias inherent in traditional fixed rate bonds.

Tactically, TIPS may also provide benefits to investors. While low real yields may not offer much expected near-term return above CPI, investors still receive the inflation protection of TIPS, which may be meaningful in an environment

of rising commodity prices, a depreciating dollar and stimulative monetary policy. In addition to absolute returns, investors should also consider returns and risk relative to other investments. Given the cyclical prospects for low economic growth in the U.S. and continued strains on the financial system, the defensive risk/return balance offered by TIPS may be compelling relative to the higher volatility associated with other investments.

TIPS and PIMCO's Secular Outlook
 PIMCO's secular outlook for the U.S. and global economy paints a supportive picture for TIPS. The baseline outlook calls for low growth rates in overleveraged developed economies (such as the U.S.), with emerging economies picking up the slack to drive continued solid global growth. The outlook also calls for higher global inflationary pressures, owing to rising commodities

prices, higher wages in emerging economies and increased social spending in both emerging and developed economies. This baseline outlook is supportive for TIPS because it has "stagflationary" implications for the U.S. and other developed countries that issue inflation-linked bonds. Although the combination of below trend growth and above trend inflation may not be the best macroeconomic backdrop for all investments, it is very well aligned with the drivers of returns for TIPS and reinforces the potential benefits of this asset class going forward.

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 PIMCO Real Return Product Manager
 May 2008

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Each sector of the bond market entails risk. Shareholders of a municipal bond fund will, at times, incur a tax liability, as income from these funds may be subject to state and local taxes and, where applicable, the alternative minimum tax. The guarantee on Treasuries, TIPS and Government Bonds is to the timely repayment of principal and interest. Shares of mutual funds that invest in them are not guaranteed. Mortgage-backed securities are subject to prepayment risk. With Corporate bonds there is no assurance that issuers will meet their obligations. High-yield bonds typically have a lower credit rating than other bonds. Lower rated bonds generally involve a greater risk to principal than higher rated bonds. Investing in non-U.S. securities may entail risk as a result of foreign economic and political developments; this risk may be enhanced when investing in emerging markets. In an environment where interest rates may trend upward, rising rates will negatively impact most bond funds, and fixed income securities held by a fund are likely to decrease in value. Bond funds and individual bonds with a longer duration (a measure of the expected life of a security) tend to be more sensitive to changes in interest rates, usually making them more volatile than securities with shorter durations.

Inflation-indexed bonds issued by the U.S. Government, known as TIPS, are fixed-income securities whose principal value is periodically adjusted according to the rate of inflation, which will affect the interest payable on them. Repayment upon maturity of the adjusted principal value is guaranteed by the U.S. Government. Neither the current market value of inflation-indexed bonds nor the share value of a fund that invests in them is guaranteed, and either or both may fluctuate.

The Consumer Price Index (CPI) is an unmanaged index representing the rate of inflation in U.S. consumer prices as determined by the U.S. Department of Labor Statistics. There can be no guarantee that the CPI or other indexes will reflect the exact level of inflation at any given time. It is not possible to invest directly in an unmanaged index.

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