

# Getting **real** about yields

By PETER VANN

**W**hen I see a comment such as “the current real yield of long government bonds is around 7 per cent” (ie, the nominal yield less inflation) I sometimes ask what it means. I have never received a satisfactory response.

Since the yield of a bond is the internal rate of return of all the cashflows, I cannot see that the quoted “real yield” has any relation to the yield of any cashflows of a bond. Further, I do not believe that the so-called “real yield” for bonds can be compared in any way with the real yield of inflation-linked securities. This would be like comparing apples and oranges; they are different — although both good for you for a range of reasons.

## What is the quoted “real yield” for fixed interest?

The market calculates the “real yield” of a bond as the purchase yield less the current inflation rate. For example, if a ten-year government bond is trading at 7.6 per cent and the inflation rate for the previous year (the “current” rate) is 1 per cent, then the bond has a “real yield” of 6.7 per cent.

I suggest that this calculation has little relation to the actual real yield of a bond. Real returns and yields of investments are defined as their nominal return/yield over a chosen time period, discounted by the inflation rate *over the same time period*. Hence a bond’s actual real yield will depend on *future* inflation rates and not the *current* rate. (A bond’s “real yield” will be the same as the actual real yield if future inflation rates are the same as the current rate. I doubt that many people would assume this to be likely.)

To see if there has been any relation between the inflation rate in any year with the inflation rate in the following ten years, I examined inflation data for periods from 1875 to 1992 and more recently from 1972 to 1992. There is no apparent relation between past one-year inflation rates and the following ten-year inflation rates. Similar results are found for periods of less than ten years.

I therefore conclude that the “real yield” of a bond based on recent inflation has little relation to the actual real yield that a bond-holder will obtain.

## How does the fixed-interest “real yield” compare with inflation-linked securities?

Inflation-linked securities provide cashflows which are adjusted for inflation. To price these securities, the inflation-unadjusted cashflows are discounted by the quoted yield. Hence the current quoted yield has the inflation component (which is present in a bond’s nominal yield) removed; it is therefore the real yield of the cashflows from an investment in inflation-linked securities and is *independent* of future inflation rates.

The actual real yield from fixed interest is not known until maturity of the bond, at which time we know all the inflation rates since the purchase and can calculate the yield by discounting each cashflow by the relevant inflation change.

Hence an inflation-linked security’s real yield cannot be compared with the so-called “real yield” of a bond because the two represent different inflation-adjusted yields. The inflation-linked security automatically

adjusts for future inflation rates and the bond’s “real yield” uses recent inflation rates.

## Break-even inflation rates

Useful information can be obtained by comparing the yields of bonds and inflation-linked securities (ie, comparing nominal and real yields). This comparison provides what is called the break-even inflation rate — the inflation rate required so that the actual real yield of the bond is identical with that of an inflation-linked security.

An approximation of the break-even inflation rate is obtained by subtracting the yield of an inflation-linked security from the yield of a bond (using similar credit ratings). For example, if a ten-year government bond is trading at 7.6 per cent and the real yield of government inflation-linked securities is 4.4 per cent, then the break-even inflation rate over the next ten years is about 3.2 per cent.

A more accurate break-even inflation rate will take into account such factors as:

- the impact of semi-annual and quarterly compounding of the bond and inflation-linked security yields;
- the different tax treatments of the two securities;
- the underlying “spot” yield curves (eg, the ten-year “spot” nominal yield is higher than 7.6 per cent in the current positive yield curve environment);
- the compounding of real yields and inflation to obtain nominal yields;
- any risk premium for bonds and inflation-linked securities.

The break-even future inflation rate implied from the yields of bonds and the real yields of inflation-linked securities can be of use when determining whether bonds or inflation-linked securities will be more attractive as an investment. It is more meaningful than the so-called “real yield” of a bond. ■

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