Don’t downsize your dreams

How inflation can be an opportunity for active fixed-income investors

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Jan King
Product Specialist,
Fixed Income

Rising prices for goods and services are one of the biggest risks for investors in conventional government bonds. But there are ways for active managers to generate positive returns from rising – and falling – inflation. The key is to understand the different risk premia that combine to make up government bond yields and how to use the relevant tools to take advantage of them.

Fixed-income assets are debt instruments with regular cash flows, paying coupons and principal. All else remaining equal, as the prices of goods and services rise, the same fixed coupon payment can buy less of them than the previous one. Rising inflation therefore erodes the real value of fixed nominal cash flows. Furthermore, sustained above-target inflation (or rising fears of higher inflation) generally prompt central banks to tighten financial conditions, for example by raising short-term rates and influencing long-term rates through direct asset purchases (quantitative easing). Expectations around the future path of inflation influence directly and indirectly the level of yields and the shape of yield curves in fixed income markets. Inflation is, therefore, one of the key risks that investors in fixed income want to be paid to accept.

For active fixed-income investors with the necessary freedom of manoeuvre, however, inflation – like any other risk – can also present opportunities. By selecting the appropriate instrument, investors can generate positive returns from rising and falling inflation expectations, and

Key takeaways

- Fixed-income returns depend on what macro scenario is thought most likely over the investment horizon and how far that is reflected in market prices today.
- The four key risk premia for nominal government bonds are the real risk-free rate of return, the real term premium, the expected inflation rate and the inflation risk premium.
- Changes in expectations of how these four factors will evolve determine the direction of travel for nominal government bond yields.
- An active fixed-income manager seeks to generate returns from each of these components separately using a combination of instruments – a skill that is critical amid an uncertain inflation outlook.

Allianz Global Investors

from realised inflation that is higher or lower than expected by the market. The key questions investors need to answer are:

1. What is currently priced in by the market relative to their own fundamental expectations – in other words: are current risk premia over- or under-compensating actual inflation risks?
2. How will inflation expectations evolve over the period in question, and what are the most likely implications for the economy and central bank policy?

To answer these questions and arrive at appropriate active positioning, we need to look at the different risk premia represented by government bond yields.

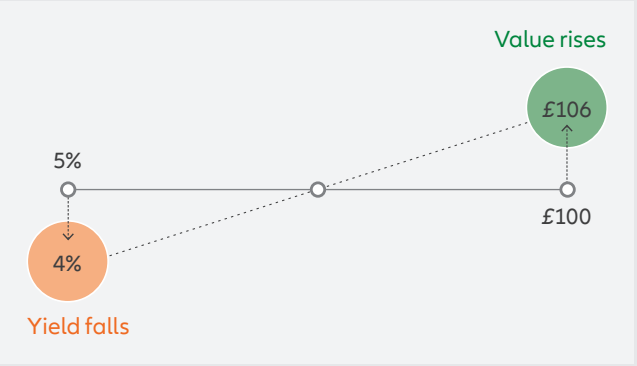
"Yield" does not equal "return" in fixed income

In fixed income, it is necessary to differentiate between the yield to maturity (or yield to worst: the lowest potential yield) of a bond, and its total return over a certain holding period. The yield to maturity is the bond's expected return assuming it is held until maturity (or its call date), when capital is repaid at par value (or a specified call price).

However, during the lifetime of a bond, both yields and prices will fluctuate. Yield moves inversely to bond prices. If a bond's price rises, its yield will fall. In other words: a bond whose yield is falling appreciates in value, and vice versa.

The total return of a bond includes both coupon payments received during the holding period as well as the change in the price of the bond. Returns over a specific holding period can differ significantly from the yield-to-maturity, and a higher yield does not necessarily indicate a better return. Conversely, a bond may have a negative yield to maturity and yet generate a positive return over a certain holding period. It all depends on what scenario we think is most likely over our investment horizon and the extent to which that is currently reflected in the price.

The yield/price inverse relationship

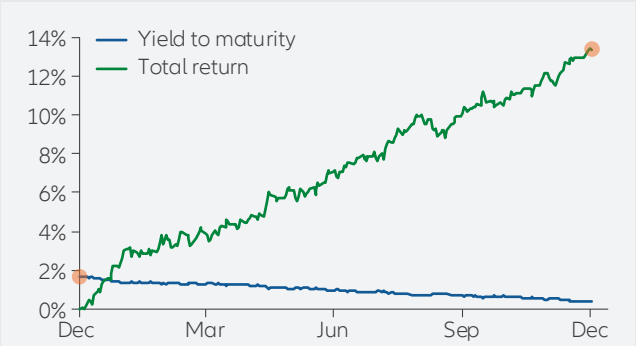


For illustrative purposes only.
Source: Allianz Global Investors

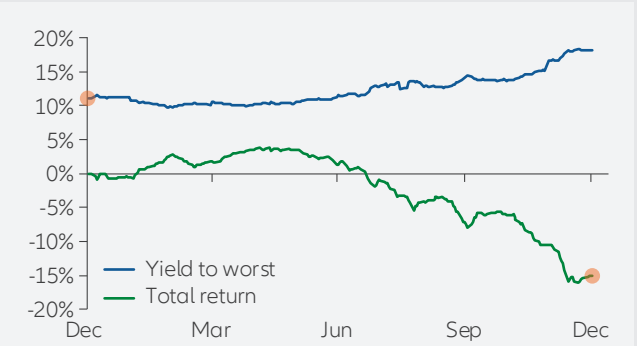
While it serves as a gauge to compare valuations of bonds, the **yield-to-maturity is not a reliable predictor of performance** (or total return) of a fixed-income investment over a certain holding period.

Finally, the yield to maturity concept also assumes that coupon payments (which the investor receives at a later stage during the lifetime of the bond) can be reinvested at **the original yield to maturity** until the bond matures.

Low yield, high return: 10y bunds in 2014



High yield, negative return: US CCC in 2015



Source: Allianz Global Investors, Bloomberg, BoAML. This is no recommendation or solicitation to buy or sell any particular security. Past performance is not a reliable indicator of future results.

Breaking down government bond yields into components of risk premia

For active fixed-income investors, two factors determine total return over their holding period:

1. Carry, ie, income from interest or coupon payments from the bond or derivative (adjusted for accrued interest).
2. Price changes.

A range of factors influence bond yields and the shape of yield curves. To understand these effects, it is helpful to decompose the yield on a bond into the various components of risk premia. When considering the yield of nominal government bonds, there are four key components to consider:[1]

- **The real risk-free rate:** the remuneration for saving money rather than spending it for consumption. This contains expectations about economic growth and monetary policy.
- **The real term premium:** the extra yield investors demand on longer-dated bonds to compensate them for unexpected changes in economic growth or monetary policy. Unfortunately, the term premium is not directly observable. One needs to model how much of the long-term yield represents expectations of the future path of short-term rates and how much reflects the term premium (ie, the residual of the model).
- **The expected inflation rate:** market participants' expectation of the average annual rate of inflation, ie, the change in the underlying price index.
- **The inflation risk premium:** the compensation for unexpected inflation volatility. Think of this as an insurance premium against unexpected moves.[2]

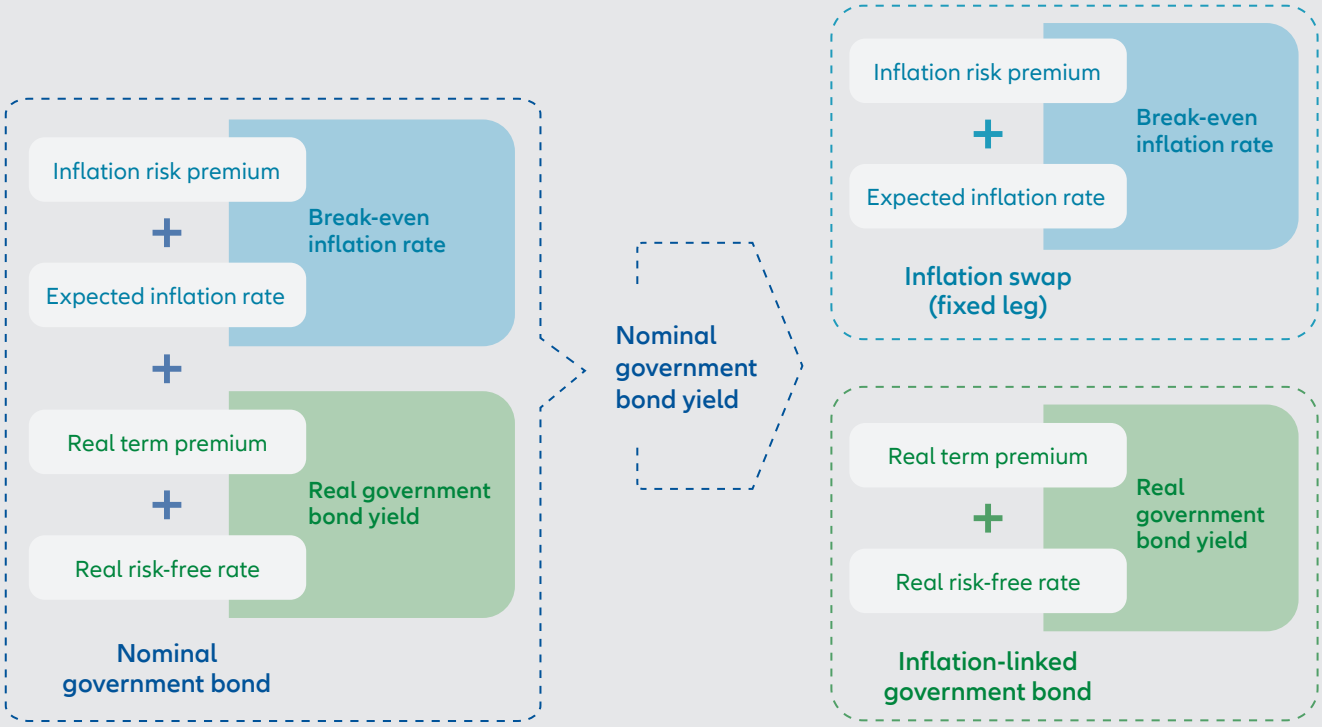
→ The sum of the real risk-free rate and the real term premium is the **real yield** – coupon income, expressed as a yield on the bond's price, after adjusting for inflation.

→ The sum of the expected inflation rate and the inflation risk premium is commonly referred to as the **"break-even inflation rate"**. This is the average inflation rate over a set period, such that an investor would achieve the same return by either: **a)** using derivatives to lock in the average inflation rate based on current market expectations at the beginning of the transaction, or **b)** choosing to receive the actual rate of inflation as a variable cash flow for the period of the transaction.

Changes in expectations of how the four components of risk premia will evolve determine the direction of travel for nominal government bond yields. However, there can be offsetting effects where, for example, the real risk-free rate decreases while inflation expectations increase. In this case, the individual effects offset each other at the level of nominal yields.

Taken together, the four components – expressed as the real (government bond) yield plus the break-even inflation rate – make up the nominal government bond yield, as illustrated by the chart below:

Stylised composition of risk premia in nominal government bond yields



[1] For simplicity, we are looking at "default risk-free" government bonds here. For corporate bonds or any other issuer at risk of potential default, a credit risk premium and a liquidity premium must be added.

[2] This premium is also difficult to observe directly – results vary across markets and models used

Turning inflation expectations into active positions to generate alpha

Once we have analysed the economic fundamental and technical backdrops, identified the current levels of these four risk premia components, and formed a view on how we think they will change over a given investment horizon, we need to transform this view into active positions. Depending on the mandate, these can either be absolute or relative to a benchmark.

Each of these components can be traded separately, using individual instruments or combinations of them. An active fixed-income manager can thus either take positions on nominal government bond yields, or on one or several of their risk premia, to generate returns.

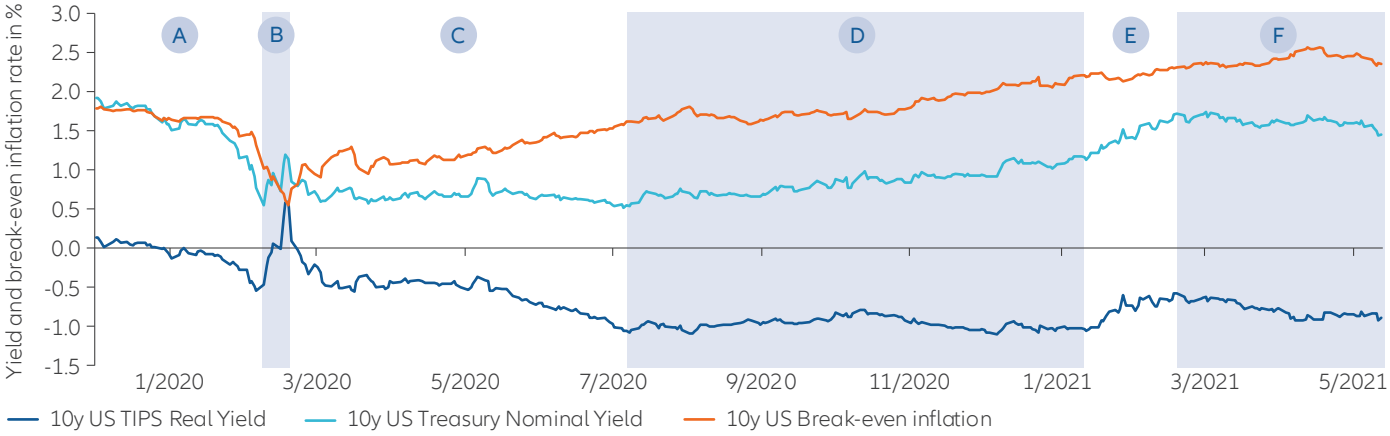
- Positions on **real government bond yields** can be taken directly using inflation-linked bonds. Most major economies have issued inflation-linked bonds with a wide range of maturities, generating real yield curves. As certain funds/mandates are not allowed to short physical bonds, a direct position towards rising real government bond yields requires derivatives. A short position in inflation-linked bonds can be replicated by going short the nominal government bond future plus an inflation swap where the investor receives the fixed leg (ie, the break-even inflation rate) and pays the floating leg (ie, realised inflation).
- Although **real term premia** are not directly observable, positions on expected changes in real term premia can be taken via curve trades, where over- and underweights or long and short positions are taken on different parts of the yield curve (ie, different maturities).
- The **break-even inflation rate** is the difference in yield between a nominal and an inflation-linked bond with the same issuer and maturity. Positions on break-even inflation rate changes can either be relative – by simply replacing nominal with inflation-linked bonds in a portfolio or vice versa – or outright via inflation swaps.
- Options on inflation (inflation caps and floors) can be used to help hedge out the risk of an unexpected jump (or fall) in inflation. The option price is a measure for the **inflation risk premium.** Option markets can provide useful information on risk tolerance and market expectations, for example what it costs to hedge against the risk of deflation (ie, negative inflation via inflation floors with a strike at 0%).

Real-world positioning examples:

Let's now look at the behaviour of long-term US government bond yields over the past 18 months to see how active investors could have generated alpha from changes in inflation or risk premia more generally during this period.

The chart below shows the development of nominal 10-year US Treasury yields, 10-year US Treasury inflation-protected security (or TIPS) real yields since the beginning of 2020, and the difference between the two, ie, the 10-year US break-even inflation rate. We have divided the chart into six distinct periods, where the start of each period is marked by a change in trend of one or more components, requiring changes to active positioning. In the table that follows, we explain what market drivers prevailed in each of those periods, and which instruments and positions would have generated alpha.

Chart: 10y US government bond yields (real and nominal) and break-even inflation



Source: Allianz Global Investors.

Market movements and corresponding positioning options to generate alpha

Period	Yield changes	Market drivers	Instruments & positioning
A 01/01/20 – 06/03/20	Real Yield ↓ Nominal Yield ↓ B/E inflation ↓	From the second half of February, as growth concerns rose, a flight to "safe-haven" assets led to a collapse of nominal yields and breakevens (as real yields decreased less than nominal yields)	Long nominal government bonds Short inflation via inflation swaps (paying actual inflation, receiving the fixed leg) In relative terms: overweight nominal vs inflation-linked bonds.
B 07/03/20 – 19/03/20	Real Yield ↑ Nominal Yield ↑ B/E inflation ↓	At the peak of the crisis, investors needed to generate liquidity as quickly as possible, selling the most (and only) liquid parts of their portfolios: government bonds. Real yields rose sharply (much more than nominal yields since TIPS are less liquid and costlier for market makers to hold than nominal government bonds) and breakevens collapsed further.	Short nominal government bond futures Short inflation via inflation swaps (paying actual inflation, receiving the fixed leg) In relative terms: overweight nominal vs inflation-linked bonds.
C 20/03/20 – 06/08/20	Real Yield ↓ Nominal Yield → B/E inflation ↑	Central banks' liquidity injections and enormous QE programme announcements calmed markets. Real yields moved back to mid-March levels and then decreased further over the summer towards their low point in early August. Nominal yields decreased only slightly and break-evens rose.	Long inflation-linked bonds Long inflation via inflation swaps (receiving actual inflation, paying the fixed leg) In relative terms: overweight inflation-linked bonds vs nominal bonds.
D 07/08/20 – 10/02/21	Real Yield → Nominal Yield ↗ B/E inflation ↗	As long-term growth expectations stabilised, real yields moved sideways during the next half year (the term premium rose as shorter-term real yields shrank further on near-term growth fears due to renewed lockdowns). Inflation expectations continued to increase alongside nominal yields.	Long inflation via inflation swaps (receiving actual inflation, paying the fixed leg) Short nominal government bond futures In relative terms: overweight inflation-linked bonds vs nominal bonds
E 11/02/21 – 19/03/21	Real Yield ↑ Nominal Yield ↑ B/E inflation ↗	Both real and nominal yields increased markedly between mid-Feb and mid-March. A large part of this move was driven by the real term premium whilst break-even inflation rates rose only slightly.	Short nominal government bond futures Curve trade: short 10y vs long 5y (to benefit from a rising term premium) Long inflation via inflation swaps (receiving actual inflation, paying the fixed leg) In relative terms: overweight inflation-linked bonds vs nominal bonds
F 20/03/21 – 11/06/21	Real Yield ↘ Nominal Yield ↘ B/E inflation →	Both nominal and real yields receded again (moving largely in parallel) whereas break-even inflation expectations went back to mid-March levels.	Long nominal government bonds

Conclusion

Inflation erodes the real value of fixed nominal cash flows and is therefore one of the key risks for which bond holders want to be compensated. All else being equal, passive bond investors' return expectations deteriorate when inflation rises. But active managers can take a more nuanced perspective: bond yield fluctuations result from changes in the different risk premia. With the right toolkit and sufficient freedom of manoeuvre, fixed-income investors can generate returns from such volatility by gaining selective exposure to the different risk premia such as "expected inflation".

Understanding the drivers of government bond yields and how to use these tools are critical skills when the inflation outlook is uncertain, because they allow active managers to take advantage of both rising and falling inflation expectations. This can be accomplished either via direct investments in inflation or in combination with other risk premia, as part of a holistic approach to duration and curve positioning in government bonds. The yield drivers can shift quickly, requiring agile positioning to generate consistent outperformance.