Understanding Inflation-Linked Bonds

March 2018

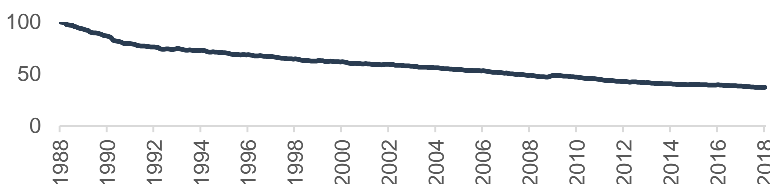
A few basics

Inflation-linked bonds are bonds whose cash flows are in some way linked to movement in a specific inflation index. Their aim is to provide investors a mean to protect the real value of their assets. They are typically issued by governments although some companies also issue this type of bond. Every investor or consumer is exposed to inflation and should consider having some form of inflation protection in their portfolio.

A few basics

- Inflation can 'eat' your purchasing power which can be measured through the real return of your investment
  - Real return is the nominal return minus inflation
- As inflation rises the value of money falls which means your savings would purchase less goods and services over time

UK Purchasing Power based on £100 in 1988



Based on ONS monthly RPI data since 1988

What is the difference against conventional bonds?

- Conventional bonds pay a nominal return while inflation-linked bonds provide a real return
- When investing in a nominal bond your real return will be lower if there is positive inflation – the usual economic scenario
- In contrast, with an inflation-linked bond you know what your real return is going to be over time

Nominal Return → **Inflation Rate** ↓

$$2\% - 3\% = -1\%$$ ← **Real Return**

A few definitions

Issuer

The entity that creates the bonds, by borrowing money from investors against the regular payment of a coupon and the full amount borrowed (principal)

Coupon

The interest paid to bondholders. This is a set percentage of the inflation-linked value of the principal paid out at regular, pre-set intervals

Maturity date

The date at which the issuer will pay back the money borrowed (capital or 'principal') to investors

Default

When an issuer cannot pay back a coupon or principal from a bond he issued

Inflation rate

The average change in the price of goods and services

HSBC
Global Asset Management

How do inflation-linked bonds work?

- The principal and coupon are linked to an inflation index so your investment will grow at the rate of the observed inflation
- Typically these bonds are linked to the domestic Consumer Price Index (CPI)
- For example, consider an inflation-linked 10-year £1000 bond where coupons are paid semi-annually; with the inflation rate (the 'CPI') = 3%, and interest rates = 10%. As the inflation rate is positive, the principal would adjust upwards to track this inflation, so that by its maturity date in 10 years time the principal would be £1346
- Therefore, the principal (final payment) of a conventional bond which is not linked to inflation would be worth around one third less than the principal payment you receive with an inflation-linked bond

The investment side of inflation-linked bonds

- The yield of a conventional bond is composed of the desired real return and the expected inflation
  - This means that if inflation increases the real return will fall
- The yield of an inflation-linked bond is the desired real return and its value moves in line with the observed inflation
- This means that the return of the conventional and inflation linked bond (same characteristics) will be the same if the actual inflation is the same as the expected inflation
- However, if the actual inflation is above the expected inflation at the time of purchase, the investor holding an inflation-linked bond would be better off
- On the other hand, if realised inflation is below the expected inflation at the time of purchase, then the investor with a inflation-linked bond would be worse off
- In summary, as with all investment decisions, the decision between conventional and inflation-linked bonds depends on expectations

Expected Inflation	Actual Inflation	Winner
2%	3%	Inflation-liked bond
2%	1%	Conventional bond

Why do interest rates matter?

- The value of a bond in the market place changes over time
- If you hold a bond to maturity, the return you receive will be the yield you agreed when you purchased your bond
- If you want to sell it at any given time, the value that you will receive might be higher or lower than what you paid for the bond
  - Higher yields, less value
  - Lower yields, higher value
- Yields in the market are determined principally by the level of interest rates determined by the Central Bank and the risk related to the issuer i.e. would the entity be able to pay the coupon and principal or not

The impact of the maturity date

- As we have seen, bonds are impacted by changes in the interest and inflation rates
- A bond's interest rate sensitivity is linked to its maturity: the longer the maturity of a bond is, the more sensitive it is to changes in the interest rate
- The longer a bond's maturity, the longer investors should consider the eroding effect of inflation on real returns

Ratings indicate the broad level of risk of the investment

- Governments (and corporations) have ratings which indicate the chances of them being able to pay you back
- Where a higher rating 'Investment Grade' rating implies a strong probability of you being repaid; and a lower 'Junk' rating implies a higher probability of the issuer defaulting
- Ratings go from AAA/Aaa1 at the very top, down through to 'junk' (CCC or lower). Bonds with a rating ranging from AAA/Aaa to BBB/Baa are called 'investment grade', while bonds with any lower rating are called 'high yield' (or 'sub-investment grade') since they pay higher coupons because of the bigger risk they carry

Balancing risk with reward

As always with investments, each investor must find the right balance for them between taking a certain level of risk and getting a certain level of return. In nominal bonds, maturity, interest rate movements, different issuers' credit-worthiness, and inflation rates will all impact the potential performance of the investment in a bond. However, investors can seek to mitigate this inflation rate risk by investing in inflation-linked bonds to try and protect their underlying investment (i.e. capital), although this can sometimes come at a cost to their overall returns from the investment – depending on how inflation rates change over time. Investors should also be aware that the value of investments and any income from them can go down as well as up and investors may not get back the amount they originally invested.

Important information

The value of investments and any income from them can go down as well as up and investors may not get back the amount they originally invested. The material contained herein is for information only and does not constitute investment advice or a recommendation to any reader of this material to buy or sell investments. Expressions of opinion are subject to change without notice.
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