

Debt Instruments

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Overview

Debt instruments are (generally) interest-bearing securities issued when a borrower wishes to raise a specified amount of cash in a specified currency. As with equities, an issuer (ie, a company, government or government agency) sells bonds to investors in order to raise capital. However, unlike with equities, the borrower promises to:

- repay the capital to the investor at an agreed date in the future (except in the case of perpetual or undated bonds), and
- make periodic interest payments (known as the coupon) to the investor throughout the loan period (except in the case of zero coupon bonds).



BONDS



- **Individual Investors:** Retail and high-net-worth individuals.
- **Institutional Investors:** Pension funds, insurance companies, endowments.
- **Banks and Financial Institutions:** Banks, investment banks, and other financial institutions.
- **Government Entities:** Central banks, national treasuries, local municipalities.
- **Corporations:** Companies issuing bonds for capital raising.
- **Foreign Investors:** Investors from one country investing in bonds of another country.
- **Central Banks:** Engage in bond buying programs as part of monetary policy strategies



- **Interest Rate Risk:** Bond prices can fall when interest rates rise, affecting returns.
- **Credit Risk:** The issuer may default on interest or principal payments.
- **Inflation Risk:** Rising inflation can erode the value of fixed interest payments.
- **Liquidity Risk:** Some bonds may be difficult to buy or sell without impacting prices.
- **Call Risk:** Issuers can redeem bonds early, exposing investors to reinvestment risk.
- **Currency Risk:** Fluctuations in exchange rates can affect bond values for foreign-currency-denominated bonds.

Types of Fixed Income Instrument

Government Bonds

The bonds issued by politically stable and traditionally economically strong governments, such as the US, Germany and the UK, are typically among the most secure marketable investments in the world.

The risk of default on sovereign debt (as government debt issues are generically known) in more volatile developing economies, and some struggling European economies, is significantly higher.

Widely traded government bonds include:

US – Treasury bonds or Treasury notes

UK – Gilt-edged securities (or gilts)

Japan – Japanese government bonds (JGBs)

Germany – Bunds, Bobl and Schatz

France – OATs and BTANs.

Types of Fixed Income Instrument

Domestic Bonds

This is a bond issued by a borrower resident in the country of issue, denominated in the local currency and regulated by the regulatory authority of the jurisdiction concerned. For example, a bond issued by a US company, denominated in US dollars and regulated by the US Securities and Exchange Commission (SEC), is a US domestic bond.

Foreign Bonds

A foreign bond is one issued by a foreign issuer in the local currency in the local market. For example, a US dollar bond issued in the US by a non-US company is a foreign bond. Foreign bonds are often given colloquial names:

Name	Currency	Issuer	Market
Yankee	US Dollar	Non-US	US
Samurai	Yen	Non-Japanese	Japan
Bulldog	Sterling	Non-UK	UK
Matador	Euro	Non-Spanish	Spain

Types of Fixed Income Instrument

Eurobonds

A Eurobond is a bond issued by a company and sold to investors outside the country where the currency is used. For example, a US-denominated bond sold outside the US is called a eurodollar bond. Eurobonds are typically underwritten by a syndicate of investment banks from different countries. Coupon payments on Eurobonds are subject to the tax laws of the country where the payment is made. Interest on bonds held in recognized clearing systems is usually paid gross.

Convertible Bonds

A convertible bond is a bond that can be converted into a specified number of shares of the issuing company's stock, based on predetermined terms. Convertible bonds usually offer lower interest rates than regular bonds but provide potential for capital gain if the company's stock price increases. At maturity, holders of unconverted bonds can choose to redeem them at their nominal value.

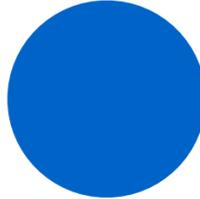
Types of Fixed Income Instrument

Discount Securities

A discount bond is a bond issued at a price that represents a discount to the redemption price at maturity. Zero coupon bonds represent one form of discount security. This type of bond does not pay interest, but the price paid by the investor to acquire this bond at the time of issue is at a discount to the capital redemption price at maturity. As such, the investor receives no coupon income, but receives a capital gain at redemption.

Floating-Rate Notes (FRNs)

A floating-rate note (FRN) is like a bond, except that its coupon is linked to a floating interest rate. For example, an FRN might pay a semi-annual or quarterly coupon linked to a reference or benchmark rate, such as the SOFR. This is the rate of interest at which banks will lend to one another in London and is often used as a basis for financial instrument cash flows.



Types of Fixed Income Instrument

Asset-Backed Securities (ABSs)

Asset-backed securities (ABSs) are issued against a pool of loans – which may be credit card debt, student loans, automobile loans, property loans or other types of loan contract. They can sometimes be issued against other types of expected future cash flows, eg, royalties.

Mortgage-Backed Securities (MBSs)

A mortgage-backed security (MBS) is a type of ABS (see section 3.1.8) that uses a single mortgage, or a pool of mortgage loans, as collateral. Investors receive payments derived from the interest and principal of the underlying mortgage loans.



Types of Fixed Income Instrument

Index-Linked Bonds

Index-linked bonds (variable or floating-rate) are fixed-income securities where the coupon payment (ie, the income) and the principal (the price at which the bond will be redeemed) are adjusted to take into account movement in retail prices. In the UK, this adjustment may be made according to movement in the Retail Prices Index (RPI), for example.

Zero-Coupon Bonds

A zero coupon bond is a type of bond that is issued at a discount to its face value and does not pay periodic interest (coupons) like traditional bonds. Instead, the investor purchases the bond at a lower price and receives the full face value of the bond at maturity. The return on a zero coupon bond comes from the difference between the purchase price and the face value, representing the interest earned over the bond's life.

Types of Fixed Income Instrument

Junk Bonds

Junk bonds, also known as high-yield bonds, are issued by companies with lower credit ratings. They offer higher yields to compensate for the increased risk of default. Junk bonds are often used by companies with weaker financial positions or operating in volatile sectors. The market for junk bonds is less liquid and more volatile than that of investment-grade bonds. Investors should be aware of the higher default risk associated with junk bonds and carefully assess the creditworthiness of issuers before investing.

Yield

The yield on bonds represents the return earned by investors. It can be expressed as the coupon yield, current yield, yield to maturity (YTM), yield to call (YTC), or seen on the yield curve. Factors affecting bond yields include interest rates, credit quality, duration, market conditions, and issuer's financial health. Investors should consider these factors when assessing bond yields.

Clean and Dirty Prices

Interest on UK gilt-edged securities and other fixed-income securities is typically paid twice per year. Leading up to the next coupon payment, interest accrues daily. If the security is sold during this period, the seller is entitled to the accumulated interest since the last coupon date. Market convention dictates that the buyer compensates the seller for this accrued interest at settlement. The buyer adds the accrued interest to the purchase cost and forwards it to the seller. In many jurisdictions, the quoted transaction price for the debt security does not include the accrued income, referred to as the clean price.



Calculating Accrued Interest on Bonds

When a bond is sold, the accrued interest will need to be calculated and added to the clean price that the buyer pays the seller.

If the trade settlement date is after the record date, the coupon will be paid to the seller and the accrued interest then subtracted from the clean price.

The first of these is known as a cum-interest transaction and the second is known as an ex-interest transaction.

Accrued interest = nominal value number of coupons × annual coupon × days of accrual days in coupon period

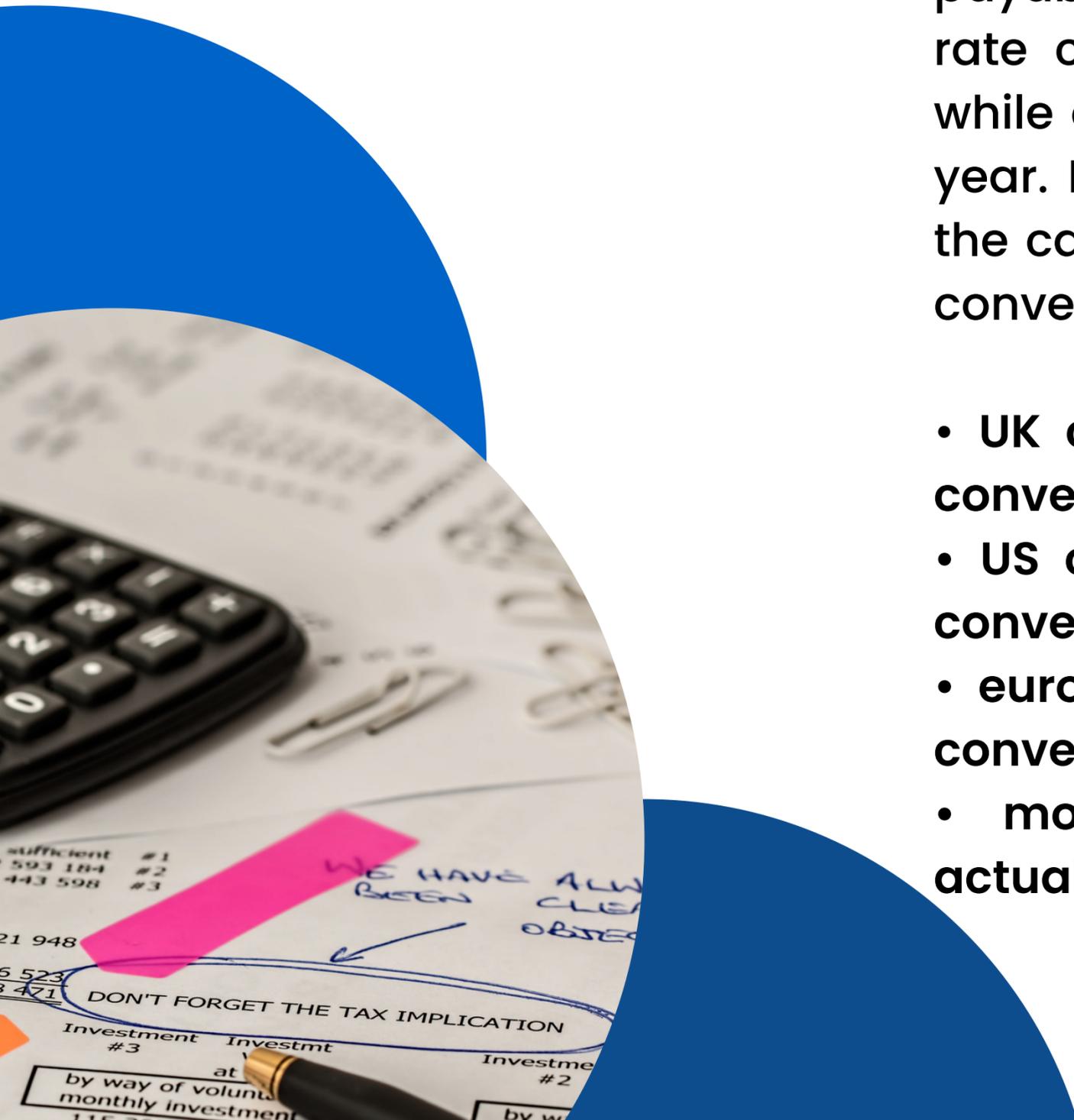
Accrued interest = nominal value × coupon for the period × days of accrual days in coupon period



Accrual Conventions

There are four common methods of calculating the interest payable on interest-bearing bonds. These are called interest rate conventions. Some bonds will use a 30/360 convention, while others will use the actual number of days in the month or year. Each convention differs slightly in the assumptions about the calculation of the period over which interest is payable. The conventions change depending on the market, for instance:

- UK corporate bonds pay interest based on actual/365-day convention
- US corporate bonds pay interest based on actual/360-day convention
- eurobonds generally pay interest based on the 30/360 day convention, and
- most government bonds pay interest based on the actual/actual convention.



30/360

This case assumes and bases the calculation on there being 30 days in each and every month and 360 days in a year.

For example, if XYZ bonds are acquired on settlement date 1 April and sold for settlement day 2 July, the buyer will receive all the interest accrued during the period 1 April to 1 July (ie, the day before settlement date). The settlement process is calculated as follows:

1 April–30 April = 30

1 May–31 May = 30

1 June–30 June = 30

1 July = 1

91 days

Number of days in year is: $12 \times 30 = 360$.

$$\text{Accrued interest} = \text{nominal} \times \frac{\text{interest}}{100} \times \frac{\text{number of days in period (assuming 30 days in month)}}{360}$$



Actual/Actual

The calculation for actual/actual is the same as above, except that the number of days is:

1 April–30 April = 30

1 May–31 May = 31

1 June–30 June = 30

1 July = 1

92 days

This convention assumes the number of days in the year is equal to the calendar days in the interest period, multiplied by the number of interest periods in the year.

Accrued interest =

$$\text{nominal value} \times \text{annual coupon (\%)} \times \frac{\text{calendar days in period}}{(\text{calendar days in period}) \times (\text{number of interest periods in year})}$$



Actual/360-Day Convention

This case assumes and bases the calculation on a 360-day year.
Accrued interest = nominal value × annual coupon (%) × actual days in period
360

Actual/365-Day Convention

This case assumes and bases the calculation on a 365-day year.
Accrued interest = nominal value × annual coupon (%) × actual days in period
365





Thank You
For Your Attention

