

What Is a Bond And Who Issues Them?

Over many years whenever I mentioned the bond market socially, people would often enquire ‘What is a bond?’, as if bonds were something from outer space. This would never happen if one were to mention the equity or share markets. On explaining that if bank loans or mortgages were tradeable they could be regarded as types of bonds and that many governments raise money by issuing bonds, many people immediately lost interest. This need not be the case; bonds can be sexy! However, unlike equities, except in the case of a few structured deals, the possibility, however remote, of a nearly infinite return is impossible.

In general terms, a bond is a loan by one party (the investor or holder) to another party (the issuer). The issuer gives the investor a guarantee that he or she will pay interest on the loan at regular intervals and repay the loan at a specified time in the future. In addition, the issuer may retain or grant embedded options that he or she or the investor can exercise in the future.

The terms ‘bonds’¹ and ‘loans’ have been used almost interchangeably throughout the book. The description ‘note’ is also used extensively, but it frequently refers to a bond that was originally issued for a period of not more than five years or to a floating-rate note. In addition, bonds have sometimes been referred to as ‘stocks’, which is a term that has been used by the Bank of England over many years to refer to UK Government gilt-edged issues. Its use should not be confused with ‘common stocks’, which are equity issues. The description of a bond is often very easy to understand as in the following example.

Example 1.1 Bundesrepublik Deutschland $3\frac{3}{4}$ % Anleihe 2009

In January 1999, Germany issued €14 billion of this bond at a price of 100.34. It will pay interest every 4 January up to and including 4 January 2009, when it will be redeemed at 100. It can be traded in multiples of €0.01 and is in a fully registered form. It is listed on all the German stock exchanges, and is thus tradeable.

In the above example, the issuer, in this case the German Republic, normally guarantees the issue, but the guarantees can vary from issuer to issuer and bond to bond. ‘Registered’ just means that the owner of the bonds is held on a central register.

Bonds are usually referred to by a combination of the issuer name, annual coupon rate per cent and the maturity date or dates. However, the description of the bond, especially in Continental Europe, may also include the year of issue or the series number. The description does not normally specify the frequency of the coupon payments.

¹ Sometimes the description ‘bond’ refers to an investment that includes some sort of insurance guarantee and implicit premium. Such investments are not discussed here.

1.1 DESCRIPTION OF A BOND

A bond can generally be described in terms of its:

- issuer;
- size and currency;
- type;
- coupon payments and frequency;
- redemption amount and maturity dates;
- embedded options, such as whether and under what circumstances the bond can be redeemed early;
- guarantees relating to the payment of interest and return of capital; and
- where quoted and traded.

1.1.1 The issuer

From the market's point of view, there are very few restrictions as to who can issue bonds, provided they provide acceptable payment guarantees. However, financial service regulators often have different views and impose a variety of capital adequacy restrictions.

The 'issuer' of a bond may be a country, regional government, local authority, bank, company, supranational organization or even an investment vehicle that has been created specifically for the issue of this bond. The name of the bond issue is sometimes followed by either its issue number (as is the case with Japanese Government bonds) or its year of issue.

1.1.2 Size and currency

The size of a loan is often referred to as its 'principal' or 'nominal amount'. Interest and capital repayments are based on the nominal amount and not the amount of money that is raised. Bonds are frequently issued at a price that is a small discount to their nominal or 'par' value. The issuer often agrees to pay back the nominal value of the bond at redemption, although sometimes he has to pay a premium if he wants to repay it early.

The bond will also specify the currency of issue. Occasionally, usually in the past, an artificial currency unit, such as Special Drawing Rights or the European Currency Unit, has been specified. In another variant, investors have even had the right to choose the currency in which they would like the interest paid and the capital repaid.

1.1.3 Type

Nearly all bonds can be categorized into one of three different types according to how their interest and capital repayments are calculated. These are 'fixed-rate', 'floating-rate' and 'index-linked' bonds. The majority of fixed-rate and floating-rate bonds are redeemed at par, whereas with index-linked bonds the final redemption amount is also adjusted.

1.1.4 Coupon payments and frequency

The bond terms will specify the frequency and the amount of any coupon payments. The coupon rate is usually specified as an annual percentage rate, irrespective of the coupon payment

frequency. The payment frequency will usually be annually, semi-annually, quarterly, monthly or only at maturity. Most fixed-rate bonds pay coupons either annually or semi-annually, whereas floating-rate notes often pay coupons quarterly or monthly.

The coupon payments may be specified as either an actual fixed amount (fixed-rate bonds), variable according to some external measure such as an interbank interest rate (floating-rate note) or index-linked to, e.g. in the case of UK index-linked issues, the UK Retail Price Index (RPI).

If a fixed-rate bond pays a coupon twice a year, except sometimes at the beginning and end of its life, the semi-annual coupon payment will be exactly half the annual rate. This is not so with floating-rate notes, where the individual payments are dependent on the exact number of days in the period and the payment dates are adjusted to make sure that they fall on a market business day.

It is quite usual for bonds to have a long or a short first coupon payment period.

Example 1.2

An issuer may find that the conditions are currently attractive for the issue of, say, a 10 year bond. However, because, for example, of when his or her income is received, or because it would be desirable to make the coupon payments coincide with those of some other bond issues, a long or a short first interest period is required.

The bond is to be issued into a market where coupons are normally paid twice a year. The issuer wishes to pay coupons in March and September each year. If the market conditions in, say, January or February are attractive for the issue, then the first coupon payment will probably be in the September, not the March immediately after the issue date. The coupon payment will then be increased to compensate the investor for the longer payment period.

Conversely, if the market conditions are not attractive for the issuance until April, the first coupon payment will frequently occur in September after issue, but the amount will now be reduced because of the shorter time period.

1.1.5 Redemption amount and maturity dates

The terms of the bond will usually specify when the issuer will repay the bond (the 'maturity date') and how much will be repaid (the 'redemption value'). The bond terms could specify several different dates and values or it could specify at any time between certain dates. These are discussed further below. Except in the case of an annuity, a zero-coupon bond being called early or a capital restructuring, the redemption amount is rarely less than the nominal value of the bond. For most fixed-rate and floating-rate bonds, unless they are called early, the redemption price is 'par', i.e. equal to the nominal value. For index-linked bonds the redemption value will rise, or in rare cases even fall, in line with the relevant index.

The terms will normally highlight the final maturity date or in the case of a serial bond (which is redeemed in a number of different tranches) a range of dates. There is, however, a number of bonds that do not specify a final maturity date. Instead, such bonds often specify that they may be redeemed by the issuer on or after a specified date, at a certain price, subject to, say, three months' notice. (This is a 'call option' – see below). Such bonds are called 'undated bonds', 'irredeemables' or 'permanent interest-bearing securities'.

1.1.6 Embedded options

As has been already indicated, bonds often give the issuer or the holder of the bond the option of a choice at some time in the future. This section highlights some of the more common options.

Sometimes the embedded option is exercised not by the issuer or the holder but as a result of some external event, e.g. if the tax status of the issue changes, making the issue unattractive, or the issuer is taken over by another company. This latter example provides extra security for investors, as it is not unknown for a company to take over another well-funded company and strip out its assets. Bond holders, unfortunately, have no say in the running of a company.

Example 1.3 Ford Motor Company $6\frac{3}{8}$ % Debentures 2029

\$1.5 billion of the debentures were issued at 98.817 in February 1999. It pays interest semi-annually on 1 February and 1 August, and it will be redeemed at 100 on 1 February 2029, unless its tax status changes. If this occurs, it may be called as a whole at any time on 30 days' notice from 9 February 1999 at 100.

A 'call option' gives the issuer the right to redeem the issue early after an appropriate notice period. The terms may specify that the call option may only be exercised on or between specified dates. The terms for the call are frequently different to the terms if the bond goes to its normal maturity date. A call option is included in all undated issues, and most asset-backed issues backed by mortgages.

Example 1.4 Aetna Life and Casualty Company $7\frac{3}{4}$ % Notes 2016

The company issued \$200 million in July 1986 at 101. It pays interest annually on 17 July and will be redeemed on 17 July 2016 at 100 unless it is called earlier. The bond is callable as a whole or in part at any time on 30 days' notice at the following rates: from 17 July 2001 at 106; 2002 at 105; 2003 at 104; 2004 at 103; 2005 at 102; 2006 at 101 and 2007 at 100. It is also callable if its tax status changes.

A 'put option' gives the bond holder the right to demand early redemption on one or more dates, or between specified dates. The put option may only be exercisable if a certain event occurs.

A 'convertible bond' gives the bond holder the right to convert the bonds into another instrument, e.g. the ordinary shares of the issuer. The conversion option usually occurs at a date prior to the redemption of the bond, with the result that after this date, if the option is not exercised, they revert to being non-convertible bonds.

Example 1.5 Nichiei Company Ltd $1\frac{3}{4}$ % Convertible Bonds 2014

In February 1999 the company issued JPY 50 billion of convertible bonds at 100 for redemption on 31 March 2014 unless called or converted beforehand. Interest is payable semi-annually on 31 March and 30 September.

The bond may be called as a whole at any time on 30 days' notice from 31 March 2004. The holders have the option to convert the bond into common stock of Nichiei Company Ltd from 22 March 1999 at JPY 8610 each and from 28 September 2000 at JPY 7636.2 each. The rights expire on 25 March 2014. The holders also have the option on 14 days' notice to require early repayment (a put option) on 31 March 2004 at 100 and 31 March 2009 at 100.

A 'bond with warrants attached'. Sometimes bonds are issued with attached warrants which give the holder the option to purchase other investments at a date in the future at a predefined price. This option is frequently the right to buy an equity share, but it could be the right to buy a bond, a currency, an index or a basket of shares.

This book will concentrate on tradeable bonds, but the principles discussed apply equally to non-tradeable bonds including private mortgages. A mortgage on a property is really just a form of bond, where the borrower (the mortgagee) gives a guarantee to the lending institution that he will repay the loan over a certain period. In this particular case, the payment and capital repayment terms of the loan are frequently modified during its life and the mortgagee has a call option, possibly with a penalty.

Sometimes the bond description includes two dates: e.g. the UK Government's $7\frac{3}{4}\%$ Treasury 2012/2015. This means that the security will be redeemed between 2012 and 2015 at the discretion of the issuer (the UK Government). Such a bond is said to be 'callable', i.e. subject to a call for redemption with suitable notice by the issuer between the two dates. It should be noted that the description of many callable bonds, especially corporate issues, only gives the final maturity date although they are callable over possibly many years. Other bonds may not have a redemption date specified at all in their name: e.g. $3\frac{1}{2}\%$ War Loan. This bond was issued on 1 December 1932 by the UK Government with the redemption terms specified as being able to be redeemed at the discretion of the issuer, on three month's notice, at any time after 1952 at 100. Since interest rates have been considerably higher than 3.5% for nearly all this period, the market price of the bond has been consistently below 100 and so it has not been in the interest of the government to redeem the bond.

1.1.7 Guarantee

The terms on which the issuer can issue the bond obviously depend on the guarantees that have been made about the payment of interest and repayment of the capital. Such guarantees can vary enormously from complete asset backing (where in the event of a default the investors can access assets that are worth at least the value of their loan), to a negative pledge (where the issuer has guaranteed not to issue new bonds with a higher claim on the assets, although in Europe this may even exclude bank loans), to practically no guarantee at all. Government bonds often fall into the last category, but if they are issuing domestic bonds in their own currency these are often regarded as 'risk free', since the government often has the option to print more money to satisfy any shortfall and thus service the debt. In such a situation the bond would not be truly risk free as the repayment would be in a devalued currency. It remains to be seen what emerges in the eurozone if such a situation were to occur, where the eurozone governments are restricted by the stability pact.

These days the majority of the larger publicly quoted bond issues are rated by one or more of the rating agencies. These ratings are usually provided by the ratings agency just prior to

issue, and are regularly reviewed during the life of the bond. The ratings evaluate the financial strength of the issuer together with the bond's covenants. The most secure bonds are rated 'AAA' or 'Aaa', while the weakest bonds, which are usually already in default, are rated 'D'. The rating does not in any way indicate the liquidity of the issue.

1.1.8 Where quoted and traded

The fact that a bond is quoted on a stock exchange does not necessarily mean that it is normally traded on that exchange. Although this may be a reasonable assumption with some government bonds, in the Eurobond market, where the majority of public issues are quoted on either the Luxembourg or London stock exchanges, nearly all of the trading is done on the over-the-counter market directly with a market maker. The nominal stock exchange quotations are there to give investors confidence on the amount and quality of disclosure that will be provided.

A bond is not likely to have many retail investors, unless it is quoted on an exchange or the issuer has made other dealing arrangements for it. Similarly, retail investors will be eliminated if the minimum 'denomination', the minimum trading unit, of the bond is very high (e.g. \$100 000).

The following are examples of typical bond profiles.

Example 1.6 Commonwealth of Australia 5 $\frac{3}{4}$ % Bonds 2011

In August 1998, Australia issued AUD 4 495 387 000 of the above bonds for redemption at 100 on 15 June 2011. The bonds pay interest every six months on 15 June and 15 December. They have a denomination AUD 1000 and are in registered form. The denomination statement means that they can only be traded in multiples of AUD 1000.

Example 1.7 European Investment Bank 5 % Bonds 2007

In October 1995, the European Investment Bank issued CHF 500 million of 5 % bonds at 103.375 for redemption on 18 October 2007 at 100. Interest is payable annually on 18 October and the bonds are issued in units of CHF 5000 and CHF 100 000 in bearer form. The holder of the bonds (the bearer) can go to the paying agent with the bearer certificate on the 18 October each year and get the interest payment.

Example 1.8 Bank of Scotland Subordinated Floating-Rate Notes 2010

In August 1995 £75 million were issued at 100. They will be redeemed at 100 on 2 August 2010. The notes pay interest quarterly on 2 February, May, August and November, which is set in advance at 0.45 % above the London Interbank Offer Rate for three month sterling deposits.

Example 1.9 Société Générale Subordinated Floating-Rate Notes – Perpetual

\$500 million of floating-rate notes were issued in November 1996 at 100.05. Interest is payable semi-annually on 31 May and 30 November each year. The annual interest rate for each semi-annual period will be set in advance at 0.075 % above the London Interbank Offer Rate for six month US dollar deposits.

Example 1.10 Canada 4 $\frac{1}{4}$ % Index-linked Real Return Bonds 2026

In December 1995, Canada issued CAD 5250 million of the real return bond, which will be redeemed on 1 December 2026. It pays interest semi-annually on 1 June and 1 December. The actual interest payments and redemption amount are linked to the increase in the Canadian Consumer Price Index over the period since the issue date.

The issuer of a bond commits to pay interest on the loan and to repay the capital at some time in the future. In some jurisdictions, it is important to distinguish between these two different types of cash flows, as they may be treated differently from a tax point of view.

1.2 THE DIFFERENCE BETWEEN CORPORATE BONDS AND EQUITIES

Bonds may be issued by organizations that have equity shareholders and those that do not. The former category includes both quoted and private companies, whereas the latter includes governments, regional governments, local authorities and special-purpose investment vehicles. As discussed later, the special-purpose investment vehicles have been created so that a pool of usually mortgage loans can be securitized and taken off the balance sheet of the original company. As this entity does not have any equity, the bonds are often split into several tranches with different claims on the assets. The tranche with the lowest claim on the assets is thus acting as a pseudo-equity share, but without any upward potential.

If you look at the balance sheet of a company, you will see that it usually consists of a number of loans of various types and one or sometimes more issues of equity shares. The loans, irrespective of whether they represent short-term bank borrowing, unquoted or quoted tradeable bonds, can all be considered to be bonds, although some may have a higher priority in terms of receiving payment than the others.

The main differences between bonds and equity shares are that:

- The holders of the equity shares own the company (i.e. they own the equity of the company). Hence collectively they can determine the future direction of the company.
- The holders of the bonds, on the other hand, are only entitled to the return of the loan plus interest on it at the agreed rate. They do not have any say in the future direction of the company. Similarly, they are not entitled to any other assets of the company, unless the assets formed part of the guarantee when the bond was issued.

The differences between equities and bonds can best be illustrated by considering a simplified profit and loss account of a company:

Value of sales	
Less cost of sales	
Less interest on loans, etc.	
	= Pre-tax income
Less tax	
	= Earnings before dividends
Less preference dividends	
Less ordinary dividends	
	= Retained earnings

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This illustrates that the retained earnings of a company are equal to the value of the sales, minus the cost of the sales, minus any financing costs (i.e. the interest on any bank or other loans) and tax payable, and minus the cost of the dividends on the preference and ordinary shares.

All the interest on the loans and the tax has to be paid before any dividend can be paid on the preference and ordinary shares. Similarly the preference dividends (which are often for a predefined fixed amount) have to be paid in full before an ordinary dividend can be paid.

Some of the loans may be entitled to interest payments before any is paid to other 'subordinated' loans. In fact, there may be several levels of entitlement. The lowest level of bonds in some recent company buyouts are called 'mezzanine bonds', whose entitlement to interest is only slightly before any equity if it exists.

The owners of the equity shares in a company, which are, by definition, more risky investments than the company's loans and bonds are compensated by:

- being able to determine the future direction of the company;
- in the event of the company going into (possibly voluntary) liquidation, being entitled to any residual assets of the company; and
- if the company is successful, being entitled to increasing dividends. If a company increases its dividend, the price of the shares is also likely to increase.²

² Although the stock market has often anticipated this action, the result is that the price does not instantly move in the anticipated direction.