



London
Stock Exchange

TRADING BONDS ON
THE LONDON STOCK EXCHANGE
A GUIDE FOR PRIVATE INVESTORS

The new electronic order
book for retail bonds



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Introduction

In the current economic climate, investors are increasingly looking beyond traditional equity to other asset classes as they search for higher yield. And with continued uncertainty across the financial markets, the security of fixed income instruments, with their regular coupon payments providing a steady income stream, are proving highly attractive to private investors.

With the launch of our new trading service for bonds we aim to respond to private investor demand for an electronic bond market by providing the liquidity and transparency needed to trade in and out of fixed income securities. Our aim is to offer greater access to trading in individual bonds for private investors as they manage and develop their own investment strategies.

An initial offering of gilts and corporate bonds, tradable in small, more easily manageable denominations, from our existing range of listed bonds are now available for trading on the new electronic Order book for Retail Bonds (ORB).

This guide provides an introduction to the main features of bonds and considers the benefits and risks associated with them. It also gives an overview of the London Stock Exchange's new electronic order book for bonds to help you decide whether trading bonds on this new market may help you meet your investment needs.

What are bonds?

A bond is a tradeable security, issued by a borrower (the bond issuer) and representing a formal agreement between the issuer and the lender (the bondholder) that the issuer will repay to the lender the full amount borrowed plus interest over the lifetime of the bond.

Bonds are therefore debt instruments which represent a series of cash flows payable during a specified period of time. These cash flows are the principal amount, borrowed by the issuer at the time of the bond's issue and repaid to the investor at the time of the bond's redemption, in addition to the interest payments made at regular intervals until the bond's maturity.

Bond basics

The issuer is the organisation raising capital through the issue of bonds and which is borrowing money from the bond investors.

The principal, also known as the 'nominal value' or 'par value' of a bond, is the amount that the borrower, the bond issuer, will pay back to the bondholder on maturity. The principal amount is the amount on which interest is paid. The principal can also be referred to as the 'face amount', 'redemption value' or 'maturity value'.

The maturity or 'redemption date', of a bond is the date on which the issuer (borrower) agrees to pay back the principal amount the bond.

The coupon rate is the annual interest rate paid on the bonds and is the rate used to determine the amount of interest the borrower pays to the bondholder at regular intervals throughout the lifetime of the bond. The coupon is the amount of interest paid and is expressed as a percentage of the principal.

Example: Government bond

The following listing tells us that this particular security is a gilt, a UK government bond, because the issuer is HM Treasury. It has an annual coupon of 4% payable until maturity in 2016.

TREASURY 4% Gilt 2016

Because UK gilts have a semi-annual coupon cycle, the interest on these bonds would be paid in two installments each year. If the bondholder has a total nominal value of £5,000 invested, this would generate two coupon payments each of £100 to be paid at six monthly intervals until the gilt was redeemed in 2016.

Example: Corporate bond

From the following bond listing, we can see that the issuer is Marks & Spencer and that the coupon rate is 5.625%. The maturity date is 24 March 2014. This means that until the bond is redeemed in 2014, the issuer will pay the bondholder interest of 5.625% on the total nominal amount invested by the bondholder.

Marks & Spencer PLC 5.625% NTS 24/03/14

As is commonly the case with corporate bonds, this particular security has an annual coupon cycle. If the bondholder has £10,000 nominal held in these particular Marks & Spencer notes, he would therefore receive a single interest payment of £562.50 each year.

Types of bond issuer

There are four main types of entities issuing bonds: sovereign governments and their agencies, supranational bodies, local government authorities, and corporations.

Sovereign governments

Government bonds are issued by central governments. In the UK, these government bonds are known as 'gilts'. Gilts are issued by the UK Government through the Debt Management Office (DMO), an agency of the HM Treasury.

Governments issue bonds to borrow money to cover their net cash requirements, i.e., to meet the gap between the amount received in taxes and the amount required for government spending. Governments also issue bonds to refinance existing debt or to raise new capital. Government bonds are generally considered to be of the highest credit quality because they are backed by central governments which are able to print money to meet their obligations. Many investors concentrate their trading activity on buying and selling government bonds and these securities are the most liquid and heavily traded of all fixed income instruments.

Supranational entities

Supranational bonds are issued by international bodies comprising a number of sovereign member states. Supranational entities issue bonds to raise funds to invest in development projects and include organisations such as the European Investment Bank (EIB) and the Bank of International Reconstruction and Development (IBRD). Supranational bonds are generally backed by a group of sovereign governments, therefore they are considered to be of very high credit quality.

Local government authorities

Local authority bonds are issued by local governments such as borough councils. Because these bonds are not issued by the central government, they cannot be classified as sovereign government bonds. They are generally of a slightly lower credit rating than sovereign debt, because they are not backed by the central government. Local authority bonds are not as liquid as government bonds and are not so easily traded in the secondary markets.

Corporate bonds

Corporate bonds are those issued by private and public companies. Investing in the corporate bond of a particular company is generally considered to be lower risk than investing in the same company's shares because, in the event of the company going into bankruptcy, the bondholders will be classed as creditors and will take priority over equity shareholders in terms of repayment. Unlike shares however, bonds do not give the holder an ownership interest in the issuing corporation and bondholders typically have no, or very limited, voting rights in the company.

The ability of the company issuing the bond to repay the money to its investors holding the bond, depends on the success of that company's business. Because of this higher risk, investors usually demand a higher rate of interest on their holdings in corporate bonds than the equivalent government bond.

In general, there are two main categories of corporate bonds: investment-grade and speculative-grade (also known as high-yield or even 'junk' bonds). Investment-grade bonds are considered to be of higher credit quality than speculative-grade, therefore they will typically generate lower rates of interest than higher-yielding speculative-grade bonds. Investors in high-yield bonds demand a greater rate of return due to the perceived higher risk that the issuer will not be able to pay back the money it has borrowed from its bondholders.

Bond structures

Bonds are typically referred to as 'fixed income' securities. This is because, in their simplest form, bonds pay a fixed coupon at regular intervals throughout their lifetime until maturity. As the bond markets have developed however, this is no longer always the case and other more complex structures, which go beyond 'fixed' returns, are now common.

The main types of bond structure and their key features are as follows:

Fixed-rate bonds, also known as 'conventional' or 'plain vanilla' bonds, are bonds which pay a fixed rate of interest at regular intervals over the lifetime of the bond until maturity, when the entire principal amount borrowed is repaid.

Floating-rate bonds, which may also sometimes be known as floating rate notes (FRNs), are securities whose interest rate varies (is 'floating' as opposed to 'fixed'). Here the coupon is reset periodically according to a particular reference rate. The reference benchmark rate is typically Libor (the London interbank offered rate) or Euribor (the Euro interbank offered rate). Usually, a 'spread' comprising fractional percentage points is added to the Libor or Euribor rate. This spread will vary depending on the credit quality of the issuer, with a larger spread being added for higher risk instruments.

Index-linked bonds, often known simply as 'linkers' are bonds whose principal amount and coupon payments are linked to an index. The most common are Inflation-linked bonds, where the principal and interest payments are linked to a consumer retail price index (RPI). Inflation-linked bonds have their principal and coupon 'uplifted' to reflect inflation in line with the RPI. The investor's return is therefore protected against being eroded by the effects of inflation.

Zero coupon bonds, also known as 'discount' bonds, do not generate any interest payments. As the name suggests, they have no coupon. Instead, the return on the bond comes from the significantly discounted value at which they are initially sold compared to the eventual redemption value. A zero coupon bond will be issued at a price well below par value but on maturity, the issuer will pay the holder the full par value amount.

Convertible bonds are bonds which give the investor an option to exchange the bond for a preset number of shares in the issuer at a predetermined price and time. Convertible bonds allow the bondholder to 'convert' his holding into equity of the issuing company.

Bond trading denomination

Under the Prospectus Directive, the EU regulation which governs the documentation published when a bond is listed and brought to a market such as the London Stock Exchange, the regulatory regime distinguishes between 'wholesale' and 'retail' bonds. 'Wholesale' bonds are tradeable in units of £50,000 or greater, whereas 'retail' bonds are tradeable in smaller size, often in denominations of £1,000 for example.

At the moment, most of bonds issued in the UK are 'wholesale' bonds and are therefore not accessible to many private investors because of the large size of the denominations in which they must be traded. In developing the Order book for Retail Bonds we selected an initial pool of 'retail' securities from the existing range of listed bonds on our markets.

“ We expect that the benefits of extending transparency and liquidity in fixed income securities will increase distribution for bonds by opening up these markets to private investors who may have previously felt excluded from this market - facilitating new flow for private client brokers and opening up new pools of capital for issuers seeking access to large pools of retail liquidity. ”

Pietro Poletto, Head of Fixed Income
London Stock Exchange Group

The development of a liquid, transparent secondary market for retail bonds brings into focus the benefits of retail issuance programmes as an additional source of funding for companies wishing to raise capital from a wider pool of investors. Indications are that this could stimulate increased retail-size issuance of corporate bonds thus widening the range of bonds available for private investors to choose.

Bond pricing

Bond prices are expressed per 100 nominal, i.e., as a percentage of the bond's nominal value. For sterling-denominated bonds, a price of 101.25 for example, would mean that for every £100 nominal of that bond, the buyer would pay £101.25.

The present value of a bond

The price of a bond today can be determined by calculating the present value of the cash flows associated with that particular bond.

Money deposited in an interest-bearing account will attract a rate of interest over the term it is invested. For example, £100 invested today at an annual rate of interest of 5% will become £105 in one year's time. This interest reflects what is known as the time value of money.

If, as in the example above, the future value of a sum of money can be calculated based on its value today, then conversely, the time value of money can also be expressed by calculating the present value of a sum based on its known future value. Again this valuation will reflect the prevailing rate of interest. So, given an interest rate of 5%, a nominal amount of £100 receivable in one year's time, would be worth £100 divided by 1.05. Its present value would therefore be £95.24.

This process of establishing present values is known as discounting. The prevailing interest rate used in the calculation is the discount rate. The present value of a future sum of money, receivable after n years, based on a prevailing rate of interest of r , is calculated as follows:

$$\text{Present value of sum of money} = \frac{\text{future value of sum}}{(1 + r)^n}$$

Using this approach, the present value calculations can be used to derive the price of a bond, given the appropriate rate of interest and cash flows. The fair value of a bond is the sum of the present values of all of its cash flows, including both the coupon payments and the final redemption payment.

Accrued interest

Bond prices are quoted on a 'clean' basis. This means that the price showing does not include any accrued interest. When an investor buys a bond however, they pay the bond's 'dirty' price which is the clean price plus the accrued interest.

When a bond is traded between coupon payment dates, accrued interest is paid to compensate the seller for the period during which the seller has held the bond, but for which they receive no interest from the bond's issuer as they will not be holding the bond when the next coupon payment date arrives. Because the seller has only held the bond for part of the interest-earning period, they will receive a pro-rate share of the next coupon from the buyer.

There are a variety of day count conventions used when calculating the accrued interest payable on a bond. These conventions determine the number of days assumed to be in the coupon period and the number of days on which accrued interest is payable to the seller.

For gilts, the day count convention is ACT/ACT, meaning that the calculation takes the actual number of days to the next coupon date and divides this by the actual number of days in the interest period to determine which proportion of the coupon amount should accrue to the bond seller.

Many corporate bonds use a 30/360 day count convention which means that rather than using the actual number of days in the relevant periods, there are assumed to be 30 days in the month and 360 days in the year.

Interest rates

The most important factor influencing the price of a bond is the prevailing interest rate. If the interest rate on cash (the deposit rate) falls to below the coupon rate paid by a particular bond, that bond will become more attractive and its price will rise. Conversely, rising interest rates will cause the bond's fixed coupon payments to become less attractive (the investor can gain a higher return simply by putting his cash on deposit) and so the market price of that bond will fall.

Yield

Yield is the rate of return generated by an investment in a particular bond. The following types of yield calculations may be used to express the return on a bond:

Flat yield

This calculation takes into account only the return generated by the coupon and does not factor in any capital gain or loss on the bond throughout its lifetime. Flat yield therefore expresses the return generated only by the interest paid on the bond and not by any profit or loss that the bondholder may incur by holding the bond until its maturity.

Flat yield = (annual coupon / price) x 100

For example, the flat yield on a 4% gilt, currently priced at 102.50 would be 3.9%. If the bond's price were to rise to 105.75, the flat yield on that bond would fall to 3.78%. This demonstrates the inverse relationship between bond yield and price. As a bond's price increases, its yield falls. As a bond's price falls, its yield increases.

Gross Redemption Yield

The Gross Redemption Yield calculation offers a more complete measure of yield than that provided by the flat yield as it takes both coupon payments and capital gain or loss into account. It involves a more complex calculation based on the present value cash flows of the bond. The Gross Redemption Yield reflects the 'internal rate of return' of the bond, i.e., the discount rate that, when applied to the future cash flows of the bond, produces the current price of that bond.

Gross Redemption Yield reflects the total return that a bond will generate over its remaining lifetime and expresses this as a percentage of the bond's price on an annualised basis. Because of this, the Gross Redemption Yield allows investors to make comparisons between bonds with different maturities and coupons.

Net Redemption Yield

Like the Gross Redemption Yield, the Net Redemption Yield also takes into account both the coupon and the capital gain or loss made on the bond if held to maturity. However, the Net Redemption Yield also considers the cash flows after tax rather than the gross pre-tax

cash flows used in the calculation of Gross Redemption Yield.

Risks

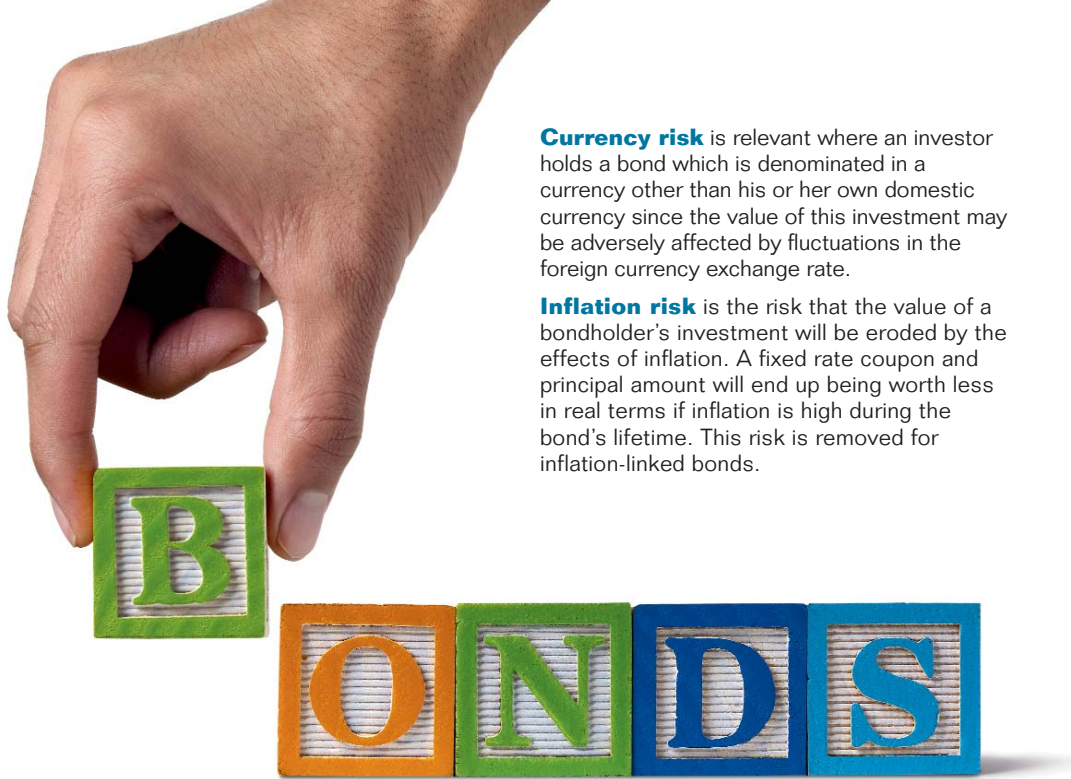
Some of the risks associated with investing in bonds can be broadly defined as follows:

Credit risk, also known as '**default risk**' or '**issuer risk**', is the risk that the issuer may not be able to meet its obligations in terms of coupon payments or may not be able to pay the principal amount back to the bondholder at maturity. Government bonds are deemed to be of very low credit risk because they are backed by the central government which is able to raise taxes or print money to meet its obligations. The default risk of corporate bonds will vary depending on the credit quality of the issuer.

Market risk is simply the risk that the price of the bond will fluctuate away from the price at which the investor bought it. These price fluctuations may simply relate to the market forces of supply and demand and if the investor maintains his holding, the variation in the value of his bond position will be a paper profit or loss. If the investor is forced to sell his bond to raised funds however, there is a real risk of capital loss.

Interest rate risk is a particular form of **market risk** comprising the risk that the value of the bond may be adversely affected by the prevailing direction of interest rates. If interest rates rise, the price of bond will generally fall, since bond investors will demand a higher yield in keeping with the higher rates available on deposits.

Issue-specific risk relates to special features that a particular bond may have embedded within its structure. Some bonds, for example, have a derivative element such as a 'call' which, if exercised, would allow the issuer to repay the bond early. The risk is that the bond will be 'called' by the issuer and that this will be disadvantageous for the bondholders. Investors should take care to read the prospectus documentation and make themselves familiar with any particular characteristics of the bond structure which may incur additional risk.



Currency risk is relevant where an investor holds a bond which is denominated in a currency other than his or her own domestic currency since the value of this investment may be adversely affected by fluctuations in the foreign currency exchange rate.

Inflation risk is the risk that the value of a bondholder's investment will be eroded by the effects of inflation. A fixed rate coupon and principal amount will end up being worth less in real terms if inflation is high during the bond's lifetime. This risk is removed for inflation-linked bonds.

Order book for Retail Bonds

The Order book for Retail Bonds (ORB) offers electronic trading in gilts and retail-size corporate bonds, i.e. those which are tradable in smaller, more manageable denominations of £1,000 or similar. These include some of the UK's most well-known companies such as Vodafone, GlaxoSmithKline, BT and Marks & Spencer.

It also provides corporate issuers with an efficient mechanism for distributing bonds to private investors – helping to stimulate new issues of bonds that are tradable in smaller denominations and providing private investors with wider investment opportunities.

Open and transparent: the new order book brings transparency to the bond market in three ways: all participants simultaneously access executable prices and have equal opportunity to trade at the best available price; can see the price discovery process through our and third-party data feeds; and all trading is

monitored by our experienced market surveillance team and authorities such as the Financial Services Authority.

Regulation: All securities admitted to trading on the new electronic Order book for Retail Bonds are London-listed securities admitted to the EU-Regulated Main Market. This ensures a high level of regulatory oversight and offers the benefits of the transparency afforded by the Financial Services Authority's disclosure and continuing obligations regimes.

Improved liquidity: the centralised trading mechanism concentrates liquidity while dedicated market makers provide two-way prices throughout the trading day. All other registered member participants are also able to enter orders into the order book, giving private investors the opportunity to take or make a price in a security.

At



fingertips

Creating an electronic bond market in the UK

Many investors currently gain exposure to fixed income markets by buying units in managed bond funds, but a growing number of private investors are becoming increasingly knowledgeable about debt securities and are seeking to take a more active role in managing their assets.

Acknowledging this trend we were inspired to create a bond market for private investors using the wide range of debt securities already admitted to our markets. In fact there are over 10,000 listed bonds available on our systems but up until the introduction of the ORB none were traded on our electronic order books. Instead, transactions in bonds were typically agreed in the over-the-counter (OTC) market between counterparties and the details of the trade then reported. This means that the secondary market for retail bonds was fragmented and private investors found it difficult to access the bonds they would like to include in their investment portfolios.

Key features of the order book

The ORB offers an open and transparent market structure for trading in retail-size bonds and is an electronic order-driven model like that already established for share trading.

Dedicated market makers quote two-way bid and offer prices in a range of bonds throughout

the trading day. Additionally, all other registered member participants are able to enter orders into the book.

The trading day starts with an initial opening auction phase running from 8.00 to 8.45 followed by continuous trading until market close at 16.30.

The minimum price movement, also known as the 'tick size', for all order book bonds is standardised at 0.01 (one penny). This means that the bonds can be quoted and traded to the nearest penny.

The unit in which each corporate bond is tradeable follows the trading denomination specified in the particular bond's prospectus documentation. For 'retail' bonds this is typically £1,000 although some retail bonds may be tradeable in multiples of £5,000 or £10,000. For gilts, the standard lot size on the ORB is £1, meaning that gilts can be traded in multiples of whole pounds.

All order book trades are trade reported automatically and published immediately.

Settlement

All trades on the ORB are executed on a 'clean' basis, i.e., excluding accrued interest.

The standard settlement timetable for corporate bonds on the order book is T+3. In keeping with the market standard, the settlement timetable for all gilt securities is T+1.

Accessing the electronic Order book for Retail Bonds

Types of broker

Execution Only brokers will only buy or sell bonds according to your instructions, providing no investment or trading advice. This allows you to select the bonds in which you wish to trade and simply direct your broker to execute the trade for you.

Advisory brokers provide advice and also execute the trading decisions you make.

Discretionary brokers will buy and sell bonds on your behalf and may also have the authority to make investment decisions without your prior approval.

Direct Market Access

You may also wish to choose a broker who offers Direct Market Access (DMA), a service whereby London Stock Exchange Members are able to directly submit customer orders to the order book via their own systems.

DMA allows sophisticated private investors to take greater control of their trades by enabling them to place buy and sell orders directly on the London Stock Exchange's order books and execute with other market participants.

To support this new market, a number of specialist broker partners will be working with us to provide access to the retail bond market's new electronic order book. Look out for the dedicated partner logo indicating that a broker is offering access to this service. Details of these partners are also available on our web site.



Further Information

Full details of the new electronic Order book for Retail Bonds are available on the London Stock Exchange web site at:

www.londonstockexchange.com/bondsmadeeasy

If you would like to know more about trading bonds on the London Stock Exchange please contact your broker or email the ORB team at: **bonds@londonstockexchange.com**

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