Bond futures and options

Enhance returns
Manage risk effectively

Euronext.liffe refers to the combined derivatives operations of Euronext and LIFFE. It comprises:

- Euronext Amsterdam Derivative Markets, which is a regulated market under Dutch Law;
- Euronext Brussels Derivatives Market, which is a regulated market under Belgian Law;
- Euronext Lisbon Futures and Options Market, which is a regulated market under Portuguese Law;
- LIFFE Administration and Management, which is a Recognised Investment Exchange under English Law;
- MATIF and MONEP, which are regulated markets under French Law.

All are regulated markets under the European Union's Investment Services Directive.

Euronext NV
PO Box 19163
1000 GD Amsterdam
The Netherlands
tel +31 (0)20 550 4444

Contents

Introduction

Volatility and uncertainty are ever present in today's financial markets, not least in the interest rate markets. In the face of this type of uncertainty, traders, treasurers and fund managers are increasingly advised to consider methods of managing their exposure to sharp movements in financial markets.

Futures and options were conceived for the purpose of managing risk, which in turn can be translated into the protection of prices. Futures and options, through their versatility, offer significant advantages as strategic financial instruments. They help reduce costs, enhance returns, and manage interest rate risk with greater certainty, precision and economy.

Additionally, market participants, when using futures, can benefit from less restrictive regulatory constraints pertaining to capital requirements, facilitating more efficient use of available capital.

This publication provides the reader with a full overview of the Bond Futures and Options available for trading on LIFFE CONNECT® in addition to a firm understanding of the basic principles behind the use of the contracts.

Bonds and their characteristics

In layman's terms, a bond can be thought of as an IOU exchanged between two parties. It is also an IOU designed to be easily transferred in the secondary market. Technically it is defined as a debt security. Bonds are issued by a number of different types of institutions, such as Governments, Public Corporations and Supranational agencies. These institutions are known as issuers and they typically issue a bond in order to raise money to invest in long-term capital projects.

When you buy a bond at issue in the primary market, you are lending money to the issuer. In return, the issuer will pay you, the lender, a specified rate of interest, known as the coupon, on the amount you lend over the lifetime of the bond and repay the principal amount upon "maturity" of the bond. When you sell on the bond in the secondary market the rights to coupon payments and principal repayment are transferred to the new owner of the bond. Depending on the issuer, coupon payment is usually either semi-annual or annual.

Bonds are priced based on a nominal value of 100 percent. Prices may fluctuate above or below 100 throughout the lifetime of the bond. This is due mainly to the interest rates prevailing in the secondary market relative to the value of the bond's coupon payments. As the price of the bond fluctuates above or below 100, the coupon payment is not exactly the return on investment. The return you receive is known as the yield and the calculation is based on the coupon rate, time to maturity and market price.

The prices normally quoted for bonds are referred to as 'clean' prices, meaning they do not include the interest which has accrued on the bond since the last coupon payment. When the bond actually changes hands, the actual amount paid will be the 'dirty' price, which includes accrued interest.

The UK Government Bond market

Bonds issued by the UK Government are commonly known as Gilts. They are issued to the marketplace entirely through an auction process which is held by the Debt Management Office (DMO), a division of the UK Treasury. The UK Debt Management Office was created in April 1998 as an executive agency of Her Majesty's Treasury, with the brief of minimising the government's financing costs. Gilts are issued to finance the Central Government's Net Cash Requirements and to refinance maturing debt. Gilt auction dates are published up to a year in advance.

Gilts have a wide range of maturities, and are categorised as shorts (1-7 years) mediums (7-15 years) and longs (over 15 years). Almost all Gilts pay interest, also known as a dividend or coupon, on a six-monthly basis.

Gilts are priced in decimals and quoted per £100 of principal. Seven business days before the coupon payment date, Gilts begin to trade 'ex-dividend' or 'ex-div'. If the Gilt is bought whilst it is 'ex-div', the buyer gives up the right to receive the following dividend payment and is compensated by the seller accordingly. Therefore, from the ex-dividend date until the coupon payment date, the accrued interest will be negative.

There is an established group of firms in the market known as Gilt-Edged Market Makers (GEMMs). GEMMs are primary gilt dealers who participate in all DMO issuance auctions and also provide continuous 2-way prices to the secondary market. They may deal with each other as well as customers. To preserve pre-trade anonymity, GEMMs often use inter-dealer brokers (IDBs) as intermediaries to their trades.

The German Government Bond market

The issuance of German Government Bonds is the responsibility of the German Finance Agency, known as Bundesrepublik Deutschland Finanzagentur, on behalf of the German Government. Bonds with lifetimes, or maturities, of 2, 5, 10 and 30 years are issued. Interest payment for these bonds is annual and maturities are fixed. The 2, 5, 10 and 30 year German issues are known respectively as Federal Treasury notes (Bundesschatzanweisungen or "Schätze"), Five-year Federal notes (Bundesobligationen or "Bobls") and Federal bonds (Bundesanleihen or "Bunds"). Bunds, Bobls and Schätze are brought to the market through an auction process.

The Japanese Government Bond market

The Japanese Government Bond (JGB) market is the world's largest. The 10 year sector of the market is by far the largest in terms of issuance. Euronext.liffe's JGB future is based on this segment of the market. JGBs are issued through a US style 'Dutch Auction' and offered to an underwriting syndicate. Interest payments on JGBs are semi-annual.

International bond market conventions

The following table provides an overview of the key features and relevant information relating to the underlying bond markets covered by Euronext.liffe contracts.

Country	Coupon	Day Count	Settlement	Relevant web sites
United Kingdom	Semi-annual	Actual/Actual	Usually T + 1	www.hm-treasury.gov.uk www.dmo.gov.uk www.bankofengland.co.uk
Germany	Annual	Actual/Actual	Usually T + 2	www.deutsche-finanzagentur.de www.bundesbank.de
Japan	Semi-annual	Actual/365	Usually T + 3	www.mof.go.jp www.boj.or.jp

Bond futures and options

Futures:

A deliverable futures contract is a legally binding obligation to make or take delivery of a specified instrument at a fixed date in the future, at a price agreed at the time of dealing. In addition all futures contracts are exchange traded securities. In the case of bond futures, the seller must deliver to the buyer an agreed amount of an eligible bond from a list of deliverable bonds at the agreed price. The buyer of the futures contract will take delivery from the seller. These two parties are known as holders of Long and Short positions respectively.

Options:

An option contract is a legally binding agreement which bestows upon the buyer a right, but not an obligation, to take (call) or make (put) delivery of a specified instrument at a fixed date in the future, at a price agreed at the time of dealing. The specified instrument which must be 'called' or 'put' by the buyer or seller of a Euronext.liffe Bond Option, is the relevant Bond futures contract.

Euronext.liffe Bond futures and options

Euronext.liffe offers a number of Bond futures and options contracts that provide exposure to the British and Japanese Government Bond markets.

The table below presents an overview of the available contracts

Contract	Currency	Futures	Options
Long Gilt	Sterling	Yes	Yes
JGB	Japanese Yen	Yes	No

Contract specifications

The contract specifications provided below are correct as of February 2006. Please refer to the Euronext.liffe website (www.euronext.com/derivatives) for the most up to date versions.

Long Gilt futures

Unit of trading	£100,000 nominal value notional Gilt with 6% coupon
Delivery months	March, June, September, December, such that the nearest three delivery months are available for trading
Quotation	Per £100 nominal
Minimum price movement (Tick size and value)	0.01 (£10)
First notice day	Two business days prior to the first day of the delivery month
Last notice day	First business day after the last trading day
Last trading day	11.00 Two business days prior to the last business day in the delivery month
Delivery day	Any business day in delivery month (at seller's choice)
Trading hours	08.00 – 18.00 London Time

Trading platform:

- **LIFFE CONNECT®** Trading Host for futures and options.
- **Algorithm:** Central order book applies price-time priority trading algorithm.
- **Wholesale trading facilities:** Asset allocation, block trading, basis trading.

Exchange delivery settlement price (EDSP): The LIFFE market price at 11.00 on the second business day prior to the Delivery Day. The invoicing amount in respect of each Deliverable Gilt is to be calculated by the price factor system. Adjustment will be made for full coupon interest accruing as at Settlement Day.

Contract standard: Delivery may be made of any gilts on the List of Deliverable Gilts in respect of a delivery month, as published by the Exchange on or before the tenth business day prior to the First Notice Day of such delivery month. Holders of long positions on any day within the Notice Period may be delivered against during the delivery month. All gilt issues included in the List will have the following characteristics:

- having terms as to redemption such as provide for redemption of the entire gilt issue in a single instalment on the maturity date falling not earlier than 8.75 years from, and not later than 13 years from, the first day of the relevant delivery month;
- having no terms permitting or requiring early redemption;
- bearing interest at a single fixed rate throughout the term of the issue payable in arrears semi-annually (except in the case of the first interest payment period which may be more or less than six months);
- being denominated and payable as to the principal and interest only in pounds and pence;
- being fully paid or, in the event that the gilt issue is in its first period and is partly paid, being anticipated by the Board to be fully paid on or before the Last Notice Day of the relevant delivery month;
- not being convertible;
- not being in bearer form;
- having being admitted to the Official List of the London Stock Exchange;