
**PRICE DISCOVERY
&
MARKET DATA
GUIDE**

For The European Government Bonds Market

JUNE 2010

About AFME/epda

AFME (Association for Financial Markets in Europe) represents a broad array of European and global participants in the wholesale financial markets, and its 197 members comprise all pan-EU and global banks as well as key regional banks, brokers, law firms, investors and other financial market participants. AFME participates in a global alliance with SIFMA in the US, and the ASIFMA (Asian Securities Industry and Financial Markets Association) through the GFMA (Global Financial Markets Association). AFME provides members with an effective and influential voice through which to communicate the industry standpoint on issues affecting the international, European, and UK capital markets. For more information please visit the AFME website, www.AFME.eu.

The European Primary Dealers Association (EPDA) advocates on behalf of eurozone government bond primary dealers with relevant government and regulatory bodies through dialogue and market best-practices recommendations. AFME /epda is a subdivision of the Rates Division, which promotes integration and efficiency within the European government bond market. It addresses primary and secondary issues by facilitating consultation with key market participants, including primary dealers, European Debt Management Offices, the European Commission, the European Central Bank, and trading platforms. As an ancillary part of its advocacy efforts, AFME /epda provides recommendations for efficient primary and secondary market procedures and promotes best practices in order to support industry standards as an efficient alternative to government regulation.

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I. Introduction

The aim of this guide is to provide investors and other interested parties with an overview of the variety of providers of price and market data in the European government bond markets.

To understand the way that the availability of price and market data is structured in this market, it is important to know how the government bond market operates. Noticeably, there are differences between the government bond market and the equity market. Differences in the nature of the product, lead to differences in liquidity and in the way price information is distributed among market participants.

In the equity markets, issuers generally have one instrument which is subject to one initial public offering with the possibility of additional rights issues at later stages in a company's development. As a share has no redemption date, an investor must sell it in the secondary market in order to realize its value. As such, equities are inherently more liquid than bonds. In the past, equity trading was concentrated on the national exchanges where all participants would do the bulk of their trading (at least the trading in smaller sizes). Since MiFID, exchange monopolies have been subject to competition from recognized Multilateral Trading Facilities and crossing networks. As such, the market share of exchange trading has gone down considerably from highs of around 90% to in some cases less than 40%. Nevertheless, exchanges remain dominant players and they, as a relatively limited group, make available both pre- and post-trade information to the public on a real-time and delayed basis.

Bonds on the other hand, trade over the counter; both electronically and via voice brokers. Whereas equities only have one issue, government bond issuers have many outstanding issues of varying maturity; currency and type (e.g. bullets, linkers). Also, as bonds can be held to redemption, a good part of the market is "buy and hold". Once those bonds are purchased, they are never traded again but simply redeemed at maturity by the investor.

Therefore, bonds are inherently less liquid than equities. This has resulted in a different type of market. Once a bond is issued, issuers rely on their primary dealers to make a market to each other in order to support the liquidity in the product. As this is a cost to the primary dealer, the issuers in turn give them certain incentives; such as access to auctions, consideration for syndications or access to a non competitive bidding facility after an auction.

Market making is concentrated on certain recognized electronic trading platforms. This provides a liquid and transparent inter-dealer market. Market participants profit from this liquidity. It allows market makers to be more aggressive in their pricing to clients as they know they can unwind positions taken from clients in this market.

In spite of the market making requirements in the electronic interdealer market, electronic trading encompasses only half of the trades that are executed . Dealers prefer to do transactions in large sizes or in “off the run” bonds (where liquidity is at its thinnest) with voice brokers, to prevent the market from moving against them.

With respect to trading with customers (ie. the buy-side), dealers generally transact business directly over the phone, through their single dealer electronic platforms or in competition with dealers on a multi-platform request for quote environment. On the latter, clients can request quotes from generally up to 5 dealers and then trade at the best price provided.

When compared to the equity market, this decentralized structure of the government bond market leads to decentralization of sources of price information. However, there exists a large and competitive industry of financial services providers whose business it is to collect, aggregate, consolidate or evaluate price information for use by dealers and investors. They compete amongst other things on data availability, user friendliness, speed and analytical soundness. This dynamic market driven process reacts to changing market conditions and investor needs, thereby helping to determine optimal price transparency in the markets.

Nevertheless, the competitive and decentralized market environment also may lead to some confusion among market participants on where to find which specific market data with which specific characteristics. This guide aims to take away part of this confusion, by offering a helicopter view of the market for government bonds price and market data.

We have categorized the market for price data on the basis of their source. Then we identified the most important players in the each market division, and asked them to provide us with key information on their company and the data they provide. Most of them have cooperated. Some players that did not want to be included in the guide are briefly referred to with information about their websites, so that interested readers can contact them themselves.

The guide does not aim to give a detailed picture of every aspect of the services a company offers, nor does it aim to identify all the players in the market. The goal is to provide the end investor with a first, basic orientation, to simplify the process of finding the right data provider. Any feedback on the firms that are included, or the data provided is welcome.

Division of the chapters

The chapters are divided according to the source of the price data. First, there is the price data directly derived from trading on the interdealer or business-to-business market, which will be treated in chapter 2. Trading in this market largely occurs on either electronic trading platforms or via voice brokerage as noted above. Secondly, there is the data derived from trading on the dealer-to-customer market, which is either multidealer oriented (centered on trading platforms) or single dealer oriented (one-on-one contacts between the bank and the customer via mail, phone or client portal). This will form the subject of chapter 3. Thirdly, there is the data derived from

the quotes the dealers show to their retail customers, which will form the basis of chapter 4. Retail clients have access to some platforms, but can also use data from certain websites, which provide market data free of charge to private individuals. The website www.investinginbondseurope.org, constructed by a partnership of SIFMA/AFME and the Dealers, providing market and pricing data from over 100 sources to investors is an example. Fourthly, in chapter 5 attention is given to data vendors. These vendors can offer a combination of all the previous data, often offered in a package and combined with tools for analysis.

Summary of data availability from trading venues

Table 1 (see next pages) gives a summary of the basic characteristics of the market data available from the trading venues which are discussed in this guide.

Among the platforms, roughly two trading methods can be distinguished. The interdealer systems generally operate via cross matching methods. This means customers are able to enter anonymous buy and sell orders that are automatically executed when another party's buy and sell orders are entered at the same price, or when the bid is "hit", or the offer "lifted."

Certain dealer to customer platforms operate through a request for quote system. The request for quote system enables an investor to send a request for a bid, based on seeing and selecting from the best indicative quotes, for a specific trade simultaneously to multiple dealers of which it is a customer. Bids of dealers choosing to respond are firm for a specified period of time. They typically are onside offers to buy or sell. The investor can then choose to execute the trade with any of the responding dealers. In the request for quote, only the requesting party sees the quotations for the trade provided by the dealers. There are however also dealer to customer platforms that use firm/executable quotes.

In general, indicative quotes are very close to, or the same as, executable or firm quotes. Typically, over 75% of trades are executed within the indicative bid/offer spreads. Trades executed outside the indicative range, are mostly the larger ones.

Among the platforms, the bond coverage varies. Some cover all European government bonds while others specialize in the bonds of one or more countries. The number of bonds traded range from several hundred to over 10,000 depending on the platform, and daily turnover is often in the range of billions of euros.

Most platforms have a significant number of price contributors. The number of participating dealers varies from 8 to 94, depending on the platform. Dealers participating in some of the trading platforms also have market making obligations in all or a subset of the bonds traded on the platform. The greater the number of price contributors, the greater the liquidity provided by the platform and the more transparent the price discovery process.

Table 1 Summary of data availability from trading venues

NAME OF TRADING VENUE	ELECTRONIC/ VOICE	TRADING PARTICIPANTS	TRADING METHOD	EURO GOVERNMENT BOND COVERAGE	MINIMUM TRADING SIZE	AVERAGE DAILY TURNOVER	NUMBER OF PRICE CONTRIBUTORS	PRE TRADE PRICING	POST TRADE PRICING	NON-PRICE INFORMATION AVAILABLE	HISTORIC PRICE INFORMATION AVAILABLE	DIRECT SALE OF MARKET DATA	VENDOR DISTRIBUTION
BGCantor Market Data	electronic & voice	Interdealer	Cross-matching	All EuroGovs Covered	\$1 million increments (electr)	n/a	Eligible Market Participants	Executable	Real Time	yes	yes	BGCantor Direct FeedTM, FTP download	Through all major vendors
Bloomberg electronic trading	electronic	dealer to inst. customer	Firm quotes/ RFQ	All EuroGovs Covered	depends on dealer	€5 bio	94	Executable & indicative	Real Time	yes	yes	Bloomberg terminal (only for CBBT if no participant)	Bloomberg
BondVision	electronic	dealer to inst. customer	RFQ	Multi-currency Government, SAS + Gov guar, Covered Bonds	Minimum in line with Issuer	€4bn	27	Indicative	Real Time	yes	yes	None (info available to participants only)	None (info available to participants only)
Borsa Italiana: MOT	electronic	dealer to retail customer	Cross-matching	Italy, Austria, France, Germany, Greece, Spain	varies by security	€0.83 billion Italian gov. bonds (2009)	+/- 50	Executable	Real Time	yes	yes	Subscription service, certain data are available free of charge on the company website	distributed by all major vendors
Eurex	electronic	Interdealer	Cross-matching	Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Spain and Portugal	€1 mio	n/a	33	Executable	Real Time	yes	yes	Price information on Dutch and Covered bonds is also available from the eurex-bonds.com website free of charge with a 15 minute delay.	Bloomberg, Reuters Moneyline, SIX Telekurs, VWD, Townsend
EuroTLX	electronic	dealer to retail customer	Cross-matching	Italy, Austria, Germany, Belgium, France, Finland, Greece, Ireland, New Europe, Netherlands, Portugal, Spain, Sweden	Minimum lot size; increments are multiples of the Minimum lot	€380 mio	8	Executable	Real time	yes	yes	subscription service directly with EuroTLX (non real time data available free of charge from website)	Bloomberg, Thomson Reuters, e-Class, IDMS, Il Sole 24 Ore Radiocor, Kedrios, Telekurs, Sungard
HDAT	electronic	Interdealer	Cross-matching	Greece	€5 mio	n/a	22	Executable	Real Time	yes	yes	historical daily data are available free of charge on the website of Bank of Greece	Reuters, Bloomberg
ICAP Information Services	electronic & voice	Interdealer	Cross-matching	All EuroGovs Covered	€1 mio - BrokerTec	n/a	In excess of 80 European clients	Executable	Real Time	yes	yes	Varies between products, Electronic and Voice. Individual agreements	All major third party providers and direct from ICAP Market Data Information Services
London Stock Exchange: ORB	electronic	dealer to retail customer	Cross-matching	UK	£1 increments for UK gilts	n/a	details to be confirmed - new market launching Feb 2010	Executable	Real Time	yes	yes	Subscription service, certain data are available free of charge on the company web site	distributed by all major vendors

(Cont'd)

Table 1 Summary of data availability from trading venues (cont'd)

NAME OF TRADING VENUE	ELECTRONIC/ VOICE	TRADING PARTICIPANTS	TRADING METHOD	EURO GOVERNMENT BOND COVERAGE	MINIMUM TRADING SIZE	AVERAGE DAILY TURNOVER	NUMBER OF PRICE CONTRIBUTORS	PRE TRADE PRICING	POST TRADE PRICING	NON-PRICE INFORMATION AVAILABLE	HISTORIC PRICE INFORMATION AVAILABLE	DIRECT SALE OF MARKET DATA	VENDOR DISTRIBUTION
MTS	electronic	Interdealer	Cross-matching	Austria, Belgium, Denmark, The Netherlands, Finland, France, Germany, Greece, Ireland, Italy, Poland, Portugal, Slovenia, Spain, SAS + Gov guar, Covered Bonds	varies per platform	€85bn	n/a	Executable	Real Time	yes	yes	Subscription service with MTS	Bloomberg, Borsa Italiana, Class Editori, Exchange Data International, Fixnetix, Il Sole 24 Ore, Interactive Data Real Time Services, SIX Telekurs, Sungard and Thomson Reuters.
SENAF	electronic	Interdealer	Cross-matching	Spain	€1 mio	€400 mio	25+	Executable	Real Time	yes	yes	Subscription service with SENAF	Reuters, Bloomberg, Telekurs
Tradeweb	electronic	dealer to inst. customer	Firm quotes/ RFQ	All EuroGovs Covered	Minimum lot size	8 bio	25+	Executable & indicative	Real Time	yes	yes	Subscription service	Reuters
Tradition	voice	Interdealer	Cross-matching	All EuroGovs Covered	no minimum size	n/a	25+	Executable	Real Time	yes	yes	none (info available to participants only)	Bloomberg
Tullett Prebon	electronic & voice	Interdealer	Cross-matching	Belgium, Denmark, Germany, Spain, France, GB, Italy, NL, Norway, Sweden	Not Disclosed	n/a	Not applicable, prices are generated from Tullett Prebon's broking activity	Indicative	Real Time	yes	yes	Subscription service	Major global aggregators including Thomson Reuters, Bloomberg

All platforms publish post-trade prices for trades conducted on their platforms on a real-time basis. In the case of interdealer platforms, these prices can only be viewed by platform participants. Exception is interdealer platform MTS, which makes post trade prices available to third parties through data vendors. On the dealer-to-customer platforms the post trade information is only available to the direct counterparties to the trade. In contrast, the retail platforms in this guide provide post trade information free of charge to the public via their websites.

Most platforms sell data directly to non-participants, via a subscription service. Some platforms also make such information available to the general public free of charge, on a delayed basis.

Most platform prices are also accessible through data vendors, which offer a combination of data from multiple platforms, often offered in a package and combined with tools for analysis. Such information typically is available without delay (depending on the subscription).

All platforms provide significant non-price information. Examples include yield, duration, coupon, issue size, rating, and bond terms and conditions. Also, all platforms provide historic price information that can be used in time series analysis.

Recent trading trends

The results of AFMEs 5th liquidity Fixed Income survey (2010) indicate that electronic trading continues to increase. The number of clients who conduct the majority of their trading electronically (more than 60%) is up to 35% versus 21% in the previous year. The number of buy-side respondents trading more than 85% of their volumes electronically in 2009 was 36% , versus 21% in 2008 and 28% in 2007. Buy-side and sell-side expect this trend to continue in 2010.

Voice trading however, is still deemed crucial to investors to access liquidity for large sizes. 29% of buy-side respondents chose to trade by voice due to the size of the transactions. 18% also chose to trade by voice due to better liquidity.

According to the survey, Government Bonds are deemed to have very good pre and post trade price transparency.

II. Interdealer

Price data derived from trading on the interdealer or business-to-business market, either come from electronic trading platforms or voice brokerage. Primary Dealers use trading platforms to fulfil their quotation obligation, which is often (but not always) imposed by the issuer. Under the quotation obligation, banks are obliged to quote to each other two way prices, within a certain spread and for a number of hours per day. Prices that are formed here, serve as an important benchmark throughout the market. Most countries allow multiple trading platforms for the fulfilment of the quotation obligation. For a per country list of trading platforms operating with mandated quoting obligations, please consult Annex 1. Note that where quoting is not mandated by a government, interdealer trading can still take place, governed by the rules of the platform.

Next to trading on platforms, a large part of trades takes place through voice brokerage. Especially where tickets are of a larger size. Therefore, price information from brokers can be very helpful in establishing where the market is trading.

Paragraph A presents the interdealer platforms, while paragraph B presents some of the larger interdealer brokers.

A. Electronic trading

1. BGCantor Market Data (BGC Partners)

About BGC Partners and BGCantor Market Data

BGC Partners, Inc. (NASDAQ: BGCP) is one of the world's leading inter-dealer brokers, providing integrated voice and electronic services to wholesale market participants across the globe. We are active in the global fixed income, rates, foreign exchange, equity derivatives, credit derivatives, futures and structured product markets, offering a full range of brokerage services including price discovery, trade execution, straight through processing and clearing, settlement and access to electronic trading services from eSpeed and BGC Trader. BGC was the first to introduce non-deliverable basis trading, and continues to pioneer the delivery of real-time fixed income pricing in Europe.

BGCantor Market Data is a subsidiary of BGC Partners and responsible for the management and distribution of its benchmark data sets. BGCantor Market Data provides a wide variety of European Government Bond data through a network of distributors and channels.

Data available

Product features include:

- Tradable cash and basis prices
- Viewable hits and takes, and related volumes
- U.S. Treasury, Fixed Income, Rates, Credit, FX, and other services also available.

Available:

- Real-time • Intraday
- End-of-Day • Historical
- BGCantor On-Demand

Where to find BGCantor Market Data European Government Bond coverage:

- Bloomberg
- CQG
- GL Trade
- SunGard
- Thomson Reuters
- BGCantor Direct FeedTM
- FTP Download for End-of-Day, Intraday, and Historical Data

Contact information

New York: +1 212 829 4840

London: +44 207 894 8013

Chicago: +1 312 469 7491

Tokyo: +813 3519 9148

Hong Kong: +852 3477 7700

www.bgcantor.com - marketdata@bgcantor.com

2. Eurex

About Eurex Bonds

Eurex Bonds is a pan-European trading platform not only for Government Bonds, but also Covered, Agency and Government Guaranteed Bonds as well as Inflation-linked Bonds and Basis trading instruments.

Our electronic trading platform is directly connected to the price dissemination system of Deutsche Börse: Consolidated Exchange Feed (CEF). This dissemination system broadcasts its price information to all relevant data vendors in both real time as well as end-of-day information packages. It is also able to handle customer requests in order to retrieve lost information, information from specified periods or selected instruments.

Data available

The Deutsche Börse price dissemination system, CEF, is used to provide real-time and on-request information of our listed products. Currently the following instruments are included in the dissemination process:

- German Government Bonds
- German T-Bills (Bubills)
- Dutch State Loans
- Dutch Treasury Certificates

Other Government Bonds can be easily included, should there be a market need.

All prices are disseminated real-time. Other delivery or request procedures are available and used by data vendors, e.g. end-of-day, or individual specific requests. The data includes bid/ask for quotes as well as orders, trades - trade price, volume and timestamp. Market depth will be available soon. Static data of instruments is available via end-of-day information. Eurex Bonds indices “eb-rexx” are disseminated via the same CEF system.

Data vendors receive the broadcast messages and publish them on their own systems. These information providers include:

- Bloomberg, page “EUBO”
- Thompson Reuters, page <0#Eurexbonds>
- Moneyline, xe#<isin>
- SIX Telekurs, ISIN_540
- VWD, WKN.EUB
- Townsend Analytics

Eurex Bonds prices via CEF are also available to other customers, such as professional and retail investors. However, this requires individual agreements with the MD&A-Division of Deutsche Börse.

All trading information from Eurex Bonds itself is available to all Eurex Bonds members for their own trading support procedures only. If Eurex Bonds members intend to use this trading and price information for other purposes, they must enter a market Data Dissemination Agreement with Deutsche Börse. This will enable them to then publish the information *e.g.* on member's websites.

Eurex Bonds currently publishes trades, price and volume for Covered Bonds and Dutch State Loans with a delay of 15 minutes, on its own website: www.eurex-bonds.com, see Quick Link -> Covered Bonds / Dutch Government Bond Prices.

Contact information

Tel. +44 (0)207 862 - 7167

Fax +44 (0)207 862 - 9167

E-mail: info@eurex-bonds.com

3. HDAT

About HDAT

HDAT (Electronic Secondary Securities Market) is a regulated market for the trading of Greek Government securities as well as any other fixed-income securities issued by other issuers.

Data available

The system provides to the participants, through their trading platforms, static data concerning the eligible securities such as description, coupon, issue date, expiry date, maximum bid/ offer spread allowed, settlement date etc.

In addition, in real time, the participants are being informed about:

- 1) The best bid and the best offer price for each security;
- 2) The depth for bid and offer prices (max. 5);
- 3) The minimum, the maximum and the average prices per bond on which trades have been executed;
- 4) The volume traded per bond; and
- 5) The price, the quantity and the time of the last contract concluded in the market

At the end of the working day, the system provides to the participants the minimum, the maximum and the average prices per bond on which trades have been executed and the volume traded by bond taking into account the total of the trades.

HDAT is also connected on-line to the international information providers (Bloomberg and Reuters for the time being). The public is able to collect data, in real time, concerning the best bid and the best offer price for each security, the volume traded per bond and the minimum, the maximum and the average prices per bond on which trades have been executed. Moreover, around 2:00pm Greek time the official HDAT prices are available through Bloomberg and Reuters.

Finally, on the website of the Bank of Greece¹, which is now being upgraded, historical data are available. Specifically, the public can find the following:

- The official prices and yields, daily data, for the Greek Government benchmarks bonds which, of all the bonds traded in HDAT, are the most liquid in their respective maturity category; and
- The total volume concluded in HDAT market (daily data for the current year and monthly data for the previous years starting from 2001).

Contact information:

hdat-management@bankofgreece.gr.

4. ICAP Information Services

About ICAP Information Services

ICAP Information Services is responsible for the collection, storage and dissemination of data for ICAP businesses. Our group continues to work with market participants and distributors to provide easy access to key real-time, snaps/ end of day, and historical global data solutions.

Data available

Recent focus has been on providing effective support for our full range of services as well as expanding the range and availability of independent, verifiable benchmarks. This has led to two key developments; the packaging of the ICAP global offering into distinct asset classes and the availability of ICAP data sets to be licensed for use in applications beyond the current desktop permissions. The asset classes covered are:

- Foreign Exchange
- FX Currency Options (a TFS-ICAP partnership)
- Money Markets
- Interest Rate Derivatives
- Fixed Income
- Energy & Commodities
- Credit Derivatives

These global data packages are available over various channels and third parties. The data set include:-

Real-time - ICAP's real-time market data offerings, sourced from ICAP's award-winning global interdealer trading platforms (such as Brokertec), provide authoritative and comprehensive information on global markets across a broad range of asset classes, including interest rates and foreign exchange.

End-of-Day - ICAP End-of-Day delivers accurate and comprehensive end-of-day pricing for global, multi-asset class, multi-currency products. The data is based on ICAP global trading activity and includes complete order book and active trade data from ICAP's

¹ Please visit www.bankofgreece.gr.

electronic BrokerTec platform, as well as unique, certified data from the ICAP GovPX service.

Historical - ICAP's suite of historical market data products provide the definitive view of historical market activity, delivering access to the most comprehensive sources of prices across a range of asset classes. ICAP's unique historical market data packages include past electronic UST trading activity on the BrokerTec platform, and electronic spot FX trading on ICAP's award-winning EBS platform.

Specifically on European Government Bonds where we are mandated to provide additional services, namely in the Dutch Government Bond market, under our mandate with the DSTA, we comply by offering a password protected, delayed market view of current bid/offers on BrokerTec via the ICAP website. Investors, individuals can request access via the ICAP website (<http://www.icap.com/> at <http://www.icap-ats.com/>).

Additionally BrokerTec is regulated as an MTF and we comply with the requirements under MIFID and the UK FSA.

Contact information

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Asia Pacific: +612 9777 0878

Europe, Middle East, Africa: +44 (0)20 7000 5880

5. MTS

About MTS

The group of MTS companies collectively comprises Europe's premier electronic market in fixed income securities with daily volumes exceeding €85 billion (single counted and including repo).

MTS created one of the first Fixed Income electronic markets in the world, and has expanded throughout the Europe and beyond, to provide the trading environment for the Inter-Dealer marketplace. MTS markets provide the trading arena where all the Primary Dealers from every country can meet and trade and access unparalleled liquidity, transparency and coverage.

The technology used is the same among all the MTS markets. It is important to note that the software's development was designed specifically for the requirements of fixed income markets, unlike other similar systems, which are generally derived from the matching engines of equity trading platforms.

The group also includes MTSNext, the company that manages the EuroMTS Indices, the first range of independent, transparent, real-time and tradable Euro-zone fixed income indices.

Tradable products on the MTS markets comprise EUR denominated and Local currency government bonds, inflation-indexed bonds and Treasury bills, Quasi Government bonds (Supra, Sovereign and Agency Bonds & Government Guaranteed Bonds), and EUR Covered bonds.

Data available

MTS Market Data is produced directly by the inter-dealer MTS Markets. All MTS Data products are direct from the MTS trading platform and are therefore considered “Golden Source”².

The MTS Data Product Suite currently comprises the following:

MTS Real-Time Data

Real-time *tradable* prices from the only electronic system offering data across the entire European Government, Quasi-government and covered bond markets:

- Best bid / offer quotes, market depth and last traded price, all complete with related volumes;
- Actual traded prices or prices live on the MTS platform at which MTS participants may deal – no indicative prices; and
- MTS market-making system ensures narrow bid-offer spreads and continuous, aggressive pricing on a wide range of products, irrespective of market conditions.

The data for all of the MTS data products is taken directly from the MTS platform (“the Golden Source”). Therefore these products are all based on the benchmark MTS Data direct from the MTS platform and all are produced exclusively by MTS.

The MTS real-time data is available through a number of licensed market data vendors.

*MTS Reference Data*³

The descriptive, non-real-time data for each bond listed on MTS. It includes information such as Isin, Maturity Date, Issuer, MTS Market, details of any payments and their frequency etc. MTS Reference Data is the only source for all the reference data for all bonds on MTS that can guarantee absolute accuracy and completeness. It is taken direct from the MTS platform.

Historical Reference Data is also available.

The MTS Reference Data is available via a number of licensed market data vendors.

*MTS Time Series Data*⁴

Directly and exclusively from the MTS platform, MTS Time Series provides a high frequency, tick-by-tick data source for practitioners and academics conducting in-depth research in time series and market microstructure of fixed income markets and instruments and is available via subscription. Current subscribers include the worlds leading financial and academic institutions.

² More information is available on www.mtsdata.com.

³ The MTS Reference Data is available via www.mtsreferencedata.com, including FTP – sign up for a 30 day free trial.

⁴ The MTS Time Series data is available directly from EuroMTS and via www.mtsreferencedata.com – sign up for free sample data.

Dating from April 2003 the MTS database contains daily cash and repo information and high frequency trade and quote data, for all bonds traded on the MTS System. Coverage of the database increases along with the planned expansion of MTS into new markets - new MTS Markets are automatically included in the generation of MTS Time Series Data.

This is the richest historical data available from MTS containing the executable and traded prices direct from the MTS platform.

The MTS Time Series Data are available via a number of licensed market data vendors.

MTS Reference Prices⁵

The official open and close prices calculated by MTS each day and produced twice daily. The MTS Reference Prices are the only official open and close prices for the bonds listed on MTS, direct from the exchange, based on the executable and traded prices taken from the platform.

Historical Reference Prices are also available.

The MTS Reference Price Data is available via a number of licensed market data vendors.

MTS Snap-Shot Data

Up to 5 real-time updates per day.

The MTS Snap-Shot data is available via a number of licensed market data vendors.

EuroMTS Indices⁶

These are transparent, tradable, independent and real-time Euro-zone Government bond indices.

Tradability stems from the use of MTS Markets' prices in calculating and disseminating the indices every 30 seconds. Daily fixings are also available at 11am, 4pm & 5.30pm CET.

Over €600 billion in assets are benchmarked to the EuroMTS Indices.

Contact information

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Phone: +44 (0) 20 7797 4100

⁵ The MTS Reference Price data is available via a number of licensed market data vendors and via www.mtsreferencedata.com, including FTP – sign up for a 30 day free trial.

⁶ Transparent - freely available methodology and data, all data necessary to replicate the indices is available for free at - www.euromtsindices.com. EuroMTS Indices data are available via FTP, by registering at the website above and through a number of data vendors. For a full list or for additional information please contact MTS Data.

6. SENAF

About SENAF

SENAF, (Sistema Electrónico de Negociación de Activos Financieros), is the electronic trading platform for Spanish public debt bonds, part of the integrated Financial Markets Holding that includes the country's derivatives and fixed-income markets (BME). The SENAF operates a blind bond-trading system, in which dealers have no knowledge of the counterparty of their transactions. This feature, together with the existence in SENAF of a single order book, maximises the efficiency of the market and generates an extraordinary liquidity. Its main shareholders are the majority of the Spanish banks through the Aiaf (Asociación de Intermediarios de Activos Financieros, or the Association of Financial Assets Intermediaries) and the three blind brokers officially authorized by the Bank of Spain. In addition to Barcelona, Madrid, and Valencia, SENAF also has operative terminals in London, Paris and Frankfurt.

Data available

SENAF covers the following products:

Bonds, Strips, Letras (Bills), Switches, Generic Repos, Specific Repos.

They disseminate the following information about the products they are covering:

- Opening price
- High Price
- Low price
- Last price
- Closing Price
- Bid/ask
- Bid size/Ask size
- Crossed Volume

The market data service is a Feed in real time

The data are available from SENAF itself, and are also distributed to Vendors like Reuters, Bloomberg and Telekurs.

Contact information

Mr. Gonzalo Gómez Retuerto

Email: ggomezr@bolsasymercados.es

telephone number: +34 91 709 50 00

fax number: +34 91 710 58 13

Address: Calle de Tramontana nº 2 bis.

28231 Las Rozas, Madrid.

7. Tullett Prebon

About Tullett Prebon

Tullett Prebon operates as an intermediary in wholesale financial markets facilitating the trading activities of its clients, in particular commercial and investment banks. The business covers the following major product groups:

- Volatility
- Rates
- Non Banking & Sterling Cash
- Treasury
- Energy
- Environmental
- Credit
- Equities

Tullett Prebon's electronic broking division provides hybrid trading solutions to the marketplace, offering clients a comprehensive spectrum of electronic platforms for their varied trading requirements.

Tullett Prebon Information is the information vending arm of the Tullett Prebon Group and a leading provider of independent price information from the inter-dealer brokered financial and commodity markets.

Data available

TPI provides comprehensive pricing on the global OTC markets including Rates, Money and FX, Treasury, Credit, Volatility, Energy, Environmental and Equities. Flexibility in licensing and commercial policy enables clients to gain maximum value from Tullett Prebon information's data.

As part of its global government bond service, *TreasuryMarker*[®] Tullett Prebon Information offers an indicative price feed covering the following gov. bond markets:

Country	Currency	Government Bonds		Benchmarks Spreads (5Y and 10Y)	
		Benchmarks	Other Bonds	vs. German	vs. US
Belgium	EUR	Y	Y	Y	Y
Denmark	DKK	Y	Y	Y	Y
Germany	EUR	Y	Y	N/A	Y
Spain	EUR	Y	Y	Y	Y
France	EUR	Y	Y	Y	Y
Great Britain	GBP	Y	Y	Y	Y
Italy	EUR	Y	Y	Y	Y
Netherlands	EUR	Y	Y	Y	Y
Norway	NOK	Y	Y	Y	Y
Sweden	SEK	Y	Y	Y	Y

The information available for European Government Bonds includes description related details, yield and price as a % of par (open, high, low, bid, ask, mid and close) and gross basis values (bid, ask, mid, high and low) where applicable. The pricing service is comprehensive giving highly accurate prices and yields on the full run of issues for each country.

Real-Time, End of Day, Intra-day and Historical services are provided through a range of delivery channels. All of Tullett Prebon Information's data is available via major market data vendors⁷ including Thomson Reuters and Bloomberg.

Tullett Prebon Information, utilizing data from its fast growing hybrid broking operations, analysed and calibrated by its highly skilled analytics team, is continuing to expand and improve on its offerings in the Credit space. Future service releases will include indicative CDS, Cash and Convertible Bond pricing, curves and associated volatility analysis.

Contact information

Additional product details are available on the Tullett Prebon website at the following link:

http://www.tullettprebon.com/marketdata/marketdata_tpiabout.aspx

Contact: sales@tpinformation.com

Tel: London +44 (0)20 7200 7600
New York +1 877 639 7300
Singapore +65 6536 5843

B. Voice brokerage

1. BGC

BGC market data are derived from both its extensive voice brokerage business and/or its electronic trading platforms. Please refer to paragraph II.A for more information on BGC's integrated sets of market data.

2. ICAP

ICAP operate both Electronic and Voice broked businesses under the same company. The Market Data provision looks to utilise data sources from both venues where ever possible. Please refer to paragraph II.A for more information on ICAP's integrated sets of market data.

⁷ For a full list of distribution channels please refer to http://www.tullettprebon.com/marketdata/marketdata_datadelivery.aspx

3. Tradition

About Tradition

Compagnie Financière Tradition (CFT) is one of the world's top interdealer broking firms, with a presence in 27 countries. Acting as a marketplace and an intermediary, CFT facilitates transactions between financial institutions and other professional traders in the capital markets. These transactions vary in scale and liquidity, from the simplest to the most sophisticated, the most liquid to the most illiquid. The key to our success has been our ability to understand the evolving needs of our extensive and long-established network of clients, together with our strong capabilities in derivative markets.

Data available

Tradition Data Services provides clients access to a wide range of real time OTC prices in many of the world's fastest moving markets. Our global coverage means we can provide a timely, accurate and independent view across all financial markets.

We offer real-time and end-of-day market data, historical data with research, analysis and commentary with unparalleled access to a range of prices from market-leading brokers.

Tradition provides data for the following products:

- Money Markets
- Interest Rate Derivatives
- Energy & Commodities
- Credit Derivatives
- FX Currency Options (Tradition-ICAP)
- Equity Derivatives
- Fixed Income/Repo

Tradition Fixed Income

The Tradition Fixed Income business is primarily 'voice' based. As a result of recent market developments we have increased our market share by providing a more customer focused and bespoke service.

Real Time

Via our new 'white board' technology our live prices are collected and published internally. This information can be distributed externally on a case by case basis.

End of Day

All prices are collected on an intraday basis and end of day reports can also be provided. Tradition believes that this service helps to increase customer anonymity and the independence of our prices.

Historical

Tradition has a large amount of historical post trade data across a variety of asset classes, all available on request.

Tradition is Authorised and Regulated by the Financial Services Authority.

Contact information

Matthew Evans, tel. +44 (0)20 7198 1540

Email: matthew.evans@tradition.com or datasupport@tradition.com

4. Tullett Prebon

Tullett Prebon Information -Please refer to paragraph II.A for more information on Tullett Prebon's information's services.

III. Dealer-to-customer

Next to the interdealer market there is the dealer-to-customer market, which for the purpose of this guide is defined as the whole of trades between dealer and institutional investor. This market can be multidealer oriented, in which case it is centered on a trading platform. The end investor then has a choice between the quotes of several dealers. The market can also be single dealer oriented. In this case, the investor receives quotes during one-on-one contacts with the bank. These contacts can be via mail, phone or via an internal electronic trading system. Some of the bigger multidealer platforms are presented in paragraph A. Platforms which are not included, but may be of interest to the end investor are: Market axess (<http://www.marketaxess.com/>) and Bondvision (www.bondvision.net). The singledealer market is presented in paragraph B. Note that some platforms have both a multidealer and a single dealer functionality.

A. Multidealer

1. Bloomberg electronic trading

About Bloomberg electronic trading

Bloomberg offers both Multi and Single-Dealer trading on European Government bond markets. Bloomberg Electronic Trading covers all the key European Government bond markets as well as the UK, Scandi and new European markets. This complements Bloomberg's wider offering in the credit and derivatives space.

Prices are displayed either in a Multi-Dealer environment or on a single dealer offering page. A client can either trade on a Request-for-Quote basis or click-to-trade. Dealers are able to indicate their tradable prices for the client in question.

Bloomberg provides STP to 3rd party OMS via the TSOX trading platform.

There are no additional transaction charges as long as the user has a Bloomberg Terminal subscription.

Data available

Bloomberg creates a real-time composite price from the Tradable prices contributed to Bloomberg. This is called the CBBT price and is available to all Bloomberg users.

The prices (whether CBBT or from a particular dealer) can be seen on the Bloomberg terminal or extracted using a Bloomberg API. The data is bid/ask/mid pricing as well as end of day. This does not include information on traded prices.

Bloomberg also provides a “BVAL” price for Mark-to-Market valuations. This is a premium service using more sophisticated algorithms for calculating prices but useful in less liquid markets.

In terms of Best Execution information captured for trades done electronically over Bloomberg we also provide:

- Full Audit Trail (including cover price etc)
- Cover Value - Comparison of price traded vs. next best price quoted
- CBBT Value - Comparison of price traded vs. CBBT price at the time of trade.

Contact information

http://about.bloomberg.com/index_nf.html

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Europe, Middle East and Africa +44-20-7330-7500

Asia and Asia-Pacific +81-3-3201-8900

2. Bondvision

BondVision, part of the MTS Group, is a leading multi-dealer-to-client electronic bond trading market. BondVision’s Best Page has unrivalled price discovery with real-time prices from the leading MTS market makers.

BondVision was launched in 2001 in response to continued requests from institutional investors for access to the liquidity of the MTS markets. This is achieved by enabling clients to “auction” their business – outright or switch – with up to 5 dealers online. Coupled with our extensive post-trade functionality, such as allocation to sub-accounts and DDE (Dynamic Data Exchange) link to Excel, BondVision allows for further efficiency and cost savings via the use of FIX protocols. FIX protocols enable the system to interface with client’s order management and portfolio management systems.

BondVision also provides an API system, which paves the way for full STP, as well as a Dynamic Link Library (DLL) output with a COM type interface for ease of usage in different standards such as Visual Basic and Excel. All reports provided by BondVision API are available in XML format.

BondVision is a regulated market, thus providing a “best execution” environment. The Italian Ministry of Finance regulates the government bond trading area whilst CONSOB regulates the non-government trading section.

BondVision is extremely user friendly, using light Internet based technology and the highest standards of security, fulfilling ISO standards. This technology allows institutional investors to access the MTS markets FREE of charge. There is no start up cost, membership fees or transaction costs. This is part of the BondVision philosophy of providing superior execution and price discovery rather than over the telephone (or as opposed to over-the-counter trades), without adding to client expenses.

3. Tradeweb

About Tradeweb

Tradeweb is one of the world’s leading providers of online markets. Since 1998, they have generated significant value for clients and dealers by providing low-cost access to liquidity on a highly efficient trading network. They now offer trading-related services across the globe in fixed income, derivatives and equities.

For European governments, Tradeweb provides the ability to trade outright, switches and butterflies, including cross-currency trades. The new PLUS trading protocol provides the ability for customers to access live executable prices in addition to the traditional RFQ model. List and limit order trading is also available.

As well as trade execution, Tradeweb provides a full range of market data and post-trade processing services. In addition to the core network for institutional clients, Tradeweb includes the following brands: Tradeweb Retail, Hilliard Farber and Dealerweb. Tradeweb is owned by Thomson Reuters and 10 leading dealers.

Data available

Tradeweb provides, through its viewer, prices both on a composite and attributable basis across all the main European Government bond markets. This includes all Euro-zone, Gilt, Swedish, Danish and “New Europe” Markets.

They provide pricing for all tradable securities including bonds, Inflation linked bonds, Bills and CCTs.

The ability to view prices on the Tradeweb viewer is included in any access fees for the European Government platform. Additional costs are applicable should a user wish to download pricing information or take a direct market data feed. Further details of these prices are available directly from Tradeweb.

Pre-Trade Information

Tradeweb prices are live, real-time to all users with access to the viewer. Bid / Offer and mid-price are both supported.

Composite prices are derived using Tradeweb's proprietary algorithm. The composite is adjusted in real-time to reflect any changes from contributing dealers. Attributable prices on the Tradeweb PLUS Platform are also updated in real-time.

Users with access to the Tradeweb PLUS platform are able to view offerings from those dealers they have a relationship with. Sizes are included with these offerings so the market depth is available.

Post-Trade Information

Tradeweb provides a suite of post trade best execution and transaction cost analysis services to customers for trades executed both on and off the platform. These include comparisons to the composite, cover prices and a variety of peer group analysis. Further details are available direct from Tradeweb.

Furthermore, in line with FSA requirements, Tradeweb provide delayed information to market participants for trades executed on the platform. This is a subscription service.

Contact information

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99 Gresham Street
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+44 (0) 20 7776 3200
Europe.clientservices@tradeweb.com

B. Single dealer

In the single dealer part of the dealer-to-costumer market, the investor receives quotes in one-on-one contacts with the bank. These contacts can be via mail or phone. Also, all of the larger banks are signed up to trading platforms where investors can monitor real or indicative quotes from the individual bank and execute trades. Investors can get access to this information by visiting the relevant client pages on these systems or by adjusting the customer settings on their platforms. An example of this is the Single Dealer Pages on Bloomberg. To get information about the vendors/platforms that a given bank contributes to, investors should consult their bank.

Finally, some banks use web based client portals to exchange (price) information with their clients. Some examples of these client portals are shown below.

Barclays Capital

Barclays Capital provides clients access to market data relating to European Government Bonds via the client portals Barclays Capital Live and BARX Fixed Income.

Barclays Capital Live is an online portal available to clients, which allows access to research reports, pricing information, analytical tools and to the electronic trading platform BARX.

Within the Barclays Capital Live portal, the Market Monitor webpage allows clients to view indicative prices for European Government Bonds. The values shown are mid-levels which are updated approximately every 10 seconds intra-day.

The Analytic Tools webpage also within Barclays Capital Live allows clients to view pricing reports containing end of day mid-prices for European Government Bonds as well as access to analytical tools such as the ability to chart historical analysis, plot bespoke curves and perform regression analysis using the Relative Value Interactive (RVI) tool.

Barclays Capital provides live executable prices in European Government Bonds to a number of electronic trading venues and also the BARX Fixed Income electronic trading platform. The BARX Fixed Income platform is available to Fixed Income trading clients.

The BARX Fixed Income portal also provides clients access to the RVI analytical tool.

For an overview and demo of BARX Fixed Income please click on the following link:
<http://www.barx.com>.

Citigroup

Citi has a strong presence on all major fixed-income dealer-to-client platforms, across all asset classes, including derivatives.

Citi's competitive European government bond offering can be accessed by its global clients via Bloomberg, Tradeweb, BondVision and Reuters, with extensive price discovery and execution capability being provided by at least three of these channels.

Citi's updated proprietary single dealer platform, *Citimarkets.com*, is due for roll-out during 2010 and will enable clients to access end-to-end solutions that allow them to monitor the market with uncompromising global product access. As well as offering liquidity in European government bonds, Citimarkets offers a full suite of complementary and globally-recognised and award-winning services ranging from research, commentary and analytics through to its leading cross-border securities services.

Credit Suisse

Credit Suisse publishes quotes to a client system called PrimeTrade/ Locus.

Deutsche Bank

Deutsche Bank has long been a top provider of deep liquidity across the European Government bond markets. We are consistently rated one of the major dealers by recognised industry-wide surveys.

We were also one of the first banks, if not the first, to recognise the importance of electronic trading, with the launch over a decade ago of autobahn® which has since become an industry benchmark.

autobahn® provides real-time 24-hour access to Deutsche Bank's unparalleled liquidity across more than 7,000 securities in 25 currencies and has long been a key source of price discovery for European Government bonds. Available via a number of third-party vendor systems as well as via internet and our own proprietary platform, autobahn® can now also be accessed via a range of API solutions configurable to individual needs.

autobahn®TradeFinder is a real-time analytic web tool allowing instant, comprehensive and fully flexible analysis of both historical and live data, including interactive charting, unique relative value tools and portfolio risk analysis.

Access the power of Deutsche Bank at your fingertips - for more information please visit: <https://autobahn.db.com/>

IV. Retail Platforms and other retail data sources

Retail, for the purpose of this guide, means the non-institutional part of the buy-side and the smaller institutionals. This encompasses only a small part of the market (around 5% of the investor base according to estimates)⁸. This guide, in section A of this chapter, covers two of the bigger multidealer retail platforms. Another platform which might be of interest is that of Bondscape (www.bondscape.net).

In section B of this chapter, attention is drawn to some websites that deliver market data to retail end investors at no costs.

A. Retail platforms

1. Euro TLX

About EuroTLX

EuroTLX SIM S.p.A. organizes and manages the EuroTLX market, a Multilateral Trading Facility for the trading of financial instruments aimed at the investment needs of non-professional investors. The development of the market is pursued through an effort to increase the following values:

- *Transparency*: clear rules, pre- and post-trade information, and the characteristics of traded instruments through term sheets;
- *Liquidity*: guaranteed by the presence of at least one liquidity provider for every instrument traded.

Mission: offer to the banking networks a secondary market of financial instruments targeted to the specific needs of the retail segment.

Three are the typologies of Liquidity Providers present on the market:

Market Maker class A

- Provides liquidity on min.250 instruments;
- must join the market also as a broker;

Market Maker class B

- 20% of instruments on which it provides liquidity must be new instruments;
- does not have to join as a broker;
- the instruments on which it provides liquidity are subject to the criteria established by the market (no picking).

⁸ SIFMA response to CESR call for evidence on non-equity markets; March 2007.

Specialist

- Guarantees liquidity to its own banking bonds;
- The issuer or one of the brokers involved in placing the securities may also act as Specialist.

Currently the *Market Maker – Class A* are Banca IMI, UniCredit Bank and BNL-BNPP, whilst the *Specialists* are Banca IMI, Banca Popolare di Vicenza, Banco di Desio e della Brianza, BNL, Centrobanca, Morgan Stanley & Co. International plc, UniCredit Bank, Veneto Banca Holding.

Data available

EuroTLX market offers the possibility to trade more than 3,200 financial instruments with a high level of transparency and pre and post trading information.

The instruments belong to a wide range of asset classes: European and US equities, DR of International Blue Chips, certificates, covered bonds, financial and structured bonds, corporate bonds, emerging markets, sovereign and supranational bonds, Italian, European and US Govies.

Success Factors

- *Competitive pricing*, constantly calculated by the Market Performance Index.
- *Quote and order driven model*, with the presence of at least one Liquidity Provider on each instrument.
- *Wide range of financial instruments*, updated to the non-professional investors' needs and result of an accurate admission process.
- *Reliable technology*, thanks to the flexible and scalable matching engine provided by Nasdaq OMX.
- *Term sheet* for every traded instrument (currently only in Italian).

Market data delayed with 15 minutes are free of charge. For any information regarding the fee structure for real-time data, please contact directly EuroTLX SIM.

Contact information

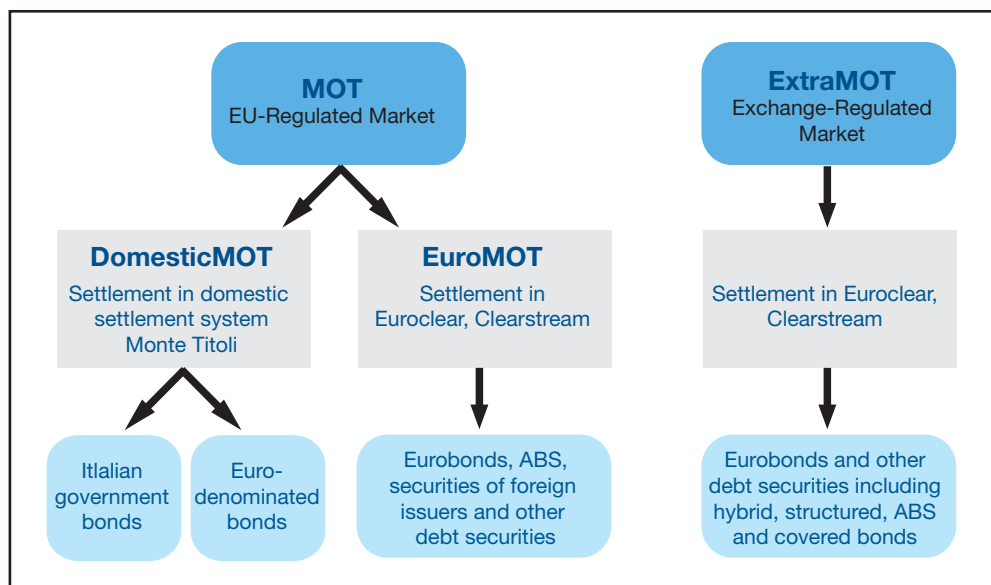
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www.eurotlx.com

2. Borsa Italiana - MOT

About MOT

MOT (*Mercato obbligazionario telematico*) is the electronic retail bond market operated by Borsa Italiana, part of the London Stock Exchange Group. The Italian market comprises DomesticMOT, offering government bonds issued by Italy and other Eurozone sovereign issuers in addition to corporate bonds and EuroMOT, providing access to a range of Eurobonds and Asset Backed Securities (ABS). In addition, 2009 saw the introduction of a new market segment, ExtraMOT, which was added to offer even great flexibility and diversity for users of the Italian retail bond market.

Italian retail bond market structure on Borsa Italiana 'MOT'



The MOT market was established to facilitate private investor's access to the bond markets, providing easily understandable and transparent operating procedures.

The Borsa Italiana MOT market segments comprise the most liquid and heavily traded retail fixed income market in all of Europe. In 2009, there were over 3.5 million trades executed on the DomesticMOT and EuroMOT market segments, representing total annual turnover of over €2.3 billion. At the end of 2009, there were over 600 bonds listed on the Italian electronic bond market with over 150 new bonds listed and admitted to MOT's electronic order books in that year alone.

Contact information

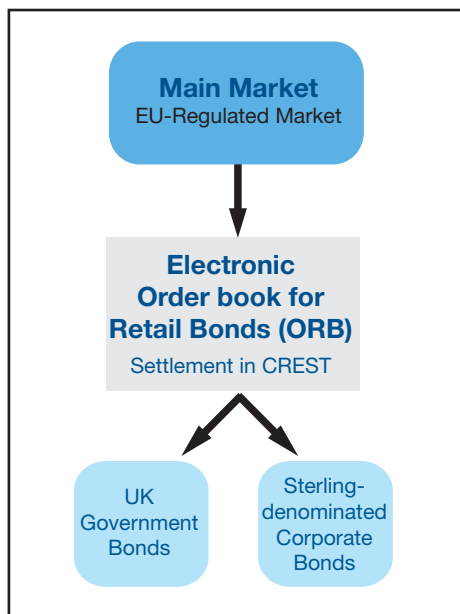
Alessia Baccalaro
 Head of Fixed Income and Covered Warrants Listing
 Borsa Italiana
 London Stock Exchange Group
 alessia.baccalaro@borsaitaliana.it
 Tel. +39.02-72426-276

3. London Stock Exchange: ORB

About ORB

In February 2010, the London Stock Exchange will launch its new electronic Order book for Retail Bonds (ORB). An initial offering of gilts and of 'retail-size' corporate bonds (tradable in denominations of £1,000 or similar) will be made available for trading through two new trading segments on our TradElect platform.

UK retail bond market structure on London Stock Exchange



The trading day will start with an initial opening auction phase running from 8.00 to 8.45 followed by continuous trading until market close at 16.30. Market makers will be able to enter named, electronically executable quotes. All market participants will be able to use limit orders and market orders. The minimum price movement for all order book bonds will be standardised at 0.01. All securities in the UK Gilts segment will have a standard lot size of £1 and will therefore be tradable in multiples of whole pounds.

The electronic order book for retail bonds will offer an open model where dedicated market makers will quote two-way prices in a range of retail bonds throughout the trading day and in addition, other market participants will be able to enter orders into the book. In this way, private investors will be able to see prices on-screen and trade in bonds in a similar way as they currently do for shares.

Contact information

Gillian Walmsley
Product Manager
London Stock Exchange
gwalmsley@londonstockexchange.com
Tel. +44 (0)20 7797 3679
www.londonstockexchange.com/retail-bonds

B. Other data sources

1. InvestinginbondsEurope.org

InvestinginbondsEurope.org is the result of a unique partnership between the Securities Industry and Financial Markets Association (SIFMA), the SIFMA Foundation for Investor Education; the Association of Financial Markets in Europe (AFME), their members; and other European market makers. Together, some 40 organisations are contributing resources, expertise, bond prices, market and ratings data; indices; important economic indicator and benchmark rate data, commentary and analysis, and educational content. There are over 100 sources of data on www.InvestinginbondsEurope.org.

InvestinginbondsEurope.org is a non-profit, non-commercial free resource for individuals at every point on the investing spectrum. The site, containing content in five languages, offers valuable educational information on bonds and the bond markets, bond price data, important economic indicators and market indices, and news and market commentary. Whether you are just beginning to think about investing in bonds, you know about shares but not about bonds, or you are a seasoned investor, the site can answer your questions and provide you with tools and information to learn more about bonds and the bond markets.

InvestinginbondsEurope.org is the sister site of www.investinginbonds.com, a source of information on the US bond markets which includes free, real-time bond price information and a wide variety of market data, news, commentary and information about bonds. The www.investinginbonds.com site has been ranked as a top investor site for bonds by Money, CNBC, Forbes and others and is continually enhanced and updated with new data, information and features.

2. BondMarketPrices.com

BondMarketPrices.com is a free service for private (retail) investors. The service is available to any private investor who is not based in the USA. It provides useful information on what a bond is; glossary of commonly used bond terminology; useful links for private investors and pricing data for certain bonds (securities).

The site provides users with: end of day average closing bid and offer quotes and the high, low and median prices for trades reported to TRAX that day. TRAX is Xtrakter's trade matching, settlement facilitation and regulatory reporting system available to the capital markets. The site also provides average daily volume data giving quantity and number of trades for given securities. The service is easily accessible and today's data is available at the end of the trading day.

The service was created to conform to European Financial Services Industry Standard of Good Practice on Bond Market Transparency (circa September 2007). The standard was compiled by ICMA based on feedback from differing associations and agencies regarding transparency within the secondary market.

Users of the site can filter search results by Security category (International, Domestic etc.); Security type (Straights, FRNs etc.); Issuer classification (Corporate, Sovereign etc.) and Currency. Bonds can also be selected by specifying the beginning of the Security name.

The results can be displayed in any chosen order. BondMarketPrices.com is a service from Xtrakter and is available to non US citizens. For more information on Xtrakter, see paragraph V.4.

V. Data Vendors

This chapter covers the vendors that offer a combination of all the sorts of data covered in the previous chapters, often offered in packages and combined with tools for analysis. Rather than providing venues for trading, they specialize in providing price and market data. (There are however data vendors that do also have their own trading platform; such as Bloomberg). In this chapter some of the bigger vendors are presented. Vendors which are not part of this chapter, but which can be of interest to end investors include;

- CQG (www.cqg.com/)
- GL Trade - Sungard global trading- (www.gltrade.com)
- SIX Telekurs (www.telekurs-financial.com/)
- VWD group (www.vwd.eu)
- Townsend Analytics (www.taltrade.com)

1. Bloomberg

About Bloomberg

Bloomberg L.P. began in 1981. The New York-based company employs more than 10,000 people in over 135 offices around the world. Bloomberg is about information: accessing it, reporting it, analyzing it and distributing it, faster and more accurately than any other organization. The BLOOMBERG PROFESSIONAL® service, the core product of Bloomberg, is the fastest-growing real-time financial information network in the world.

Data available

More than 300,000 professionals who use the BLOOMBERG PROFESSIONAL service expect global information and domestic specialization, whatever their financial-data needs. Track more than 5 million financial instruments with confidence, knowing our data is the most complete, comprehensive and accurate in the world.

BLOOMBERG® Data License allows for single-source referencing for your global securities database by delivering indicative, calculated, historical pricing and corporate-action information. Front-end applications are included in the package to assist clients with the delivery and integration of data feeds.

The BLOOMBERG PROFESSIONAL service weds the most timely and accurate fixed income data available with industry standard analytics in order to provide the most comprehensive platform for analyzing investment opportunities in the global debt and credit markets. Detailed terms are available on over 4.6 million fixed income securities. Coverage spans asset type with complete information available for Sovereign, Corporate, US Municipal, Residential & Commercial Mortgage Backed, Asset Backed and Emerging Market Debt. The Bloomberg is more than data; it provides a comprehensive suite of tools

for calculating yield, spread, OAS and total return, and provides covenant information on more than 65,000 bonds. Also available are real-time monitors and over 4,100 yield curves allowing you to track and analyze relative value opportunities around the globe. In addition to capital market offerings, Bloomberg provides not only coverage of terms and covenants on more than 5,000 syndicated and institutional loans, but also complete access to corporate actions and company fundamentals. Coverage is not limited to bonds and loans. Credit Default Swap fundamentals and pricing are available for over 1,500 corporate and sovereign issuers making Bloomberg the perfect platform for analyzing opportunities across assets. Whether it is in terms of data or analytics the BLOOMBERG PROFESSIONAL service provides the most comprehensive fixed income solution available.

Contact Information

http://about.bloomberg.com/index_nf.html

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Asia and Asia-Pacific +81-3-3201-8900

2. Markit

About Markit

Markit is a leading, global financial information services company with over 1,300 employees. The company provides independent data, valuations and trade processing across all asset classes in order to enhance transparency, reduce risk and improve operational efficiency. Its client base includes the most significant institutional participants in the financial market place.

Markit provides a range of fixed income data services providing global coverage of the corporate and government bond markets, including extensive coverage of European Government bonds.

Data available

Markit Bonds

Markit Bonds is a pricing service that aggregates, validates and distributes end of day composite bond prices from marks submitted by more than 30 sellside institutions. Pricing is available on a daily basis, covering in excess of 11,000 corporate and government bonds globally.

Data quality tests are run against each contribution in order to provide an accurate, reliable data set. Composite prices are produced after prices failing any one of the data quality tests have been excluded. Individual composites, par asset swap spreads and Z-Spreads are shown for each contributed price.

As part of its global coverage the service provides composite end of day pricing on approximately 800 European and East European government bonds.

Composite bond data is available via Markit's desktop solutions and for automated download into client internal systems.

Markit iBoxx

Markit iBoxx indices are market leading fixed income benchmark indices. They are an essential tool for structured products and provide data for fixed income research, asset allocation and performance evaluation in the global fixed income markets.

Markit iBoxx indices cover Euro, Sterling, Asian, US Dollar and European High Yield bond markets. Markit also established a global inflation-linked index family, global emerging markets local currency, and US Pension Liability indices.

Leading investment banks supply bid and ask bond prices throughout the trading day. The prices are subjected to a rigorous series of quality controls before consolidated bid and ask prices are calculated, used for index calculation and published for every bond in the Markit bond universe, along with a range of analytical values.

The iBoxx EUR benchmark indices comprise an overall index and four major index subgroups. The sovereigns index group is made up of Euro-denominated and Eurozone-currency sovereign debt issued by Eurozone-governments. It includes an overall index and maturity indices. An overall index is published for each of the Eurozone countries (with the exception of Luxembourg), i.e. Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Portugal and Spain. The iBoxx sovereigns group is detailed further, with maturity indices for Germany, France and Italy.

Index pricing is available both via Markit and other major data vendors.

Markit Evaluated Bonds

Markit Evaluated Bonds provides the fixed income market with independent pricing data on corporate and sovereign bonds across the investment grade and high yield universe. The evaluated bond price is not simply 'mark-to-market' - it is produced by a resultant price validated against a number of parameters from a wide range of sources. Markit can also provide industry standard terms and conditions data on 300,000 bonds for portfolio tracking and security master requirements.

Evaluated bond coverage is provided across all active European government bond markets.

Markit Quotes

Markit Quotes is a real-time quote parsing service that extracts indicative and live over-the-counter (OTC) and cash pricing from email messages. The service provides portfolio managers, traders and risk managers with increased transparency and insight over the course of the day.

With Markit Quotes, prices are extracted from the thousands of messages that active market participants receive each day. These messages can be in almost any format from multiple sources and are parsed and scrubbed in near real-time. The result is consistent price data that can be used for real-time market indications, idea generation and analysis.

Markit Quotes parses email messages for twelve types of OTC quotes, including: Bonds (both corporate and government), CDS, Indices, Loans, Convertible Bonds, Tranches, Switches, Rolls, Recoveries, ABS, ABCDS and Variance Swaps.

Contact information

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3. Thomson Reuters

About Thomson Reuters

Thomson Reuters is the world's leading source of intelligent information for businesses and professionals. We combine industry expertise with innovative technology to deliver critical information to leading decision makers in the financial markets, powered by the world's most trusted news organization. Reuters journalists report news from over 1500 locations in 20 languages. Through our wide distribution channels, Reuters news reaches over 1 billion people a day including more than 500,000 financial professionals around the world who subscribe to Thomson Reuters desktop products.

Our content and news melds human intelligence, industry expertise and innovative technology to provide decision makers with the knowledge to act.

Data available for the Fixed Income professional

Fixed income professionals around the world rely on Thomson Reuters for real-time, cross asset fixed income data, news and analysis in order to build an accurate and comprehensive picture of the markets, with Thomson Reuters pricing more than 2.5 million fixed income securities every day.

Fixed income content available from Thomson Reuters includes comprehensive and detailed reference, pricing, time series and analytical data for credit and rates instruments including government, municipal and corporate bonds, interest rates swaps, credit default swaps (CDS), loans, and fixed income indices.

Accessibility

Thomson Reuters global fixed income content can be accessed via Thomson Reuters desktop applications, enterprise feeds or mobile delivery. We offer a range of trade and risk management solutions to help manage order flow, make trade decisions and control risk. Thomson Reuters helps you increase the operational efficiency of your trading infrastructure, monitor enterprise-wide and desk-level risk and P&L exposure in real time and help you maximize investment returns.

Credit

- Exclusive coverage of loan T&C's, prices and loan market news from Thomson Reuters LPC
- Coverage of intraday, same-day and end-of-day CDS curves from Thomson Reuters and Markit
- Reuters Polls for Central Banks
- CDS volumes for intuitive analysis and segmentation of DTCC data
- Credit events giving full access to Auction results
- Credit research with exclusive access to IFR Markets and Thomson Reuters LPC analytical commentary
- Default probability providing first-to-market default probabilities for rich/cheap analysis
- CDS pricing including liquidity rankings, curve trading strategy, proprietary indices, sector/ratings curves and outliers
- End of day pricing on all credit instruments, including loans, bonds and derivatives
- Real time bid/offer prices contributed from brokers and dealers
- *Government Bonds and Agencies*
- Real-time pricing of government bond, IRS, agencies, mortgages and other assets via Tradeweb
- FX spot rates
- Real-time pricing from brokers including ICAP, Brokertec, Cantor and Tullet Prebon
- Interest rate paper/securities
- Interest rate cash prices/reference rates
- PV01 and benchmark spread data
- Euro, Eonia, BBA Libor, and BBA Repo fixings
- Interest rate derivatives
- Market polls for key interest rates
- BBA fixings supplied by leading liquidity providers

Contact information

For more information on Thomson Reuters Markets and our range of services and solutions available for the Fixed Income professional visit: thomsonreuters.com

4. Xtrakter

About Xtrakter

Xtrakter is a leading provider of capital markets data, operational risk management, trade matching and regulatory reporting services to the global securities market. It has an established track record in providing innovative, secure and reliable systems for the financial services sector.

Under the Markets in Financial Instruments directive (MiFID), Xtrakter is an Approved Reporting Mechanism (ARM) to the: FSA (UK), AMF (France) & AFM (Netherlands). Xtrakter additionally provides primary dealers with an onward reporting facility to the National Bank of Belgium (NBB) in accordance with the NBB and Securities Regulation Fund requirements.

Xtrakter was established in 1985 and is part of the Euroclear group of companies. It has 300 clients located globally and processes 2.5 million transactions daily on behalf of its user community.

Xtrakter is regulated by the Financial Services Authority (FSA) of the UK, as an approved Service Company FRN: 491843. Xtrakter has registered offices in the United Kingdom.

Xtrakter provides the following services:

- market data (pricing information)
- volume data (trade data)
- reference data (securities database)
- trade matching
- risk mitigation
- regulatory reporting
- regulatory reconciliation reports
- bond market transparency
- retail investor information
- straight through processing from trade matching in TRAX to Euroclear Bank

Data available

85% of all European fixed income portfolio valuations are calculated using data from Xtrakter.

The Xtrakter Price Service:

- The quotation price is derived from bid and offer quotes supplied by leading investment banks (market makers). At the end of each working day, data participants transmit their closing bid and offer quotes to Xtrakter for the securities in which they make markets. These quotes are then validated and processed by Xtrakter to provide an average bid and an average offer quote for each security. The number of participants who have contributed to each price is also provided.

- The traded price is calculated from trades entered that day through TRAX, Xtrakter's post-trade matching, settlement and regulatory reporting system, where a high, low and Xtrakter composite trade price is published for each security.

XM2M - Mark to market valuation service

XM2M is an information service brought to you by Xtrakter, the premier supplier of capital markets data. It has been designed specifically to assist inter-dealer brokers and market makers to ensure their securities are correctly valued. The daily download service provides subscribers with accurate information for conducting their mark-to-market and price testing calculations. This market to market (XM2M) service, offers you a wide range of benefits including: flexible delivery mechanism, 100% on demand (pay as you use), ISIN download service (easy look up service - tailored to your exact portfolio), data on over 300,000 Bonds, currently up to 40,000 bonds priced daily filtered to your chosen ISIN list. The service effectively allows you to slice and dice data to suit your firms differing needs.

XNAV - net asset valuation service

XNAV is an information service brought to you by Xtrakter, the premier supplier of capital markets data. XNAV is tailored for buy side entities that require fixed income data in order to conduct their daily net asset valuations. XNAV offers subscribers a wide range of benefits including: illiquid asset data, flexible delivery mechanism, 100% on demand (pay as you use), ISIN download service (easy look up service - tailored to your exact portfolio), data on over 300,000 Bonds, currently up to 40,000 bonds priced daily filtered to your chosen ISIN list. The service effectively allows you to slice and dice data to suit your firms differing needs.

XVOL – OTC liquidity service

XVOL is an information service brought to you by Xtrakter, the premier supplier of capital markets data. Establishing liquidity for popular instruments is relatively straight forward, but with infrequently traded OTC fixed income instruments a different approach is required. XVOL data is unique and invaluable to most market participants. It can help firms improve their trading, risk analysis and also allows broker dealers to estimate their 'market share' by security.

XVOL offers subscribers a wide range of benefits including: illiquid asset data, flexible delivery mechanism, 100% on demand (pay as you use), ISIN download service, data filtered to your chosen ISIN list. The service effectively allows you to slice and dice data to suit your firms differing needs.

XREF – Fixed income reference data service

XREF is the latest reference data offering from Xtrakter, it provides subscribers with access to all of Xtrakter's reference data on over 300,000 securities, for the very first time! It covers internationally syndicated issues, government bonds for the major countries (domestic and international); corporate bonds; MTN issuance; warrants; equities; GDRs and many small private derivative issues. In addition there are approximately 400,000 redeemed issues within the database that may be purchased separately.

Xtrakter.info

Xtrakter.info is an online portal offering subscribers access to both market and reference data. It is designed for the smaller sized fixed income investor entities. The service offers subscribers access to daily bid and offer quotes from the world's major market makers for more than 12,000 international bond issues; Underlying and historical data; , prospectuses and terms & conditions on 9,000 additional issues; An unrivalled coverage of straights, floating rate notes, convertibles; medium term note programmes; indispensable static data relating to lead managers, exchange listings and ratings; graphical representations including historic prices, yields, interest rates, and indices and new issue information.

XBIS – Free buy side information service:

XBIS is a free information service offering registered buy side entities access to fixed income market data. XBIS offers buy side professionals access to conduct ISIN lookups, obtain security descriptions and trade pricing data for differing securities. This service is available to market participants in accordance with the services terms and conditions.

BondMarketPrices.com – Private investor information service

BondMarketPrices.com is a free fixed income transparency service for private investors. It provides average closing bid and offer quotes and the high, low, and median prices for trades reported to TRAX that day. TRAX is Xtrakter's post trade, pre settlement trade matching and regulatory reporting service. Average daily volume data is shown two months in arrears. The service is easily accessible and today's data is available at the end of the trading day. It can be configured by users to their own individual needs.

Contact information

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VI. Annexes

A. Trading Platforms Operating with Mandated Quoting Obligations on the European Government Bond Markets⁹

Country	Trading Platforms Operating on the Market
Austria	BGC Partners ICAP/Brokertec MTS Austria
Belgium	BGC Partners ICAP/Brokertec MTS Belgium
Denmark	MTS Denmark
Finland	BGC Partners Eurex Bonds ICAP/Brokertec MTS Finland
France	ICAP/Brokertec MTS France
Germany	BGC Partners Eurex Bonds ICAP/Brokertec MTS Germany
Greece	HDAT MTS Greece
Ireland	BGC Partners ICAP/Brokertec MTS Ireland
Italy	MTS Italy
Portugal	MTS Portugal
Slovenia	MTS Slovenia
Spain	MTS Spain SENAF
The Netherlands	BGC Partners Eurex Bonds ICAP/Brokertec MTS Amsterdam

⁹ Please note that Germany has no quoting obligation.