THE COMMITTEE OF EUROPEAN SECURITIES REGULATORS

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# CESR´S RESPONSE TO THE COMMISSION´S REQUEST FOR INITIAL ASSISTANCE ON NON-EQUITIES MARKETS TRANSPARENCY

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# 1. INTRODUCTION

## Commission´s request

In August 2006 CESR received from the Commission a letter requesting CESR´s assistance with regards to the Commission's work under Article 65(1) of the MiFID. Under the provisions of that article, the Commission is required to present a report to the European Parliament and Council on the possible extension of the scope of the provisions of the Directive concerning pre and post trade transparency obligations to transactions in classes of financial instruments other than shares.

The Commission indicated that its initial request to CESR was a limited fact-finding exercise in relation to cash bond markets. CESR would be invited for its views on a broader range of questions and markets as part of a second tranche of assistance.

## Preparation of CESR´s response

Given the short timeframe and the anticipated lack of detailed data CESR has prepared this response in the following way. It circulated a questionnaire to CESR members seeking information in relation to Commission's questions 1, 4 and 5. Concerning questions 2 and 3 the response sets out to provide an overview of users and markets in the EEA. It aims both to describe some common characteristics of bond market users and bond market structures and also to identify some of the key differences between member states. While recognising that this method provides only a limited level of detail, particularly in respect of some of the specific features of markets in each member state, it was considered the most practicable approach in the circumstances. To the extent that greater detail and clarity is required, CESR would expect to be able to achieve this in its response to the Commission's request for further assistance.

CESR would however like to point out that currently most CESR members have only limited statistical information available to them about the bond markets in their countries. Although competent authorities can call on a number of outside sources of data, there is no fully comprehensive and harmonised data available throughout the EU. While the position for CESR members competent authorities should improve following implementation of Article 25 of the MiFID, the extent of this improvement will depend on the proportion of issuance and trading that falls within the scope of those transaction reporting requirements.

As clearly stated in the request, this response includes only factual information and does not intend to include any policy suggestions. CESR views on the policy choices will be made at a later stage in the process.

## 2. THE COMMISSION´S QUESTIONS

### Question 1:

**Specify the absolute size in terms of turnover and issuance of the market**

1. In light of the lack of comprehensive, harmonised information on EEA bond markets, CESR requested information from CESR members. All except 6 members have subsequently provided information.

2. Although the information received cannot be taken as precise (and may include both gaps and overlaps in counting), it indicates total bond market trading in the EEA of some €50 trillion annually. This appears to be broadly consistent with the figure for trades reported to the International Capital Markets Association, whose reporting dealers are believed to account for the major part of EU bond trading, particularly in the wholesale sectors.

3. As a general observation, the information available on government bonds is generally viewed as more precise than that available on corporate bonds. This is especially true with high yield corporate bonds. Several members have indicated that the distinction between investment grade and high yield corporate bonds is not made in their markets.

4. Regardless of the degree of precision in the figures, the general picture seems to confirm that the major part of the total is accounted for by trading in government bonds. This is what one would expect, given the prime credit quality of government debt and the significantly larger average issue sizes in government bonds (often ion the 5bn- €25bn range) than for corporate and other bonds. Conversely, the indicative figure for the trading of corporate bonds points to a value of corporate bond trading that is considerably smaller – and also considerably smaller than trading in equities on EEA exchanges – in spite of the fact that there are many tens of thousands of bond issues theoretically tradable.

*Question 2:*

**Describe the main end-users of the market and their needs. What is the estimated level of retail involvement in the market as a percentage of turnover? And as a percentage of holdings? (CESR may need to stipulate a definition of retail involvement for these purposes.)**

5. Bonds, whether held directly by individuals or (as more commonly) through pension, insurance or other investment funds, provide a core savings product for many EU investors. The predictable and relatively secure cash flows, particularly for government debt, offer investors an investment with a return that is normally higher than that obtainable on a cash deposit and with a lower capital risk than an investment in equity. The availability of different maturities means that investors can use bonds to match a range of future liabilities. This is of particular importance for many institutional investors, notably pension and insurance funds with measurable future obligations.

6. Although, in general, bonds offer relatively safe and predictable income, they are issued by entities crossing the whole credit spectrum, and in recent years an increasing proportion of issuance has involved complex structures that can often be difficult to price. Consequently, there are considerable differences in the types of investor that hold and trade different types of bonds, reflecting in particular their relative appetites for credit risk and their need for liquidity.

7. Overall, our assessment is that professional users of the market are by far the predominant force in bond markets across the EU. In many Member States, retail investors have very low (direct) exposure to bond markets, though in recent years they have often increased their exposure to bond markets through investments in managed bond funds. However, in a number of Member States, notably Italy, retail investors hold a material proportion of their overall (financial) investments in bonds. There are a number of reasons - cultural, fiscal, relative returns - why these different investor profiles have arisen (and, indeed, persist) in different Member States.

## Professional /institutional investors and their needs

8. At the professional/ wholesale end of the markets there are four main groups of market end-user:

   - **Larger institutional investors.** These include in particular large entities managing pension and life insurance funds. These investors *tend* to be longer-term investors, normally seeking assets with income streams that that they can match to their future liabilities.

   - **Mid-size fund managers.** These include a wide range of asset managers investing institutional and private client money in bonds and/or operating bond funds.

   - **Hedge Funds.** A number of hedge funds are active in debt instruments, operating in the cash markets, related derivative markets and in correlated assets, usually on a short to medium-term basis.

   - **Proprietary traders**, These are the trading desks of the larger investment banks and broker-dealers that are responsible for investing the capital some firms set aside for their own (proprietary) trading purposes, as opposed to the capital they may commit to mainstream market making or the facilitation of customer business. The 'prop desks' trade cash market and derivative instruments, to take advantage of both short–term technical situations and strategic opportunities.

9. Professional investors in bonds have a number of informational needs relating to trading. These include not only information relevant to immediate trading, but also information to facilitate portfolio valuations and information for assessing transaction costs.

10. For trading purposes, professional investors need to be able to access information on currently available prices (for given volumes), both for issues they are considering trading and also, in the case of corporates, of issues with comparable profiles. Where bonds trade relatively infrequently, information on any recent trades in the stock to be traded or comparable stocks may be useful, though the longer since those trades took place, the less useful that information becomes. Many investors also take into consideration current pricing and price trends in the interest rate futures and swaps market and, in the case of corporate bonds, of similar information in the credit default swap (CDS) market.

11. While pricing information, and indications of volume flows, are core information needs, many larger investors also rank liquidity provision as their highest priority. They attach considerable value to being able to trade in size with immediacy. To optimise the liquidity available to them, many recognise that dealers should be afforded some protection in the amount of information they divulge publicly about the size and nature of the risks they have taken on as a result of providing capital for larger trades.

## Meeting user needs

12. In the markets for more liquid bonds, particularly those for benchmark government bonds, there is normally some form of multilateral trading arrangement at the heart of the market, making for robust price formation and trading information that can be accessed easily by all participants. In these circumstances information asymmetries are at their least pronounced. But for all except the largest corporate issues, trading on multilateral platforms is rare and the ability to identify the 'market price' (to the extent that one exists) is more complicated.

13. Nevertheless, discussions with buy-side participants tend to indicate that larger players do not have a problem in obtaining pricing information, even though search costs in less liquid issues may be higher. Larger fund manager have relationships with a number of dealing firms and usually use several brokers with specialist knowledge. The biggest players often obtain regular downloads of dealers' closing prices and this enables them to take a view across the markets (rather than just accessing price information on a trade-by-trade basis). At the same time, they consider that their ability to trade readily in large (economic) sizes depends heavily on dealers not being forced to disclose the details of larger trades.

14. The larger buy-side firms' business relationships also give them access to research papers and trading ideas to inform their investment strategies. Firms value the 'market colour' they obtain from conversations with brokers and dealers on what is going on in the markets and the instruments they ought to think about trading.

15. For some smaller buy-side firms, however, accessing pricing information, liquidity and trading ideas in the corporate bond markets may be less easy. These firms generally have far fewer broker and dealer relationships than the larger firms through which to gain access to prices and dealing opportunities. Some of these participants have commented that greater post-trade transparency, delivered on an end-of-day basis, would be of benefit for both their price discovery and in marking portfolios to market (although alternative information sources for doing the latter are available). As with larger investors, however, some smaller buy-side firms are keen to ensure that improvements to transparency do not damage the levels of liquidity provision in the markets. The ability to trade seems to take predominance over the ease of identifying current prices.

### Retail investors and their needs

16. As noted above, some national markets within the EU have very few retail investors in bonds. Others, however, have a retail segment that is both significant in scale and active across a wide range of market segments.

17. Two member states – Italy and the UK – have given some detailed information on retail investment in their bond markets. For Italian retail investors bonds are a major component of total financial assets (22.4%). By contrast, the figure for the UK is just 1.5%, while the US is at an intermediate level (6.9%). In terms of investment in financial products alone (i.e. excluding deposits and cash), the portion of bonds in Italian retail portfolios rises to 30.7%, against 2% for Britain and 7.9% for the US. (It is unclear how retail bond investment in other Member States is distributed across this spectrum) Although most Member States have estimates of the distribution of financial holdings by category, there is little information available indicating the relative extent to which retail investors use the primary and secondary markets respectively, or the frequency with which they trade bonds.

18. Retail investor needs in the bond markets (primary and secondary) have a rather different focus and emphasis from those of the professional investor. As indicated earlier, many bonds offer investors relative capital security and predictability of income, but the bond markets also include a huge diversity of bonds, with varying degrees of risk and liquidity and sometimes with complex structures. The protections afforded by suitability rules are important as it is not always necessary for bonds admitted to trading on regulated markets and MTFs to have a rating - and a rating may not in itself be an indication of suitability.[1] Additionally, retail investors may also need information relating to price and current trading opportunities, over and above information and/or advice relating to the suitability of particular bonds.

### Meeting user needs

19. As a broad generalisation, it is normally more difficult for retail investors to access in-depth trading information about bonds than is the case for equities. This is less true in the case of government bonds and the more liquid non-government bonds, for which information may be available via the internet and in newspapers. While it becomes increasingly the case beyond the most liquid corporate bonds, we have no information as to the level of retail investment or trading in these least liquid segments.

20. For the most part, retail investors rely on their broker/bank to find the best trading venues and deliver best execution (and, where they make markets in their own bond issues, to avoid conflicts of interest) in accordance with existing regulations and those that MiFID will introduce. At the same time, an increased availability and dissemination of price information might empower retail investors better to

[1] The rules of market/MTF operators usually establish that where the creditworthiness of bond issuers has been rated by a local or international credit rating agency the rating or its update is notified to the market operator if public, with an indication of the rating of the individual issue, if any.

monitor the quality of the executions they receive and might help them to better understand the markets and improve their investment decisions, On the intermediaries side, it is unclear whether an increased availability of price information would materially improve their performance in delivering best execution, though it might reduce search costs.

21. Availability and use of online access to multilateral or bilateral trading facilities is less common than in the equity market, but it is available, and used, in a number of countries, including Italy and Germany.

*Question 3:*

***What are the main characteristics of the markets for the relevant instruments in terms of market structure? For example, to what extent is liquidity concentrated on venues such as regulated markets, MTFs, voice brokers, systematic internalisers or bilateral OTC?***

22. The EEA market in bonds comprises a number of product markets. In broad terms, there are markets in government and non-government bonds, with the latter comprising a wide range of sub-sectors (e.g. asset-backed securities, covered bonds, convertible bonds etc). In addition, there are bonds aimed primarily at domestic markets and a substantial pool, of bonds, from EU and non-EU issuers, aimed at a more international marketplace.

23. In terms of market infrastructure and trading, there are a number of elements that will be relevant to the Commission's review. Of central importance to the consideration of the efficiency of the market and the role of transparency are the different trading methodologies and trading arrangements in use.

24. In broad terms, the bond markets are heavily dealer-centric. They rely substantially on the commitment of dealer capital to support the trading process and trading in some parts of the market, especially in the less liquid corporate bonds, relies almost exclusively on dealers operating on a bilateral basis. Although a significant proportion of trading in larger, more liquid issues, has in recent years gravitated to multilateral electronic trading systems, the more significant of these systems remain dealer dependent and operate on the basis of competing dealer liquidity provision. In that sense, they differ significantly from the open, order-matching systems commonly found in equity markets that provide for more broadly based interaction of buying and selling interest. .

25. There are a number of reasons for the centre-stage position that dealing firms continue to hold in the bond markets. One is the liquidity characteristics of many bond markets, with only a small number of bonds accounting for the major proportion of trading and a very long tail of infrequently traded issues – many corporate bonds hardly trading at all after their first few weeks of issuance. A second, and linked, factor is the interconnectedness of the primary and secondary markets. Both issuers and the major investors look to the investment banks and broker-dealers responsible for managing issuance also to facilitate ongoing trading. In the government bond markets, this is often effectively formalised in the roles set by government authorities for primary dealers. But it also mirrored in the non-government sector, where issuers often take into account an investment bank's record in supporting secondary trading when deciding to whom to grant mandates.

26. A de facto consequence of the extensive role played by dealing firms is the more fragmented nature of trading than is typically the case in equity markets. However, market structure has been evolving. As indicated above, in the markets for more liquid bonds, particularly government bonds, a number of multilateral, dealer-supported electronic platforms have been developed – largely in response to the pressures to lower transaction costs – and have gained significant market share. Multilateral platforms also operate in the corporate sector, though here they have so far failed to establish the same significance in the marketplace as platforms in the more actively traded government sector.

27. These platforms enhance transparency and competition for their users. Although many of the platforms segment market participants, providing either dealer-to-dealer services or dealer-to-client services, trading information is often available beyond the immediate participants.

28. A further consequence of the dealer role in the market is that a far larger proportion of bond trading than equity trading normally takes place OTC, i.e., away from exchanges/regulated markets and

ATSs/MTFs. This is widely the case even though many thousands of bonds are officially listed and admitted to trading on exchanges. In many cases, corporate bonds (and in some Member States, government bonds too) rarely or never trade on exchange, in part because exchanges (increasingly) see little commercial value in developing trading facilities except for instruments likely to generate ongoing revenue, and in part because dealers see no benefit in trading 'on exchange' and paying exchange fees.

29. This regulatory compartmentalisation of the market means that large parts of the market in many Member States fall outside mandatory transparency provisions. In respect of the availability of pre-trade information, the on-off exchange distinction is possibly less significant than in the case of equities in that the multilateral platforms offer pre-trade transparency and most dealers post quotes – some indicative, some firm - with data vendors such as Bloomberg. Most post-trade transparency, however, is confined to exchange and ATS trading.

**On-exchange bond trading for retail investors in Italy**

| Retail Regulated Market | Market Operator | Segments | Type of trading system | Types of bonds traded | Types of market participants |
|---|---|---|---|---|---|
| **MOT** | Borsa Italiana SpA | Domestic MOT[2] | Order driven | Italian government securities & debt securities in euros and other currencies | Banks and investment firms authorised to deal on own account or on behalf of clients |
| | | Euro MOT[3] | Order driven | Eurobonds, securities of foreign issuers and other debt securities, and ABS | As above |
| **TLX** | TLX SpA | - | Order/quote driven | Italian and European government securities, supranational bonds, sovereign bonds, corporate bonds, structured bonds and step-up bonds | As above |

30. An important fact to note is that indirect access to trading is possible through what is termed 'interconnection' (otherwise known as Direct Market Access, or DMA). Interconnection is available to the customers of intermediaries or their organisational units, provided that they have an approved control system, via systems that are not used exclusively by qualified traders to access the markets directly. This may include computer-based systems for the automatic generation of orders (e.g. program trading systems and automatic quote systems used by market makers and specialists). Access to the systems may be provided to clients via the intermediaries' organisational units (other than those assigned to the intermediary's own trading), the premises of the client, or online. Where interconnection/DMA is allowed, the use of interconnected systems is subject to certain requirements (filters, appointment of a trader for monitoring activity, technology and professional requirements). This includes the installation of systems for identifying orders transmitted via interconnections where a customer type field should be filled in order to be able to identify the type of customer sending the order. Among the trader types, there is the "interconnected private customer", which comprises, among others, all orders sent to the market via interconnections by private customers of members[4].

[2] Settlement takes place through Monte Titoli.

[3] Settlement takes place through Euroclear and Clearstream Luxembourg.

[4] Also worthy of note is a study that has been published on online trading in Italian markets.[4] It estimates that about 25% of trades in Italian stocks are now made via the internet by retail investors. It emphasises the reasons why Italy is one of the marketplaces where online trading by retail investors has developed prominently: the market micro-

31. Below, we set out the main structural characteristics in the various market segments in turn.

### Government bond markets

32. An important feature of the arrangements in most markets for government debt is the interest taken in the structure, and in some cases the oversight of the market, by the public authorities responsible for the issuance of government debt. They have particular interests in ensuring the smooth funding of pubic sector debt and ensuring that the secondary markets are sufficiently liquid.

33. As the most liquid markets, due to their size and benchmark nature, the government bond markets have a core of multilateral trading. The nature of the multilateral facilities varies, and these facilities are normally supplemented, to varying degrees, by bilateral OTC trading.

34. In the case of euro-denominated government debt, the MTS electronic platforms are the most widely used in this sector as a whole, though their share of government debt trading varies in the different Member States in which the platforms operate. In addition to the national MTS platforms, EuroMTS in London provides a single platform for dealing in the main Eurozone benchmark bonds. The MTS platforms provide dealer-to-dealer markets, with the primary dealers committed to providing quotes and liquidity in specified bonds (on a rotational basis).

35. In the dealer-to-customer space, a number of multilateral electronic platforms are operational, such as BondVision (a segment of the MTS regulated market[5]) and Tradeweb (regulated in the UK as an ATS). These systems too involve dealers committing to provide liquidity to the users.

36. In the UK, the main market in government securities ('gilts') operates under the rules of the London Stock Exchange, with the 17 Gilt-Edged Market Making firm (which are also the primary dealers in the government debt market) required to make firm quotes on request and to deal on the basis of those quotes. The market is still largely a telephone market and almost exclusively wholesale, though several market makers also make markets in retail size. Alternatively, retail investors can use the UK Debt Management Office's Gilt Purchase and Sale Facility rather than access the market via their bank or broker.

37. In addition, some exchanges provide facilities for retail trades in government bonds. This is the case in Italy for the regulated market "MOT" operated by Borsa Italiana's - a screen-based bond market and trading is organised via an opening and closing auction, with continuous trading in between[6] – and TLX's regulated market, where trading may be carried on using the continuous trading system, which has both order- and quote-driven elements[7].

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structure, which allows retail investors to access the trading order-book directly (unlike in some other Member States, including the UK), a general attitude of Italian investors to be independent in their saving allocation decisions and the attention paid by brokers in offering their customers online trading services. One of the main findings is that the investments of those who trade online are diversified and their portfolio includes different financial assets. As a group, they appear to prefer listed instruments. "*Portfolio and psychology of high frequency online traders. Second Report on the Italian market*". Borsa Italiana (July 2006).

[5] Transactions can be assisted by a central counterparty. Market participants can decide to have their transactions cleared by 'Cassa di Compensazione e Garanzia' or LCH.Clearnet. Only where both market participants opt to use a CCP will the trade in which they are involved be on an anonymous basis.

[6] Orders contain at least the information relative to the financial instrument to be traded, the quantity, the type of transaction, the type of account and the price. The orders for each instrument are automatically ranked on the book by price — in order of decreasing price if to buy and increasing price if to sell — and, where the price is the same, by entry time. Specialists must undertake, for each of the financial instruments for which they intend to intervene, to display continuous bids and offers with a percentage spread that does not exceed the limits established by Borsa Italiana and in accordance with the minimum quantity for each bid/offer (among other requirements).

[7] Investors may send market or price limit orders valid for the day. Each order-book is made up of quotes and orders ordered by prices and time priority. There is no restriction on the maximum quantity for an order/quote, but tick sizes and minimum quantity are defined according to instrument and price. Liquidity is guaranteed by the presence of at least one market marker for each traded financial instrument; they have to guarantee liquidity for the financial

38. Alternatively, retail trading may also be facilitated via a government agency. For instance, the UK Debt Management Office provides a Gilt Purchase and Sale Facility for investors who may find this more convenient than the normal methods of market access.

39. In a number of Member States, the major part of government bond trading takes place bilaterally, OTC. For example in Greece, where multilateral platforms are available, more than 85 % of trading value in 2005 is estimated to have taken place OTC. Where trading [in government bonds] occurs outside regulated markets, it often has to be reported to the relevant government agency or exchange anyway and undertaken in accordance with the relevant venue's rules. Additionally, in some Member States levels of activity can (potentially) be monitored where settlement is conducted through a single organization. However, not all countries have centralised settlement and in some cases a significant proportion of trades are settled outside the member state in one of the international clearing and settlement entities.

### Investment grade corporate bonds

40. Even for the most heavily traded corporate bonds, OTC trading is a major component of activity. Some multilateral venues have had some success in penetrating the market with electronic platforms. For instance, the MTS regulated market discussed above has a multi dealer to dealer segment for non-government bonds, and the BondVision trading system has an MTF segment for the trading of such debt too. Borsa Italiana's MOT regulated market also provides trading in non-government debt and, in Germany, Eurex Bonds also provides trading in a limited number of the most liquid corporates. Some brokers (e.g. ICAP, Cantor Fitzgerald) offer dealer-to-customer or inter-dealer platforms to help automate trading in large corporate issues. Another example is MarketAxess, which offers a multi dealer-to-customer platform for the trading of euro, US dollar and sterling Eurobonds.

41. Nevertheless, dealer-driven liquidity tends to dominate, with large investment firms posting two-way quotes (sometimes indicative) via data vendors' screens such as Bloomberg heavily-used ALLQ function, and via their own bilateral systems (where quotes may be firm, allowing clients 'one-click execution'). The International Capital Market Association (ICMA) has approximately 40 reporting dealers, ranging from the global and 'bulge bracket' firms to more European - or nationally-focused entities. ICMA data from 2005 indicates that, of more than 9,400 issues that had indicative quotes posted in them by an ICMA reporting dealer, 1,100 had ten or more dealers, nearly 1,800 had six to nine dealers, and over 4,300 had two to five dealers. About 2,200 had only one dealer. The vast majority of these bonds would have been investment grade.

42. Nevertheless, it is not possible for all bonds to be offered for trading on such a basis. It would not be feasible for an individual dealer to make prices in every bond, given the tens of thousands of European issues (or all sizes and descriptions) currently outstanding. And so brokers, using their extensive market knowledge, play a significant role in finding the other side to trades in less frequently traded issues.

### High yield corporate bonds

43. With respect to high yield bonds, the emphasis on dealer/broker liquidity increases again. Little trading occurs on multilateral venues in high yield debt, and, where it does, it is often in the bonds of struggling large corporates (e.g. 'fallen angels' – i.e. corporates whose credit rating has been downgraded to junk status). MarketAxess is one MTF operator that provides for trading in some high yield Eurobonds. Often, high yield bonds are issued in small size and by smaller corporates. Dealers have lower interest in making markets in such debt because the follow-on business discussed above is less likely to materialise or to justify the capital commitment involved. Again, the emphasis grows on brokers to find the other side to the trade when a client wants to adopt/liquidate a position.

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instruments, with obligations related to continuity and minimum quantity. In the determination of a minimum negotiable amount for a financial instrument, TLX takes into account the need to ensure the efficient operation of the market and the accessibility to trading by investors. Transactions are not assisted by a central counterparty.

*Question 4:*

*Indicate what pre- and post- trade information is available and how it is disseminated and with what delays to the public, to subscribers and to those with trading privileges.*

44. Country-by-country summary information is provided in the annex.

*Question 5:*

*What are the mandatory pre- and post-trade transparency requirements and how the information is made available*

45. Generally, the current pre and post trade requirements are set by regulated markets and in some cases by MTFs. Similarly, a prime source for information is the regulated market or MTF and subsequently data vendors.

## Annex 1: Bond structures

46. Bonds are debt instruments denoting the obligation of an issuer to satisfy a holder's claim to capital repayment, usually at a specified future date and with the payment of interest in the interim. Bonds vary widely from those that are "plain vanilla" (e.g. a ten year bond with a 5% coupon), to those with highly complex structures, including embedded derivatives. This breadth provides great choice and flexibility for both issuers and investors.

47. Bonds generally have three basic features: the par value (which will normally also be the redemption value); the coupon, or interest rate; and the length of time to maturity. But the specific characteristics vary greatly from bond to bond and, in recent years, increasingly complex structures have appeared. This means that bonds are often a more complicated asset class for many investors to understand.

48. Most bonds provide a fixed rate of interest but a significant minority offer a floating rate, normally set at a pre-determined margin over a specified money market rate. Zero coupon bonds make no interest payments at all. Instead, the investor buys the bond at a (deep) discount to the bond's par value and obtains the equivalent of an interest payment as the discount to par narrows over the life of the bond. A further variation is the step-up bond. As the name implies, such bonds pay a given coupon during an initial, specified period and a higher coupon in following periods. This allows the issuer to defer some interest payment, whilst rewarding those investors who retain the bond beyond the initial period.

49. Maturities also differ widely. Most bonds have an original maturity of at least a year, and can range up to 30 years or more for some issues. The maturity will depend on the nature and objectives of the issuer. Bonds with an original maturity of less than five years are often issued as medium term notes (MTNs), each tranche drawing down from a broader MTN programme. At the opposite end of the scale, governments and supranationals are common issuers, offering long-term debt via very large issues.

50. The presence of covenants may change the risk and/or payment profile of a bond. Restrictive or negative covenants are employed to limit the future actions of the issuer – e.g. by placing a contractual requirement on the issuer to limit future debt issuance or dividend payments. This aims to protect the bondholders' stream of income. Another type of covenant used is an acceleration covenant, which requires the issuer to repay bondholders early should a default or downgrade in credit rating occur. Bonds may also include provisions to protect the issuer. An extendable bond, for instance, gives the issuer the option to extend the bond's maturity. This will be of value if interest rates rise during the lifetime of the bond and the issuer wishes to continue paying the existing coupons rather than refinancing at a higher rate.

**The market for covered bonds/Pfandbriefe**

- The covered bond market clearly is of significant importance in the EU looking at the volumes outstanding and the volumes traded in the secondary market. However, it is important to bear in mind that covered bonds are arguably not caught by the categorisations of bonds in the Commission's request for initial assistance, as they are neither government nor corporate bonds. While the Commission in its Call for Evidence has listed them as an example for other asset-backed securities an argument can be made that they are an asset class of their own. The following entails a brief description of the covered bond market in Europe, and Germany in particular.

- In the European context all covered bonds amount to a volume outstanding of €1,709bn with €650bn having the format of Jumbos, i.e. issues with a minimum size of €1bn and mandatory market-making arrangements. By the end of 2005, Pfandbriefe were the largest asset class in the German fixed income market apart from government bonds, with a volume outstanding of €976bn. This accounted for an overall market share of about 30%.

- Pfandbriefe outside the Jumbo segment account for approximately one third of the market in volume outstanding in Germany. While they are ordinarily admitted to

trading on a regulated market they consist to a large part of registered bonds with restricted fungibility and to another large part of bearer bonds tailor-made for a single institutional investor. They are seen as buy-and-hold investments and any prices quoted for them on the exchanges are usually based on estimates.

- As opposed to this the secondary market of Jumbo Covered Bonds is an active one with the most important participants in the market being banks, funds, pension funds, insurers and central banks. Overall the market for covered bonds is of a wholesale nature and the participation of retail investors is very limited. Estimates in respect of the secondary market for Jumbo Covered Bonds place the retail participation in terms of volume at a maximum of 5%. Participation of retail investors in the smaller or less-liquid issues is assumingly of even lesser significance.

- Looking at the market structure of the secondary market for Jumbo Covered Bonds approximately 60% of trading between banks was done by telephone-trading on a bilateral OTC basis or with the participation of a broker. For the remaining 40% trading between banks is concentrated on electronic business-to-business platforms such as EuroCreditMTS or Eurex Bonds. For the trading between banks and investors the share of transactions conducted via phone is even greater standing at just over 70% with the volume traded via electronic trading platforms accessible to banks and investors covering fewer than 30% of the volume. The secondary market trading on the exchanges is estimated to be marginal.

51. Asset-backed securities (ABS) make use of a pool of loans, leases and/or other assets to provide the income streams out of which bondholders are paid. Mortgage-backed securities do the same with real estate debt. Such securities provide investors with diversified credit risk through the pooling of the underlying assets, although the pools themselves (or tranches within them) may differ in maturity and/or quality. Alternatively, a synthetic product can be created that is backed by a pool of credit derivatives. Covered bonds, such as Pfandbriefe, have also become a more frequently used form of financing in recent years, and are discussed in further detail in Box 1.

**The Danish mortgage bond system (covered bonds)**

- Danish mortgage banks exclusively offer loans funded through the issuance of bonds. Mortgage banks only issue bonds in connection with the conclusion of loan agreements with customers.

- The asset-liability management of Danish mortgage banks is regulated in accordance with the balance principle. The principle states that the payments on the debtor side and the creditor side of a mortgage credit institution must balance as a whole within certain limits. This is achieved by issuing a bond or a portfolio of bonds each time a loan is granted. The rules generally ensure that Danish mortgage banks are prevented from incurring substantial risks in connection with mortgage lending and funding. This applies to interest rate risk, exchange rate risk, liquidity risk, prepayment risk, etc. From an overall point of view, this means that the only risk actually incurred by Danish mortgage banks is credit risk in relation to customers and market risk in relation to their own portfolios.

- In practice, the balance principle creates a cash flow match between the assets of a mortgage bank, in the form of mortgages, and the liabilities, in the form of issued bonds. The retail borrower applies for a loan in the mortgage bank. In the vast majority of cases the mortgage bank sells the bonds and is in general responsible for investor relations.

When the bonds are sold the proceeds are deposited on the borrower's bank account.

- The total outstanding amount of Danish mortgage bonds secured against mortgages on real property amounted to more than EUR 220bn at end-2005 corresponding to more than 100% of Danish GDP.
- Danish mortgage banks generally issue mortgage bonds (covered bonds) in portfolios with similar characteristics, thereby creating a deeper and more liquid market for a given mortgage bond.
- All Danish mortgage bonds are listed on the Copenhagen Stock Exchange, but the amount of bonds traded on regulated markets is limited. Most of the traded volume is traded outside regulated markets (by telephone).
- The market for Danish mortgage bonds is largely an interbank market. Retail investors only represent a 5 % market share.
- The retail borrower has a direct interest in the market pricing due to the direct link between pricing and the proceeds deposited.

52. Other, complex structures may also be employed to change the risk/reward trade-off associated with a bond, or to vary its characteristics in some respect. An obvious example is the convertible bond. This allows for the bond to be converted into a given quantity of the issuer's shares on set dates, usually at the option of the bondholder. In other words, the bond has an embedded put option. Alternatively, the bond may allow the issuer to call (i.e. to force conversion).

53. Other options may also be built into a bond. Callable, or redeemable, bonds allow the issuer to redeem the bond prior to maturity. This usually involves a premium having to be paid to the bondholders (known as a soft call provision) or the issuer having to pay a lump sum to compensate holders for the loss of future coupon payments. Alternatively, holders may have a put option, allowing them to force the issuer to redeem on given, specified dates.

**ANNEX 2: Bond market transparency: A country-by-country summary**

Note: This table should be read in conjunction with the submissions made by Member States in response to CESR's survey on bond market transparency. National laws may set down specific requirements or provide regulators or trading venues with the right to establish binding requirements on firms.

| Country | Bond type | Requirements under national law (including competent authorities' regulations or mandatory venue rules) | | Broader availability of transparency (e.g. to general public via websites) | |
|---|---|---|---|---|---|
| | | Pre-trade | Post-trade | Pre-trade | Post-trade |
| Austria | Sovereign | | | | |
| | Corporate | | | | |
| Belgium | Sovereign | ✓ (partly on regulated markets ; on MTF) | ✓ (partly on regulated markets ; on MTF) (real time to delayed) | ✓ (partly on regulated markets ; on MTF) | ✓ (partly on regulated markets ; on MTF) (real time to delayed) |
| | Corporate | ✓ (on exchange) | ✓ (on exchange) (real time to delayed) | ✓ (on exchange) | ✓ (on exchange) (real time to delayed) |
| Cyprus | Sovereign | ✓ (from exchange) | ✓ (real-time to subscribers, from exchange) | ✓ (from exchange) | ✓ (real-time to subscribers, from exchange) |
| | Corporate | ✓ (from exchange) | ✓ (real-time to subscribers, from exchange) | ✓ (from exchange) | ✓ (real-time to subscribers, from exchange) |
| Czech Republic | Sovereign | x | ✓ (real-time to subscribers from exchange) | ✓ (from exchange) | ✓ (real-time to subscribers, from exchange) |
| | Corporate | x | ✓(real-time to subscribers from exchange) | ✓ (from exchange) | ✓ (real-time to subscribers, from exchange) |
| Denmark | Sovereign | ? | ✓ (real-time to subscribers from exchange; 15 min delay to public) | ✓ (from exchange) | ✓ (real-time to subscribers from exchange; 15 min delay to public) |
| | Corporate | ? | ✓ (real-time to subscribers from exchange; 15 min delay to public) | ✓ (from exchange) | ✓ (real-time to subscribers from exchange; 15 min delay to public) |
| Estonia | Sovereign | | | | |

| | | | | | |
|---|---|---|---|---|---|
| | Corporate | | | | |
| Finland | Sovereign | ✓ (exchange, not OTC) | ✓ (real-time or delayed from exchange) | ✓ (from MTS and some firms) | ✓ (from exchange, MTS and some banks) |
| | Corporate | ✓ (exchange, not OTC) | ✓ (real-time or delayed from exchange) | ✓ (from some firms) | ✓ (from exchange and some banks) |
| France | Sovereign | ✓ (from exchanges and MTFs) | ✓ (real-time through to next day, from exchanges and MTFs) | ✓ (from exchanges and MTFs) | ✓ (real-time through to next day, depending on the data, from exchanges and MTFs) |
| | Corporate | ✓ (from exchanges and MTFs) | ✓ (real-time through to next day, from exchanges and MTFs) | ✓ (from exchanges and MTFs) | ✓ (real-time through to next day, depending on the data, from exchanges and MTFs) |
| Germany | Sovereign | ✓ (optional from exchanges and MTFs) | ✓ (real-time or delayed, from exchanges and MTFs) | ✓ (from exchanges, MTFs and composite quotes from iBoxx) | ✓ (real-time or delayed, from exchanges and MTFs) |
| | Corporate | ✓ (optional from exchanges and MTFs) | ✓ (real-time or delayed , from exchanges and MTFs) | ✓ (from exchanges, MTFs and composite quotes from iBoxx) | ✓ (real-time or delayed, from exchanges and MTFs) |
| Greece | Sovereign | ✓ (from exchange) | ✓ (real-time or delayed from exchange) | ✓ (from exchange) | ✓ (real-time or delayed from exchange) |
| | Corporate | ✓ (from exchange) | ✓ (real-time or delayed from exchange) | ✓ (from exchange) | ✓ (real-time or delayed from exchange) |
| Hungary | Sovereign | ✓ (from exchange) | ✓ (real-time or delayed, from exchange) | ✓ (from exchange, and some from OTC) | ✓ (real-time through to end-of-day, from exchange and some from OTC) |
| | Corporate | ✓ (from exchange) | ✓ (real-time or delayed, from exchange) | ✓ (from exchange, and some from OTC) | ✓ (real-time through to end-of-day, from exchange and some from OTC) |
| Ireland | Sovereign | ✓ (for primary dealers) | ✓ (end-of-day, from exchange) | ✓ | ✓ (end-of-day, from exchange) |
| | Corporate | ✗ | ✓ (within 5 minutes) | ✓ (from firms, via data vendors) | ✓ (within 5 minutes) |
| Italy | Sovereign | ✓ (from exchange, MTFs and bilateral systems) | ✓ (twice daily, for exchanges, MTFs and OTC participants) | ✓ (from exchange, MTFs and bilateral systems) | ✓ (real-time, from exchanges, MTFs and OTC participants) |

| | | | | | |
|---|---|---|---|---|---|
| | Corporate | ✓ (from exchange, MTFs and bilateral systems) | ✓ (twice daily, for exchanges, MTFs and OTC participants) | ✓ (from exchange, MTFs and bilateral systems) | ✓ (real-time, from exchanges, MTFs and OTC participants) |
| Latvia | Sovereign | ✓ (from exchanges) | ✓ (various time frames, from exchanges and firms) | ✓ | ✓ (various time frames, from exchanges and firms) |
| | Corporate | ✓ (from exchanges) | ✓ (various time frames, from exchanges and firms) | ✓ | ✓ (various time frames, from exchanges and firms) |
| Lithuania | Sovereign | | | | |
| | Corporate | | | | |
| Luxembourg | Sovereign | ✓ (from exchange and MTF) | ✓ (real-time from exchange and MTF, including some OTC transactions reported to the exchange) | ✓ (from exchange and MTF) | ✓ (real-time, from exchange and MTF via data vendors) |
| | Corporate | ✓ (from exchange and MTF) | ✓ (real-time from exchange and MTF, including some OTC transactions reported to the exchange) | ✓ (from exchange and MTF) | ✓ (real-time, from exchange and MTF via data vendors) |
| Malta | Sovereign | ✓ (from exchange) | ✓ (real-time to end-of-day, from the exchange) | x | ✓ (real-time to end-of-day, covering exchange and some OTC trading – from the Exchange) |
| | Corporate | ✓ (from exchange) | ✓ (real-time to end-of-day, from the exchange) | x | ✓ (real-time to end-of-day, covering exchange and some OTC trading – from the Exchange) |
| Netherlands | Sovereign | ✓ (from exchange) | ✓ (from exchange) | ✓ (from exchange, MTFs and firms) | ✓ (real-time, from exchange – including some OTC trades – and MTFs) |
| | Corporate | ✓ (from exchange) | ✓ (from exchange) | ✓ (from exchange, MTFs and firms) | ✓ (real-time, from exchange – including some OTC trades – and MTFs) |
| Poland | Sovereign | ✓ (from exchanges, MTFs and SIs) | ✓ (real-time, from exchanges, MTFs and SIs) | ✓ (from exchanges, MTFs and SIs) | ✓ (real-time to 15 minute delay, from exchanges, MTFs and SIs) |
| | Corporate | ✓ (from exchanges, MTFs and SIs) | ✓ (real-time, from exchanges, MTFs and SIs) | ✓ (from exchanges, MTFs and SIs) | ✓ (real-time to 15 minute delay, from exchanges, MTFs and SIs) |
| Portugal | Sovereign | ✓ (from exchange | ✓ (by session; may be delayed. | ✓ (from exchange | ✓ (by session; may be delayed. Data from |

| | | | | | |
|---|---|---|---|---|---|
| | | and MTFs) | Data from exchanges, MTFs and OTC firms) | and MTFs) | exchanges, MTFs and OTC firms) |
| | Corporate | ✓ (from exchange and MTFs) | ✓ (by session; may be delayed. Data from exchanges, MTFs and OTC firms) | ✓ (from exchange and MTFs) | ✓ (by session; may be delayed. Data from exchanges, MTFs and OTC firms) |
| Slovakia | Sovereign | ✓ (from exchange) | ✓ (20 minute delay, from exchange, and some further data from CSD) | ✓ (from exchange) | ✓ (20 minute delay, from exchange, and some further data from CSD) |
| | Corporate | ✓ (from exchange) | ✓ (20 minute delay, from exchange, and some further data from CSD) | ✓ (from exchange) | ✓ (20 minute delay, from exchange, and some further data from CSD) |
| Slovenia | Sovereign | | | | |
| | Corporate | | | | |
| Spain | Sovereign | ✓ (from exchange, MTFs and investment firms | ✓ (real-time to delayed) | ✓ (from exchange, MTFs and investment firms | ✓ (short delay) |
| | Corporate | ✓ (from exchange, MTFs and investment firms | ✓ (real-time to delayed) | ✓ (from exchange, MTFs and investment firms | ✓ (short delay) |
| Sweden | Sovereign | ✓ (from exchange) | ✓ (by 9am the following day, from exchange) | ✓ (from exchange and investment firms) | ✓ (the following day) |
| | Corporate | ✓ (from exchange) | ✓ (by 9am the following day, from exchange) | ✓ (from exchange and investment firms) | ✓ (the following day) |
| United Kingdom | Sovereign | ✓ (from exchange and MTFs) | ✓ (real-time through to next day, from exchange and MTFs) | ✓ (from exchange, MTFs and investment firms) | ✓ (real-time through to next day, from exchange, MTFs and investment firms) |
| | Corporate | ✓ (from exchange and MTFs)✓ | ✓ (real-time through to next day, from exchange and MTFs) | ✓ (from exchange, MTFs and investment firms) | ✓ (real-time through to next day, from exchange, MTFs and investment firms) |