

# Appendix I – Overview of the Bond Market

## *Introducing the bond market - a heterogeneous market*

- As has been noted in the Answers to the Commission’s questions, the Commission’s mandate to ESME focused on government, supranational and corporate bond markets. While the Commission asked ESME to look at other, mainly derivative markets to the extent that they impacted the cash markets, it did not ask ESME to consider the much wider range of non-equity markets. However, it is important at this stage to note that even the government, supranational and corporate bond markets should not be seen as “one market”. Box 1 below shows that the cash bond market comprises many different instrument types, each with its own particular pricing, risk and liquidity features. The markets that ESME were asked to focus on by the Commission are shown in bold in the table. This is a high-level, generalised description of the bond market. Many bonds within each group will display different characteristics – some will be more or less complex, others will have more or less liquidity.

**Box 1: Bond Market Matrix**

<b>Cash bonds</b>				
<b>Market</b>	<b>Pre-trade transparency</b>	<b>Post-trade transparency</b>	<b>Complexity</b>	<b>Liquidity</b>
<b>Government (Developed markets) and Supranationals</b>	Highly transparent indicative and firm trading prices—MTS, data vendors, brokers, trading platforms. Less transparency on trade size	Probably the most transparent bond market. Closing prices available through data vendors but little information about trade size	Vanilla	Very liquid
<b>Investment grade corporate</b>	Highly transparent indicative prices—data vendors, brokers, trading platforms. Less transparency on trade size	Some price transparency through data vendors. Little or no information about trade size	Usually straightforward. Some complexity with option features, step-ups, etc. Risk increases as credit quality falls	Very liquid
<b>Covered bonds</b>	Some indicative price transparency but limited volume transparency	Some price transparency through data vendors	Vanilla. Generally highly rated securities	Liquid
<b>High yield corporate</b>	Limited price transparency and little or no volume transparency	Little post-trade price transparency. Little or no information about trade size	Riskier. Lower credit quality issuers and a more volatile and illiquid market	Less liquid
<b>Emerging market—Sovereign</b>	Will vary but issues generally have limited price and volume transparency	Limited price transparency through data vendors. Little or no information about trade size	Riskier. Lower credit quality issuers and a more volatile market	Liquid
<b>Emerging market—Corporate</b>	Will vary but issues generally have limited price and volume transparency	Some price transparency through data vendors. Little or no information about trade size	Riskier. Lower credit quality issuers and a more volatile and illiquid market	Less liquid
<b>Distressed</b>	Limited price transparency and little or no volume transparency	Little post-trade price transparency. Little or no information about trade size	Riskier. Lower credit quality issuers and a more volatile and illiquid market	Illiquid

Asset-backed bonds				
Market	Pre-trade transparency	Post-trade transparency	Complexity	Liquidity
Asset-backed securities	Limited price transparency and little or no volume transparency	Little post-trade price transparency. Little or no information about trade size	Can be complex and riskier. Some tranches are highly rated and others are unrated. Very little secondary market activity.	Less liquidity
Mortgage-backed securities	Limited price transparency and little or no volume transparency	Little post-trade price transparency. Little or no information about trade size	Some tranches are highly rated and others are unrated. Very little secondary market activity.	Depends on issuer/issue. Some ill be liquid others less so
Collateralised debt securities	Limited price transparency and little or no volume transparency	Little post-trade price transparency. Little or no information about trade size	Complex. Riskiness increases as credit quality of tranches declines	Illiquid
Collateralised loan obligations	Limited price transparency and little or no volume transparency	Little post-trade price transparency. Little or no information about trade	Complex. Riskiness increases as credit quality of tranches declines	Illiquid
Synthetic CDOs	Limited price transparency and little or no volume transparency	Little post-trade price transparency. Little or no information about trade size	Complex	Illiquid

2. As Box 1 illustrates, there is one broadly consistent theme across the European bond markets, which is that they generally provide little or no post-trade transparency. It is not therefore routinely possible to see what activity has taken place in an individual bond, though some limited post-trade information is available to wholesale market users (most notably the end-of-day aggregated information on some bonds supplied by the ICMA). However, for some bonds (generally the larger and more liquid bonds), there is considerable pre-trade transparency with dealers advertising the prices at which they are prepared to trade. This pre-trade transparency declines as the bonds become less liquid and/or more complex. It is also worth noting that existing pre-trade transparency rarely includes an indication of the market depth. The range of information that is available to different types of market participants is set out in Table 2 (Existing information by investor type), in the Answers to the Commission's questions.

### ***Differences between the bond and equity markets***

3. The bond market is fundamentally different to the quoted equity market. Many of the industry's responses to the various calls for evidence have focused on this. While this report does not seek to repeat all of the arguments made, there are a number of key differences that it is worth highlighting.

#### **No central pool of liquidity**

4. With a few exceptions, perhaps most notably MTS and the trading of European government bonds on other MTFs such as Eurex bonds, bonds do not trade across an exchange-like order-book and buyers and sellers of bonds do not post their interest and wait for another investor to hit their price. Bond markets are dealer-markets with investment banks committing their own capital and providing liquidity to facilitate trading. In their response to CESR's call for evidence, SIFMA (the Securities Industry and Financial Markets Association) cited information from their members that indicated that around 50% of trading in government bonds was conducted over the telephone, rising to a figure of 90% or more for corporate bonds. By contrast, order-driven trading, which dominates trading in equities, accounts for only around 7%-12% of government and supranational bond trading and around 10% of investment grade corporate bond trading. There is some limited bond trading that takes place on-exchange but it is a very small

percentage of the overall market activity. Similarly, information supplied by the FESE (the Federation of European Securities Exchanges) noted that the trading volume of bonds listed on European exchanges in 2006 was €9.75 billion compared to estimates of overall market volume of over €29 trillion<sup>1</sup>.

5. An investor looking to buy or sell a bond can, again with a few exceptions, come to a bank and obtain a price at which the dealer is willing to sell or buy that bond. In buying or selling the bond the dealer is not really expressing a view on the investment but rather his view on whether he is prepared to hold the resultant long or short position to facilitate his client's own investment decision. The dealer's willingness to hold a short position will be heavily influenced by the liquidity in the bond and his ability to close out the short position.

### **Existing transparency in bond markets is different to that in equity markets**

6. Both bonds and equities can trade on exchange or through dealer markets. However, while bond markets in Europe are essentially dealer markets, equities markets have a much higher proportion of trades conducted on exchange. In the view of a number of ESME members, the significant majority of equities trades are carried out on-exchange as opposed to off-exchange.
7. Where equities trade on-exchange and via order-books, buyers and sellers submit the prices at which they are willing to trade and the volumes they would like to trade. This provides pre-trade transparency which makes clear to all potential investors what is the supply and demand for a particular share and at what prices.
8. While there is a considerable amount of pre-trade transparency in the bond market (see Box 1 above and Table 2 in the Answers to the Commission's questions), it is much more fragmented than in the equity market. In the more liquid government and supranational bond markets and in some liquid corporate bonds dealers do advertise the prices, or at least indicative prices, at which they are willing to deal, via brokers, data vendors (such as Reuters or Bloomberg, whose "ALLQ" function is a key way in which market participants can view pre-trade prices), the dealer's own client trading platform, or multi-client platforms where investors can view composite, average prices and obtain tradeable prices from multiple dealers at the same time (such as Bondvision or Tradeweb). Investors are also able to phone round dealers to obtain tradeable quotes at which dealers are willing to deal (though again the ability to obtain tradeable quotes will be heavily influenced by the liquidity in the bond in question). So there is a considerable amount of pre-trade information available in the bond market. The fact that the way in which this information is made available to investors in bond markets is different to the way in which the same sort of information is available to investors in equity markets should not detract from the fact that it is available. It is also worth noting that the level of pre-trade transparency in the bond markets is similar to the level of pre-trade transparency available in the off-exchange equities markets. It is the fact that a larger proportion of equities are conducted on-exchange that leads observers to contrast levels of bond and equity market transparency.
9. The key difference between the bond and equity market sectors is in relation to post-trade transparency. Because equity trading takes place across an exchange there is much greater post-trade information available that informs investors about actual trades. Much of this information is available close to real-time, with the publication of some larger trades allowed to be delayed for a period of time. Current transparency obligations differ across different exchanges/jurisdictions with some allowing less transparency for equity trades done away from the exchange. However, MIFID will harmonise these obligations and generally increase the information available to investors in respect of transactions in shares.<sup>2</sup> In contrast there is little or no post-trade information about executed transactions available to bond market participants.

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<sup>1</sup> Estimates of trading volume in 2004 taken from CEPS, *Europe's Hidden Capital Markets: Evolutions in European bond market trends, structure and regulation* by Jean-Pierre Casey and Karel Lannoo (October 2005).

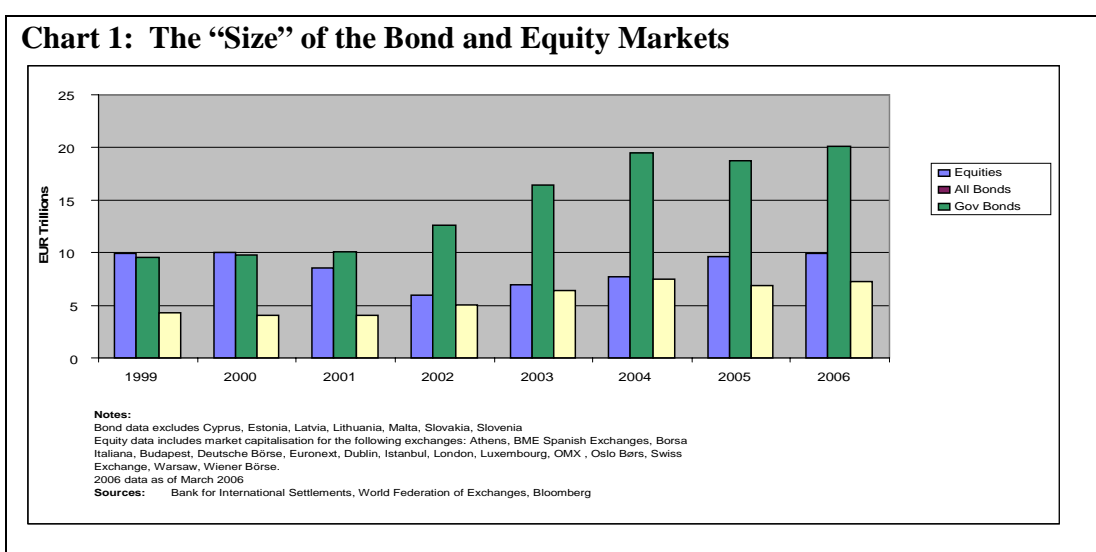
<sup>2</sup> Although it remains to be seen what effect the provisions in MiFID allowing for the establishment of new trading venues and systematic internalisation in competition with incumbent exchanges, together with the provisions opening up the publication of post-trade data, will have on the fragmentation of market data relating to equities.

## Limited turnover

10. Outside the major government/supranational bond markets there is limited turnover, with many investors preferring to hold bonds until maturity. In their discussion paper, *Trading transparency in the UK secondary bond markets*<sup>3</sup>, FSA highlighted that very few corporate bonds trade on a frequent basis. Using data from ICMA, FSA illustrated that, on a typical trading day, over 90% of the 5,000+ bonds traded that day were traded less than 10 times. Other studies have reached similar conclusions.<sup>4</sup> Contrast this to trading in equity markets where, for example, the 70 most liquid shares listed on the FWB Frankfurt Stock Exchange, will trade on average at least 1,500 times a day. This is further supported by Chart 2, from CEPS paper, *Europe's Hidden Capital Markets*,<sup>5</sup> which illustrates the significantly higher number of trades on a daily basis in European equity markets.

## Size in stock not flow terms

11. The total 'size' of the bond market in a particular country is frequently larger than the total equity market capitalisation in that country<sup>6</sup>. Moreover, Chart 1 below shows that this is true for the EU in aggregate in respect of equities listed on the major EU exchanges.



## Individual bond trades larger on average

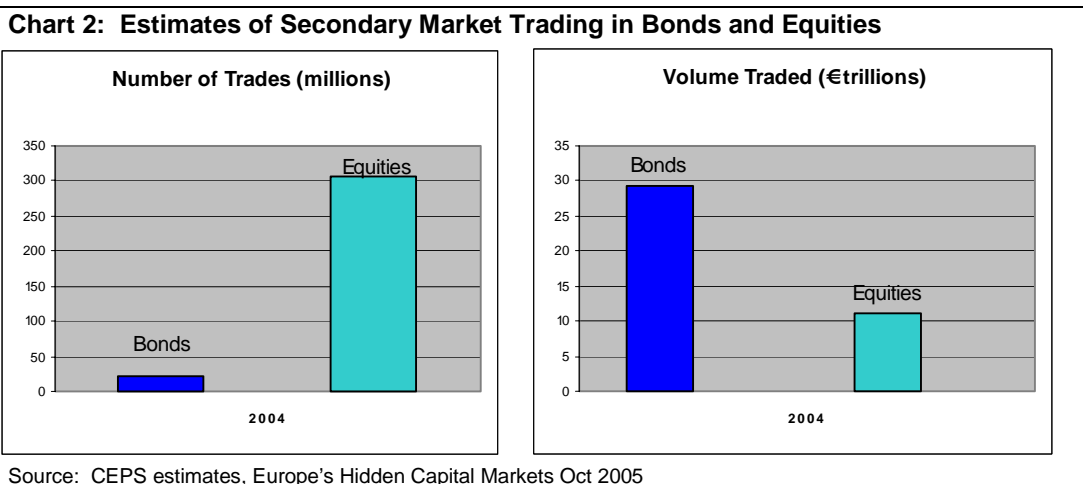
12. The CEPS paper *Europe's Hidden Capital Markets* also estimated that the total volume (expressed in € trillions) of trades in bond markets was higher than the total volume of equity trades, which combined with the significantly greater number of trades in the equities markets, indicates that the average size trade in bond markets was significantly higher than the average size trade in equity markets (see Chart 2 below). The numerical average trade size is approximately €37 thousand for equities but approximately €1.27 million for bonds. This disparity in trade size is a further material difference between the bond and equity markets, and a further indication of the lack of retail involvement in bond markets.

<sup>3</sup> DP05/5.

<sup>4</sup> In *European High-Yield Bond Markets: transparency, liquidity, efficiency* by Bruno Biais and Fany Declerck, Toulouse University IDEI (March 2007), Biais and Declerck estimated high yield and investment grade bonds traded on average three times a day. Similarly, the ECB noted in their Occasional Paper No. 50, *The Impact of Financial Innovation on Trading Liquidity*, August 2006, page 6, that only a few European corporate bonds trade on a daily or weekly basis, while the majority of tradable debt issues trade less than once a month or even once a quarter.

<sup>5</sup> See footnote 1, above.

<sup>6</sup> In FSA's discussion paper DP05/5, they illustrated that the total size of the "bond" market in a particular country is frequently larger than the total equity market capitalisation in that country (see page 13, DP05/5).



### One issuer, one equity ... but often many bonds

13. With some limited exceptions, corporates only have one class of shares in issue. Conversely, most corporate issuers have multiple bonds in issue all of which will have different features, such as maturity, call features, covenants etc. According to FSA statistics<sup>7</sup> there are 8,000 listed equities in the EU but over 200,000 bond issues in the TRAX database<sup>8</sup>. From a purely practical point of view, trying to determine the most liquid bonds along the lines of the most liquid shares would be a complicated exercise and with significant logistical and presentational issues.

### Different investors

14. Without exception, retail investors play a much smaller part in bond markets than they do in equity markets. The level of direct retail participation in bond markets varies both across different countries and across different sectors of the market but it is always lower than direct retail participation in equity markets. While retail investors are the ultimate beneficiaries of the majority of bond market investments, these investments are managed by professional investment managers making discretionary decisions on how to invest bond funds. In their response to the European Commission's Call for Evidence on price transparency in non-equity markets<sup>9</sup>, SIFMA cited evidence to suggest that direct retail investment in primary issues in the three bond markets the Commission have asked ESME to focus on was around 2%-3% across Europe, though it is much higher in some countries including Italy and Denmark<sup>10</sup>.

### Differences between EU and US bond markets

15. As well as highlighting differences between the bond and equity markets, many of the industry's responses to the various calls for evidence have also focused on the differences between the EU and the US bond markets. Again, while this report does not seek to repeat all of the arguments made, it is worth highlighting a few there of the key differences here.

### European bond markets continue to develop

16. European bond markets continue to develop. There is evidence to suggest that the introduction of the Euro has led to a substantial increase in the volume of bond issuance. At the end of 2006 outstanding Euro-denominated debt was worth the equivalent of \$4,836bn compared with \$3,892bn for dollar-denominated debt.<sup>11</sup> SIFMA have provided the following chart illustrating the growth of the European government bond market since 1999.

<sup>7</sup> FSA: Feedback Statement 06/4 Trading Transparency in the UK Secondary Bond Markets – feedback on DP05/5, July 2006.

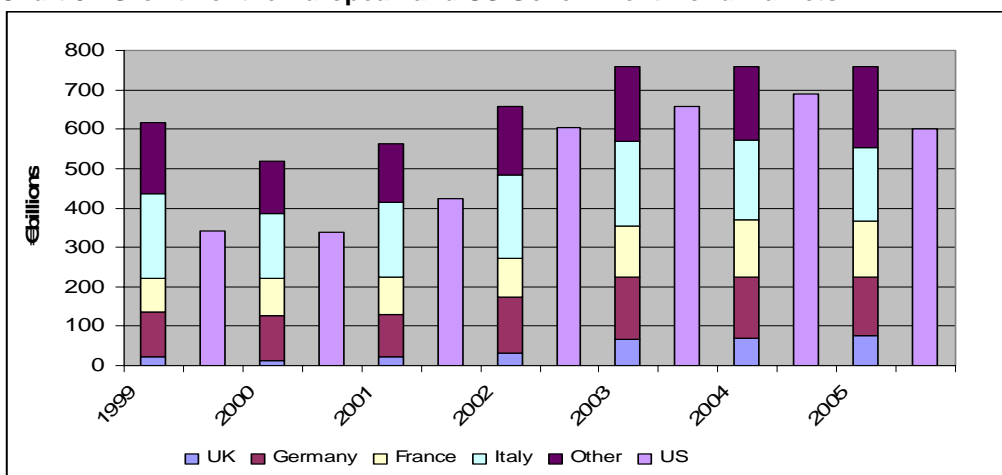
<sup>8</sup> The reporting system operated by the International Capital Markets Association, the ICMA.

<sup>9</sup> SIFMA, *Response to European Commission's Call for Evidence on price transparency in non-equity markets*.

<sup>10</sup> See footnotes 14 and 19 in the Answers to the Commission questions.

<sup>11</sup> ICMA, Financial Times, 14 January 2007.

**Chart 3: Growth of the European and US Government Bond Markets**



Source: US Treasury, ECB, DMO

### European corporate bond market smaller but catching up

17. European corporate bond issuance is likely to continue to increase, not only in absolute terms but also relative to that by US corporates. This reflects the fact that in many ways the European corporate bond market is still a young market and the vast majority of corporate funding is still via bank lending<sup>12</sup>.

### Tighter spreads in European bond markets

18. Spreads in European corporate bond markets are generally tighter than spreads in the US corporate bond markets, a feature of European markets that has been cited by the FSA in their discussion paper *Trading transparency in the UK secondary bond markets*<sup>13</sup>, by the CEPR in their paper *European Corporate Bond Markets*<sup>14</sup> by Biais and Declerck in their paper *European High Yield Bonds*<sup>15</sup>. This was the case both before and after the introduction of TRACE<sup>16</sup>. Reasons put forward for these tighter spreads range from greater competition in European (with more dealers providing liquidity and prices) through to a higher percentage of electronic trading and a more benign credit environment (with few corporate defaults that has seen investors willing to take on credit risk at increasingly tighter prices).

### TRACE and the publication of post-trade information in the US

19. The introduction of TRACE (the National Association of Securities Dealers' (NASD) Trade Reporting and Compliance Engine) and the increase in the amount of post-trade transparency that is now available to US investors is often cited as an example for the European markets to follow. Through TRACE, US investors can now see information on traded prices and volumes (subject to some disguising) within 15 minutes of a trade being executed.
20. The NASD cite the impact TRACE has had in reducing spreads in US bond markets as dealers are forced by the increased transparency available to their clients to provide ever tighter spreads, and these arguments are supported by academic studies.<sup>17</sup> Dealers have nonetheless continued to argue that the impact of TRACE has been to reduce liquidity in many already less-

<sup>12</sup> In their paper, *Europe's Hidden Capital Markets*, CEPS estimated that the value of bank assets to GDP in Europe was 237%, compared to 73% in the US where bond and equity financing are a higher proportion. DP05/5, June 2005.

<sup>13</sup> FSA: *Trading Transparency in the UK Secondary Bond Markets - Feedback on DP05/5*, FSA conclude that round-trip spreads in Europe as approximately 0.057% compared to figures of 0.27% drawn from US studies. Similarly, in *European High-Yield Bond Markets*, Biais and Declerck state that effective spreads in high yield markets were "reasonably tight" averaging between 0.2%-0.36% in Euro denominated securities in 2005, having roughly halved since 2003.

<sup>14</sup> CEPR: *European Corporate Bond Markets: transparency, liquidity, efficiency* by Bruno Biais, Fany Declerck, James Dow, Richard Portes and Ernst-Ludwig von Thadden, May 2006.

<sup>15</sup> *European High-Yield Bond Markets: transparency, liquidity, efficiency* by Bruno Biais and Fany Declerck, Toulouse University IDEI (March 2007).

<sup>16</sup> TRACE is the Trade Reporting and Compliance Engine introduced by the NASD to facilitate the mandatory reporting of over the counter secondary market transactions in eligible fixed income securities. In FS06/4, *Trading Transparency in the UK Secondary Bond Markets - Feedback on DP05/5*, FSA conclude that round-trip spreads in Europe as approximately 0.057% compared to figures of 0.27% drawn from US studies. Similarly, in *European High-Yield Bond Markets*, Biais and Declerck state that effective spreads in high yield markets were "reasonably tight" averaging between 0.2%-0.36% in Euro denominated securities in 2005, having roughly halved since 2003.

<sup>17</sup> See, for example, NASD: *Market Transparency, Liquidity Externalities, and Institutional Trading Costs in Corporate Bonds* by Henrik Bessembinder, University of Utah, William Maxwell, University of Arizona and Kumar Venkataraman, Southern Methodist University (Current Draft: October 2005), cited in Appendix II.

liquid issues such as high-yield bonds, with negative impact on the availability of liquidity for instruments lower down the credit curve. The NASD have looked to refute these arguments and have supported academic research that seeks to show that traded volumes have not declined post the introduction of TRACE<sup>18</sup>. Other studies<sup>19</sup> have suggested that one of the reasons for the growth in volumes in the US has been the development of electronic trading systems.

21. In their paper *European High Yield Bond Markets*, Biais and Declerk comment that the difference between investment grade spreads and high yield spreads in Europe is narrower than the difference in spreads between the two markets in the US. This suggests that transparency is not the only driver of spreads and that it does not necessarily follow that more transparent markets have lower spreads. It may be that the level of competition in European markets, particularly post the introduction of the Euro, has been a major driver in the reduction of spreads. Further, the higher bid/offer spreads observed in the US on high yield bonds could be interpreted as being indicative of a lower level of liquidity for that segment than prevails in Europe, notwithstanding the general impact of TRACE.

#### **Other differences**

22. Despite the broad similarities between the way in which bonds are traded in the US and Europe there are a number of other key differences between the two markets additional to those mentioned above. Notwithstanding the introduction of the Euro, bond markets in Europe are probably less homogenous than in the US, with multiple issuers, different settlement mechanisms and country-specific tax considerations. In addition, European bond markets probably have a lower level of retail involvement on average than in the US.<sup>20</sup>

#### **Other salient developments**

23. It should also be noted that matters have not stood still since the Commission was first tasked with reviewing the possible extension of MiFID's transparency provisions to other classes of instrument in 2004. There have been a number of market developments during the intervening period that have themselves led to developments in bond market transparency.

#### **New modes of trading**

24. The way in which bonds are traded is changing. While it continues to be the case that the vast majority of trades take place on an over-the-counter (OTC) basis, and not through a centralised exchange or order-book, more and more trading is executed electronically, in particular through B2C platforms.<sup>21</sup> Electronic trading in Europe is split between a variety of platform providers offering multi-dealer B2B and B2C solutions, as well as single-dealer to client offerings and hybrid models supporting voice brokerage firms. Major electronic platform providers include MTS Group, eSpeed, ICAP/BrokerTec, Eurex Bonds, TradeWeb, HDAT, MarketAccess and Senaf, with CEPS/SIFMA estimating that there were approximately 77 electronic platforms in 2004. As Chart 4 below illustrates, this increase in electronic trading has increased the level of pre-trade transparency as dealers vie to advertise their trading prices to clients.

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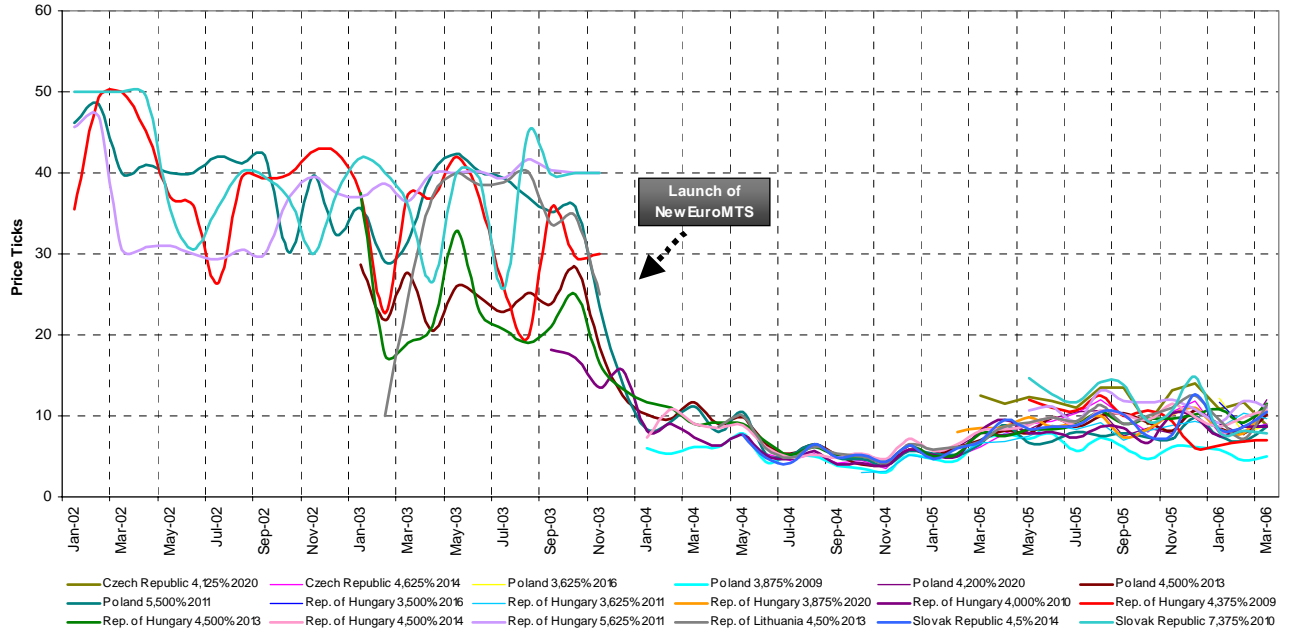
<sup>18</sup> See NASD: *Response to the Commission's Call for Evidence*, 2006 cited in Appendix II.

<sup>19</sup> BearingPoint, *The Electronic Bond Market: New Perspectives for Electronic Fixed Income Trading*, page 9.

<sup>20</sup> See footnotes 14 and 19 in the Answers to the Commission's questions.

<sup>21</sup> BearingPoint, *The Electronic Bond Market: New Perspectives for Electronic Fixed Income Trading*, estimated that major market players conducted close to 40% of European government bond trading through electronic platforms and that B2C platforms saw their share of volume increase by 7%-10% in 2006

**Chart 4: Spread comparison of bonds denominated in Euros issued by European accession states before and after launch of the NewEuroMTS market**



**Source: Spreads Pre-NewEuroMTS: Bloomberg/Spreads Post-NewEuroMTS – EuroMTS Limited**

## Valuations

25. Associated developments have also taken place with regard to valuations. It is common practice for investment banks to use their own dealers' prices for valuation/P&L purposes but independent control functions verify and test these prices on a regular basis. Often these tests can be done using publicly available data but for many instruments this is not possible and the need to verify prices has led to the development of price testing services, whereby banks submit their own prices to third party companies who collate and provide average prices back to the subscribers. However, access to accurate and reliable information for valuation purposes continues to be an issue for dealers, and also for investment funds and custodians<sup>22</sup>. Markit and several major firms are working on developing a platform allowing the outsourcing of client valuations to Markit for all fixed income products ensuring a third party overview of client valuations. Standard & Poor's is also offering a valuation and pricing service to its clients.

### **The burgeoning credit derivatives market**

26. Another major market development is the growth of the bond derivatives market, and in particular the credit derivatives market. Credit derivatives take many forms but for the purposes of this report we refer collectively to the credit default swap (CDS) market. CDS contracts allow users to express a view on an issuer—how their credit spread will change—without actually buying or selling the bond. They are used both to take outright, directional views and to hedge cash positions. CDS users are always professional, institutional investors and the contracts are essentially traded OTC.

27. CDS volumes have grown exponentially over the last few years with daily volumes in CDS contracts estimated at \$20 trillion in 2006, an increase of over 300% from 2004.<sup>23</sup> They are further estimated to increase to \$33 trillion by 2008. The notional value of the daily turnover in CDS contracts is likely far to outstrip the notional value of the daily turnover in cash securities<sup>24</sup>.

28. CDS prices and related index levels now provide another means to ascertain the prices of the reference cash securities as the CDS price is closely correlated to the price of the reference bond. In addition, electronic trading of CDS index contracts on exchanges has started recently, which will add further transparency to the market.

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<sup>22</sup> See paragraph 36 of the Answers to the Commission's questions.

<sup>23</sup> British Bankers' Association Credit Derivatives Survey 2006.

<sup>24</sup> Comparable figures of aggregate daily turnover are hard to find but estimates of daily turnover in US and European government bonds in 2005 was over \$600bn (BearingPoint), daily turnover in European corporate bonds in 2005 was estimated at €3.5bn (CEPR).

## Annex A: Arguments FOR and AGAINST increased transparency in fixed income markets

This is a high level summary of arguments that have been expressed during the recent debates on bond market transparency and in various academic papers. They are not attributed to any party nor to ESME. The arguments are generalised summaries of a range of opinions and do not necessarily differentiate between pre- and post-trade transparency nor between delayed and real-time information.

### The case for

- Improved market efficiency. Markets thrive on information and more information is never a “bad thing”
  - Less transparent markets are sub-optimal and do not attract the level of participation of more transparent markets. For example, some ESME members have argued that if bond markets were more transparent then they may attract more unit trust managers who need real-time information to publish net asset values. Post-trade information about activity may also lead to the development of more indices and encourage product development
  - There should be equality of access to information. If information is available to some types of participants then it should be available to all participants, including retail investors
  - More participation leads to improved price formation and the interaction between supply and demand. Improved price formation would tend to lead to lower spreads and lower cost of trading and facilitate the measurement of and pricing of risks
  - Transparency and EU-wide data consolidation promote financial integration in the single market.
  - Improved price formation and lower trading costs benefit the whole market and this benefit may outweigh the damage to one group of participants
- Enhanced investor protection and portfolio valuation
  - With greater transparency investors would be able to judge the service they receive from intermediaries/brokers, in particular whether they received best execution
  - Information about traded prices would allow bond holders to more accurately value portfolios
- Reduced search costs
  - Information about the trading venues’ activity (including dealers) or ownership of securities would allow investors to find holders of bonds much easier and facilitate trading
- More transparency would allow regulators to assess market cleanliness
  - More equity-like transparency would allow the market authorities to assess whether certain market participants were abusing the market and exploiting inside/price sensitive information

### The case against

- Damage to liquidity. Bond markets are dealer markets where dealers trade as principal and use their capital to provide liquidity to their clients and the market. If dealers had to disclose trades then it becomes possible for other participants to determine their positions and trade against them. This is known as the “winners curse”
  - Liquidity is more than just narrow spreads and volume of trading. The ability to trade in size and at speed are also important. The more transparent markets are then the more reluctant dealers are to commit capital and provide liquidity to the market. Professional investors value the ability to trade in size and at speed and trading would decline if prices and volumes were disclosed
  - Dealers’ concerns are heightened in less liquid markets with the “winners curse” arguments applying more to high yield markets than most government bond markets. Similarly the concerns are higher with respect to large trades – having to publish a \$1,000,000,000 trade raises more concerns than having to publish a \$100,000 trade. However, the distinction is not clear-cut. Some government bond markets are relatively illiquid and even publishing smaller trades in some investment grade markets may expose the dealer to increased risk
- Absence of any market failure
  - Bond markets are efficient, wholesale markets with no clear evidence to suggest that they are failing professional investors. Regulatory intervention is only justified when there is clear evidence of a market failure and where the benefit of that intervention outweighs the direct and indirect costs of implementation
- Bond markets are very different to equity markets
  - There are thousands more bond securities than equity securities and bond markets are inherently less liquid than equities. In addition, bonds are at their most liquid (in terms of trading volumes) in the period immediately following their issue but then trading volumes decline. It would be very difficult to design a pre-trade transparency regime for bond markets that was similar to the pre-trade transparency regime in equity markets. Similarly, post-trade transparency is of little value for the many bonds which rarely trade, since such information will typically be out of date

- Bond markets tend to be “buy and hold” markets and investors do not need to sell in the secondary markets to realise their investments. Information about fluctuations in price are of less relevance if investors have no intention of selling the investment
- With the exception of a few countries, there is limited direct retail involvement in bond markets. In general, bond markets are predominately professional markets where investors are able to determine the “right” price for a particular bond and utilise the pre-trade information that is available
- Investor protection can be more effectively improved through other means
  - Best execution, suitability and fair treatment of investors are all aimed at improving investor protection without requiring major changes to the market structure
  - Knowing the price a security has traded at tells the investor nothing about its suitability as an investment or the level of risk that is being taken on

## Annex B: list of some well-known bond defaults since 2001

As noted in paragraph 29 of the Answers to the Commission questions and in CESR's May 2007 Consultation Paper on non-equity transparency, the cases in recent years of losses sustained by corporate bond defaults cannot simply be traced back to lack of transparency.

Company	Country	Year	Notes	Type of business
Worldcom	USA	2001	Chapter 11 bankruptcy in 2004 with approx. \$5.7 billion in debt and \$6 billion in cash.  Previous bondholders ended up being paid \$0.357 on the dollar, in bonds and stock in the new MCI company - the previous stockholders' stock was valueless.	Telecoms
Enron	USA	2001	Thousands of employees and investors lost all their savings, children's college funds, and pensions.  No PBGC insurance and employees lost the money they invested in Enron stock.	Energy
Swiss Air	Switzerland	2002	Over-extension of Hunter Strategy in the wake of 9/11.	Airline
Parmalat	Italy	2003	Parmalat investors launched a class-action lawsuit against a list of banks and auditors for their alleged role in the financial cover-up that left the dairy giant more than €14 billion in debt.	Dairy and food
Giacomelli	Italy	2003		Sports goods
Cirio Finanziaria	Italy	2002	€1.125m in bonds, owned by 30,000 retail investors.	Foodstuffs
Finmatica	Italy	2004	Thousands of retail investors affected.	Software
Finova Group	USA	2001		Commercial Lending
Grapes	The Netherlands	2002		Communications
KPNQwest	The Netherlands	2002	Creation of 'hollow swaps' (creation of artificial revenue figures and provision of incorrect financial guidance to the company management and investors.	Telecoms
Marconi	UK	2002	Noted as UK's most catastrophic corporate failure.	Communications

Argentinian bonds	Italy (mainly)	2001	400,000 retail investors involved in Italy for 11 billion Euros).	Government issues
Elektrim	Poland	2001	Bondholders only paid €3.4m in interest.	Power and telecoms