

**International Capital Market Association (ICMA)**  
**International Swaps and Derivatives Association (ISDA)**  
**Bond Market Association (BMA)**  
**Futures and Options Association (FOA)**  
**London Investment Banking Association (LIBA)**

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**Response to AMF's 25<sup>th</sup> July 2006 consultation on enforcing the best execution principles in MIFID and its implementing Directive.**

31<sup>st</sup> October 2006

General comments

We very much welcome the opportunity to comment on AMF's consultation. We also appreciate AMF's courtesy in publishing an English translation, which has given pan-EEA attention to AMF's consultation from firms that will be carrying out significant amounts of client-oriented activity in French securities and French markets. We would be very grateful if AMF were to follow a similar approach to future MIFID-related consultations.

In paragraph 9 of the consultation, AMF states that MIFID's best execution principles seek chiefly to maintain orderly equity markets, but that the way in which these principles are worded raises questions about how they will apply to financial instruments with characteristics and modes of trading unlike those of equities. In order to assist AMF in its analysis of these questions, we attach a copy of one of the Annexes to BMA's, ICMA's, and ISDA's response to the UK FSA's Discussion Paper 06/9.

With the exception of a small number of points, we think that AMF's consultation paper proposes a proportionate, market-sensitive, and accurate implementation of MIFID's provisions on best execution. However, there are a few important aspects of AMF's paper (paragraphs 44, 75, 120, and Question 7) where we think that AMF should adjust its approach to bring it into line with MIFID's provisions:

Comments on specific paragraphs and AMF's questions

**Paragraph 25.** We welcome AMF's confirmation that the execution policy does not have to contain all details of ISPs' execution arrangements, just enough to give the client the information he needs.

**Question 1.** The answer to Question 1 is therefore no.

**Paragraph 29.** We welcome AMF's confirmation that each ISP determines the weight it gives to the different execution quality factors.

**Question 2.** The answer to Question 2 is therefore yes.

**Paragraph 32.** We welcome AMF's presumption that in the most liquid markets, such as liquid equity markets, giving the same price as on the most liquid venue in the relevant size is sufficient for best execution purposes.

**Question 3.** The answer to Question 3 is therefore yes, for the most liquid equity markets.

**Paragraphs 39ff.** We welcome AMF's sensible interpretation of provisions on including the ISP's own commission in the best execution assessment.

**Question 4.** The answer to Question 4 is therefore in general yes, subject to our comments in the next paragraph on the need for AMF to adjust its stance in paragraph 44.

**Paragraph 44.** In paragraph 44, AMF suggests that firms might need to make full disclosure to clients of the components of execution cost on different systems. We do not think that such an interpretation would be consistent with MIFID, which merely requires, in Article 21.5, that firms should be able to demonstrate to clients on request that the firm has executed the order in accordance with its execution policy. (See also our comments on paragraph 120 below.)

**Question 4.** Our positive answer to Question 4 (see previous paragraph) is therefore qualified on this point.

**Paragraph 45.** We welcome AMF's approach under which, while price and costs are important factors for professionals, they are not as important as for retail clients.

**Paragraph 46.** We welcome AMF's recognition that implicit costs (e.g. market impact) may be relevant to retail clients, but are more so for professionals.

**Question 5.** The answer to Question 5 is therefore yes.

**Paragraph 48.** We welcome AMF's proposed interpretation of the anti-avoidance provisions on client instructions, and the confirmation that they do not prevent the ISP from asking the client to choose between two or more venues included in the policy.

**Question 6.** The answer to Question 6 is therefore yes.

**Paragraph 51.** We welcome AMF's proposed approach under which ISPs can choose between order-by-order determination of the best possible result, or following an automated process, for example for standardised orders.

**Paragraph 52.** We welcome AMF's acceptance that execution of orders can be more or less automated, depending on their characteristics.

**Paragraph 53.** We welcome AMF's acceptance that an ISP can execute retail orders routinely on the most liquid market, if doing so enables it to obtain the best possible result on a consistent basis.

**Question 7.** AMF asks how ISPs might differentiate execution policies for different criteria, and what segmentation might be appropriate. ISPs already differentiate on the basis of different clients, markets, and securities, with the specific object of getting good results for clients. As MIFID recognises, we think that it is best not to constrain competition and innovation in the market by segmenting in advance how criteria apply in different circumstances, over and above what the Level 2 Directive already says about retail clients.

**Paragraphs 55 to 58.** We welcome AMF's interpretation that MIFID does not require the use of several venues, and that the execution policy can contain only one venue, depending on the nature of the instrument. We also welcome AMF's confirmation that where an ISP deals as principal in, inter alia, a bespoke OTC investment or a customised structured product, the ISP, as a liquidity provider or market maker, is itself the execution venue.

**Question 8.** The answer to Question 8 is therefore yes.

**Paragraph 63.** We welcome AMF's confirmation that the client can consent to the execution policy by giving the ISP an order.

**Question 9.** The answer to Question 9 is therefore yes.

**Paragraph 68.** We welcome AMF's confirmation that an ISP may deal on own account without executing a client order.

**Paragraph 70.** We welcome AMF's interpretation that Level 2 Recital 69's objective is to prevent avoidance where the ISP executes a client order by dealing on own account.

**Paragraph 75.** AMF suggests that the guiding principles of the special arrangements for executing transactions of this kind (external reference prices, internal procedures, etc.) could be made part of the firm's order execution policy. While firms might wish to follow such an approach voluntarily, and should be permitted to do so, it should not be compulsory to do so in order to satisfy MIFID best execution obligations. It will be important, as AMF states elsewhere in the paper, not to constrain the factors that an ISP applies, the criteria that it uses to measure their relative importance, or the way in which the ISP measures them, in a way that inhibits or undermines the ISP's ability to design an execution policy which is consistent with the Directive's requirements.

**Paragraph 76.** We welcome AMF's confirmation that when a client hits a systematic internaliser's quote, it is treated as a client instruction, and best execution is satisfied.

**Paragraph 78.** We welcome AMF's confirmation that for structured products price is only one consideration among many, that customised products are client instructions, and that the execution policy needs to be adapted to different types of instrument.

**Paragraph 79.** We welcome AMF's confirmation that the best execution principle applies differently, and needs to be adapted, to different markets.

**Question 10:** In answer to Question 10, see in particular our comments above on paragraphs 75 and 79.

**Paragraph 113-15.** We welcome AMF's interpretation that a fund manager might or might not route orders to a single broker, depending on whether it enables the best possible result on a consistent basis.

**Paragraph 120.** AMF implies that the requirement for a firm to show a client that it has followed its policy could require firm to maintain records to enable it to reconstruct market conditions at the time an order was executed. In Question 14, it asks what difficulties this approach would raise, and what other solutions there are.

MIFID Level 1 Article 21.5 requires a firm to be able to demonstrate on request that it has followed its policy, not that it has obtained the best possible result that was available in the market at the time. There are several ways in which this requirement could be satisfied (for example by building the policy into the firm's execution systems, so that showing that the order went through the system would show that the firm had followed its policy) which would not require the firm to keep the records that paragraph 120 implies. We therefore think that AMF should not follow the approach to demonstrating that a firm has followed its execution policy that paragraph 120 implies.

**FUNDAMENTALS OF BOND, DERIVATIVES AND STRUCTURED PRODUCTS MARKETS<sup>1</sup>**

**BOND MARKETS FUNDAMENTALS<sup>2</sup>**

**1 *Bond markets are not centralised***

Equities generally trade almost exclusively on exchanges, and most of the liquidity in a particular share is found on one exchange. According to statistics from the Committee of European Securities Regulators, "in 95 % of all the cases, the most liquid [equity] market had at least five times the size of the second biggest [equity] market (using the criterion "volume" as well as the criterion "turnover"). In 90 % it had even more than eleven times the size of the next biggest [equity] market".<sup>3</sup> Because of this centralisation, investors with orders that fit into the size profile of orders on the exchange will route these orders to that exchange. As a result, bid and offer quotes for a share can easily be combined and a best bid and offer determined.

In contrast, although most bonds issued into Europe are listed on a European stock exchange, only an insignificant proportion of such bonds actually trade on exchange. Most bonds trade over-the-counter in a decentralised dealer market<sup>4</sup>.

There are a number of reasons for this. Whereas an equity investor must deal almost exclusively in the secondary market to buy and sell a share, a bond investor who is looking for yield can buy a bond and wait until redemption in order to realise his investment and thus never enter the secondary market. Also, while each share trades on the unique dynamics of a particular company's future prospects, bonds are generally traded within groups according to their credit rating, maturity and yield. Finally, bond markets are much less concentrated than equity markets: according to FSA statistics there are 8,000 listed equities in the EU but over 200,000 bond issues in ICMA's TRAX database.

As a result of the combination of these factors, other than for a small percentage, bonds do not trade continuously and in a centralised market as do equities. Because trading is sporadic there usually is not a natural investor when another investor wishes to buy or sell a bond. Thus, investors rely on dealers to provide liquidity where no natural contra-side exists to their trade.

A large portion of all secondary market volumes are traded by voice in both the inter-dealer and the dealer-to-customer markets.

Most of the inter-dealer (B2B) bond market is intermediated by voice brokers, with few very limited exceptions, such as a large part of the covered bond market, where dealers may quote prices to one another. Inter-dealer trading also occurs on e-trading platforms, mainly in respect of government bonds and for smaller sizes.

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<sup>1</sup> This description focuses on European markets, although most of the principles and fundamentals are equally applicable to non-European markets.

<sup>2</sup> "In the case of the bond markets, there are a number of characteristics that differentiate bonds from equities and which we consider to be particularly relevant to any assessment of appropriate transparency" (DP 05/5, #1.15).

<sup>3</sup> CESR's Advice on Possible Implementing Measures of the Directive 2004/39/EC on Markets in Financial Instruments, 27 June 2004, page 107

<sup>4</sup> "These differences appear to explain...why the trading methods in UK bond markets are substantially different from those in equities. Whereas the major part of ...trading in UK equities has gravitated to electronic order-book trading. So far this is not the case in UK bond markets. Dealer-provided liquidity remains a central feature of the market and the majority of bond trading in the UK remains dealer-based. This is an important factor when considering the appropriateness of transparency arrangements." (DP 05/5, #1.16)

In the dealer to customer (B2C) space, most trading volume also occurs over the telephone or via Bloomberg messages between dealers and their clients. Many dealers have developed proprietary e-trading systems (known as single dealer systems) in which their clients can view the firm's inventory and enter into buy, and, sometimes, sell transactions. Further and as more fully described in paragraph 7 below, the small percentage of bonds that are liquid and trade frequently may be traded on multi-dealer B2C e-trading platforms<sup>5</sup>.

The combination and complementary nature of electronic and voice trading in all segments of the EU bond market (albeit weighted differently depending on the sector) provides the market infrastructure for achieving efficient price formation and discovery across all such segments for institutional investors and private client intermediaries who are customers of most of the dealers on B2C platforms and have access to several dealers through voice trading<sup>6</sup>.

## **2 *Because bonds do not generally trade on exchanges, there is not a class of exchange-designated market makers in bonds***

Institutional investors are well aware of the dealers that make markets in bonds in various asset classes. As mentioned above, they can be contacted by telephone, through their proprietary trading systems, or as "price makers" on e-trading platforms, meaning that they list their inventory for sale at, typically, indicative prices and, in response to a request for a quote from an authorised client, they will (but are not required to) quote a price to buy designated bonds from the customer.

In the equity market, the determination of which firms are market makers is made on a security-by-security basis. Because there are so many more bond issues than equity issues, dealers in bonds generally stand ready to buy and sell bonds in an entire sector, rather than merely those of a single issue or issuer. Even with respect to some of the more complex and structured bonds, where it is possible that only one dealer originally underwrote the bonds, it is common for multiple dealers to be willing to provide secondary market liquidity to institutional investors who have a relationship with such dealers.

This highlights an important characteristic of bond markets which is not found in equity markets, namely that bonds with similar terms are often good substitutes for each other. The shares of a chemical company, for example, are not equivalent to the shares of another chemical company, since investors buy shares to benefit from future price changes which will depend on the profitability of the specific company. Bonds issued by different companies with the same maturity, coupon, credit rating and other terms will, however, provide very similar investment returns in terms of income and likelihood of repayment at maturity - the objectives of bond investors. Unless a client insists on purchasing a specific bond, which may have a high illiquidity premium, a dealer may be able to offer a bond with almost identical investment characteristics from his inventory at a better price<sup>7</sup>.

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<sup>5</sup> "The predominant form of trading in UK bond markets is based around the bond dealer. Dealers trade with clients either on a purely bilateral basis or, increasingly in some market segments, via multi-dealer trading platforms. There is also significant inter-dealer trading, either directly or, more commonly, through interdealer brokers, who provide dealers with anonymity. Open order-book trading, as used in equity markets, has yet to establish a place in the UK bond markets." (DP 05/5, #2.26)

<sup>6</sup> "Both in Europe and in the United States, market structures have evolved – in very different ways, as within the EU itself – to give the present coexistence of electronic and OTC markets, offering different environments that seem suited to different types of transactions." (CEPR Government Bond Report, page 6)

<sup>7</sup> "Whereas, a corporate normally has only a single fungible class of equity...it may make multiple issues of bonds, for different time periods, for different purposes and with different characteristics. It is not uncommon for larger companies to have tens of bonds outstanding, and some financial groups may have hundreds or, in some cases, several thousand. While there are some 8,000 listed equities in the EU, ICMA's TRAX database contains more than 200,000 bond issues. This results in a very long tail of relatively small, and generally highly illiquid, issues – an important point in any transparency discussion." (DP 05/5, #2.20)

### **3 As a result, there is no central or dominant pool of liquidity in bond markets**

As a result, and in further contrast with the equity market, there is no central or dominant pool of liquidity in bond markets, except in the most highly liquid of markets, such as certain government bonds, supra-national organisations and large investment grade corporates. Because most bonds do not trade frequently, there is never a constant source of buyers for all bonds and investors rely on the ability of dealers, individually or collectively via telephone or e-trading systems, to provide liquidity. Liquidity is thus very dynamic and much more so in fixed-income than in equity markets<sup>8</sup>. Because most bonds do not trade frequently, it is also difficult and costly to “short” bonds (another difference with equities). Therefore, a dealer’s willingness to provide liquidity will depend on its ability and the time needed to hedge and/or offset its trade so as to enable quotation in the first place. In times of market stress, dealers are often the only parties willing to provide a quote and to hold positions until a market imbalance is righted.

### **4 As a further result, dealers do not generally quote executable 2-way prices**

Because of the very large number of bonds outstanding and the infrequent interest in trading the vast majority of bonds<sup>9</sup>, dealers do not continuously quote 2-way prices for bonds other than the most liquid ones. When they do quote, they may quote indicative or 1-way prices on their proprietary trading systems or on multi-dealer e-trading platforms in which they participate. They will quote a bid price to buy those bonds at the request of a client, but are unlikely to quote an offer price unless they hold the security in portfolio, since it may be difficult and costly to cover a “short”, depending on the characteristics (in particular the liquidity) of the bonds in question. Occasionally, dealers will quote 2-way executable prices, but generally not for large trades. However, even when a firm does not publicly quote 2-way prices, it will respond to a client request to quote a price at which it is willing to buy or sell bonds including up to very large sizes. The spread between the bid and offer will reflect the dealer’s view as to the risk in reversing the position taken on from the client including the cost of capital it needs to commit to make its balance sheet available to carry the position, as well as other benefits it provides to investors, including research, providing market intelligence and help with portfolio valuations.

As in equity market block trades, large sized bond trades can be at a significant discount/premium to the prices displayed for more “normal” sized trades for that issue.

### **5 Bond markets are mostly principal markets<sup>10</sup>**

Dealers sell securities from, and buy securities into, their trading portfolios. Many such dealers provide liquidity to their clients by buying bonds from them even though they do

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<sup>8</sup> “A second characteristic of the bond market is that ...the liquidity profile of many issues changes far more dramatically over time than that of most equities. This reflects the fact that although some bonds are actively traded on a regular basis, the market overall is much more of a ‘buy and hold’ market than the equity market. While most equities experience trading spikes around financial announcements and corporate events, many... also see material levels of daily trading on an ongoing basis. By contrast, many bonds trade very actively during the first few days after issue but then trade very little over the rest of their lives.” (DP 05/5, #2.21).

<sup>9</sup> “Not only are average trade sizes larger than equities but trading frequency is significantly lower. Even the most heavily traded issues in the gilt market seldom trade more than 200 times a day – compared with at least ten times that figure for the most liquid equities. Similarly, the ICMA data show that, on a representative day in June this year, only about six non-government bonds (from a total of over 5,000 that traded that day) experienced 200 or more trades... This reflects the different investor profile in the bond markets compared with the equity market, with fewer active investors overall and a far higher proportion of institutional investors.” (DP 05/5, # 2.25)

<sup>10</sup> “The predominant form of trading in UK bond markets is based around the bond dealer.... Open order-book trading, as used in equity markets, has yet to establish a place in the UK bond markets. ” (FSA DP 05/5, # 2.26)

not have and may not find an ultimate buyer to which to on-sell the bonds. Most of their trades are therefore done on an at-risk basis; i.e. they do not have both a buy and sell order at the time they enter into a transaction.

This is the model around which most dealers in bond markets are organised. Institutional investors understand that they act for their own account and not as an agent for them. They further understand that dealing on own account is a different concept from that of order routing for the purposes of order handling and execution.

This reflects the fact that *secondary markets in debt securities generally do not involve orders*. Institutional customers rarely place orders. They ask for the price quotes of several dealers and then may decide to transact at the best price. Where trades are for a large size, the investor may wish to transact with a single dealer at a price which may be poorer than that offered by other dealers for smaller sizes. Trading immediacy for a poorer price is often accepted by an investor because the alternative would be for the market to move away from him as the first dealer tried to unwind his trade while the investor was attempting to complete the rest of his transaction.

As a result, in bond markets price is not always the most important factor. And for some bonds, the most important factor is whether it is possible to deal in the bond at all. In the corporate bond market, "certainty of execution and settlement" is often more important than price.

Whichever the scenario, when a client requests a price from a dealer, there is an expression of interest, but no offer to buy. The dealer must receive further instruction from the client to trade at the proposed price (often the dealer will go back to the client with a price and be told that the trade was "done away" with a competitor). The client has the discretion to execute or not throughout this process. In most cases he does not entrust the dealer with an order to handle his request as agent.

Some dealers very occasionally act as brokers in the bond markets. This is particularly true where the firm has a fiduciary relationship with the investor and cannot act as principal. To execute an order to buy/sell a bond on a client's behalf, a broker has to find a counterparty prepared to execute the trade. If several dealers are prepared to quote a price for the bond the broker will solicit prices from those with whom he has a business relationship. Alternatively he might employ a specialist broker ("brokers' broker") who may be able to poll a larger number of dealers but who, like the dealer, will of course charge for the service. It is right that a best execution obligation should apply to the broker. However, since - unlike equities - bonds are often sold and bought not on the basis of a specific issue or issuer, but on the basis of the generic bond terms (such as tenor, yield to maturity, credit rating and callability), servicing the client's needs to buy/sell will involve ascertaining a market for bonds having those specified characteristics, rather than ascertaining a market for a specific bond.

A similarly rare situation may occur for a large block trade where the firm acts as riskless principal, ie it does not wish to assume the risk of the position and instead may "work the order" by seeking customer interest in purchasing the bond. In these circumstances, it is also right and accepted that a best execution obligation applies to the firm.

Finally, there may be situations where a firm is acting as dealer but also providing advice or owing similar duties to customers (For example, where firms provide advice on bond investments to clients on which those clients rely, or where retail and professional investors have sought retail client protections in this regard). Here again, it is right that there is an obligation to obtain best execution when executing an order against the firm's own account.

## **6 Bond markets have developed price discovery mechanisms adapted to the diversity of bond instruments**

Bond pricing can be simple or complex, depending upon the type of bond, its maturity, yield, credit rating and liquidity. At its simplest, for a bond of impeccable credit quality, it should be worth the discounted cash flow of its future principal and interest payments. However, a variety of macroeconomic factors can even affect the prices of bonds of



impeccable credit quality, including (i) current debt market yields, (ii) the current outlook for growth and inflation, (iii) potential changes in monetary policy, (iv) benchmark yield curves (for bonds priced as a spread to a benchmark curve), (v) prevailing rates in the OTC interest rate swap markets, the exchange-traded interest rate futures market and the repo market, and (vi) credit default swap curves. Different views on these economic factors may affect the decision of an institutional investor as to the current market value of a security.

Lower rated bonds, and even some on-the-run corporate and government bonds, are also subject to an “illiquidity premium” that compensates a potential holder for the perceived illiquidity of the issue, i.e. the fact that it may take more time and effort to find a buyer than for on-the-run issues.

Growth in the credit derivatives market has had an important impact on the price formation process for the cash market in bonds. It has significantly improved the ability of market participants to price – and therefore manage – credit risk.

### **7 E-trading platforms growth has brought efficiencies to trading in bond markets but has not altered any of the above market structure fundamentals**

Since the mid-90s, a number of e-trading platforms have been developed by market participants to improve the efficient trading of bonds<sup>11</sup>. There are several different types of trading platforms and trading methodologies available on such platforms<sup>12</sup>. Fundamentally, the various trading structures and mechanisms available mirror the existing bond market structure and are designed to facilitate existing trading relationships between bond market participants.

The extent to which trading in different fixed income asset classes occurs on e-trading platforms rather than over the telephone depends on the degree to which the securities in the asset class are commoditised, the size of the trade, the rating of the security, its liquidity as well as overall market conditions (eg volatility). Hence more platforms trade government bonds, money market instruments and investment grade corporate bonds, where volatility is lower and liquidity higher, than trade high yield, ABS and emerging markets securities, where volatility is higher and liquidity lower<sup>13</sup>.

Because bond trading involves search for price and negotiation rather than firm orders, investors’ preferred method of trading, and therefore the method mostly made available by dealer-to-customer platforms, is the Request For Quotes model.

Important points which may not always be obvious regarding e-trading:

- ✍ Investor participants on multi-dealer B2C platforms have more trading information than dealers. Whilst most institutional users have access to several dealer prices via multi-dealer B2C platforms, the dealers that are put in competition on RFQ systems do not see each other’s quotes.
- ✍ Multi-dealer B2C platforms provide tighter bid-offer spreads and larger sizes to investors than are available between dealers in the B2B space<sup>14</sup>. This is because of a cardinal rule in dealer markets: dealers provide liquidity to their customers, not to their competitors. The same observations can be made in respect of voice trading.

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<sup>11</sup> “The trend towards more automated, multilateral trading facilities has been driven by market pressures to reduce transaction costs – which it appears to achieve.” (DP 05/5, # 2.35)

<sup>12</sup> For further details, see TBMA 2005 Report *e-Commerce in the Fixed-income Markets*

<sup>13</sup> We estimate that approximately 45% of traded volumes in EU Government bonds, 20% in high grade corporate bonds and less than 5% in High Yield and ABS are conducted electronically.

<sup>14</sup> See slides and explanatory comments appended to this Annex B. They compare and contrast the prices and liquidity available for the same security (10 year German Bund) at the same time on a B2C and on a B2B platform.

- ✍ The same quoting considerations as those set-out in section 4 above apply to quotes provided via e-trading systems. Therefore most price information available from B2C platforms is not firm until subject to a request for quote.
- ✍ Trading platforms do not create liquidity. With the exception of very few inter-dealer platforms that ask participants to provide continuous quoting obligations irrespective of investor interest, it is the dealers who voluntarily provide liquidity as per client demand. Trading platforms merely (though importantly) help facilitate this process.

## 8 **Secondary bond markets are overwhelmingly institutional**

In the EU, institutional investors are estimated to account for 95% of the primary bond market and probably more in secondary market volume terms<sup>15</sup>.

It is apparent from the above description of bond markets that for most bonds there is no readily available price on which to base a robust benchmark for best execution purposes.

### **OTC DERIVATIVES MARKETS FUNDAMENTALS**

With an OTC derivative, no instrument exists unless and until a pair of counterparties contract some form of risk transfer between them. As such, the terms of any OTC derivative are freely negotiable. In keeping with this, the instrument is not transferable.

In other words, there is no provision for a continuous "secondary" market, as there can be for certain securities. In this (limited) sense, the functioning of the "market" in OTC derivatives is akin to that for insurance, where risk is transferred contractually. These transfers do, of course, have effect over significant terms (commonly for five years, and frequently for ten years or more).

The role of OTC derivatives is to shift risk between parties in a pure form, separately from any financial instruments, which may bundle together more than one form of risk. For instance, an investment in corporate bonds can entail credit risk and interest rate risk. Each of these risks can be isolated and transferred separately using OTC derivatives.

This risk-isolating characteristic of OTC derivatives means that their applicability is universal: any party that faces financial risk will potentially have some use for derivatives.

In practice, the earliest use of OTC derivatives was in relation to corporate treasury operations (by non-financial entities) and this application has been an important constant to this day. The primary mission of such entities is typically *not* to run financial risk; they can therefore benefit from shifting such risk to others, while focusing on their core "business" risk.<sup>16</sup>

In order to be able to shift risk, such entities must find a party willing to bear it. Financial-services firms are prepared to do so, in expectation of being able to manage the resultant risk exposures. In other words, in common with other OTC markets, a crucial role is played by the financial-services firm acting as principal. (Consistent with this, inter-dealer brokers provide value in this market by seeking out such capacity on an anonymous basis.)

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<sup>15</sup> "It is estimated that just 1% of UK households are direct holders of UK government securities (gilts), and even fewer directly hold corporate bonds. This compares with an estimated 20-30% of households that own shares....UK indirect retail participation in the bond markets has been growing...However, the fact that retail investors have a relatively large proportion of their savings in bonds does not necessarily mean that they are also active or significant users of the secondary markets." (DP 05/5, # 2.13 & 2.14)

<sup>16</sup> Strictly, OTC derivatives allow any entity to target the level of risk that they are willing to assume. For example credit derivatives can be used by a banking entity to take *on* credit risk on a given reference entity, where it believes that the contract will adequately reward it to do so.

Entities that do take on risk in this way may then hedge it in the wholesale markets (using other OTC derivatives, listed derivatives or positions in securities and other financial instruments). But they will not necessarily do so position by position. They are more likely to manage each category of risk – whether interest rate, credit or other – as an overall “book”.

Because OTC derivatives are powerful tools, their appeal has proved as popular as theory would suggest. In turn, as more financial-services firms have seen a business opportunity in offering risk-transfer services in the form of OTC derivatives, and more capital is dedicated to this activity, such services have become more accessible to a wider range of parties, including smaller corporate entities. Applications that make certain forms of derivative accessible to a wide range of investors (including retail investors) have also been developed, for instance structured notes and deposits. Each of these economically significant developments, however, ultimately depends on the entities who are prepared to commit risk capital to acting as principal.

In line with the development pattern outlined above, there has been a certain amount of standardization of the risks transferred by means of OTC derivatives. Thus, one may readily be quoted a rate for, say, a five-year fixed-floating interest rate swap in a major currency, to begin today. And one may also find a quote for a five-year swap tomorrow; and the day after that; and this time next week. But tomorrow’s contract is a new five-year contract, as are each of the subsequent contracts. It is emphatically not the same instrument as today’s, even though a similar amount of risk is being traded.

It is, of course, possible in some cases to reverse a position taken on through derivatives. However, this requires one of three actions, each of which will themselves entail some further measure of negotiation.

- ✍ *Offsetting transaction.* This is the most commonly used method of reversing a position. One of the parties engages in a separate, equal but opposite contract (often with a third party rather than with the original counterparty), and thereby neutralises the (market-risk) effect of the first contract.
- ✍ *Novation.* With the consent of the original counterparty to the transaction, a party engages a third party to step into the trade in its place.
- ✍ *Termination.* The two parties can agree to terminate the transaction.

In all three cases, the relevant parties will take into account the current value of the contract and this will reflect what one might term “neutral factors” (such as the market price of the underlying asset). For all that, though, the market remains bilateral and trading takes place by appointment. This is true, whether the products are referred to as “plain vanilla” or “exotic”, since these terms are merely relative.<sup>17</sup>

In all this, any notion of an order, a central venue or a best price is false. The best price for a unique, bilateral contract is by definition the price at which the parties agree to transact, since no other parties can be used as substitutes for that transaction.

As discussed in more detail in the following section of this Annex, where structured products entail a combination of derivatives and bonds, exactly the same considerations apply.

Such e-trading platforms as exist in the OTC derivatives market do not fundamentally alter any of the above. Similarly to other OTC markets, they provide a means of communication between potential counterparties, but do not in any way change a bilateral contract into a standardised, freely transferable instrument. Specifically and categorically, these platforms are not exchanges.

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<sup>17</sup> These arrangements for OTC derivatives are different from the somewhat specialised case of exchange-traded derivatives, where the terms of trading are standardised, with the specific intention that the contracts be transferable (notably, by novation to a central counterparty) and where it is expressly envisaged that there should be a continuous ‘secondary’ market. This note does not deal with the case of such ‘listed’ derivatives.

Because of the bespoke nature and complexity of OTC derivatives, it is not easy for investment firms to obtain independent prices from other sources to establish a price (as would be the case for an off-exchange transaction in equities). Information from published price sources may be of limited direct relevance even where it is available, since transaction terms are individually negotiated and the terms on which a party is willing to enter into trades may also depend on, for example, the creditworthiness of the parties and the collateralisation, netting or other credit risk mitigation techniques that are in place between them (unlike a cash market transaction in equities, where these factors will normally not be relevant). As with any principal market, the pricing of an OTC derivatives contract may also depend on the risk-profile of the financial-services firm at the point of negotiating the contract.

It is also often not easy for a firm to obtain a comparable price or valuation from another investment firm. Many OTC derivatives are by definition customised specifically for an individual client and consequently often confidential to that client; it may be difficult to maintain client confidentiality if the price of the product had to be independently verified through another investment firm to prove best execution. Also, a firm may not wish, for competitive reasons, to give another investment firm all of the components to the transaction if it is proprietary in nature, which may make it difficult to establish a comparable price. In addition, some of the parameters required to value complex products may require a judgment to be made, and the models used to calculate the price or valuation may vary between firms causing pricing anomalies, which means that prices may not be directly comparable. In any event, other firms may be reluctant to provide valuations for transactions which they will not execute.

## **STRUCTURED PRODUCT MARKETS FUNDAMENTALS**

### **There are a wide variety of structured products of three main types**

(i) First, *securitisation transactions* typically involve the sale of assets by an issuer to a Special Purpose Vehicle (SPV) which then issues tranching notes solely backed by those assets (or sometimes in combination with derivatives used as asset hedges). Even amongst the largest tranches of the most well-known frequent residential mortgage-backed securities (RMBS) issuers, there is a lack of comparability between tranches of transactions because the assets and the structures are different. This means that they will, in many cases, particularly for the unrated and lower-rated mezzanine tranches, fall into the illiquid end of the spectrum of fixed income products.

(ii) Secondly, there are transactions that involve the issue of a bond or other security with an 'embedded' OTC derivative – either as a *primary "structured note" new issue offering through a debt or medium term note programme*, or alternatively created by *the repackaging desk of an arranging bank or trading desk*. By virtue of the inclusion of an OTC derivative, these structured notes raise the same issues as described above with regards to such derivatives. These products are normally tailored to meet specific client objectives, which makes all the considerations associated with OTC derivatives relevant.

(iii) Thirdly, if created by trading desks, these *"structured credit" transactions* can either be in all cash, all derivative or a combination.

Even where there is a bond or other security which is to be listed on exchange, the initial transaction will normally be made with the client to purchase the security on its creation and, given the proprietary nature of the structures, it will normally be difficult to obtain information on comparable prices or valuations. There will also normally be very little after-market trading in the security and, to the extent that the firm does trade the security, it may be difficult to obtain comparable prices or valuations for similar reasons to those described above.

In these markets, it will therefore be difficult to distinguish anything which is comparable to a conventional "order" to which best execution duties would apply. The client may request a quote for or seek to negotiate a particular transaction with the firm as a principal but the firm should not be regarded as having the same duties to the client as it would

where it accepts an order for execution and has discretion as to the manner of its execution.

In summary, imposing a wide variety of multiple benchmarks (to reflect the various components, such as asset classes and tranches or embedded derivatives) would simply create more of a fiction (and more of a burden), given that it ignores any interaction between those components, as well as the uniqueness of the package.

### **Pricing structured products**

In all types of structured product, the pricing and terms of different transactions are not comparable. The underlying assets in the categories (i) and (iii) above are typically corporate bonds, corporate credit default swaps, asset backed securities (ABS), derivatives on asset-backed securities, or a combination.

The pricing of securitisations, structured notes and structured credit transactions ranges from somewhat complex to very complex, depending on the transaction. For instance, in each securitisation or structured credit transaction, two fundamental aspects need to be evaluated on a transaction by transaction basis a) asset characteristics, and b) structure characteristics, including the use of derivatives as hedges. Each broad category involves a multi-step evaluation process. We provide below an example of this pricing process on the most simple and well-recognised of asset classes – a UK residential mortgage securitisation transaction.

Regarding *asset* analysis, prior to pricing a transaction or development of a potential benchmark, a trader would need to evaluate the following aspects:

- 1) Geographic and borrower concentration: how granular is the pool in terms of number of borrowers, and what is the risk of a particular geographic area suffering an economic downturn, as well as correlation to the credit risk of assets from different geographic areas within that pool.
- 2) Perceived quality of the asset servicer: investors will generally require a wider spread for pools serviced by less-well known or smaller servicers, and less of a concession or no concession for large well known servicers.
- 3) Credit default probability: what is the historical arrears rate, historical default rate, variability of those rates, and prospects for recovery if defaults occur. This requires an analysis of the underwriting characteristics of the underlying mortgages (loan to value ratios, debt to income multiples, debt history etc., as well as analysis of the timing of arrears, defaults and recoveries, including lags and foreclosure costs). The trader will also need to make a pricing adjustment depending on whether the pool is backed by prime or rather non-conforming assets, as well as an evaluation of any buy-to-let assets included in the pool. Pricing will also be affected by the type of mortgage itself (ie whether it is for a property purchase or a remortgaging/refinancing). Lastly, the trader will need to evaluate mortgage payment types, including fully amortising, interest-only, or reverse mortgages.
- 4) Eligibility criteria for asset substitution (for transaction with revolving features or substitution rights): if the quality of substituted assets could be worse than the initial pool, the trader will need not only to constantly obtain current pool information, but also evaluate the potential performance of those substituted assets.
- 5) Historical and projected principal repayment and prepayment rates: this will have a material impact on the weighted average life of a security. In the UK, for example, prepayment rates on prime RMBS have ranged from approximately 20 to 40% per year, and for non-conforming product, the rates typically range from 20-60% per year due to borrower's incentives to refinance at lower borrowing costs as their financial situation improves. It is unlikely that these prepayments will be constant for the life of the pool, so traders must continuously evaluate the timing of prepayments as well. Seasonality adjustments will also need to be

made, since not only do prepayment rates vary depending on the time of year (they are typically higher in the summer), but also the impact of seasonality on default rates (which are typically higher after Christmas). This also includes an assessment of pool seasoning – even if asset pools have similar projected remaining weighted average lives, they could have very different payment characteristics depending on the coupons/rates that borrowers are paying and on changes in the macroeconomic environment since the assets were originated. Higher coupon mortgages are likely to prepay faster than current-coupon mortgages, even though the projected weighted average life for two pools may be similar.

Regarding *structure* analysis, prior to pricing a transaction or development of a potential benchmark, a trader would need to evaluate the following aspects:

- 1) Cash flow allocation sequence: each transaction will have a very specific cash flow allocation/waterfall sequence for both interest and principal that complicates pricing comparisons between various transactions. In some transactions, all principal is allocated sequentially, and in other transactions on a pro-rata basis amongst tranches, and in some it may switch between the two depending on certain asset criteria.
- 2) Credit enhancement structure and usage: each transaction will require an analysis of whether reserve funds are sized appropriately given the credit characteristics, and also whether they are fully funded or short of targeted levels. This will include checking whether any drawings have been made on liquidity facilities, since investors are likely to demand a wider spread if liquidity facilities have been tapped to cover temporary shortfalls.
- 3) Credit enhancement trigger analysis: each transaction will likely have a “trigger” mechanism whereby if certain credit related performance is breached, then cash flows are allocated in a different sequence, which will affect the timing of principal payments.
- 4) Derivatives: some transactions include interest rate swaps, caps, floors and options in order to reduce potential asset/liability mismatches within the structure. The trader must evaluate the quality of the counterparties and potential mismatches, particularly given actual pool performance.
- 5) Ratings and pool performance reports: the trader must identify which rating agencies have rated which tranches of a transaction and verify whether original ratings have changed or are under review, since a rating change in one tranche may affect the pricing of the other tranches. In addition, the trader will need to check current pool performance information to see how the pool may have changed subsequent to the offering circular being initially distributed.
- 6) Size of tranches: due to the cash flow sequencing process, most subordinated tranches will be relatively small. Since the subordinated tranches will be the most credit intensive, this small size and credit intensity will generally result in relatively wide bid/offer spreads. As a rule of thumb, the smaller the size, the less liquid the tranche.
- 7) Securities price: the spread at which an RMBS trades will depend on how far away from par the current price is, since prepayment rates will materially affect spreads. For example, a bond with an above-market coupon will probably trade at a higher yield as compared to a current or below-market coupon, since investors could actually lose money by buying a security above par and if rapid repayments occurred, then they would only receive par back.
- 8) Basel I and Basel II risk weightings: for bank investors, investor appetite, and therefore yield, will be affected by the credit risk weightings. For example, under Basel II, standardised-approach banks will have a 20% of 8% risk weighting for an AAA RMBS, while an investor bank using an advanced internal ratings-based approach could have a risk weight of 7% of 8%.

The above example illustrates the complexity of developing benchmarks for the most straight-forward asset class in Europe. For other transactions, such as structured notes, structured credit transactions and CDOs, the pricing considerations are typically even more complex than illustrated above, unless the transaction is a traded index such as CDX. Only for pools with exactly the same asset and structure composition as this index will benchmarking be theoretically feasible.