Follow-On Analysis to the
Report on Trading of OTC Derivatives

TECHNICAL COMMITTEE
OF THE
INTERNATIONAL ORGANIZATION OF SECURITIES COMMISSIONS

Contents

iv

Chapter 1 – Executive Summary

This Follow-On Analysis to the Report on Trading[1] (Follow-On Report) describes the different types of trading platforms currently available for the execution of OTC derivatives transactions in IOSCO member jurisdictions. Where possible, it also notes the differences relating to participant, product and geographic coverage.

There are a number of different types of trading platforms currently available for the execution of OTC derivatives transactions in IOSCO member jurisdictions. These platforms fall into two broad categories: those with multiple liquidity providers (multi-dealer platforms) and those with a single liquidity provider (single-dealer platforms). While these platforms are broadly similar in terms of the function they fulfil, there may be differences in the trade execution models used to effect transactions, the participant coverage, the degree of automation, the scope of asset class or product coverage, and the geographic coverage.

The trade execution models utilized by some multi-dealer platforms are anonymous counterparty models, such as fully-electronic order books, periodic electronic auctions, and hybrid methods that combine elements of both voice and electronic execution, which provide anonymity of counterparties prior to trade execution. Such models are typically used in the inter-dealer market space. Other multi-dealer platforms utilize request-for-quote and click-to-trade execution models that feature full disclosure of counterparties prior to trade execution. The single-dealer platforms utilize the request-for-quote and click-to-trade execution models with full disclosure of counterparties. The full disclosure models are typically used in the dealer-to-client market space. The following nine features reflect key functions of these trading platforms:

A. **Range of products traded:** Both multi-dealer and single-dealer platforms provide a wide range of OTC derivatives products that cover the interest rate, credit, commodity, equity and foreign exchange markets. Generally, platforms with a higher degree of automation tend to offer trading in more standardized products for which there is a sufficiently liquid market.

B. **The ability of participants to customize contracts:** The ability to customize contracts varies considerably across the different types of platforms with some types of platforms providing minimal customization and others offering a very broad range of customization.

C. **The degree of automation in the trading process:** The degree of automation in the trading process of OTC derivatives varies across the different types of trading platforms and is driven in part by the nature of the products offered on each platform and the needs of market participants.

D. **Pre-trade transparency:** There is a wide variance in the approach that trading platforms for OTC derivatives take to providing pre-trade transparency (i.e., the ability of market participants to see information relating to trading interest prior to transactions being executed).

E. **Post-trade transparency:** Post-trade transparency, (i.e., the dissemination of price and volume information on executed transactions to participants other than the executing parties)

---

[1] See FR03/11 *Report on Trading of OTC Derivatives*, Report of the Technical Committee of IOSCO, 18 February 2011, available at https://www.iosco.org/library/pubdocs/pdf/IOSCOPD345.pdf.

is currently very limited for OTC derivatives transactions, and generally is only available, if at all, to the participants of a given platform.

F. Operational efficiency/resilience: This Follow-On Report has not identified any material difference in the ability of single and multi-dealer platforms to provide operational efficiency and resilience.

G. Market surveillance: This varies by jurisdiction. Follow-On Report has not identified any material difference in the ability of single and multi-dealer platforms to implement systems and controls designed to detect potential abuse. However in a general sense, multi-dealer platforms have a broad view of dealer activity within a given product market and are able to apply this information to market monitoring.

H. Liquidity resilience and impact of stressed market conditions: The task force found that the available anecdotal evidence reflected a range of views as to the trading preferences of market participants during periods of market stress. This Follow-On Report has identified two key factors that may influence the behaviour of market participants at such times: whether the counterparty to the transaction is known prior to the execution of the trade and whether there is an element of voice negotiation in the transaction.

I. Links to post-trade processes: In general, the type of trading platform used does not limit the access to post-trade processes available to participants.

Within this framework, regulators have taken different approaches, with the U.S. Dodd-Frank reforms introducing swap execution facilities and the European Union (EU) proposing a regime that would include the use of organized trading facilities. In both cases these platforms are intended to provide a facility on which appropriate, standardized OTC derivatives contracts can be traded. Other jurisdictions are considering what regulatory steps should be taken in relation to trading of OTC derivatives on organized trading platforms.

Chapter 2 – Introduction

In February 2011, IOSCO published its *Report on Trading of OTC Derivatives*[2] (the Trading Report) written by the Task Force on OTC Derivatives Regulation (Task Force), which set out a framework for international regulators to consider when implementing the G-20 commitment to trade all standardized OTC derivatives on exchanges or electronic trading platforms, where appropriate, by end-2012 at the latest.[3]

The Trading Report made significant progress in reaching international agreement on the factors regulators should consider when implementing policy initiatives in this area. Specifically, the Trading Report concluded that it is appropriate to trade standardized derivatives contracts with a suitable degree of liquidity on "exchanges or electronic trading platforms," provided that a flexible approach encompassing a range of platforms that would qualify as "exchanges or electronic trading platforms" for derivatives trading is taken.

In determining the type of platform to be used for trading a given derivatives product, the Trading Report further concluded that there is a direct relationship between an organized platform's level of structure and the liquidity of the derivatives product that is appropriate for trading on such a platform. Thus, more structured platforms, such as limit order books or continuous auction systems, can be appropriate for the trading of relatively more liquid derivatives products. Conversely, less structured platforms could be utilized for the trading of products that are predicted to develop liquidity once traded on an organized platform. In this way, the incremental benefits of organized platform trading could be realized for a wide range of standardized derivatives products and, as a result, the G-20 objectives of improving transparency in the derivatives markets, mitigating systemic risk, and protecting against market abuse would be furthered over and above the benefits provided by increased use of central clearing, trade repositories and the review of the relative capital charges for cleared and non-cleared trades.

Based on the benefits to be gained from increased trading on organized platforms, the Trading Report recommended that a flexible approach to defining "exchanges or electronic trading platforms" for the purposes of addressing the G-20 objectives be taken in order to maximize the number of standardized derivatives products that can be appropriately traded on organized platforms. With this approach, market regulators would have the flexibility to specify the types of trading platforms that are most appropriate for derivatives trading in their jurisdiction, depending upon the mix of products traded in a given market.

"Exchanges or electronic trading platforms," therefore, should not be limited to any single trading mechanism or model. Instead, a range of platforms with certain specified characteristics can qualify as organized platforms. The Trading Report identified the seven characteristics set out below:

- Registration of the platform with a competent regulatory authority, including requirements relating to financial resources and operational capability;

- Access for participants based on objective and fair criteria that are applied in an

---

[2]   See *Report on Trading of OTC Derivatives*, IOSCO, February 2011, fn 1.

[3]   See Statement No. 13, *Leaders' Statement: The Pittsburgh Summit* (September 24 – 25, 2009), available at http://www.g20.org/ Documents/pittsburgh_summit_leaders_statement_250909.pdf.

impartial, non-discriminatory manner;

- Pre- and post-trade transparency arrangements which are appropriate to the nature and liquidity of the product and the functionalities offered by the platform;

- Operational efficiency and resilience including appropriate linkages to post-trade infrastructure and measures to handle potential disruption to the platform;

- Active market surveillance capabilities, including audit trail capability;

- Transparent rules governing the operation of the platform; and

- Rules that do not permit a platform operator to discriminate between comparable platform participants in relation to the interaction of buying and selling interests within the system, whether fully electronic or hybrid.

An additional characteristic was identified by the Trading Report as one that would provide benefits over and above the characteristics described above but would also generate additional costs above the costs generated by the seven characteristics described above:

- The opportunity for platform participants to seek liquidity and trade with multiple liquidity providers within a centralized system.

This additional characteristic is generally associated with multi-dealer, as opposed to single-dealer, platforms.

The Trading Report was delivered to the Financial Stability Board in April 2011, which requested that IOSCO undertake further analysis on the current use of multi- and single-dealer platforms. Since that time, the Task Force has been working to collect data and market intelligence on the current use of platforms which meet the characteristics as set out in the Trading Report, the findings of which are presented in this report.

This Follow-On Report describes the different types of trading platform currently available for the execution of OTC derivatives transactions in IOSCO member jurisdictions. Where possible, it also notes the differences relating to participant, product and geographic coverage.

Based on this description, we have sought to highlight the different approaches global regulators are taking (or envisage taking) to mandate the use of organized platforms for trading OTC derivatives. We have also attempted to consider how single and multi-dealer platforms address key issues such as the ability to customize contracts; the approach to the provision of pre and post-trade transparency information; and market monitoring capabilities.

The intention of this Follow-On Report is not to revisit the conclusions presented in the Trading Report, but instead to give a factual presentation of the different trading models currently available so as to assist regulators and policy makers when developing or implementing derivatives trading policy proposals.

The observations in this Report are based on information provided by IOSCO members and a limited amount of data relating to specific platforms. This Report has not sought to compile statistical data

for the global OTC derivatives market due to the challenges faced in aggregating platform data across jurisdictions and in a consistent way.[4]

---

[4]   Although they consider a broader range of data than is strictly covered by this report, the reader may wish to refer to the June 2010 Standardisation Matrices published on ISDA's website (http://www2.isda.org/G20objectives). The Standardisation Matrices include data on percentage ranges for products that are available for trading bilaterally/multilaterally by voice and electronically by single-dealer and/or multi-dealer platforms, as well as the percentage range of trades executed on those platforms, within the group of most active fourteen global derivatives dealers.

Chapter 3 – Overview of Current Multi- And Single-Dealer Trading Models

Currently, there are several types of trading platforms being used to trade OTC derivatives in IOSCO member jurisdictions. These platforms fall into two broad categories: those with multiple liquidity providers (multi-dealer platforms) and those with a single liquidity provider (single-dealer platforms). While these platforms are broadly similar in terms of the function they fulfil, there are variances in the execution models used to effect transactions, the participant coverage, the degree of automation, the scope of asset class or product coverage, and the geographic coverage.

What follows is a high-level description of the broad categories of platforms which are currently used to trade derivatives. Chapter 4 provides commentary regarding how each trading platform is currently being utilized, including the range of products traded, the ability for participants to customize contracts, the degree of automation from pre-trade through to post-trade functionality, the degree of pre-trade and post-trade transparency, and other factors.

A. Multi-dealer trading platforms

Multi-dealer trading platforms are systems for the negotiation and execution of derivatives transactions where more than one dealer stands ready to supply liquidity for derivatives transactions with counterparties that may seek such liquidity.[5] They may be fully electronic or they may incorporate an element of voice negotiation in the execution of the transaction (so called *hybrid systems*). The trade execution models utilized by multi-dealer platforms fall into two sub-categories: anonymous counterparty and disclosed counterparty.

1. Multi-dealer: anonymous counterparty

Currently, multi-dealer anonymous counterparty execution models are principally hosted by inter-dealer brokers (IDBs). Participants on these platforms are generally dealer banks that are pre-approved for bilateral trading prior to executing any transaction with each of the other participants whom have access to the platform. Trading interest is expressed through instructions to buy or sell without attribution to the source of the instructions. Thus, prior to the execution of a transaction, the parties to a specific transaction are anonymous to each other. After a transaction is executed, however, the identities of the counterparties are revealed, but only to the parties to the transaction. These platforms generally are located in a relatively small number of jurisdictions, but offer coverage across multiple jurisdictions and, in some instances, on a global basis. Within this category, there are three types of execution methods: fully-electronic order book trading, hybrid voice/electronic trading, and periodic auction trading.

a) Fully-electronic order book trading execution method

In its most basic form, an order book is a system or platform in which its market participants can enter multiple bids and offers, observe bids and offers entered by other market participants, and

---

[5]   For purposes of this discussion, centralized systems with multiple single-dealer pages are considered under the heading of "single dealer trading platforms: third party hosted" (Section B(2) below). Such systems have been categorised in this way, for the purpose of this report, because these systems do not enable participants to request a quote, or submit an order, to multiple dealers simultaneously. Instead, centralized systems with multiple single-dealer pages only allow participants to request a quote, or submit an order, to one dealer at a time.

choose to transact on such bids and offers. Such systems can incorporate pre-determined criteria governing the prioritisation of and interactions between buy and sell orders, such as to provide a transparent and objective basis for the continuous or periodic execution of transactions. For example, in a limit order book (LOB) system, orders are typically prioritized for execution first based on the competitiveness of the bid/offer price of the order and then by the time of submission, though some may also incorporate the size of order. These systems generally support a range of order types to facilitate the execution of transactions in different ways and provide pre-trade transparency in the form of displayed buy and sell orders of the participants. Such order types will include limit orders, which enable a participant to specify the highest price at which it is prepared to buy or the lowest price at which it is prepared to sell for a given quantity of financial instruments. Other order types enable participants to access orders residing in the order book to increase the speed or certainty of execution, such as immediate-or-cancel orders. Order book systems are typically fully automated, whereby pricing interest and responses will be transmitted electronically and then executed by application of the order book system's pre-determined trading algorithm.

b)   Hybrid voice/electronic trading execution method

Many IDBs also offer a model of execution that incorporates both electronic and voice execution elements. This is typically known as a *hybrid* model and can reflect functionality that resembles the order book trading execution method described above, although the IDB will also arrange transactions by bringing together the buying and selling interest anonymously by means of voice negotiation.[6] The degree of automation of these platforms can vary from the distribution of firm or indicative prices on a screen to the electronic acceptance of the transaction. Typically, the identities of the counterparties of a specific transaction are not known to one another until the negotiation of the transaction has been concluded.

c)   Periodic auction trading execution method

A periodic auction, or session-based, model generally is based on the execution of orders in batches at set intervals according to a pre-determined trading algorithm that generates a price at which the majority of trading interest executes. Such models allow the accumulation of trading interest within the platform and usually are considered more appropriate for classes of financial instruments that are less liquid, and therefore less suitable for a continuous execution model like a LOB. Typically, these models are fully automated. As with LOB models, these session-based trading models are often operated by IDBs.

2.   Multi-dealer: disclosed counterparty

Disclosed counterparty execution models are principally used in the dealer-to-client space and are often hosted by dealer-consortium companies. Participants on these platforms are pre-approved for bilateral trading as clients of each of the dealers (market makers) with which they seek to trade. Unlike the anonymous counterparty execution methods described above, all trading interest is initiated by clients by requesting firm price quotes from market makers that they have selected from their group of approved dealer counterparties. The identities of both counterparties to a transaction are therefore fully disclosed to each other in advance of execution, and such disclosure is only made to the market makers selected by the client for a specific transaction inquiry. Within this category and described in more detail below, there are two types of execution methods: request-for-quote

---

[6]   See Annex I for a diagrammatic representation of this execution method.

(RFQ) and request-for-stream (RFS).

These types of platforms are well established in North America and the EU and have a growing presence in Asia. Unlike the anonymous multi-dealer model, participants on these types of platforms are more varied and will also include, amongst others, smaller banks, central banks, pension funds, hedge funds, and traditional asset managers.

The multi-dealer RFQ execution method is a type of dealer/market maker platform that is based on the presence of multiple market makers who provide quotes accessible to other participants on the platform to buy and sell derivatives contracts. Multi-dealer RFQ platforms are modelled on the basis of multiple dealers/market makers competing for participant business. The operator of the platform will transmit to the requesting party the dealing terms, including price, on which market makers are prepared to trade in response to a specific ad hoc request for a firm quote of a specified size.

Typically, the multi-dealer RFQ platform operator does not perform an intermediation function in the conclusion of the contract. These models will tend to be fully-automated, whereby pricing interest and responses will be transmitted electronically. The prices that are communicated back to the requesting party typically remain live and executable for a predefined period of time.

The multi-dealer RFS execution method is a variation of the RFQ execution method whereby market makers provide continuous streaming firm quotes to buy and sell derivatives contracts for a predefined period of time based upon the client's request. The client receiving such streaming quotes can "click-to-trade" when the client is prepared to execute the transaction.

B.   Single-dealer trading platforms

Single-dealer platforms are electronic models that provide for the bilateral negotiation of derivative contracts. Unlike multi-dealer platforms, there is only one dealer standing ready to supply liquidity for derivatives transactions with clients that may seek such liquidity. Single-dealer platforms, broadly speaking, resemble the direct, bilateral, principal-to-principal negotiation of transactions, between dealer and client. All single-dealer platforms utilize a disclosed counterparty execution model, and are either dealer-hosted or third-party-hosted.

1.   Dealer-hosted websites

Some of the largest of the G-14 dealers, the most active fourteen global derivatives dealers,[7] host their own websites for use by pre-approved clients. These websites generally offer proprietary research, market data and analytical tools for clients, as well as the capability to transact electronically with the dealer across a range of securities and derivatives products for which the dealer is a market maker. Client trades are executed on a bilateral, principal-to-principal basis with the hosting dealer.

Participants on these types of platforms are typically varied and numerous. As a result, participants will tend to be from the dealer's client base and generally will include a variety of banks (but not other dealers), hedge funds and corporate clients in multiple jurisdictions. In particular, for

---

[7]   The G-14 dealers include Bank of America, Barclays, BNP Paribas, Citigroup, Credit Suisse, Deutsche Bank, Goldman Sachs, HSBC, JPMorgan Chase, Morgan Stanley, Royal Bank of Scotland, Société Générale, UBS, and Wells Fargo.

participants in some jurisdictions, this may be the only type of electronic platform available to them for the execution of OTC derivatives products.

a)   Click-to-trade execution method

Dealer hosted web-sites typically offer a *click-to-trade* functionality that gives access to the most up-to-date pricing offered by the bank in its capacity as market maker. In practice, a live (i.e., executable) bid and offer for the product in question will be displayed on the screen, along with an indication (usually a maximum) of bid and offer quantities. The participant can then click to accept the bid/offer, which includes acceptance of the underlying terms and structure of the transaction, and execute the transaction. Execution triggers the accompanying post-trade processes. Alternatively, prior to execution of the transaction, the participant may make small adjustments to the deal terms to the extent that they do not affect the price offered by the market maker. For example, such adjustments may include a change in size of the transaction from the predetermined size offered by the dealer or a small date change. Typically, the initial price offered will not be impacted by these changes and acceptance by the market maker will represent execution of the transaction. The majority of transactions executed on single-dealer platforms are executed via a click-to-trade functionality.

b)   RFQ and RFS execution methods

The single-dealer RFQ execution method is a type of dealer/market maker model that is based on the presence of one liquidity provider who provides quotes to buy and sell derivatives contracts and which are accessible to its clients on the platform. The dealing terms, including price, on which a market maker is prepared to trade are communicated in response to specific, ad hoc requests by its clients for firm quotes.

The single-dealer RFS execution method follows the same approach as the multi-dealer disclosed counterparty model outlined above with the exception that streaming prices are generated solely from the dealer host.

2.   Third-party hosted websites

Most of the G-14 dealers have single-dealer trading screens (dealer pages) on third-party information networks, such as Bloomberg and Thomson Reuters, for use by pre-approved clients. These dealer pages allow clients to transact electronically with the dealer across a range of derivatives products for which the dealer is a market maker. Client trades are executed on a bilateral, principal-to-principal basis with the hosting dealer either by a click-to-trade or an RFQ methodology. The products offered on these types of platforms tend to be a smaller sub-set of those offered by the dealers on their dealer-hosted web page, if they have one. These types of platforms also offer composite pages that allow market participants to view quotes for similar instruments from multiple dealers alongside each other.

Chapter 4 – Functionality and Features of Platforms

In this section, we have identified nine features which reflect key functions of trading platforms currently utilized for the execution of trades in OTC derivatives. These features are used as a framework to compare the operation of each type of platform, and include:

A. Range of products traded

B. The ability of participants to customize contracts

C. The degree of automation in the trading process

D. Pre-trade transparency

E. Post-trade transparency

F. Operational efficiency/resilience

G. Market surveillance

H. Liquidity resilience and impact of stressed market conditions

I. Links to post-trade processes

A.   Range of products traded

There is a wide range of OTC derivatives products currently traded on the different types of trading platforms discussed in this Follow-On Report. The types of products offered by particular types of platforms will vary depending on a number of factors, but primarily will be driven by liquidity and standardization. Generally, platforms with a higher degree of automation tend to offer more liquid and more standardized products. This section gives an overview of how the product offerings of different types of platforms vary by asset class.

As discussed in the Trading Report, there are generally two types of standardization: legal standardization and operational standardization.[8] Legal standardization encompasses uniformity in product terms and ancillary contract terms and definitions. Operational standardization refers to the extent to which trade processing and procedures for trade capture and revision, confirmation, settlement, close-out, and other "lifecycle events" are managed in an agreed manner according to an agreed timetable.

Products traded on multi-dealer platforms with disclosed counterparties tend to exhibit a very high degree of standardization. Currently, these platforms are more prevalent for the trading of interest rate derivatives and equity derivatives, with an emerging presence in credit derivatives. There is limited trading of commodity derivatives on multi-dealer platforms with disclosed counterparties.

The range of products traded on multi-dealer platforms with anonymous counterparties reflects the traditional product offerings of the IDB operating the platform. On these platforms, there is

---

[8]   See *Report on Trading of OTC Derivatives*, IOSCO, February 2011, fn 1 at p22.

significant activity in interest rate, commodity, foreign exchange and credit derivatives. There are also some offerings for equity derivatives.

In general, the range of products offered on a single-dealer platform tends to be broader than those offered on fully-automated multi-dealer platforms. This may be explained by the willingness of the hosting dealer to act as market maker for a wider variety of products on platforms where the market maker is the sole liquidity provider and not subject to competing quotes from other liquidity providers. Single-dealer platforms may provide an environment for new products to be introduced, before developing a sufficient level of trading interest to sustain competitive liquidity provision on a multi-dealer platform.

Currently, product offerings on the various single-dealer platforms differ from platform to platform but generally include a range of interest rate, foreign exchange and credit derivatives asset classes. There is proportionately less usage of single-dealer platforms in the trading of commodity and equity derivatives.

For third-party hosted single-dealer platforms, the precise range of products offered will depend upon the liquidity provider, but most activity is seen in interest rate and credit derivatives asset classes. Limitations of functionality of the hosting service may limit the range of product offerings on these platforms and, as a result, products tend to be highly standardized and liquid, representing a subset of the products that the liquidity provider offers on its own platform.

In addition to derivatives, both multi-dealer and single-dealer platforms may offer non-derivatives products – such as corporate and government bonds and spot foreign exchange products – on the same trading platform.

B.   The ability of participants to customize contracts

As regulatory initiatives to promote greater standardization take effect, it is expected that, over time, more derivatives products may be able to be traded on organized trading platforms. At the same time, it is important to note that, due to client needs, there likely will be a segment of the OTC derivatives market that is not suitable for trading on organized trading platforms and instead will be executed by other means, although this proportion may diminish as jurisdictions adopt regulatory initiatives for the trading of OTC derivatives on organized trading platforms and as products and processes become more standardized. This section discusses the relative capabilities of various platforms to permit their participants to trade customized contracts.

Because OTC derivatives contracts are often used for hedging purposes, there is often a need to tailor a contract to exactly hedge an underlying exposure. The need of market participants to *customize* contracts to meet their exact specifications can range from a simple change in a contract's expiry date to much broader changes which lead to a wholesale change in the structure of the contract. As a result of this need, market participants will often seek out the execution venue that gives them the desired level of flexibility to tailor contracts.

The ability to customize contracts varies considerably across the different types of platforms with some types of platforms providing minimal customization and others offering a very broad range of customization. Contracts traded on LOBs are highly standardized and therefore permit little, if any, client customization. However, other types of platforms will allow clients to make changes to the terms of the contract. On the one hand, participants may elect to make a very small change to the

underlying contract, such as a change to the notional value. This is a relatively simple change and typically can be done by the participant clicking on a predetermined field prior to requesting a quote. Such a change can be accommodated by a much broader range of platforms, including those that are fully automated. On the other hand, a change to the expiry date of an option would have a very significant impact on the structure of the transaction and, as a result, can only be supported by a small subset of platforms currently operating a hybrid platform in the IDB market.

Even platforms that are fully automated will vary in the degree of product customization available. For example, platforms with fully disclosed, multiple liquidity providers operating in the dealer-to-client market typically operate on a request for quote basis and, as a result, participants have the ability to customize several aspects of the contract terms. In practice, most participants on these types of platforms elect a low degree of customization, with a small number seeking greater customization.

For fully automated platforms with multiple liquidity providers, system functionality will be linked to both the resources of the platform operator and the capacity of all liquidity providers on that system to offer the same degree of customization. Historically, this has meant that electronic trading of products initially appeared on single-dealer platforms and, over time, as liquidity pools develop, more liquidity providers and the operators of such platforms will look to expand into this area.

Fully automated single-dealer platforms tend to offer a higher degree of contract customization capabilities than those with multi-dealer platforms. The volume of transactions executed via the different methods of execution (i.e., click to trade, RFQ and RFS) will vary by asset class and by platform.

Contracts traded via third-party hosted single-dealer platforms tend to be executed via a click-to-trade model whereby there is very limited ability for the market participant to customize the contract. For a higher level of contract customization, clients tend to use an RFQ model, although the ability to alter contract specifications is limited by the functionality and the technology of the hosting platform. In practice, the level of customization on third-party hosted single-dealer platforms will be limited, and in some instances significantly so, as compared to the level of customization offered directly by the liquidity provider.

C.   The degree of automation in the trading process

The degree of automation in the trading process of OTC derivatives varies across the different types of trading platforms and is driven in part by the products offered on each platform. For example, products with a high degree of standardization and a high degree of liquidity tend to be traded on fully automated platforms.

Disclosed counterparty multi-dealer platforms tend to operate on a fully automated basis – from the provision of pre–trade information, to the execution of the order and the accompanying post-trade processes (including interfacing with central counterparties and trade repositories). Even the contracts which involve elements of client customization will be executed on a fully automated basis.

Platforms in the IDB market typically incorporate an element of voice negotiation, but will have some level of automation in the transaction process. The level of automation will vary by platform, ranging from the electronic provision of tradable bids and offers to indicative, but not tradable, quotes or indications of interest. Most platforms in the IDB market offer fully automated post-trade

processing. Some operators will also offer a fully automated service alongside their hybrid systems, with the automated service being utilized for only the most liquid and standardized products.

Single-dealer platforms offer fully automated services – from the provision of pricing data, to trade execution and post-trade processes. For particularly large, bespoke transactions, clients may use the platform as a price discovery mechanism and then execute transactions bilaterally by telephone.

Single-dealer pages hosted on a third party site also are fully automated, with either live streaming prices available on the hosted page or an RFQ functionality. Typically, prices offered on these types of platforms will be generated from the same source as the pricing data available on the dealer's own hosted platform.

D.   Pre-trade transparency

There is a wide variance in the degree of pre-trade transparency (i.e., the ability of market participants to see information relating to trading interest prior to transactions being executed) offered on trading platforms for OTC derivatives. Among such platforms, ones utilizing the LOB execution method provide a high degree of pre-trade transparency. As with electronic order books utilized in other asset classes, LOB platforms for trading OTC derivatives generally maintain an anonymous book for each product. A participant may execute against an existing order by hitting the best bid, or lifting the best offer, on the platform, or may place its own firm bid or offer in the book. LOBs typically provide their participants with the best bid or offer price (and associated size) for their products. Some platforms may provide additional information regarding the depth of liquidity for a given product, and some may also provide such information to parties beyond the platform's own participants.

Multi-dealer and single-dealer RFQ systems typically utilize an indicative quote screen feature, which is fed by participant dealers via their provision of indicative bids and offers. In the context of multi-dealer RFQ systems, this feature can take the form of a single, composite indicative quote fed by multiple dealers. An RFQ platform will typically use averaging or other similar methodology to derive a single indicative bid/offer, which is available to the platform's participants. In addition, though not traditionally thought of as *pre-trade transparency*, participants requesting quotes receive a limited degree of pre-trade transparency in that they receive the dissemination of dealer responses to their requests, which provides them some insight into the market for a given product in advance of any execution.

Dealers on multi-dealer and single-dealer RFS systems provide quotes representing firm commitments to buy and sell. However, unlike LOBs that disseminate firm quotes and orders to all participants, these quotes are generally limited to select tiers of clients, and dealers may even provide differentiated quotes to different tiers or types of clients due to counterparty credit risk charges. Auction or session-based trading models do not generally provide their participants with access to firm bids and quotes. Instead, these platforms generally establish what is known as a consensus curve for different maturities of a given product (e.g., credit default swaps). This curve is determined by the platform operator, who solicits the input of the platform's participants. The platform operator then incorporates each participant's view into a single consensus curve for the product, which it disseminates to the platform's participants.

E.   Post-trade transparency

Post-trade transparency, (i.e., the dissemination of price and volume information on executed transactions to participants other than the executing parties) is currently very limited for OTC derivatives transactions, and generally is only available, if at all, to the participants of a given platform. Some LOBs flash trades on the screen as they occur or in a trade blotter on participants' screens. And, generally, because they are able to see the best bid/offer (and, sometimes, some depth of liquidity) on the book, a participant closely watching a LOB's screen may see a likely execution by observing changes in the book. There is no guarantee, however, that such a change is due to an actual execution as opposed to an order cancellation.

Other types of platforms, whether single- or multi-dealer, generally provide little in the way of post-trade transparency, and only parties to a given transaction are aware of its details.

Apart from regulatory initiatives being undertaken to support greater use of organized platform trading, some IOSCO jurisdictions currently are in the process of considering ways to improve post-trade transparency for OTC derivatives.

F.   Operational efficiency/resilience

Operational efficiency describes the arrangements made by a platform operator in order to ensure the efficient finalisation of, and orderly discharge of the contractual obligations arising from, transactions executed on or through the facility. This would include such post-trade processes as trade confirmation services and arrangements for clearing and settlement.

Operational resilience describes the ability of a platform to handle potential disruption or interference to its business operations, including its arrangements for disaster recovery and business continuity.

Platforms that facilitate the trading of OTC derivatives utilize a wide range of technologies, from non-electronic (e.g., telephonic communications) to fully-electronic automated systems, to provide some level of operational efficiency and/or resilience to its participants. Many also incorporate other technologies such as instant messaging and email in order to do so. Whether multi-dealer or single-dealer, trading platforms are generally designed to enable their operators to monitor several core functions. First, these platforms will have systems in place that alert operators when the platform's technical systems are not operating properly, although the sophistication of such monitoring varies from platform to platform due in part to the varied degree of automation and technology in use. In addition, operators generally review trading and other activities on their platforms to ensure that participants are complying with the market's rules or relevant user agreements.

While recognizing that operational efficiency and resilience may be delivered in different ways, this Follow-On Report has not highlighted any material differences in the ability of a single-dealer and multi-dealer platform to provide for these outcomes, according to the nature of the system or facility operated.

G.   Market surveillance

Market surveillance describes the rules, processes and procedures adopted by a platform in order to identify and address suspected instances of market abuse or financial crime involving the use of the platform's trading functionality.

Currently, the approach to market surveillance obligations for OTC derivatives trading platforms differs, with some IOSCO jurisdictions mandating such obligations and others not. However, in a general sense, multi-dealer platforms have a broad view of dealer activity within a given product market and are able to apply this information in their market monitoring processes. At the same time, on single-dealer platforms, there is a reduced opportunity for clients to manipulate the price formation process, as this is controlled by the single liquidity provider. Under some regimes, the operator of such platforms will also have a regulatory obligation to report suspicious trading to relevant authorities, which can further enhance market surveillance.

H.   Liquidity resilience and impact of stressed market conditions

Some commentators argue that the central pooling of bids and offers for similar products, particularly for standardized products, can create a stable source of market liquidity. As regulators endeavour to build more resilient trading infrastructures, consideration should be given to how the different types of trading platforms and execution methods outlined in this Follow-On Report may function under times of market stress.

There will always be products that do not trade regardless of trading methodology, during times of extreme market stress. These are most likely to be bespoke products more suited to traditional bilateral execution. Such products are not currently envisaged as being captured by the emerging legislation and regulation in the various IOSCO jurisdictions.[9] Therefore, this Follow-On Report does not consider the implications for less standardized products at times of market stress.

It is reasonable to assume that multiple trading platforms operating in the same product market may represent substitutes for each other in the event that one or more such platforms became unavailable during a time of market stress. However, although the potential for this substitution exists, the extent to which it can be achieved is dependent on a range of factors which fall outside the scope of this Follow-On Report.

Recent experience of stressed market conditions during the 2007-2008 financial crisis saw limited trading of OTC derivatives on organized trading platforms, so it is difficult to draw firm conclusions from that experience about future market behaviour. However, observations from that time period suggest there are two key elements to consider in relation to liquidity resilience and the impact of stressed market conditions. Firstly, whether the counterparty to the transaction is known prior to the execution of the trade and secondly, whether there is an element of voice negotiation in the transaction. Anecdotal evidence indicates that different market participants may attach different levels of significance to these factors, with dealer-to-client markets showing a preference for disclosed counterparty execution, whether on a multi-dealer or single-dealer platform, and the inter-dealer market favouring voice execution.

Liquidity providers have indicated that they have a stronger incentive to support realistic pricing in stressed market conditions when their identity is disclosed to the market (i.e., there is a reputational risk associated with displaying unrealistic pricing to the market, which the liquidity provider wishes to avoid). Therefore, in a broad sense, one would expect that organized trading platforms that

---

[9]   As noted in the *Report on Trading of OTC Derivatives*, IOSCO, February 2011, fn 1, products which are likely to be suitable for trading on organized trading platforms are envisaged as having a sufficient degree of standardisation and liquidity to support trading, even during market stress.

disclose the identity of the counterparty, whether single-dealer or multi-dealer, will be better placed to offer liquidity resilience at times of market stress, acknowledging that other factors will also be at play. Indeed, activity during recent market volatility shows an increase in volumes of transactions executed on a disclosed multi-dealer trading platform.

Additional anecdotal evidence suggests that, during this period, there was a tendency of market participants in the IDB market to favour platforms with an element of voice negotiation. This preference seems to have been largely driven by counterparty credit risk concerns, but also may have related to market participants seeking to have a greater degree of control over the execution of transactions.

However, in stressed market conditions, liquidity providers are likely to seek to determine the level of risk represented by each available counterparty, which may lead to some participants' access to certain platforms being reduced. In other stressed market circumstances, investors may seek more anonymous venues of execution in order to avoid revealing their position to the market. It should be noted though that it is very difficult to predict which trading model will be more resilient in stressed market conditions.

I.   Links to post-trade processes

There are currently no mandated post-trade processes in any IOSCO jurisdiction for OTC derivatives transactions. As discussed above, post-trade reporting, for example, is not yet required and the terms of a transaction are generally only known by the parties to the transaction. As noted in Appendix II, different types of organized trading platforms, both single- and multi-dealer systems, provide for links to post-trade processes, including prompt electronic trade confirmations and straight-through processing. In general, the type of trading platform used does not limit the access to post-trade processes available to participants.

Chapter 5 – Overview of Anticipated Regulatory Approach

A.   Overview of US approach

The United States enacted the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act)[10] into law in July 2010. Among other things, the Dodd-Frank Act seeks to promote the financial stability of the United States by improving accountability and transparency of the nation's financial system and providing the Securities and Exchange Commission (SEC) and Commodity Futures Trading Commission (CFTC) with the authority to issue rules relating to OTC derivatives.

Under this legislation, U.S. regulators are given a mandate to regulate organized trading platforms called swap execution facilities and security-based swap execution facilities (together SEFs), which are defined as trading systems or platforms in which multiple participants have the ability to execute or trade derivatives by accepting bids and offers made by multiple participants in the system.[11] An important piece of the U.S. framework is what is referred to as the "multiple to multiple" requirement, namely that multiple participants have the ability to execute derivatives by accepting bids and offers made by multiple participants. Both the SEC and CFTC have proposed rules[12] relating to the SEF definition that may be satisfied by various types of platforms, but some platforms that are currently used to trade derivatives in the OTC market would not meet the "multiple to multiple" requirement, including single-dealer trading platforms, because the dealer would undertake the role of buyer to every sell order and seller to every buy order. As discussed in previous sections, various types of multi-dealer platforms could satisfy the "multiple to multiple" requirement of SEFs (e.g., LOBs, certain types of RFQ execution methods).

B.   Overview of EU approach

Under the European Commission's current proposal for a Regulation on Markets in Financial Instruments (MiFIR), financial counterparties (and certain non-financial counterparties) will owe an obligation to trade those classes of derivatives declared to be subject to the trade obligation only on regulated markets (Regulated Markets), Multilateral Trading Facilities (MTFs), Organised Trading Facilities (OTFs) and certain third country markets. OTFs are a new category of trading venue under MiFIR, defined as a system or facility (which is not a Regulated Market or MTF) operated by an investment firm or a market operator, in which multiple third-party buying and selling interests in financial instruments are able to interact in the system in a way that results in a transaction. According to the proposal, the operator of an OTF would have discretion over how a transaction is to be executed.

---

[10]   The Dodd-Frank Wall Street Reform and Consumer Protection Act. Pub. L. No. 111-203, 124 Stat. 1376 (2010) available at http://www.sec.gov/about/laws/wallstreetreform-cpa.pdf. .

[11]   See Section 3(a)(77) of the Securities Exchange Act, available at http://www.sec.gov/about/laws/sea34.pdf, and Section   1a(50)   of   the   Commodity   Exchange   Act   available   at http://www.cftc.gov/LawRegulation/CommodityExchangeAct/index.htm.

[12]   See   Securities   Exchange   Act   Release   No.   63825   (February   2,   2011)   available   at http://www.sec.gov/rules/proposed/2011/34-63825.pdf, 76 FR 10948 (February 28, 2011) at 10950-10958 available   at   http://www.gpo.gov/fdsys/search/pagedetails.action?granuleId=2011-2696&packageId=FR-2011-02-28&acCode=FR; also Core Principles and Other Requirements for Swap Execution Facilities, 76 FR 1214 (January 7, 2011) available at http://www.cftc.gov/LawRegulation/FederalRegister/ProposedRules/2010-32358 at 1218-1221.
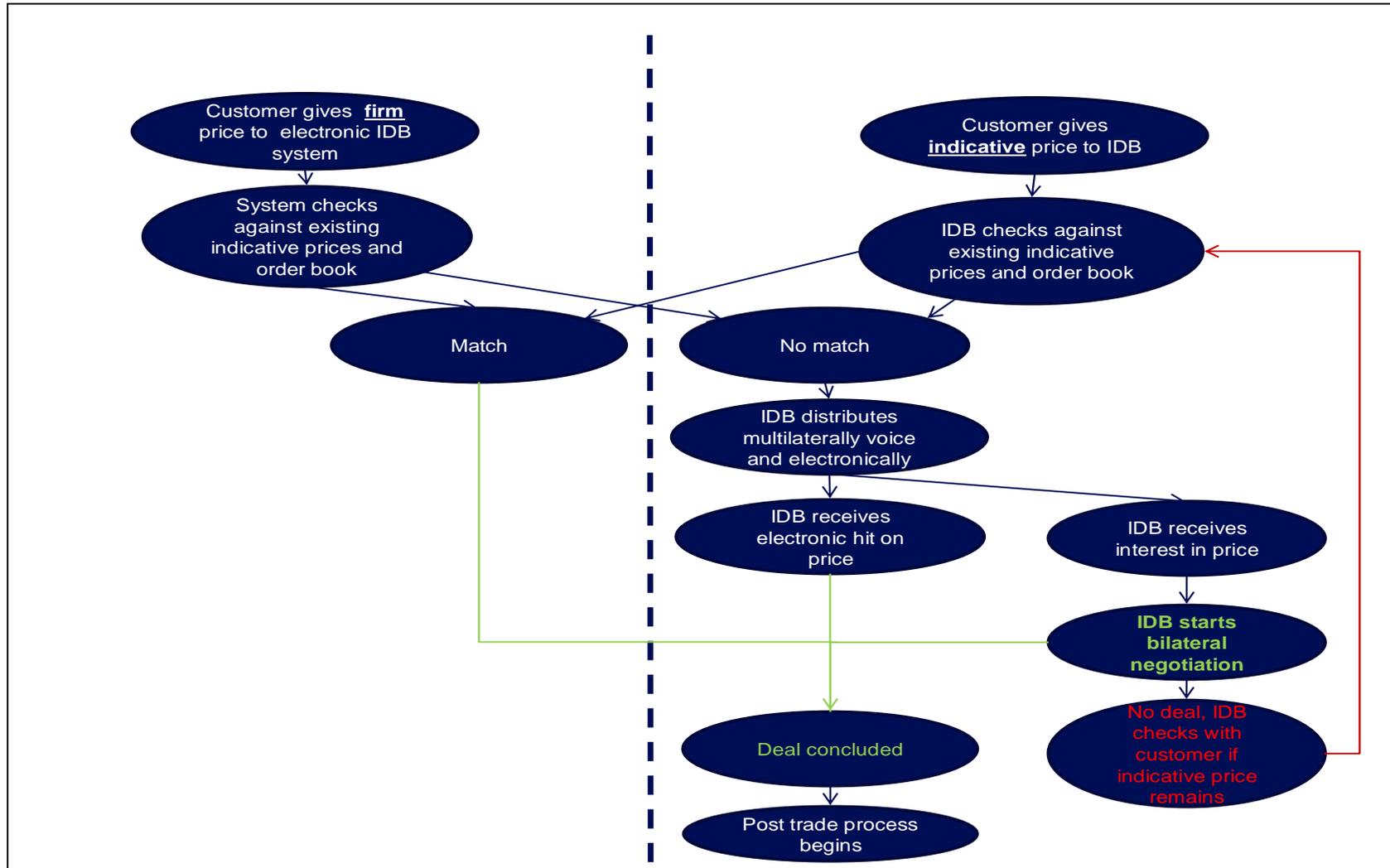
MiFIR sets out a procedure for the determination of whether a derivative should be subject to the trade obligation. Under this procedure, the European Securities and Markets Authority would develop technical standards declaring which classes (or sub-classes) of derivatives that are subject to the clearing obligation under the regulation on OTC derivatives, central counterparties and trade repositories (EMIR) should be traded only on the venues specified above. In order for the trade obligation to take effect, the relevant class of derivative must be admitted to trading on at least one Regulated Market, MTF or OTF and be deemed to be sufficiently liquid. The determination of sufficient liquidity is required to take into account market characteristics at national level including elements such as the number and type of market participants in a given market, and of transaction characteristics, such as the size and frequency of transactions in that market.

C.   Overview of approach taken in other jurisdictions

Elsewhere, jurisdictions are currently in the process of considering what regulatory steps should be taken in relation to trading of OTC derivatives on organized trading platforms. Specifically, a number of jurisdictions (e.g., Canada, Japan and Singapore) plan to hold a public consultation on possible policy measures. Other jurisdictions, such as Australia, whilst not currently planning to hold a public consultation, continue to give consideration to this issue. At the same time, some jurisdictions (e.g., Turkey and Brazil) have decided that for reasons specific to their markets, regulatory action in this area is currently not an issue.

In Hong Kong, a consultation paper on the proposed regulatory regime for the OTC derivatives market was issued on 17 October. Although the relevant legislation is proposed to be amended to allow for a mandatory trading obligation to be introduced, further study is needed to assess how best to implement such a requirement in Hong Kong.

Annex I - Hybrid Voice/Electronic IDB Platform Model

Customer gives **firm** price to electronic IDB system

System checks against existing indicative prices and order book

Customer gives **indicative** price to IDB

IDB checks against existing indicative prices and order book

Match

No match

IDB distributes multilaterally voice and electronically

IDB receives electronic hit on price

IDB receives interest in price

IDB starts bilateral negotiation

Deal concluded

No deal, IDB checks with customer if indicative price remains

Post trade process begins

23

Annex II – Summary of Platform Types and Features

	Multi-dealer disclosed counterparty (RFQ & RFS)	**Multi-dealer anonymous counterparty (Order Book, Hybrid & Auction)**	**Single-dealer hosted platform (Click-to-trade, RFQ & RFS)**	**Single-dealer third party hosted platform (Click-to-trade, RFQ & RFS)**
Types of Participants	• Dealers participate as market makers and their clients participate as liquidity takers.	• The IDB-sponsored platforms are generally for dealers only. Note: In the U.S., some order book and auction platform operators have indicated that they provide access to various types of participants (including potential dealers and other market participants, depending on the meaning attributed to the terms through joint SEC-CFTC regulations).	• Dealer participates as market maker and their clients participate as liquidity takers.	• Dealer participates as market maker and their clients participate as liquidity takers.

Geographic Presence	• US, Europe and Asia.	• US, Europe and Asia	• US, Europe and Asia.	• US, Europe and Asia.
Range of Products Traded	RFQ: • Interest rate swaps ("IRS") and credit default swaps ("CDS"); availability varies by platform and region. RFS: • Only the most liquid benchmark IRS and CDS indices	Order Book Model: • Varies by platform but the range of products include CDS, IRS, FX swaps, energy swaps. CDS include single-names and indices. Interest rate derivatives include IRS, Overnight Index Swaps, Forward Rate Agreements, Single and Cross-currency basis swaps. EUR swaps in outright swaps, spreads, and butterflies. Auction Model: • Generally the same scope of coverage as with order book/continuous markets models;	RFQ: • IRS, CDS and FX; availability varies by platform and region. RFS: • Only the most liquid benchmark IRS and CDS indices	RFQ: • IRS, CDS and FX; availability varies by platform and region. RFS: • Only the most liquid benchmark IRS and CDS indices

		however, this approach is used for the less liquid derivatives contracts within these product groups.		
Ability to Customize Contracts	• Varies by platform, but generally less than for SDPs	• Varies by platform, but generally less than for SDPs	• Varies by platform, but generally greater than for MDPs	• Varies by platform, but generally greater than for MDPs
Degree of Automation	• **Pre-trade**: Participants can view composite pricing screens that display indicative bids and offers from the dealers/market makers. • **Trade execution**: Clients enter requests for quotes, which represent their trading interest, to one or more dealers on the RFQ platform. Only the dealers selected to receive these requests	**Order Book Model & Auction Model:** • Automated programming interfaces (API) support automated order submission, market data subscriptions, and post-trade processing. • **Pre-trade**: Real-time view of orders, recent trades and volumes. • **Trade execution**: Automated, centralized order matching, often	• **Pre-trade**: Participants can view dealer's pricing screens that display indicative bids and offers for RFQ/RFS and firm prices for Click to trade • **Trade execution**: RFQ/RFS - Client enters request for quote or stream, which represents their trading interest, to the dealer. Dealer responds (at their option) with firm	• **Pre-trade**: Participants can view dealer's pricing screens that display indicative bids and offers for RFQ/RFS and firm prices for Click to trade • **Trade execution**: RFQ/RFS - Client enters request for quote or stream, which represents their trading interest, to the dealer. Dealer responds (at their option) with firm

	are aware of a client's trading interest. Dealers respond (at their option) with firm electronic quotes that are actionable (at the client's option). Essentially, this is an electronic version of the traditional voice negotiation process. • **Post-trade processing**: Prompt electronic trade confirmations and straight through processing.	supporting trading strategies such as spreads, butterflies and futures crosses, multi-legged strategies, full order-book functionality including trader or broker entry. Order types include One Cancels Other, Minimum Fill/All Or None, • **Post-trade processing**: Prompt electronic trade confirmations and straight through processing.	electronic quotes that are actionable (at the client's option). Essentially, this is an electronic version of the traditional voice negotiation process. • **Click to trade** – Client clicks price and size on dealer pricing screen and trade is executed. • **Post-trade processing**: Prompt electronic trade confirmations and straight through processing.	electronic quotes that are actionable (at the client's option). Essentially, this is an electronic version of the traditional voice negotiation process. • **Click to trade** – Client clicks price and size on dealer pricing screen and trade is executed. • **Post-trade processing**: Prompt electronic trade confirmations and straight through processing.
Pre- trade transparency	• Composite indicative quote screens	• Displayed order books, often including depth of book	• Composite indicative quote screens	• Composite indicative quote screens

Post-trade transparency	• Platform operator may display some information about trades to platform participants	• Some trading activity can be inferred from observing order books	• Dealer operator may display some information about trades to its clients	• Platform operator may display some information about trades to platform participants