Report on Trading of OTC Derivatives

TECHNICAL COMMITTEE
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Foreword

In September 2009, the G-20 Leaders stated that all standardised over-the-counter (OTC) derivatives contracts should be traded on exchanges or electronic trading platforms, where appropriate, and cleared through central counterparties by the end of 2012 in order to improve transparency, mitigate systemic risk, and protect against market abuse in the derivatives markets.[1] To support the realisation of these objectives, a working group led by representatives of the Committee on Payment and Settlement Systems (CPSS), the International Organization of Securities Commissions (IOSCO), and the European Commission (OTC Derivatives Working Group) was formed to set out policy options supporting the consistent implementation of appropriate measures regarding trading, clearing, and reporting across jurisdictions. The Financial Stability Board (FSB) adopted the report of the OTC Derivatives Working Group and submitted the report to the G-20 Finance Ministers and Central Bank Governors in October 2010 (FSB Report)[2]. The FSB Report presents twenty-one recommendations addressing the implementation of the G-20 commitments.

In October 2010, IOSCO formed the Task Force on OTC Derivatives Regulation (Task Force), in part to address the recommendation in the FSB Report that IOSCO conduct a study evaluating the benefits and challenges associated with the implementation of measures aimed at increasing exchange and electronic trading of OTC derivative products.

This report (Report on Trading) presents the Task Force's analysis of the characteristics of exchanges and electronic platforms, the characteristics of OTC derivatives products relevant to exchange or electronic platform trading, the costs and benefits associated with exchange or electronic platform trading of OTC derivatives relative to the stated goals of the G-20 Leaders' commitment, including identification of benefits that are incremental to those provided by increased standardisation, central clearing, and reporting to trade repositories, and methods of increasing the use of exchanges or electronic platforms for trading in the derivatives markets.

The Co-Chairs are grateful to the Task Force's members and observers for their hard work and dedication in preparing this Report on Trading.

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1 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

2 *Implementing OTC Derivatives Market Reform*, Financial Stability Board, 25 October 2010 available at http://www.financialstabilityboard.org/publications/r_101025.pdf.

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Introduction

As of December 2009, approximately 89% of derivatives contracts were transacted over-the-counter (OTC).[3] That is, they were transacted directly between two contracting parties without the interposing of an exchange or other intermediary. While the number of derivatives contracts that are traded on exchanges or other electronic platforms (hereinafter referred to as "organised platform(s)") has grown throughout 2009 and 2010,[4] the OTC portion of the market continues to dominate. This dominance mainly is attributed to such contracts' customised nature, which allows them to meet the specific needs of the counterparties.[5]

The recent financial crisis revealed certain deficiencies in the OTC derivatives markets. To help address these deficiencies, the G-20 Leaders in September 2009 stated that "[a]ll standardised OTC derivatives contracts should be traded on exchanges or electronic trading platforms, where appropriate, and cleared through central counterparties by end-2012 at the latest" in order to improve transparency, mitigate systemic risk, and protect against market abuse in the derivatives markets.[6] Building on this commitment, in June 2010, the G-20 Leaders agreed to work in a coordinated manner to accelerate the implementation of OTC derivatives regulation and supervision and to increase market transparency and product standardisation.[7]

To support the implementation of the G-20 Leaders' commitments, a working group led by representatives of the Committee on Payment and Settlement Systems (CPSS), the International Organization of Securities Commissions (IOSCO), and the European Commission (OTC Derivatives Working Group) was formed to set out policy options supporting the consistent implementation of the G-20 commitments across jurisdictions. The OTC Derivatives Working Group produced a report which sets forth twenty-one recommendations addressing the practical issues that authorities may encounter in implementing the G-20 Leaders' commitments concerning standardisation, central clearing, organised platform trading, and the reporting of OTC derivatives to trade repositories. The Financial Stability Board adopted the OTC Derivatives Working Group report and submitted it to the G-20 Finance Ministers and Central Bank Governors in October 2010 (FSB Report).

In an effort to address the G-20 commitment that all standardised derivatives contracts should be traded on organised platforms, where appropriate, the FSB Report recommended that IOSCO, with the involvement of appropriate authorities, conduct an analysis of the benefits and costs associated with increasing organised platform trading of derivatives. This report

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3 This figure reflects notional amounts outstanding of derivatives contracts. Bank of International Settlements, BIS Quarterly Review September 2010 – *International banking and financial market developments*, A121, available at http://www.bis.org/publ/qtrpdf/r_qt1009.pdf.

4 Id.

5 Deutsche Börse Group, *The Global Derivatives Market: A Blueprint for Market Safety and Integrity*, 9 (2009), available at http://www.eurexchange.com/download/documents/publications/WPDerivativesMarketBlueprint.pdf.

6 Id Note 1.

7 Declaration No. 25, *The G-20 Toronto Summit Declaration* (June 26 – 27, 2010), available at http://www.g20.org/ Documents/g20_declaration_en.pdf.

(Report on Trading) aims to undertake such analysis, with the goal of providing regulators across jurisdictions an analytical tool that can inform their current and future efforts to address the trading of derivatives on organised platforms.

The Report on Trading is organised as follows. The chapter entitled "Background Information" describes the current state of derivatives markets in various jurisdictions, including the OTC and organised platform traded portions of such markets and, where possible, the transactional volumes attributable to each. Chapter 1 sets forth the characteristics of organised platforms that could be used for derivatives trading. Chapter 2 discusses the characteristics of OTC derivatives products that make organised platform trading of derivatives practicable, including standardisation and liquidity considerations. Chapter 3 addresses the benefits and costs associated with increasing organised platform trading with respect to the G-20 Leaders' stated objectives of improving transparency, mitigating systemic risk, and protecting against market abuse in the OTC derivatives markets, including identification of benefits that are incremental to those provided by increased standardisation, central clearing, and reporting to trade repositories. Chapter 4 explores possible regulatory incentives and mandates that could be used to increase the movement of OTC derivatives trading to organised platforms and considers the conditions that may warrant the use of such incentives and mandates. Lastly, the findings of the Task Force are presented in the Conclusion.

Background Information

Overall market information

There are a number of ways to measure the size of the exchange-traded and OTC derivatives markets, including by turnover, notional outstanding and number of contracts. When measured by either notional turnover or notional outstanding, interest rate derivatives are the largest category – representing approximately three-quarters of total derivatives notional outstanding and traded. This means that changes in the total notional size of the derivatives markets will be largely shaped by the amount of trading in interest rate derivatives.

Care should be taken in considering the absolute sizes and in comparing the sizes of different types of derivatives markets. Given the different assets underlying derivative products, the notional sizes of derivative products, the total size of derivatives outstanding, or volume traded may not fully represent the size, liquidity or risk in a particular derivatives market. To illustrate the features of the different markets, we have used a number of different measures in an attempt to demonstrate the absolute and respective sizes of the markets. However, no single measure will be perfect across all markets, but the following should provide a general idea of how the different derivatives markets compare.

The Bank for International Settlements (BIS) has estimated that the turnover across global exchange traded futures and options was $554.6 trillion in 2nd Quarter 2010. [8] It is estimated that 86.5% of this turnover was interest rate derivatives, 11.5% was equity index derivatives and 2.1% was foreign exchange derivatives.

BIS also has estimated that the total OTC derivatives outstanding as of June 2010 was $583 trillion, of which 77.5% was interest rate derivatives, 9.1% was foreign exchange derivatives, 5.2% credit derivatives, 1.1% equity derivatives, 0.5% commodity derivatives and 6.6% was other or unknown. [9] This represents a more than doubling in notional outstanding from five years earlier, with the split between product classes being largely similar[10].

BIS has estimated that the daily turnover of global OTC interest rate derivatives was $2.08 trillion in April 2010, while the daily turnover of exchange traded interest rate derivatives was $8.14 trillion. [11] Between April 2007 and April 2010, BIS found that trading activity in OTC interest rate derivatives had grown by 24%, which was slower than the 64% growth rate

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8 Bank for International Settlements, *BIS Quarterly Review September 2010* – International banking and financial market developments, A126, available at http://www.bis.org/publ/qtrpdf/r_qt1009.pdf.

9 Bank for International Settlements, BIS Quarterly Review December 2010 – *International banking and financial market developments*, A121, available at http://www.bis.org/statistics/otcder/dt1920a.pdf.

10 As of June 2005, the total notional OTC derivatives outstanding was $283 trillion, of which 72.5% was interest rate derivatives, 11.0% was foreign exchange contracts, 3.6% was credit default swaps, 1.6% was equity-linked contracts, 1.0% was commodity contracts and 10.3 was unallocated. See Bank for International Settlements, *Semiannual OTC derivatives statistics at end-June 2010*, Table 19, available at http://www.bis.org/statistics/derstats.htm

11 Bank for International Settlements, *Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity in April 2010 – Preliminary results (September 2010)*, Table 6 – Global OTC interest rate derivatives market turnover by instrument at 12, available at http://www.bis.org/publ/rpfx10.pdf.

between 2004 and 2007.[12]

By location for the 2nd quarter of 2010, BIS found that 50.8% of the total turnover in organised platform traded derivatives took place on North American markets, 42.4% in Europe, 4.0% in the Asia-Pacific region, and 2.9% elsewhere.[13]

Trading frequency and market participants

While both organised platform-traded and OTC-traded derivatives trade far less often than cash products, derivatives that are traded on organised platforms tend to be more liquid than derivatives that are traded OTC.

The International Swaps and Derivatives Association (ISDA) and others have stated that there are less than 2,000 standardised interest rate swaps executed globally on an average day. [14] The most liquid swaps (10-year dollar interest rate swaps) trade about 200 times per day, while most swaps trade less than 20 times per day.[15] In the credit default swap (CDS) market, ISDA notes that the most liquid reference entities (all of which were sovereign entities) averaged 20 trades per day, while the average trade size is around US$5 million for single name CDS.[16]

ISDA has undertaken additional research in which it found that 94% of Fortune 500 companies use derivatives, with 88% of such companies using currency derivatives and 83% using interest rate derivatives.[17] Other types of derivatives products are used less often by such companies.[18]

BIS has reported data on the types of market participants across each product class of derivatives. Using BIS data, the table below shows the share of outstanding exposure for different categories of market participants in each class of OTC derivatives as at June 2010. [19]

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12 Id. at 5-6.

13 Bank for International Settlements, *BIS Quarterly Review September 2010 – International banking and financial market developments*, A126, available at http://www.bis.org/publ/qtrpdf/r_qt1009.pdf.

14 Int'l Swaps & Derivatives Ass'n et al., Input into the work of the IOSCO Task Force on OTC Derivatives Regulation: Exchange and Electronic Trading ("ISDA Memo") 4 (December 2010) (on file with the IOSCO General Secretariat). The ISDA Memo notes that derivatives product standardisation has three primary elements: (1) legal uniformity, such as standard transaction documentation and definitions; (2) process uniformity and automation; and (3) product uniformity, such as standard valuation, payment structures and dates. The concept of standardisation is discussed in more detail in Section II herein.

15 Id.

16 Id. (citing to Depository Trust & Clearing Corporation data). This average number of trades was over the period 21 December 2009 to 20 June 2010.

17 ISDA Research Notes, Number 2 2009, *2009 ISDA Derivatives Usage Survey*.

18 Forty-eight percent of Fortune 500 companies use commodity derivatives, 29% use equity derivatives and 20% use credit derivatives. *See id.*

19 See Bank for International Settlements, *BIS Quarterly Review December 2010 – International banking and financial market developments*, A121, available at http://www.bis.org/statistics/otcder/dt1920a.pdf.

Table I: Notional amounts outstanding by type of market participant for OTC derivatives product classes as of June 2010.

	Foreign exchange derivatives	Interest rate derivatives	Equity derivatives	Credit default swaps[20]
Reporting dealers[21]	41.0%	33.1%	47.6%	51.7%
Other financial institutions	41.8%	58.7%	41.2%	35.2%
Non-financial customers	17.2%	8.2%	11.2%	2.8%

Market information by platform type

Estimates for the proportion of turnover traded on bilateral versus multilateral platforms are shown in Table II, while the proportion of trading taking place by voice versus electronically is shown in Table III.

Table II: Estimated monthly turnover by type of trading platform for OTC derivatives product classes as of June 2010.[22]

	Bilateral Execution	Multilateral platforms
Interest rate derivatives	68.9%	31.1%
Credit derivatives	62.6%	37.4%
Equity derivatives	82.9%	17.1%

Table III: Estimated monthly turnover by method of execution for all venues (bilateral and multilateral) for OTC derivatives product classes as of June 2010.[23]

20 10.2% of credit default swaps outstanding are to CCPs and are not reflected in this table.

21 BIS defines "reporting dealers" as those dealers that provide data to their respective central banks. This data is then used by BIS in compiling their quarterly reviews. These reporting dealers report their trading with the different categories of counterparties. See *BIS Guide to the international financial statistics*, http://www.bis.org/statistics/intfinstatsguide.pdf.

22 These estimates are based on supervisory data provided to certain members of the Task Force. Bilateral execution includes by phone, email, bilateral messaging platforms, and platforms sponsored by a single market maker and available to one or more counterparties for trade execution. Multilateral platforms include platforms that contain multiple market-maker bids and offers and include multilateral trading facilities, "click to trade" screens and request for quote platforms.

23 These estimates are based on supervisory data provided to certain members of the Task Force. Voice execution includes by phone, email or similar bilateral messaging platforms. Electronic execution includes platforms that are sponsored by a single market maker and available to one or more counterparties for trade execution, or multilateral electronic platforms.

	Voice Execution	Electronic Execution
Interest rate derivatives	87.7%	12.3%
Credit derivatives	83.3%	16.7%
Equity derivatives	85.7%	14.3%

These data indicate that OTC derivatives are predominantly traded bilaterally, with voice execution (which includes email and other bilateral forms of messaging) dominating over electronic platform trading. Credit derivatives appear to make the greatest use of multilateral platforms, as well as the greatest use of electronic execution methods.[24]. By contrast, equity derivatives are traded primarily via bilateral and voice execution methods.

[24] This might be explained by the increased use of standard coupons, payments dates and terms for credit derivatives, which generally better support the use of electronic and multilateral platforms for execution.

Chapter 1 Characteristics of Organised Platforms That Could be Used for Derivatives Trading

A. Introduction – Trading Platforms

In general terms, a trading platform is a system or facility that brings together buying and selling interests in one or more financial instruments, leading to the execution of transactions in those instruments. A variety of functionalities can be employed to bring together such trading interests, and the principal systems currently in operation include the following:

- **An order book system**. 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 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 prioritised for execution based on the competitiveness of the bid/offer price of the order, followed by the time of submission and such systems generally support a range of order types to facilitate the execution of transactions in different ways. 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, a given quantity of financial instruments and which provide the pre-trade transparency information within the system. 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.

- **A market maker system.** A market maker system is based on the presence of one or more liquidity providers who are willing to deal on a regular or continuous basis against their proprietary capital by providing quotes to buy and sell financial instruments which are accessible to other participants in the system. Such systems can be organised on the basis of a single dealer, which acts as counterparty to each trade, or on the basis of multiple dealers that compete for participant business. The terms on which market maker(s) are prepared to trade can be communicated in different ways, such as through request for stream (RFS) systems which represent firm commitments to buy and sell, or through request for quote (RFQ) systems where a price is provided by a market maker in response to a request submitted by a participant. These systems can be fully automated or fully manually operated, or can combine both approaches (see the discussion of hybrid systems below).

- **A periodic auction system.** A periodic auction system generally is based on the execution of orders in batches at set intervals according to a pre-determined trading algorithm that sets an "uncrossing price". Such systems allow the accumulation of trading interests within the system and usually are considered more appropriate for classes of financial instrument that are less suitable for continuous execution. Typically, these systems are fully automated.

- **A bulletin board system.** A bulletin board system generally provides an electronic

quotation medium for market participants. Typically, bulletin board systems are not connected with automated trade matching and execution algorithms or clearing systems. Instead, market participants can utilize a bulletin board system to originate, update, and display quotations in specific instruments. Quotation entries may consist of: (i) a priced bid and offer; (ii) an unpriced indication of interest (including "bid wanted" or "offer wanted" indications); or (iii) a bid/offer accompanied by a modifier to reflect unsolicited interest.

- **A hybrid system.** The term "hybrid system" can be used to describe a large variety of trading functionalities that have been refined to meet the needs of particular markets, and which may blend some of the functionalities described above. For example, systems may combine limit order books with market maker support. In the context of derivatives markets, the term "hybrid system" often is used to describe an electronic system that offers its participants the option of utilising the system operator's voice negotiation facilities in order to execute trades, as an alternative to electronic execution. The different components of a hybrid system may experience increased or diminished use according to particular market conditions.

It should be noted that, in a variety of situations, the rules or agreements governing the operation of a trading functionality will provide for special or modified operations to deal with particular market events. For example, an order book system may impose a trading halt (a suspension of continuous execution) in response to unusual patterns of trading, in order to avoid trade executions at abnormal prices, and undertake an auction process to restart trading in an orderly manner. It is often the case that platform operators will, subject to regulatory requirements, choose to offer a range of different trading systems, which it deploys based on an assessment of the features of the particular product class and the different levels of liquidity within that product class.

B. The Concept of Organised Platform Trading

In a global context, a broad spectrum of legal and regulatory regimes has been developed to regulate the trading functionalities described above, certain of which are in the process of reform in order to ensure they meet current regulatory objectives. In addition, international principles for securities regulation have been developed which include standards for the organisation of secondary market trading and are referred to in this Report as the IOSCO Principles. [25] These legal and regulatory regimes and wider principles share the common aim of ensuring that trading by means of those systems is structured to provide an orderly market in which investors receive a proper level of protection. In a majority of jurisdictions, the legal and regulatory framework provides a number of regimes through which an organised platform might be authorised by regulators to conduct business, reflecting a highly diverse and increasingly competitive industry landscape. In that context, it may be difficult to make a binary distinction between a single, fixed set of characteristics that is sufficient to constitute organised platform trading on the one hand, and OTC trading on the other. However, such a distinction will need to be made to support the realisation of the G-20 objectives.

[25] IOSCO, *Objectives and Principles of Securities Regulation*, September 1998, available at https://www.iosco.org/library/pubdocs/pdf/IOSCOPD82.pdf. This report describes 30 principles of securities regulation, designed to meet the over-arching objectives of protecting investors, ensuring that markets are fair, efficient and transparent, and reducing systemic risk.

Upon examination of the elements of the various regulatory regimes, a menu of certain common characteristics that could be used to define the concept of organised trading in the context of OTC derivatives emerge. The range of characteristics can be summarised as follows.

i. *Market access*

Market access describes the arrangements made by a platform operator that enable market participants to access the trading functionalities its platform offers and which define the relationship between the platform operator and the user. Market participants would need to be granted access to an organised platform in order to use its particular suite of trading functionalities for the purpose of trading the derivatives products available on that platform.

ii. *Transparency*

In its broadest sense, transparency describes information regarding current opportunities to trade and completed transactions which is provided to a defined range of recipients, via agreed dissemination methods and according to pre-determined timeframes. Transparency can also be seen as a critical tool for market regulators. Transparency information is composed of pre-trade transparency, which relates to the depth of current trading interests, including quotes and orders to trade (as may be relevant to the particular functionality), and post-trade transparency, which relates to the terms of completed transactions (typically the price and size of trades).[26]

iii. *Trading rules*

The term "trading rules" is used broadly to refer to the rules, processes and procedures to which a platform user agrees as a condition of access, which define the parameters within which the relevant trading functionalities of a platform operate. The elements of these trading parameters that are especially relevant to the discussion in this section are as follows:

(a) whether the mechanisms used by the platform to transmit and execute orders/quotes are electronic, voice-based, or a combination of the two;

(b) whether the platform requires that multiple users have the opportunity to participate as buyers and sellers and act as counterparties to each other ("multilateral trading"); and

(c) whether the platform permits the exercise of discretion by the platform operator, in relation to the manner in which buying and selling interests interact.

iv. *Operational efficiency & resilience*

Operational efficiency describes the arrangements made by a platform in order to ensure the

[26] It bears noting that pre- and post-trade transparency may be provided to users of a particular platform ("user transparency"), directed at the public at large ("public transparency"), and/or used as a tool by market regulators. In general terms, regimes governing the provision of user transparency and public transparency can include both waivers and the possibility of deferred publication of completed trades.

efficient finalisation of – and orderly discharge of the contractual obligations arising from – transactions brought about by a platform. This would include the post-trade processes operated by a platform, including trade confirmation 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, and maintenance of sufficient financial resources to ensure orderly functioning.

v. *Market surveillance*

Market surveillance describes the rules, processes and procedures of a platform used to identify suspected instances of market abuse or financial crime involving the use of the platform's trading functionality, and where applicable, potential non-compliance with the trading rule obligations of participants in relation to the platform's use. Market monitoring arrangements typically include surveillance of trading activity.

vi. *Organisational structure*

The organisational structure of a platform describes the arrangements made to ensure that the entity as a whole is governed effectively, and that its operations are structured in a clear and transparent manner with appropriate regard for critical regulatory and financial stability functions, such as risk management, and the potential conflicts that can arise between different functions.

C. Approaches Taken in Different Jurisdictions

This Subsection provides an overview of the principles that regulatory authorities in different jurisdictions have chosen to incorporate within existing concepts of organised platform trading (whether that be in the form of an exchange concept, or a broader notion of an organised venue), across different derivative product classes. It also discusses, where relevant, evolving principles concerning organised platform characteristics which are embedded in new regulatory frameworks under development. These principles reflect views held regarding the role of each characteristic in the promotion of organised trading.

Appendix A sets out the technical definitions in certain jurisdictions of trading platform types that might be regarded as organised platforms. However, given the potential scope of detailed analysis of each platform type, this Subsection aims to focus on the core principles of these platforms.

It should be noted that this Report on Trading assumes that a pre-requisite for treatment as an organised platform would be that the platform is supervised by one or more market regulators or other similar authorities, to provide confidence that those characteristics identified as being core to the functioning of an organised platform are being delivered on a continuing basis. This view is consistent with Principle 25 of the IOSCO Principles, which specifies that the establishment of trading systems including securities exchanges should be subject to regulatory authorisation and oversight.

i. *Access*

Across a range of organised platforms, different approaches are taken to determining the basis on which the functionalities offered by an organised platform must be made available to prospective participants.

For many organised platforms, the arrangements adopted by the platform in relation to access must grant market participants which are in the same position equal access rights. In European jurisdictions, access to facilities generally must be granted on an objective and non-discriminatory basis, and such a requirement has been proposed as an element of the future EU framework for regulating platforms offering a market in trading-eligible OTC derivatives under current reform proposals.[27] Similarly, in the US, organised trading generally requires a platform operator to have rules in place that do not permit unfair discrimination between platform participants. Across Asia-Pacific countries, trading platform operators also are generally required to provide fair and objective access to the platform. The characteristic of fair and objective access is also embedded in the IOSCO Principles[28].

Such access provisions do not require an organised platform to provide unrestricted access, and certain limitations often are prescribed by legislation to ensure a sufficient degree of end user protection (for example, through requirements designed to ensure that prospective users demonstrate their fitness and propriety prior to gaining access to platform functionality). In relation to certain market maker functionalities that require a liquidity provider to place capital at risk, [29] additional access controls can be applied that reflect a liquidity provider's potential exposure as counterparty to each trade.[30] Some jurisdictions require that access be granted to market participants that have been registered/authorised as a broker/dealer, subject to the satisfaction of certain additional obligations. In some jurisdictions, where the platform operator is subject to conduct of business obligations, it is a pre-condition of access to such platforms that a prospective participant is accepted as a client of the firm that operates the trading platform in accordance with wider client classification obligations.

ii. *Transparency*

a. Pre-trade transparency

The specificities of pre-trade transparency requirements can differ markedly according to

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27 On 8 December 2010, the European Commission issued a public consultation on the review of the Markets in Financial Instruments Directive (MiFID), which included proposals for the characteristics that a trading platform would need to possess in order to offer a market in trading-eligible OTC derivatives.

28 The IOSCO Principles specify that, as part of the approval process for a secondary market platform, "the regulator should ensure that access to the system or exchange is fair and objective".

29 An example of this is the systematic internaliser regime under MiFID. It should be noted, however, that the obligations attached to the activity of systematic internalisation under MiFID relate to equity securities only.

30 For example, MiFID allows systematic internalisers, which relate to equity securities only, to refuse to enter into or to discontinue business relationships with end users on the basis of commercial considerations such as the end user credit status, the counterparty risk and the final settlement of the transaction.

product class, reflecting a significant range of variables (including levels of liquidity, the types of participant and general market practices). In relation to derivatives, the over-arching regulatory framework in Europe currently does not prescribe detailed pre-trade transparency requirements,[31] and pre-trade transparency instead can be seen as a component of a more generic obligation to ensure that trading by means of an organised platform is "fair and orderly". It is unlikely that an organised platform could comply with a fair and orderly trading obligation without considering the appropriate level of pre-trade transparency. Under European Commission proposals being consulted upon, an organised trading facility for derivatives (OTF) would be required to support the application of pre-trade transparency as part of a tailored pre-trade transparency regime for non-equity instruments extending beyond organised trading facilities.[32] In practice, levels of pre-trade transparency associated with the trading functionalities described in Subsection A are variable: the levels provided by platforms can range from minimal pre-trade transparency (for example, mid-point matching models designed to facilitate block trades), to high pre-trade transparency (for example, for order book trading of liquid products). Within those levels, there is a wide variety of ways that transparency information is delivered – such as through streaming quotes (both firm and indicative), broker screens, data vendors and price aggregators. In certain cases, pre-trade transparency information is provided only to users of the platform (the concept of user transparency, as discussed in Subsection B).

It should be noted that in certain jurisdictions, rules are in the course of development in relation to the pre-trade transparency requirements of trading platforms that make swaps available for trading. Particularly, the Commodity Futures Trading Commission (CFTC) and Securities and Exchange Commission (SEC) are working on rules regarding the acceptable forms of swap execution facilities (SEFs) and security-based swap execution facilities (SB-SEFs), and their attendant pre-trade transparency requirements. Across Asia-Pacific countries, trading platform operators are required to ensure pre-trade transparency, especially for users of these trading platforms. In general terms, Principle 27 of the IOSCO Principles notes that regulation should promote transparency of trading, with transparency referring to the pre- and post-trade information made publicly available on a real-time basis. The IOSCO Principles specify that, as part of the approval process, the regulator of a platform should verify that all similarly situated market participants have equitable access to trading information.

It may also be useful to consider the pre-trade transparency regimes applicable to other asset classes as a starting point for consideration of the features of a pre-trade transparency regime that could be applied to OTC derivatives, while recognising the differences between derivatives and other markets (particularly in terms of the professional nature of the participants and transaction sizes in derivatives markets). In relation to equities markets, for example, general regulatory requirements exist in many jurisdictions for public pre-trade transparency, according to the particular trading functionality offered. For certain market models (such as single dealers regulated in the EU as systematic internalisers, offering

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[31] It is noted that the Committee of European Securities Regulator's (CESR's) technical advice provided to the European Commission in the context of the MiFID review recommends the strengthening of pre-trade transparency standards for non-equity instruments.

[32] This proposal is described at section 3.4 of the European Commission's consultation document. Under current proposals, the requirement for pre-trade transparency would apply to specific categories of OTC transactions.

organised execution services in equity instruments), pre-trade transparency requirements, which currently are limited to a bid and/or offer price without minimum size, are targeted at a limited number of shares meeting specific criteria to be considered "liquid shares", and for trades which fall below a certain size. In Europe, the general pre-trade transparency requirement can be waived in particular circumstances, such as where an order is large in scale, in comparison with the normal market size for the share in question, the organised platform's execution methodology is based on a reference price sourced from another system, or the organised platform's trading rules provide a facility for participants of the platform to enter into negotiated trades. In each case, use of the waiver is dependent on satisfaction of certain conditions in order to ensure the integrity of the price formation process.

b. Post-trade transparency

In a number of jurisdictions, including the US, EU and certain Asia-Pacific countries, derivatives markets are subject to post-trade transparency requirements. In the US futures markets, trading platforms are obliged to make public daily information on settlement prices, volume, open interest, and opening and closing ranges for actively traded contracts on the contract market.[33] For the US stocks and standardised options markets, the prices and sizes of all OTC and organised platform traded transactions must be made public on a real time basis. Similarly, in the US, rules that would provide for the reporting of swap and security-based swap information and the public dissemination of swap and security-based swap transaction, volume and pricing information are under development.[34]

Post-trade transparency also is viewed as a characteristic that might usefully be applied to all trading by an investment firm in particular product classes, irrespective of the execution venue used to undertake such trading (*i.e.*, whether or not the facilities of an organised platform are used). In particular, CESR has recommended the introduction of a general post-trade transparency regime in the EU that would operate across a range of product classes irrespective of the method of execution.[35] The consultation proposals published by the European Commission in relation to the review of MiFID specify that, while an organised trading platform would be required to support the application of post-trade transparency requirements, the future post-trade transparency regime for non-equity instruments would extend to all trades in specified categories of derivatives.[36]

To the extent organised platforms publish details of their transactions, whether as a result of regulatory requirements or otherwise, consideration should be given as to how market participants would receive that information. One difficulty that could arise is the

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33 (8) of the Core Principles for Contract Markets, 7 U.S.C. § 7.

34 Real-Time Public Reporting of Swap Transaction Data, 75 Fed. Reg. 76,140 (December 7, 2010) (swaps); Regulation SBSR – Reporting and Dissemination of Security-Based Information, SEC Release No. 34-63346 (November 19, 2010) (security-based swaps).

35 CESR technical advice to the European Commission in the context of the MiFID review – non-equity market transparency (CESR/10-799), October 2010 available at http://www.cesr.eu/data/document/10_1169.pdf.

36 The European Commission's proposals state: "…the Commission services consider that the MiFID framework Directive could be amended to require pre- and post-trade transparency for all trades in specific non-equity products whether executed on regulated markets, MTFs organised trading facilities or OTC."

fragmentation of information from different organised platforms, although mechanisms could be put in place or business models could naturally arise to achieve the consolidation of data from multiple organised platforms and other sources.

iii. *Trading rules*

In general terms, the trading rules of organised platforms reflect a diverse range of market models and structures which are designed to accommodate the wide spectrum of needs in, and features of, these markets. At a high level, the IOSCO Principles note that the order execution rules of a secondary market platform should be transparent and fair. The key elements of the trading rules of an organised platform, as identified earlier in Subsection B, are discussed in turn below.

a. The nature of the mechanisms for the transmission and execution of orders/quotes

For many organised platforms, it is not necessary for trading rules to prescribe the use of an electronic or automated system. In the EU, a trading process constitutes a system, in regulatory terms, whether or not an electronic order transmission or matching engine is involved. The relevant legislation states that "a market which is only composed of a set of rules that governs aspects related to membership, admission of instruments to trading, trading between members, reporting and, where applicable, transparency obligations" is captured as an organised platform.[37] Consequently, it is possible for an organised platform to operate purely on the basis of rules defining the responsibilities of participants within a voice-based trading environment.[38] In the US, rules regarding the trading platforms that will be accepted as consistent with legislative objectives for the new forms of such platform, SEFs and SB-SEFs, are under development.

b. The nature of participant interactions

The nature of participant interactions within a trading platform is a function of the trading functionality offered and the business model of the platform operator. Under certain concepts of organised trading, limitations are placed on the business models that are deemed acceptable through requirements that multiple participants have the opportunity to participate as buyers and sellers and act as counterparties to each other (a so called "many to many" or "multilateral" model). For example, certain concepts of trading in the EU require that a system bring together multiple third party buying and selling interests[39]. The trading environment that is required to be provided by the new forms of trading platforms in the US is one where "multiple participants have the ability to execute or trade [swaps or security-based swaps] by accepting bids and offers made by multiple participants in the facility or

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37 Recital (6) of MiFID.

38 In the context of derivatives market structures, certain models are typically understood to be "hybrid" models that encompass electronic functionality and voice-trading (see the discussion in Subsection A).

39 The European Commission has proposed the introduction of a new category of trading platform within MiFID, distinct from existing concepts of regulated market and MTF, upon which transactions in trading-eligible OTC derivatives might take place. This category would be a sub-regime within a new concept for OTFs. It is noted that one of the minimum proposed characteristics of this new category is the provision of "non-discriminatory multilateral access".

system".[40] However, other regimes have developed to provide a basis to regulate business models that involve the bilateral negotiation of transactions. For example, the definition of a systematic internaliser in the EU is designed to capture entities that deal on their own account (*i.e.*, against their proprietary capital), and may accordingly be relevant to single dealer functionalities, although current reform proposals do not envisage the use of the systematic internaliser regime as a means to regulate trading in non-equity instruments[41] In addition, the European Commission has proposed the introduction of a new concept of "organised trading facility" within the EU legislative framework that would include, as a subset of an overarching regime capturing all organised trading,[42] a regime for the regulation of broker crossing systems. Such systems are typically systems provided by a single broker to assist the matching and execution of client orders. It is noted that the European Commission's consultation proposals indicate that this concept is intended to be multi-asset class,[43] although its intended application to the trading of OTC derivatives is unclear.[44]

c. The use of discretion by the platform operator

A further issue to consider is the degree of discretion that the operator of a trading platform is permitted to exercise over its trading process. It should be noted that, in this context, "discretion" describes only the use of discretion by the operator of the platform, typically a broker seeking to arrange the execution of client orders on terms acceptable to the clients, where such clients are participants of the system. In many jurisdictions, organised platforms are required to implement non-discretionary rules and procedures for the execution of orders. Such non-discretionary rules may be defined as rules that "leave the [operator of the

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40 7 U.S.C. § 1a, amended by Pub. L. No. 111-203, § 721(c); 15 U.S.C. § 78c, amended by Pub. L. No. 111-203, § 761(a).

41 "Systematic internaliser" means an investment firm which, on an organised, frequent and systematic basis, deals on own account by executing client orders outside a regulated market or a multilateral trading facility ("MTF"). Currently, the obligations linked to the activity of systematic internalisation relate exclusively to equities. It is currently unclear whether a firm conducting an activity comparable to systematic internalisation in OTC derivative instruments (such as a single dealer) could qualify as an OTF (within the sub-regime for OTC derivatives) under the European Commission's proposals, although such an activity may not satisfy the criterion for multilateral access depending on how such a requirement is interpreted, if taken forward.

42 As Section 2.2 of the European Commission's 8 December 2010 public consultation on the review of MiFID sets forth, "[t]he definition of an organised trading facility would capture any facility or system operated by an investment firm or a market operator that on an organised basis brings together buying and selling interests or orders relating to financial instruments. This would cover facilities or systems whether bilateral or multilateral and whether discretionary or non-discretionary."

43 The proposals specify at page 11 that "such a regime would cover not only equities but also other types of financial instruments". It is not clear whether an organised trading facility could be capable, under current proposals, of falling both within the sub-regime for broker crossing systems and the sub-regime for organised trading of OTC derivatives.

44 It should be noted that CESR's technical advice on the standardisation and exchange-trading of OTC derivatives states that, in relation to the development of any new category of organised trading platform for the purpose of derivatives trading, the current formulation of the systematic internaliser and broker crossing system regimes would not provide an appropriate template given their current emphasis on equity markets. The technical advice states "…it is clear in CESR's view that the equities focused regimes for systematic internalisers and broker crossing systems would not be appropriate as currently formulated".

platform] with no discretion as to how interests may interact"[45], but which may allow trading participants to exercise a discretion, for example to amend or cancel orders or some flexibility to choose their trading counterparties. Within the EU, in the context of its advice on reviewing the systematic internaliser regime of MiFID, CESR has clarified its view that "'non-discretionary rules and procedures' refers to a set of pre-defined, common standards developed by the investment firm operating the trading system for providing a service such that it does not differentiate between comparable clients. In other words, based on the categorisation of its clients, the investment firm does not exercise discretion regarding access to this service and provides the same prices for the same volume of trading interest in the same market situation, irrespective of the individual client within its categorisation".[46]

The European Commission's consultation proposals in relation to the review of MiFID envisage that it would not be necessary for an organised trading facility offering a market in trading-eligible OTC derivatives to have non-discretionary rules and procedures. The possibility of operator discretion over the trading process is understood to be a point of differentiation between the new proposed concept of an organised trading facility (including the OTF sub-regime for OTC derivatives trading) and existing types of organised trading platform within MiFID.

vi. *Operational efficiency & resilience*

As discussed in Subsection B, operational efficiency can be used to describe the arrangements made by an organised platform in relation to the finalisation and performance of contracts arising from the use of the platform, such as trade confirmation and rules and procedures for clearing and settlement. In general terms, most concepts of organised trading include requirements for operational efficiency. For example, organised platforms in the EU, depending on their particular status, must have "arrangements to finalise the trades made on its systems"[47] or "…arrangements to facilitate the efficient settlement of the transactions concluded under [its] systems."[48] In the US, both existing and new forms of trading platforms have a role in ensuring the financial integrity of transactions undertaken through their facilities, including the implementation of rules and procedures regarding the clearing and settlement of derivatives transactions. Generally speaking, organised platforms will need to develop links with central counterparties and trade repositories as the use of those services becomes prescribed and more widespread.[49]

In addition, organised platforms are generally required to have arrangements in place to ensure operational resilience during periods of market stress, such as in response to the failure of technical systems. In this regard, Principle 29 of the IOSCO Principles specifies that "regulation should aim to ensure the proper management of…market disruption", an

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45 Recital (6) to MiFID.

46 CESR technical advice to the European Commission in the context of the MiFID review – equity markets (CESR/10-802)

47 Article 39(e) of MiFID.

48 Article 14(5) of MiFID

49 As previously noted, the G-20 Leaders also committed that "[a]ll standardised OTC derivatives contracts should be …cleared through central counterparties by end-2012 at the latest. OTC derivatives contracts should be reported to trade repositories."

element of which will be the adoption of arrangements by trading facilities and systems to manage their technical operations and assist markets regulators where necessary. Many of the regulatory regimes across jurisdictions require organised platforms to implement a sound system of operational risk management and business continuity plans to mitigate the possibility of disruption to its services.[50] In addition, an organised platform is generally subject to prudential requirements designed to ensure that it possesses sufficient financial resources to facilitate its orderly functioning. Such requirements can also be viewed as an element of operational resilience.

v. *Market surveillance*

Market surveillance typically is viewed as an important characteristic of organised platform trading, in light of the commonly shared objective across jurisdictions to protect markets against the adverse effects of market abuse. In the context of trading platform regulation, platform operators are generally expected to operate in the "front line" to promote clean markets through market monitoring activities. This is reflected in the IOSCO Principles, which specify that there must be mechanisms in place to identify and address disorderly trading conditions and to ensure that contravening conduct, when detected, will be dealt with.[51] In the EU, certain organised platforms are required to "monitor the transactions undertaken by their users under their systems in order to identify breaches of their rules, disorderly trading conditions or conduct that may involve market abuse."[52] It is noted that, under the European Commission's MiFID proposals, "the monitoring of all trading taking place on the facility or system with a view to identify[ing] conduct involving market abuse" would be a minimum characteristic of organised trading facilities. Similarly, a common theme of platform regulation in the US is that the platform is obliged to monitor trading to prevent manipulation.[53] Regulated trading platforms in Asia-Pacific countries also would be required to monitor trading on their platforms to prevent manipulation.

For the purposes of this discussion, it should be noted that the tools in place to help combat market abuse extend more broadly than platform regulation. In particular, in certain jurisdictions, investment firms that professionally arrange transactions in financial instruments are subject to notification obligations in circumstances where they reasonably suspect insider dealing or market manipulation. Accordingly, in practical terms, while the operator of a trading platform itself might not have market monitoring responsibilities with respect to transactions on the platform, such transactions might indirectly be subject to some measure of market oversight through the responsibilities of the operator as an investment

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50 Under the European Commission's proposed MiFID reforms, requirements for operational resilience (in the form of arrangements for the sound management of the technical operations of the facility or system) are proposed for all types of trading venues, reflecting their importance.

51 It is noted that the IOSCO Principles see continuous market surveillance as one component of a wider regime designed to deter and prevent abusive conduct. The Principles state the following: "such conduct may be addressed by direct surveillance, inspection, reporting, product design requirements, position limits, settlement price rules or market halts complemented by vigorous enforcement of the law and trading rules".

52 Articles 26(1) and 43 (1) MiFID.

53 See, e.g., (4) of the Core Principles of a DCM; § 733 Dodd-Frank Wall Street Reform and Consumer Protection Act ("Dodd-Frank Act").

firm[54] Further, transaction reporting regimes have been specifically designed in a range of jurisdictions to enable regulators to receive the data necessary to monitor markets for potential market abuse. Organised platforms would be expected to comply with applicable requirements to facilitate those reporting obligations as a part of their overall operational resilience.

vi. *Organisational structure*

Operators of organised platforms can be subject to a range of organisational requirements which vary according to the nature of the organised platform involved. Those requirements could provide the basis of the organisational structure of a derivatives trading platform. The primary elements are the following.

- An organised platform should be managed appropriately, in terms of the composition of its governance structures and the propriety of the individuals who exert significance influence on its management.

- An organised platform should adopt systems and controls to minimise/manage conflicts of interest. In many jurisdictions, obligations are placed on platform operators to identify, mitigate and manage potential conflicts of interest.[55] It is also noted that the nature and scale of the potential conflicts of interest that a platform operator might face can differ according to the nature of the platform (including whether the operator is a trading participant), requiring different arrangements to ensure that regulatory standards are met. Specifically, if the platform's operator is also a participant or is the sole trading participant, more robust conflicts of interest arrangements should be adopted. In addition, it should be noted that, beyond the scope of platform regulation, in certain jurisdictions, general conduct of business regulation imposes responsibilities on firms to manage conflicts of interest in the provision of their services. These responsibilities would extend to the firms as operators of organised platforms to the extent that conflicts of interests to be managed by a firm are of the same nature as the conflicts of interest to be managed by the operator of a trading platform.

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54 For example, in the European Commission's public consultation of June 2010 on the review of the Market Abuse Directive, the framework Directive through which suspicious transaction notification obligations are applied in the EU, the possible extension of notification requirements to suspicious orders was discussed. Available at http://ec.europa.eu/internal_market/consultations/docs/2010/mad/consultation_paper.pdf.

55 It should be noted that such obligations represent a core characteristic of an organised trading facility under proposals for the reform of MiFID in the EU.

Chapter 2 Characteristics of OTC Derivatives Products Relevant to Organised Platform Trading

This section discusses the key characteristics of OTC derivatives products that make trading on an organised platform practicable. Building upon the analyses of other regulators, a review of current market models, and the views of expert commentators, this section considers the standardisation and liquidity aspects of derivatives products as elements that impact whether a product should be traded on an organised platform and the type of organised platform that may provide a practicable venue for trading. Described below are the product characteristics that should be taken into account in effecting a transition from OTC to organised platform trading that preserves the utility of those transactions for end users.

Two characteristics – standardisation of a product's contractual terms and operational processes (referred to in this Report on Trading as "standardisation") and liquidity – have been widely identified as important factors in the transition from OTC trading to organised platform trading.[56] The following subsections explore these related issues and the impact of these characteristics upon the utility of alternative organised platforms for OTC derivatives trading. As discussed more fully below, while at least partial standardisation is needed for organised platform trading, once such standardisation has been achieved, it might be possible for platforms to accommodate trading even where liquidity is relatively low, depending on the trading functionalities that are permitted under applicable regulatory regimes. Consequently, where regulatory requirements allow sufficient flexibility for platform operators to tailor their market structures according to a range of liquidity profiles, organised platform trading should be practicable for most OTC derivative product classes falling within that range for which an appropriate level of standardisation has been attained.

A. Standardisation

i. *Elements of standardisation*

Standardisation generally implies a set of fixed parameters that define a product or contract in a manner that supports the trading interests of multiple participants and enables trade matching, offsetting and the use of straight through processing. Determining a product's level of standardisation, as the FSB Report has noted, requires taking into account multiple factors, including: (1) legal standardisation, which refers to uniform contractual definitions and terms for a specific product and that are common to all transactions in a particular product; (2) operational standardisation, which refers to common procedures for trade

[56] See, e.g., FSB Report id note 2 (The FSB Report analyses standardisation in the context of suitability of a product for clearing and states that authorities should take into account the following factors in determining whether a product is standardised and therefore suitable for central clearing: (i) the degree of standardisation of a product's contractual terms and operational processes; (ii) the depth and liquidity of the market for the product in question; and (iii) the availability of fair, reliable and generally accepted pricing sources. In light of this report's focus upon the practicability of trading products on organised platforms, we have not included the third aspect factor of standardisation identified in the FSB Report, concerning availability of pricing sources, as trading on an organised platform would not, unlike clearing, depend upon pricing data for marking-to-market and variation margin payment and collection.); Committee of European Securities Regulators, *CESR Technical Advice to the European Commission in the Context of the MiFID Review – Standardisation and Organised Platform Trading of OTC Derivatives* CESR Ref. CESR/10-1096 (October 2010) id note 34.

processing, including trade capture, confirmation, settlement, termination, and other aspects of procedures for handling trades; and (3) liquidity sufficient for trading, taking into account the particular platform on which trading will occur.[57] Legal and operational standardisation are discussed in the following subsections, and liquidity is addressed separately in the subsequent subsection.

a. Legal standardisation

Legal standardisation encompasses uniformity in product terms as well as in ancillary contract terms and definitions. At one end of the spectrum of organised platforms, regulated exchanges list products that are uniform, fungible, and traded pursuant to exchange rules and by-laws incorporated by reference in each traded contract. At the other end of the spectrum, in the bilateral markets where OTC derivatives trade, the terms of OTC derivatives generally are defined by a combination of standardised documentation published by an entity such as ISDA and customised terms, that together form a master agreement to govern all (or some specified types) of OTC derivatives transactions between the two contracting parties, supplemented by transaction-specific confirmations. In most OTC derivative markets, these bilateral contracts incorporate by reference standardised definitions published by ISDA or a similar entity. Confirmations document specific transactions entered into pursuant to a master agreement and generally use a published standard form.

Standardisation of products to achieve a common set of terms acceptable to multiple market participants would require, in addition to common definitions and ancillary contract terms standardised across all types of OTC derivatives, that more specific contract terms such as contract size, coupons, payment dates, maturities, and quoting conventions, or some subset of such terms, be uniform or that permissible variations be specified. As the FSB Report has noted, given common definitions and a commonly agreed range within which certain contract parameters can be modified, some degree of customisation may be possible.[58] For example, Flexible Exchange Options traded on the Chicago Board Options Exchange include customised equity and index option contracts that offer participants the ability to customise contract terms, including strike price, exercise styles, and expiration dates of up to ten years from the trade date, for more than 1,300 equity options and five index options.

b. Operational standardisation

Operational standardisation 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. Legal and operational standardisation and linked uniform product terms facilitate automated processing.

To ensure that parties to a trade negotiation have confidence that they are in fact referencing the same contract or instrument, a standard, industry-accepted product identification method (such as the CUSIP or the ISIN) may facilitate trading on an organised platform. Standard identifiers concisely describe the attributes of the product and/or contract in a manner that is

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[57] In its examination of standardisation, the FSB Report included liquidity as an element of standardisation. As noted above, this report examines liquidity as a separate characteristic of derivatives products.

[58] FSB Report at p16.

readily displayed on computer terminals, commonly the method of displaying tradable products and/or contracts on organised platforms.

ii. *Assessing standardisation*

The extent of standardisation varies significantly across OTC derivative product classes.[59] CESR has analysed major OTC derivatives product classes by reference to ten factors:

1. types of market participants,
2. use of standard definitions,
3. availability of master confirmation agreements,
4. standard trading terms,
5. electronic post-execution confirmation services,
6. standardisation of life cycle events,
7. volume of trading,
8. depth of liquidity,
9. availability of central clearing, and
10. availability of electronic trading.

CESR's analysis of existing OTC product classes in light of these factors indicates significant standardisation of credit derivatives, interest rate derivatives, and commodity derivatives. In each of these product classes, standard legal documentation, standardised contract terms and electronic post-execution confirmation services are in wide use and some products within each of these product classes are centrally cleared and traded on organised platforms. In comparison, OTC equity derivatives appeared to be at the other end of the spectrum, lacking standard trading terms and offering limited electronic post-execution confirmation services.

Certain product classes, most notably CDS, reflect a high degree of standardisation, which may be attributable primarily to concerted regulatory encouragement.[60] CDS illustrate movement toward interrelated product and process standardisation. Standardisation of coupons for single-name CDS has facilitated offsetting of contracts and central clearing. In addition, the "Big Bang Protocol" standardised a number of key operational processes, including a standard auction settlement mechanism, standard effective dates, and incorporation of the resolutions of the ISDA into standardised transaction documents.[61]

CESR's consideration of the standardisation levels of various OTC derivatives product classes notes that there is "a spectrum of standardisation across all OTC derivative asset

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59 Committee of European Securities Regulators, *Consultation Paper on the Standardisation and exchange trading of OTC derivatives* ("CESR CP – OTC Derivatives") 12-13, CESR Ref. CESR/10-610 (19 July 2010) (providing matrix of standardisation elements across product classes) available at http://esma.europa.eu/popup2.php?id=6987.

60 FSB Report at 15 ("As a result of targeted supervisory encouragement since 2005, credit derivative market participants have standardised CDS product design and post-trade processes in tandem, leading to greater operational efficiencies, encouraging higher volumes in standardised transactions, and most significantly, providing the requisite operational environment for the implementation of centralised risk-reducing infrastructure, including portfolio compression, reporting to TRs and central counterparty clearing.").

61 ISDA, *2009 ISDA Credit Derivatives Determinations Committees and Auction Settlement CDS Protocol* (March 12, 2009), http://www.isda.org/bigbangprot/docs/Big-Bang-Protocol.pdf.

classes," from "highly standardised, fungible products to entirely bespoke transactions," and that volumes are typically higher for the more highly standardised products and lower for the most bespoke transactions. [62] In light of the potential gradations of standardisation and the adaptability of some products to standardised terms, there is no definitive boundary between products with sufficient standardisation to be traded on an organised platform and those that lack such standardisation. Moreover, certain organised platforms could be used for products that lack full standardisation. Consequently, beyond certain minimum terms, such as product definition and trading unit, the degree to which a given derivative product currently reflects standardised terms may affect the choice of products offered on a given trading platform but may not alone be determinative of the practicability of trading the product on an organised platform.[63]

B. Market Liquidity

i. *Defining liquidity*

Liquidity is a measure of the ability to buy or sell a product in a desired quantity and at a desired price and time without materially impacting the product's price. Like standardisation, the liquidity of OTC derivative products can be described in relative terms: in markets of the highest degree of liquidity, in a particular transaction, a market participant can buy or sell a derivatives product in a desired quantity at a desired price with minimal impact on the product's price. For a market participant to effect a purchase or sale in the quantity and at the price desired, there must be enough willing buyers and sellers (either natural buyers and sellers or intermediaries, such as dealers) at all times during the relevant trading session to absorb the trade.

There are three commonly identified dimensions of liquidity: time, price, and size.[64] Time (sometimes referred to as immediacy) refers to the possibility of buying or selling when the trader wishes to do so. Generally, the more liquid a market is, the less time required to effect a transaction. Price refers to the spread, that is, the difference between bid and ask prices. Generally, liquid products will have a more narrow spread, indicating that the trading cost (namely, the price difference between entering and exiting a position) can be relatively low. Size can be measured as the midpoint quantity of the best bid and ask price or the number of orders waiting to be executed for different prices; it is useful for predicting the price impact of a trade. The liquidity of financial markets may be indicated by the ability of a market participant to execute a transaction of conventional or desired size with minimum time delay and minimum impact upon price.[65]

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62 CESR CP – OTC Derivatives at 10.

63 While a certain level of standardisation is attainable for many, if not most, derivatives products, there are certain products which cannot be standardised enough to be practically traded on an organised platform (which can arise, for example, from accounting issues or as a result of the distinctive characteristics of the assets underlying a derivatives contract). Discussion of such non-standardisable products is beyond the scope of this Report on Trading.

64 E.g., Angelo Ranaldo, *Intraday Market Liquidity on the Swiss Stock Exchange* 3 (August 2001) (noting the common view that "a liquid market allows trading any *volume* size demanding an *immediate* execution and no *price impacts*.") (emphasis in original).

65 A. Ates and G. Wang, *Liquidity and the Evolution of Price Discovery on Floor versus Screen-Based Trading Systems: An Analysis of the Foreign Exchange Futures Markets* 13-14 May 2005, available at http://faculty.haas.berkeley.edu/lyons/pricediscovery1.ates.wang.pdf.

These standards for liquidity essentially define a centralised market with multiple buyers and sellers active in a continuous trading session, commonly featuring full, anonymous, automated multilateral execution systems. However, other trading models have been developed for products that are unlikely to support the relatively high level of active trading needed to meet the highest liquidity standards. These alternative models may provide the opportunity for a trader to avoid displaying an order that will not be absorbed by the market without substantial price impacts by using a RFQ mechanism or other solicitation of interest that enables the trader to determine the price or likely price to be obtained before executing the transaction.[66] As discussed more in Subsection C below, a variety of platform models exist that can facilitate transactions in thinly traded products while enhancing the overall transparency of the market and establishing consistent trading rules and protections.

ii. *Factors affecting market liquidity*

Comprehensive data concerning trading volume and other characteristics of the current OTC derivatives market is not readily available at present.[67] However, on the basis of limited information, it appears that the liquidity characteristics of OTC derivatives products vary widely and that between OTC derivatives product classes (*e.g.*, interest rates, credit, equity, commodities, and currency), relative levels of liquidity for individual products also vary widely. For example, in the realm of interest rate swaps, it is estimated that 10-year dollar swaps trade approximately 200 times per day.[68] For single-name CDS, between 22 March 2010 and 20 June 2010, of the 998 reference entities with market activity during that time, 55 had 10 or more trades per day and 827 had five or fewer trades per day.[69]

Similarly, trading volume also varies dramatically within OTC derivatives product classes. For example, for the month of September 2009, the average daily trading volume of 17 energy swap contracts cleared through CME Clearport was 713 trades per day. The highest daily trading volume for one contract within that group was 6,347 trades per day, while the median daily trading level was 162 trades per day.[70]

To determine the type of organised platform upon which the trading of an OTC derivatives product would be feasible, prospective liquidity should be explored. Prospective liquidity (*i.e.*, the likelihood of being able to sell a position in the product equal or close to the current market price)[71] would likely vary significantly across product classes based upon a number of

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66 As a practical matter, market participants may factor perceived liquidity into their assessment of the costs and benefits of participating in an organised platform and, thus, some minimum level of liquidity may be needed to counter the costs of using the platform.

67 FSB Report at 10.

68 ISDA Memo at 4.

69 *The Depository Trust & Clearing Corporation, Market Activity Analysis* (September 17, 2010), available at http://www.dtcc.com/downloads/products/derivserv/CDS_Snapshot_Analysis_Sep17-2010.pdf.

70 Volume data has been drawn from a spreadsheet prepared by and on file with the CFTC.

71 Markit comment letter dated June 25, 2010 regarding CPSS-IOSCO's Guidance on the application of the 2004 CPSS-IOSCO Recommendations for Central Counterparties to OTC Derivatives CCPs *Comments Received in Relation to the Consultation Report, Guidance on the Application of the 2004 CPSS-IOSCO Recommendations for Central Counterparties to OTC Derivatives CCPs* available at

factors. In assessing prospective liquidity, the factors described below may be material.

a. Participant characteristics

The number and types of market participants are material factors in assessing prospective liquidity. Speculators and market makers are key contributors to the liquidity of a market (hereinafter collectively referred to as "liquidity providers"). Speculators are individuals or institutions that seek to profit from anticipated increases or decreases in a particular market price. In exchange for potential profits, speculators generally accept market risk. Market makers, broadly speaking, are individuals or institutions that are willing to buy or sell a particular derivatives product at any given time and profit from serving as intermediaries in a derivatives market. These profits, in turn, provide the incentive for the provision of capital needed to provide trading liquidity for liquidity takers, such as hedgers that enter into a market to reduce a pre-existing risk. Market composition should be reviewed to determine the mix of participants in a given market – *e.g.*, whether liquidity providers and liquidity takers are sufficiently represented in a particular market.

The exchange-traded futures and equity markets typically have thousands of active participants, including both liquidity providers and liquidity takers. For example, the E-Mini S&P futures contract ("E-Mini"), the most actively traded US stock index futures contracts,[72] is traded by more than 150,000 active participants.[73] OTC derivatives markets, in comparison, have relatively small numbers of active participants. For example, active US participants in single-name and index CDS have been estimated at fewer than 300 and in plain vanilla interest rate swaps at approximately 500. On average, the number of Australian participants across all electronic platforms that offer OTC derivatives trading has been estimated at 30, with some of these platforms having very few participants,[74] and others having more than 100 participants.[75] These data describe participation levels in the derivatives market of the highest and lowest levels of trading activity, at the opposite ends of a liquidity spectrum in which the range of derivatives product classes can be expected to fall, yet likely still be practicable to trade on some form of organised platform. It also should be

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https://www.iosco.org/library/pubdocs/pdf/IOSCOPD327.pdf.

72 CFTC and SEC, Preliminary Findings Regarding the Market Events of May 6, 2010: Report of the Staffs of the CFTC and SEC to the Joint Advisory Committee on Emerging Regulatory Issues (May 18, 2010) B-4. It bears emphasising that the E-Mini, which trades on the Chicago Mercantile Exchange, is at the farthest end of the spectrum of trading activity. For example, in April 2010, the E-Mini alone accounted for approximately 77 percent of the total US stock index futures and options activity, with an average daily trading volume of 2.1 million contracts. Id. By contrast, for that same time period, the Russell 2000 Index Mini futures contract, which trades on the IntercontinentalExchange, Inc., had average daily trading volume of 150,885. Id. at B-5. Thus, a contract need not have the trading volume of the E-Mini to trade on an organised platform.

73 Unless noted otherwise, participant, instrument, and volume data referenced in this and the following subsections are drawn from J.P. Morgan, *Observations on the OTC Derivatives Market* (Aug. 11, 2010), available on the SEC website as an attachment to Memorandum from the US Securities and Exchange Commission, Division of Trading and Markets regarding an August 11, 2010 meeting with representatives of J.P. Morgan (Aug. 11, 2010) (on file with the SEC), available at http://www.sec.gov/comments/df-title-vii/mandatory-facilities/mandatoryfacilities-3.pdf.

74 It should be noted that the platforms with very few participants include start-up entities that are newer to the market, many of which have lower levels of liquidity as compared to more established platforms.

75 Participant data provided by the Australian Securities and Investments Commission.

noted that these data do not reflect the potential impact upon the level of trading activity of current OTC derivatives products where trading on organised platforms becomes available or becomes more widespread, which could potentially increase participant numbers beyond projections based upon current participation figures. An example of this "liquidity attracting liquidity" phenomenon has been seen in the US equity options market, which grew 41% between 2006 and 2007 in part on account of new participants attracting more participants and, in turn, liquidity to that market.[76]

b. Product characteristics

The breadth of the underlying product market for the derivative instrument and the number of instruments based on that product may also be significant determinants of liquidity.[77] The WTI futures contract has an estimated 20,000 participants in 70 instruments for a participant-instrument ratio of over 285:1; the E-Mini, which is estimated to have more than 150,000 active participants in 5 instruments, has a participant to instrument ratio of more than 30,000:1. OTC derivatives products, by contrast, commonly reflect a significantly more segmented product spectrum, with a greater number of distinct contract variations based upon a given product. For example, the single-name CDS market reportedly includes approximately 83,000 distinct instruments, distinguished by reference entities, tenors and other variables, and the index CDS market includes approximately 80 instruments. This data, coupled with the approximate number of active US participants in each market, estimated at 220 and 180 respectively, yields a ratio of participant to total instruments of 0.03:1 in single-name CDS and 2.250:1 in index CDS. Plain vanilla interest rate swaps, arguably the most liquid and standardised of interest rate swaps, include over 100,000 variants that can be traded on a daily basis, for a participant to total instrument ratio of less than 0.005:1.

c. Transaction characteristics

The typical transaction size and the frequency of transactions in the relevant OTC market also should be considered.

- *Transaction size.* On average, transactions in the OTC derivatives market tend to be large relative to the transaction sizes of derivatives products traded on organised platforms that feature continuously quoted contracts. OTC transactions that are privately negotiated are generally preferred by large market participants for whom a guaranteed execution (in terms of transaction size) is important. Transacting large-sized orders in an order-driven exchange market may create significant execution costs for the executing party, absent block trade mechanisms or other protocols designed to reduce such execution costs. This is the reason why some pre-trade transparency regimes allow for waivers for large transactions, *i.e.*, providing the

[76] See TABB Group, *Equity Options Trading 2008: Rising Out of Obscurity* (February 2008).

[77] Literature concerning contract innovation in the regulated futures markets suggests that standardised futures contracts are more likely to be successful in attracting trading volume when (i) the underlying spot market is large and characterised by volatile prices; and (ii) the contract's design provides maximum correlation with the risk of hedging – maximum "hedging effectiveness". See, e.g., J. Corkish, PA Consulting Group, A. Holland, Bank of England, A. Fremault Vila, London School of Economics *The determinants of successful financial innovation: an empirical analysis of futures innovation on LIFFE*, 24, Bank of England, 1997, available at http://www.bankofengland.co.uk/publications/workingpapers/wp70.pdf. .

necessary pre-trade information to the market to ensure an efficient price formation process but ensuring the waivers necessary to avoid market impact and execution risks for large transactions.

- *Frequency of transactions.* Relatively speaking, more frequent trading activity in a given product generally reflects deeper market liquidity for that product. There can be several explanations for this phenomenon, including greater interest from a wider range of participants that leads to greater willingness to trade based on more price information (*i.e.*, information on which to base relative value decisions and a perception of easier market entry and exit).

C. Characteristics of Various Platforms

As discussed in Chapter 1, organised platforms may take a variety of forms, with differing access, transparency, trading rules, and other characteristics. In order to assess which particular organised platform may best facilitate the trading of a particular derivatives product, the standardisation and liquidity profile of the product and the type of organised platform available for trading the product are both key factors.

In the futures markets, the vast majority of trading takes place on exchanges that employ a LOB trading model that matches buyers and sellers using an automated matching process based on price and time prioritisation of orders. The standardisation and liquidity characteristics of futures markets generally – large numbers of active participants, small numbers of highly standardised products/contracts traded, high volume of continuous trading, and small average transaction size – seem to fit well with the LOB trading model. On the other end of the spectrum, in the OTC derivatives markets, most trading currently occurs by voice broking via telephone. However, a growing amount of trading is taking place on platforms that either employ order book or RFQ trading models for contracts that range from being somewhat customised to highly standardised. These RFQ trading models attempt to replicate trade negotiation protocols for voice trading, but instead use electronic messaging as a medium of communication. In the OTC context, price discovery and trade negotiation generally are undertaken bilaterally, with the end-user initiating the negotiation process by selecting one or more dealers, and requesting firm price quotes for a specific transaction size on an "all or none" order basis. The standardisation and liquidity characteristics of the current OTC derivatives markets – including fewer active participants, a wide range and number of instruments/contracts traded with varying levels of customisation, lower frequency of trading, and significantly larger average transaction sizes – create an environment in which it is more likely that trades have the potential to adversely impact execution prices. For this reason, buyers and sellers may seek to retain more control of information concerning their trading interest, and while this would not be possible with a more structured model like a LOB, it would be possible using a less structured model, such as a multi-dealer RFQ model.

Both telephone trading and organised platforms that employ RFQ trading models have been used for OTC derivatives trading in part because they may maximize the dealer's and the counterparty's ability to control the flow of pre- and post-trade information and thus reduce the potential for adverse impact upon the price of the dealer's subsequent hedging transactions, as well as the transaction between the dealer and its original counterparty.

For purposes of considering the interaction of the standardisation and liquidity characteristics

of a derivatives product and the type of organised platform upon which the product can trade, several broad categories of organised platforms are discussed below, including: single dealer platforms, multi-dealer platforms, LOB platforms, and hybrid platforms. The categories included are not intended to be an exhaustive list of the types of platforms upon which derivatives products with varying degrees of standardisation and liquidity could trade, but are meant to present illustrative examples of the wide variety of organised platforms that can be utilised for derivatives product trading.

i. *Single dealer platforms*

The single dealer platform is an electronic system for the bilateral negotiation of OTC derivatives. Single dealer platforms, broadly speaking, resemble the direct, bilateral, principal-to-principal negotiation of transactions, traditionally by telephone, between dealer and customer, which historically has been the dominant mode of transacting in swaps.

- *Market participants*. Single dealer platforms can accommodate derivative markets that have few or many participants, subject to the dealer's capital and operational resources. Single dealer platforms depend upon the platform operator dealer as the sole liquidity provider.

- *Type of derivative instrument and product*. Single dealer platforms can accommodate highly differentiated products (*e.g.*, single-name CDS, of narrow breadth and great number), including customised and less liquid transactions, as well as the most standardised.

- *Transaction characteristics*. Single dealer platforms,[78] because they enable the dealer to develop a quote based upon direct communication with the customer, without disclosure to other market participants, can facilitate execution of large transactions without risk of price impact due to the dissemination of the order to other market participants. Single dealer platforms also can increase the likelihood of completion of a transaction because the dealer will have information concerning the order prior to providing a quote.

ii. *Multi-dealer platforms*

Multi-dealer platforms can take many forms but, for this purpose, will be defined as platforms that facilitate interaction of multiple buying and selling interests, including through RFQ as well as competitive execution systems involving firm bids and offers from multiple dealers. Multi-dealer platforms can provide varying methods of multilateral interactions among participants and varying degrees of pre-trade and post-trade transparency.

- *Market participants*. Multi-dealer platforms bring together multiple liquidity providers and multiple customers. They presume some degree of multilateral interaction, which might range from dissemination of buying interest to multiple dealers selected by a customer and bilateral negotiation between the initiating customer and the selected quoting dealer, to a competitive interaction of firm bids and

[78] This discussion assumes that single-dealer platforms encompasses RFQ trading models and RFS trading models, which provide continuous streams of executable quotes.

offers. Given this range of potential structures, the numbers and types of market participants would likely vary, depending upon the extent to which the platform is able to offer an efficient means of facilitating large order executions without price impact, the depth of trading interest, and other factors.

- *Type of derivative instrument and product*. A multi-dealer RFQ platform is a model that permits customers to solicit quotes from multiple dealers and interact with the bids and offers from those dealers simultaneously. These platforms can facilitate transactions in the most narrow and customised categories as well as the most standardised. Multi-dealer systems that involve multilateral trading and execution of transactions are likely to require some degree of product standardisation, since all dealers will be quoting and executing trades with identical key terms or, at a minimum, identical key fields (such as price and volume). However, less liquid products also can be traded on multi-dealer platforms because these platforms may not require continuous firm, executable dealer quotes, but, rather, firm quotes only upon request. In contrast to LOB platforms, multi-dealer platforms operating on an RFQ basis provide the dealer with the benefit of knowing the identity of the counterparty and the full size of the trade before providing a firm quote.

- *Transaction characteristics*. Multi-dealer platforms may provide easier execution of very large transactions by enabling customers to more easily elicit interest from multiple liquidity providers. However, customers seeking to execute very large transactions may wish to avoid exposing their orders to multiple dealers and thus may prefer to solicit quotes from only one or two dealers.

iii. *Limit order book platforms*

- *Market participants*. As discussed above, LOB platforms have generally developed to serve markets that have large numbers of active participants, including substantial representation of liquidity providers and end users, hedgers, and other traders.

- *Type of derivative instrument and product*. LOB markets have generally been used for products that reflect a high degree of standardisation and that have sufficient market interest to be useful trading instruments for a large number of commercial entities, hedgers, and other end users.

- *Transaction characteristics*. Generally, LOB markets depend upon large numbers of orders with a relatively small order size. Parties seeking to execute the largest orders commonly seek to avoid the broad transparency (with the risk of negative price impact) of LOB platforms. However, in certain markets, LOB platforms may provide facilities for negotiation of certain large transactions outside the LOB matching system, subject to post-trade reporting of the transactions to the platform.

iv. *Hybrid platforms*

Platform operators may choose to offer a combination of the platform features set out above as part of a hybrid structure. Such structures may be made available to meeting the evolving needs and preferences of participants according to changing market conditions that may impact the liquidity of the products traded on such platforms. For example, products that

exhibit higher levels of liquidity on multilateral, electronic platforms during normal market conditions may experience diminished liquidity during periods of market stress, to which a hybrid platform may be able to respond by making alternative execution facilities available to facilitate transactions with more limited liquidity.

v. *Threshold tests for market liquidity*

Using the factors for measuring market liquidity described in Subsection B above, a series of empirical threshold tests can be developed for determining the level of liquidity of a specific product class, or even individualised contracts. These empirical tests, individually or cumulatively, are one way of determining the type of platform upon which the product might trade most successfully, although they are not necessarily dispositive of a product's or contract's liquidity. These tests can be applied separately to product classes within the OTC derivatives market, such as interest rate, credit, equity, commodity, and foreign exchange, as well as subsets of the product classes, such as CDS indices and single-name CDS.

Market characteristics tests:

- Are there relatively many or few market makers/liquidity providers for the product?
- Are there relatively many or few eligible contract participants/liquidity takers (*e.g.*, end users or hedgers) for the product?
- Is there a relatively wide or narrow range of products/contracts traded in the market?
- What is the ratio of market participants to traded products/contracts?

Transaction characteristic tests:

- What is the average transaction size of the product?
- What is the standard size for contracts?
- What is the average number of trades per day?

Chapter 3 Benefits and Costs of Increasing Organised Platform Trading, including those that are Incremental to standardisation, central clearing, and reporting to trade repositories

A. Benefits and Costs of Increasing Organised Platform Trading

This section discusses the benefits that can be achieved through trading on organised platforms, possessing one or more of the characteristics discussed in Chapter 1, of derivatives products with the characteristics described in Chapter 2, and the costs of such trading. The assessment of the benefits and costs of organised platform trading is made in the context of the objectives of the G-20, i.e., improving transparency, reducing systemic risk, and protecting against market abuse. Additionally, this section examines where organised platform trading supports the G-20 objectives beyond increased standardisation, central clearing, and reporting to trade repositories.

This analysis of the benefits and costs of organised platform trading cannot be undertaken in isolation of the issues that are the subject of discussion elsewhere in this paper. The nature of the benefits and costs generated will depend on the characteristics of organised platforms, as discussed in Chapter 1, that are deemed appropriate for trading derivatives products and the practicability of trading a particular product on one of the appropriate trading venues, as discussed in Chapter 2.

For the purpose of this section, each of the characteristics described in Chapter 1 is considered in turn. However, the ultimate judgement as to the benefits and costs should be made on the basis of the cumulative effect of those characteristics, along with other benefits and costs arising from the move of OTC trading to organised platforms.

This section aims to make a general assessment of the benefits and costs of organised platform trading in relation to the benefits and costs of the existing market, however, a precise quantification of such benefits and costs is beyond the scope of this report.

i. *The benefits and costs arising from the characteristics of organised platforms*

a. Access

A requirement that an organised platform make its facilities available to participants on an objective and non-discriminatory basis, in relation to which any limits would need to be justifiable and reasonable, can improve the ability of market participants to access additional pools of liquidity and can help markets achieve a more diverse user base.

Effective access rules also will ensure equal and fair treatment of market participants, thereby widening the potential range of participants able to transact in the marketplace. This could have the result of enabling more market participants to enter into derivatives trades on the same execution venue as incumbent participants, thereby increasing competition. This, in turn, could potentially lead to more efficient pricing and lower transaction costs, as well as reducing the concentration of derivatives trading activity to a limited number of market participants. This increased competition also could have a positive impact upon financial

stability by reducing the degree of interconnectedness amongst the incumbent participants in the market, thereby mitigating systemic risk.

Access rules could, however, provide limits and, in some cases, should do so. Existing market models demonstrate that markets can adopt policies that limit access for the purposes of prudent risk management. This is particularly important in the context of trading venues that do not use central counterparty clearing. Without those limits, market participants (including liquidity providers) may be reluctant to participate on an organised trading platform and their prudential supervisors may be concerned about their participation. If such policies are reasonable and non-discriminatory, they would not be inconsistent with the access standards described above. In all cases, particular care should be taken to ensure that access rules do not act as barriers to entry and/or impose unreasonable restrictions on membership.

Accordingly, appropriately tailored market participant access requirements could provide benefits by providing broader access to organised platforms by a wider range of market participants, leading such platforms to develop larger and more diverse user bases.

b. Trade transparency

In general terms, trade transparency reduces information asymmetry and ensures a level playing field among market participants. As a result, a higher level of confidence in the accuracy and fairness of pricing is achieved, which generally has a positive effect on liquidity. In addition, trade transparency facilitates the development of information about trading, which can be used for a number of purposes, including to provide data for market analysis and to consider whether an applicable best execution requirement has been met.

However, excessive or improperly calibrated trade transparency requirements could result in fewer opportunities to trade as a result of a withdrawal of liquidity by some participants, notably those who would be likely to incur additional costs in the execution of large transactions necessary to facilitate financing and hedging activities.

A distinction should be made between pre-trade transparency and post-trade transparency.

As a general matter, pre-trade transparency should permit market participants to have a better understanding of current price action within the market. Organised platforms offer an efficient means of centralising information about orders and other indications of trading interest. This is in contrast to the bilateral OTC market, where detecting potential contra-side trading interest can be more difficult, particularly for less liquid contracts, unless an appropriately tailored transparency regime has been implemented. As discussed in Chapter 1, a pre-trade transparency regime has been proposed by the European Commission that would encompass OTC derivative trading.[79] The increased information concerning the current state of a market can positively impact price competition.

Pre-trade transparency is more likely to vary depending on the method of trading. Some platforms will provide public transparency while others will provide transparency to the platform's participants. For example, while some platforms may employ a LOB consisting of

[79] See Chapter 1.C.ii.a.

firm orders and quotes that are available to all market participants, other platforms may use a RFQ system where the initial request is sent only to a subset of potential market participants and responses are visible only to the requestor.

Organised platforms also can facilitate post-trade transparency for products traded on such platforms, as the same mechanisms used to match trading interest and establish terms of a trade can allow for wide dissemination of information about the trade to the public. However, post-trade transparency may not be dependent on trading on organised platforms. For example, in the US, the Dodd-Frank Act requires post-trade transparency for derivatives transactions executed on trading platforms as well as OTC. Additionally, EU proposals provide for a post-trade transparency regime by type of derivative, rather than execution venue. This could result in real-time or near real-time post-trade transparency with appropriate deferrals, such as for large trades.

Thus, organised platforms would be one source of post-trade transparency, as organised platforms would efficiently, and potentially more reliably, provide post-trade transparency, depending upon the trade reporting requirements in a jurisdiction. However, market participants can attain a certain level of post-trade transparency, regardless of whether they trade OTC or on an organised platform (and regardless of the type of platform).

While both organised platform and OTC trading are capable of achieving the trade transparency objective enshrined in the G-20 commitment, particularly in relation to post-trade transparency, overall, the use of organised platform trading can potentially increase trade transparency, particularly pre-trade transparency, and can provide trade transparency more efficiently than OTC markets.

c. Trading rules

Certain features of trading rules employed by trading platforms can impact the benefit/cost analysis of organised platform trading.

- *Electronic execution*. It can be argued that electronic trading methodologies enhance operational efficiency (*e.g.*, facilitating confirmations) and, through the associated need for firm and addressable prices, enhance the quality and reliability of price formation.

  Sometimes voice-based models co-exist alongside electronic models as part of a "hybrid" offering to participants. This type of hybrid model, it can be argued, allows markets to respond to changes in market conditions (which has been seen in derivatives and other markets where use of the voice-based component can increase during times of market volatility) and changes in liquidity during the life-cycle of a product. In addition, voice-based or floor-based models exist, which are often seen as a complementary alternative.

  It is important to note that the application of a voice-trading methodology does not prevent the use of automated post-trade processing (*e.g.*, routing to central clearing) or the achievement of a certain level of market transparency.

- *Nature of participant interactions*. A multilateral (or many-to-many) trading

environment, which can include a RFQ component, can lead to increased pricing competition between market participants, which, in turn, can reduce spreads and enhance liquidity. In addition, a multilateral trading environment arguably concentrates liquidity (*e.g.*, by bringing multiple liquidity providers together in one venue) and can assist with the performance of data consolidation.

A multilateral system commoditises the service provided by market participants such as liquidity providers, such that competitive advantage is determined by price alone. A bilateral system, such as a single-dealer platform, can enable a service provider to offer a package of services that combines trade execution with, for example, analytics and research. Such services can be constructed on the basis of a closer understanding of the needs of the user, but the packaging of trading and other services, such as analytics, also is a source of conflicts of interest and may pose anticompetitive concerns.

Further, some multilateral systems, particularly those using a LOB model, preclude the possibility of bilateral negotiation. However, other existing systems (*e.g.*, organised platforms within the EU utilising the MiFID equity "negotiated trade waiver") recognise, and allow for, the potential benefits of bilateral negotiation between participants of a multilateral system, at least for some trades. Such bilateral trades can be subject to the rules of a platform, which would set conditions and requirements (*e.g.*, post-trade transparency) that ensure that some benefits of organised trading are achieved. A bilateral system within an organised platform could contribute to price formation through the dissemination of market data on a wider basis, in particular through arrangements to ensure the post-trade consolidation of data relating to completed trades.

- *Non-discretionary rules.* A requirement that an organised platform have non-discretionary trading rules ensures that the process by which trading interests interact operates on a pre-determined and objective basis, helping to ensure that markets are fair and that participants have certainty regarding the basis on which their orders will be handled. However, a requirement for non-discretionary rules would preclude the exercise of judgement by the platform operator in the situation where the relationship between operator and user goes beyond the operation of the platform, such as when the user is a "client" of the operator.

Generally, a migration of trading to those platforms considered to exhibit a higher level of structure (such as those which are multilateral and non-discretionary) could consolidate trading interests in a narrower range of systems, potentially increasing operational efficiency and reducing fragmentation of trading. However, the use of a wide range of trading rules may increase the potential for successful organised platform trading, for example, LOB trading could be used for more liquid derivatives and RFQ trading for less liquid ones, and allow for the development of innovative ways to express a potential willingness to trade and to make trading interests.

d. Operational efficiency and resilience

Organised platform trading facilitates market centralisation, as described below, which can create operational efficiencies that ultimately function to reduce prudential and systemic risk.

Additionally, organised platforms should be able to provide efficient links to other facilities, namely, the use of central counterparties and trade repositories. Such links can provide operational benefits, in contrast to OTC trading, by reducing operational risk within a market. However, derivatives traded OTC increasingly are supported by automated trading processes and also are covered by the G-20 statements on clearing through central counterparties and reporting to trade repositories.

A requirement that organised platform operators make arrangements for operational resilience (*e.g.*, through policies for disaster recovery and business continuity and requirements relating to financial resources) helps to ensure that services will be available on an uninterrupted basis even during periods of market stress and thereby bolsters market confidence that facilities will continue to be available. OTC markets (as contrasted from the firms themselves as participants) do not have comparable arrangements and generally operate on an ad hoc basis.

e. Market Surveillance

Generally speaking, a centralised market can be more efficiently regulated than a dispersed population of OTC market activity, as market supervisors can more easily assess aggregate market activity. The centralisation afforded by an organised platform facilitates, among other things, the consistent time-stamping of all executions, orders, or other expressions of trading interest, thereby allowing platform operators (and market regulators) more easily to identify market manipulation or abusive trading behaviours. Accordingly, the market surveillance facilitated through such centralisation helps to maintain the "cleanliness" of markets. Enhanced market oversight helps to ensure that participants are confident that the trading rule obligations of other participants are being met and that a fair market is being maintained. This can serve to bolster confidence in the integrity of the market and fosters market liquidity.

Nevertheless, provisions which prohibit market abuse, especially prohibitions on market manipulation and the use of inside information, can be applied across markets, regardless of trading venue. In that way, a certain level of protection can, and does, exist in OTC derivatives markets. However, surveillance of more dispersed trading activity based upon individual firm reporting depends, to some extent, upon the reliability of transaction and other reporting, and is, in many ways, more complex to undertake than in the context of organised platforms where trading information is centralised. As a result, trading activity on organised platforms can generally be much more easily monitored and analysed. Market surveillance speaks directly to the G-20 goal of protecting against market abuse by both preventing and potentially deterring market abuse.

f. Organisational structure

Organised platforms can exhibit the organisational elements described in Chapter 1. These elements lead to benefits, including the management and prevention of conflicts of interest. An organised platform's operational risk management capabilities also can be enhanced by an organisational structure that establishes risk analysis and oversight programs applicable to the platform and specific markets it operates. For situations where operators of a platform can also trade on the platform, operators would need to be particularly vigilant about conflicts of interest or potential conflicts of interest, and regulators would need to assure heightened

surveillance in this context. Although firms engaged in OTC trading may have similar applicable arrangements, the organisational structure of organised platforms offers these potential benefits.

ii. *Other benefits arising from a move from OTC trading to trading on organised platforms*

a. Market centralisation

One of the most important benefits of organised platform trading would be that many market participants can be brought together in venues where their trading interests can interact. The act of bringing greater numbers of market participants together on a venue using similar means to express trading interests to effect transactions can result in the accumulation of pools of liquidity around those venues. To the extent liquidity becomes concentrated around derivatives traded on organised platforms, market participants would be increasingly attracted to those platforms in order to have access to a ready pool of buyers and sellers. In this way, organised platform trading can serve to foster further trading and more and broader market participation, particularly when combined with access requirements. Greater operational efficiencies, increased competition, and deeper markets could be expected as a result.

The market centralisation that is facilitated by organised platform trading also could have the effect of lowering search costs for market participants, as any organised platform would offer some means for market participants to identify each other as potential counterparties.

The market centralisation effects, although potentially applicable to any asset class, can be more pronounced for the trading of a derivative contract as contrasted with trading of a share. Historically, there has been little precedent, at least in Europe, of dual pools of liquidity across platforms in the same derivative. While a share would have the same rights and obligations, regardless of where it traded, the terms of a derivatives contract would depend on its applicable trading and clearing terms.

b. Trading cost reduction

To the extent that increased derivatives trading takes place on organised platforms involving a large number of market participants, increased competition would be expected. In turn, that increased competition likely would put downward pressure on trading costs, including a reduction in bid/ask spreads.

c. Liquidity resilience

Liquidity in trading is affected by market events. For example, the 2008 financial crises saw a significant reduction of liquidity. Many OTC derivatives markets were dramatically impacted by the crisis because of credit concerns about large market participants. Also, market participants in OTC trading may not have any obligation to continue to give quotes or trade and may choose severely to curtail or to stop those activities in stressed conditions.

Assuming that a transition from OTC to organised platform trading would facilitate participation by a larger number of market participants, as discussed above, the derivative markets generally would be more robust, as this increased participation would make the

markets less susceptible to the impairment of a single liquidity provider.

Organised trading platforms have operational resiliency arrangements, described above, that can handle business continuity and other situations, which can be particularly important if trading is centralised within a few, large platforms. Further, Chapter 1 describes how organised trading platforms can deal with market events – for example, having mechanics to trigger an auction. As a result, they would be expected to continue to operate in difficult circumstances, including financial difficulties existing in relation to a major liquidity provider.

Platforms with different characteristics may have different liquidity resilience. For example, in the 2008 financial crisis, substantial trading was reported to have moved away from electronic platforms and towards hybrid platforms which included a voice broking feature because market participants appeared to be more tentative in their trading decisions and choose to seek input beyond electronic execution on its own. In a similar way, market participants may find that RFQ trading could provide more flexibility than LOB trading in stressed circumstances in that they could test a stressed market in anticipation of execution.

The relative benefits provided by organised platform trading or OTC trading in terms of liquidity resilience have not been confirmed by existing evidence – from academic studies or otherwise. It may be that the applicable characteristics of particular trading venues determine the extent of liquidity resilience.

iii. *Other costs arising from a move from OTC trading to trading on organised platforms*

a. Restriction of choice

Regulatory action that mandates more organised platform trading for derivatives that are now traded OTC may restrict market participants in their choice of venue. It may be that not all market participants can use, or will want to use, organised platforms for all of their trades. Some may not meet the applicable access requirements. For example, a market participant may not have been in operation for a long enough time, or, if central clearing is not used, their credit standing may not be sufficiently high for organised platform trading. Others may choose not to use organised platforms because, for example, they do not want to incur the costs that access to an organised platform may involve, or they wish to take the benefits of dealing with a particular financial institution with which they have an existing trading relationship. These costs would be mitigated to some extent if OTC trading remains available for certain market participants and/or products.

b. Limitations on platforms

In general terms, if regulatory interventions to promote trading of standardised products required trading on platforms with specified existing characteristics, this could dampen the development of new trading functionalities that do not include the characteristics set forth in the trading platform definition. In addition, the potential reduction of incentives for certain types of innovation, together with the potential loss of existing platforms deemed non-compliant with the minimum set of characteristics, could ultimately reduce the variety of and certain types of competition between platform providers. However, platform operators may find that they benefit from making changes, as needed, to ensure that their platforms are

compliant with applicable regulatory characteristics.

c. Costs of change/uncertainty

Significant changes in trading patterns could result in costs as market participants seek to adjust to new circumstances and requirements and create uncertainty as to the impact of the changes which arise.

In particular, a requirement that an organised platform holds a particular status within the applicable regulatory framework may increase barriers to entry for new platforms, given the initial and ongoing costs of securing any such status. Nevertheless, regulators should not give support to organised platform trading in circumstances where the organised platform is not appropriately regulated.

Additionally, market participants without direct access to organised trading platforms would be expected to incur costs to access the platforms for their trades, although these costs may be offset by a reduction in the cost of negotiating and documenting transactions conducted outside such platforms.

B. Benefits and Costs That are Incremental to Standardisation, Central Clearing, and Reporting to Trade Repositories

In addition to addressing organised platform trading, the G-20 Leaders in September 2009 made commitments pertaining to the clearing of OTC derivatives through central counterparties and the reporting of OTC derivatives to trade repositories. Further, in June 2010, they expressly committed to work to increase standardisation of OTC derivatives contracts. Work is ongoing in relation to each of these commitments.[80]

To assess fully the benefits and costs that increased organised platform trading can bring, it is important to put those benefits and costs into the context of these wider regulatory reform efforts. This section aims to assess the benefits that can be achieved through greater organised platform trading beyond those attained through meeting the G-20 commitments for standardisation, central clearing and trade repository reporting.

i. *Benefits to be realised by G-20 commitments for OTC derivative markets*

a. Standardisation

Standardisation is, to a considerable extent, a pre-requisite to other goals, including, as described in Chapter 2, organised platform trading. But standardization also is important for other purposes. For example, clearing requirements can only apply to products which are sufficiently standardised. Standardisation also benefits bilateral trading, as it can reduce operational risk through facilitating an increase in the use of automated processes, particularly post-trade processes. Also, to the extent that derivatives subject to bilateral trading become, or can be viewed as, more similar amongst themselves, such standardisation can facilitate reporting to trade repositories, which can bring increased overall transparency more generally to the market.

[80] See FSB Report at 14, 25, 27 and 45-46.

b. Central counterparty clearing

Central counterparties (CCP) primarily provide counterparty risk reduction and, accordingly, their use would reduce systemic risk. A CCP becomes the counterparty to each trade between clearing members, thereby assuming the counterparty credit risk of each of the original counterparties. In turn, it manages the risks it assumes and, to meet potential losses, takes margin and default fund contributions from clearing members and has other financial resources. CCPs themselves would be supervised by market regulators or other authorities.

In September 2010, the European Commission published its proposal for a regulation (known as "EMIR") on OTC derivatives, CCPs and trade repositories (TRs). Both the Dodd-Frank Act and the EMIR proposals aim to meet the G-20 objectives on the clearing of standardised derivatives by the end of 2012, at the latest. Those legislative developments, along with comparable ones in other jurisdictions, and their related regulatory initiatives, are expected to give support to arrangements which allow non-clearing members access (known as buy-side access) to the benefits of central clearing.

In general, CCPs can clear derivatives, regardless of where the transactions are executed. However, CCP risk management depends upon the ability to price contracts accurately, to assure accurate marking-to-market of contracts and to close-out positions of a defaulting clearing member. Some degree of transparency of transaction prices and reliable liquidity is therefore needed for sound risk management by CCPs. Derivatives traded on some organised platforms, including many exchanges, are all cleared on one or more CCPs. CCPs, however, also clear OTC derivatives for which pricing data would be relatively transparent (primarily interest rate swaps and credit derivatives, at present). Accordingly, while the benefits of CCP clearing can be realised regardless of whether derivatives trading takes place on organised platforms or OTC, the price transparency and, potentially, reliable liquidity necessary for CCP management can be enhanced via organised trading venues.

c. Trade repositories

The G-20 has stated that OTC derivatives contracts should be reported to TRs. Such data would be accessible by market regulators and other authorities in order to review overall OTC derivatives activity, or a portion of it, based on counterparty or otherwise. Some information on OTC derivatives activity would also be made available to the public. TRs are expected to become operational for most OTC derivatives in the timeframe envisioned by the G-20 statement, although they currently exist for some, but not all, derivative product classes.

The Dodd-Frank Act, EMIR, and comparable initiatives in other jurisdictions are expected to obligate market participants to report their derivatives trades to TRs and provide for oversight of those TRs.

Some TRs may be able, over time, to provide a post-trade transparency or a surveillance function. However, this analysis has not taken into account any resulting benefits and costs from such functions because TRs are not expected, at least initially, to have functionality beyond their core repository function and issues remain over whether that functionality could or should be extended.

TRs can play a vital role in increasing market transparency for derivatives, regardless of the method of trading execution – transaction data can potentially be reported to TRs by market participants in a range of derivatives transactions, although this is currently not the case. In particular, the information made available to market regulators and other authorities by TRs in terms of positions taken by market participants will help mitigate systemic risk. So, as with CCP clearing, the benefits of TRs can be viewed as distinct from the use of organised platform trading.

ii. *Incremental benefits delivered by organised platform trading*

Assuming that product standardisation has increased, central clearing is used for OTC derivatives suitable for clearing, and significant data on OTC derivatives is reported to trade repositories, the following incremental benefits can be provided by organised platform trading.

a. Trade transparency/organisational structure

As discussed above, organised platforms have many characteristics which can lead to a more straightforward way of achieving trade transparency (both pre-trade and post-trade transparency) and organisational structure requirements. Practically, it is easier to meet those requirements through the use of organised platforms. For example, an organised platform can provide pre-trade transparency by offering systems that consolidate and, in some cases, make public quotations or indicative quotations on such platforms, and those benefits can increase by virtue of the centralisation of trading. Such activities may help reduce data fragmentation. Centralised execution of OTC trades will be a cost efficient and effective means of data transmission both to TRs and for the purposes of post-trade reporting requirements.

b. Access/trading rules/operational efficiency and resilience/market entralisation/trading cost reduction/liquidity resilience

The broader access afforded to market participants by organised platform trading, together with appropriate trading rules, would likely have the result that more and smaller market participants (and in particular smaller financial institutions and non-financial institutions) would be able to enter into derivatives trades on the same execution venue as larger market participants (although those new or smaller participants would need appropriate risk management tools). This greater opportunity for participation would be expected to lead to a more level, competitive playing field among market participants and potentially reduce concentration of derivatives trading activity versus current OTC markets. This, in turn, could deepen pools of liquidity. It should lead to the development of market centralisation and the related benefits described above, along with lowering trading costs. Also, a higher or more uniform level of operational efficiency and resilience should result.

Trading on organised platforms may also lead to more resilient liquidity and potentially reduce systemic risk. However, to preserve those benefits even in difficult market conditions, the range of characteristics for organised platforms would need to be broad because market participants in those circumstances may seek greater input to trading decisions and flexibility in execution methods (*e.g.*, the use of hybrid systems). A move towards increased organised platform trading in circumstances where those characteristics are narrowly defined may

decrease the range of execution methods available.

c. Improved market surveillance

Organised platforms can help facilitate more efficient oversight of derivatives transactions than is feasible in the OTC market by enabling platform operators and market regulators to more easily have a comprehensive view of market activity and identify potential market abuses and disruptions that could adversely impact individual transactions, as well as the broader marketplace. In a related way, organised platforms more readily allow for the creation of a comprehensive audit trail, which facilitates front-line monitoring by platform operators and would provide an additional layer of protection, particularly in disorderly trading conditions, beyond what may otherwise exist (from market regulators or otherwise).

iii. *Conclusion*

The primary benefits of organised platform trading arise from the ability of organised platforms to bring together a larger number of market participants to trade on a specified basis, thereby increasing competition, which would have the potential to lower trading costs and enhance liquidity. This effect could help make the derivatives markets more diverse and less dependent on major liquidity providers, thereby helping to reduce systemic risk, so long as new participants are able to manage risks which consequently arise. Increased transparency, particularly pre-trade transparency, also would be expected to result. Furthermore, the centralisation that is facilitated through organised platform trading would allow platform operators and market regulators to monitor more easily trading activity and address abusive trading behaviour. Other benefits could include operational efficiency and resilience. In these ways, organised platform trading facilitates the G-20 goals of improving transparency in the derivatives market, mitigating systemic risk, and protecting against market abuse.

Although increased standardisation, central clearing and reporting to TRs can facilitate meeting the G-20 objectives of improving transparency, mitigating systemic risk, and protecting against market abuse, trading on organised platforms makes further advances toward these objectives.

However, costs may arise from moves to increase organised platform trading for derivatives now traded OTC. Those costs, in particular the costs of change arising as a result of a restriction of choice, could be reduced by continuing to allow certain derivatives to continue trading OTC in appropriate circumstances.

Chapter 4 Regulatory Actions that may be advisable in order to Transition OTC Derivatives Trading onto Organised Platforms and Conditions That Warrant Taking Such Actions

To achieve the G-20-objectives of improving transparency, mitigating systemic risk, and protecting against market abuse in the derivatives markets, regulators should take certain actions to encourage market participants to transition standardised derivatives trading to organised platforms. This section presents a range of actions that regulators might choose to take to increase organised platform trading of OTC derivatives products. Possible actions include target setting, incentives, or mandates. These actions may be undertaken individually, in concert with one another and/or in any order that the relevant regulator determines is appropriate for its jurisdiction, provided that the action or actions taken ultimately function to increase trading of standardised derivatives contracts on organised platforms.

A. Encourage and Establish Targets for Market Initiatives

In seeking to move standardised OTC derivatives trading onto organised platforms, regulators could collaborate with market participants to establish a series of performance targets to attain the G-20 policy objectives. Although regulators could establish such targets independently, obtaining market participant input on the formulation of such targets may result in greater industry support and decreased risk of unintended market disruptions, as the targets may be more tailored to certain market practicalities. Prior experience of the OTC Derivatives Supervisors Group (ODSG) has shown that this type of "moral suasion" incentivises change in derivatives markets.[81] Regulators may take appropriate action when market participants fail to meet the agreed upon targets. This approach would allow regulators to monitor and analyse the evolution of market practices and infrastructure in response to the targets. Regulators could then utilise this information to determine the most effective regulatory incentives and/or mandates and how best to employ them. This approach also would provide market participants and potential market infrastructure providers with an opportunity to adjust incrementally to the goals called for by the targets. A potential drawback of this approach is the increased length of time that its execution may entail, thereby potentially delaying market participants' and regulators' realisation of the benefits of organised platform trading.

Implementation of this collaborative approach could be accomplished in the following manner:

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[81] The ODSG has been working with market participants (referred to as the G-14 dealers) to increase central clearing of certain OTC derivative products. The G-14 dealers committed in July 2008 to using a central counterparty for certain credit derivatives transactions, and in September 2009, established targets for submitting and clearing trades for certain interest rate and credit derivatives. In March 2010, the G-14 dealers set dates to increase many of these targets. See, e.g., Letter from the Management of Alliance Bernstein et al., to William C. Dudley, President, Federal Reserve Bank of New York (Mar. 1, 2010), available at http://www.ny.frb.org/newsevents/news/markets/2010/100301_letter.pdf.

i. *Target setting*

Regulators would identify appropriate performance targets, such as specifying that a portion of transactions in a certain group of OTC derivatives products be transacted on organised platforms or that a proportion of transactions in products which are accepted for central clearing and are deemed to be sufficiently liquid be conducted on organised platforms, in each case by a certain date. Market participants could help inform the scope of any grouping of products. Regulators should set ambitious, yet reasonably achievable, levels of performance based on the then current state of derivatives product markets. Regulators could look to market participants to identify the practical issues that may impact the determination of those levels, such as infrastructure capacity. This target setting process should include clearly defined metrics and dates for measuring performance. In setting these targets, regulators should give due consideration to situations in which market participants might have a legitimate need to trade certain derivatives products OTC. Regulators also should consider whether any organised platforms exist on which such targeted derivatives products could trade and what action should be taken if there are none. In setting such targets, significant international coordination should be encouraged to limit opportunities for regulatory arbitrage.

ii. *Monitoring and measurement*

After establishing appropriate targets, regulators would monitor the rate of progress made toward target achievement. Any metrics or dates for measuring performance contained in the target could provide a framework for monitoring. Where milestones are not being met, regulators should take further steps to determine why and what corrective action may be necessary. Similarly, where new or changed activity produces unforeseen or unintended consequences, regulators also may need to intervene. Regulators should strive to maintain sufficient and ongoing communication with market participants, as well as with other regulators, regarding the progress being made towards target achievement.

iii. *Future action*

Regulators would determine if the targets have been achieved (or sufficiently fulfilled). If the targets are not met, regulators should analyse whether additional incentives and/or corrective mandates are necessary to attain the intended outcome. Regulators may follow target achievement with renewed market analysis and, as desired, the setting of new targets with input from market participants.

B. Regulatory Incentives

Regulators also may employ incentives to shift trading of OTC derivative products onto organised platforms. Such "incentives" actually may be characterized as "disincentives" by those subject to them. One such incentive could take the form of a post-trade transparency requirement similar to that imposed upon organised platforms. For example, market makers could be required to make the pricing and volume details of completed OTC derivatives transactions involving sufficiently standardised and liquid OTC products available on a real-time or near real-time basis to applicable regulators, other OTC market participants, and/or the public. Such post-trade transparency could enable market participants to better assess the efficiency of their trade execution relative to the other reported trade data in the same or

similar OTC derivatives product. The comparisons made possible through this post-trade transparency might serve to improve price formation, thereby narrowing spreads as market participants respond to inefficient counterparty pricing by increasing the number of parties contacted in an effort to obtain the best price or seeking out lower execution cost venues, such as may be available on organised platforms. As a result, trading on organised platforms could increase, as market participants seeking reduced counterparty search costs join in the movement towards organised platform trading. In the absence of significant economic incentives to maintain markets with less trade transparency, intermediaries also could migrate to organised platforms in search of increased liquidity.

However, in undertaking such steps, regulators should be mindful of certain potential market impacts that can arise from the use of a post-trade transparency requirement to incentivize organised platform trading (for example, reducing the liquidity that may be provided for large trades).

C. Regulatory Mandates

Regulators may determine that mandates must be established to achieve the desired shift of eligible OTC derivatives to trading on organised platforms. Regulatory mandates may be imposed either independently or in conjunction with targets or incentives. As examples, mandates may be implemented in the following ways:

i. *Incrementally mandate trading of specified derivatives products on organised platforms through a phased-in approach*

Regulators may consider implementing organised platform trading mandates through a two-step, phased-in process. This incremental approach also would allow regulators to observe the market's reaction to mandatory trading requirements and to adjust implementation of future phases accordingly.

The first step of this phased-in approach would focus on OTC derivatives products with some minimum proportion of their overall trading presently taking place on organised platforms. Regulators then could mandate that a portion of such derivatives products[82] be traded in a certain proportion or exclusively on organised platforms as of a specified date (*e.g.*, those traded by certain types of counterparties).[83] The approach would seek to take into account market dynamics by initially mandating organised platform trading for products that already demonstrate evolution toward organised platform trading, whether through progress toward standardisation, organised trading, clearing, or other market trends consistent with those developments. This should, in turn, minimise potential market disruptions and facilitate a gradual expansion of organised platform trading.

In the second step of the approach, regulators would establish a set of publicly disclosed criteria and then mandate that a derivatives product or class of products, once satisfying such criteria, trade in a certain proportion or exclusively on organised platforms (*e.g.*, impose a requirement that once a derivatives product is accepted for central clearing, all future

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[82] A key to this approach is properly defining the scope of the derivatives subject to the mandate – *i.e.*, whether the grouping is by class (for example, all eligible interest rate swaps) or some subset thereof.

[83] This approach could include intermediate targets along the way.

transactions in that derivatives product or class of products must be traded on organised platforms where organised platforms exist to accept such trades). In establishing specific criteria for requiring trading on organised platforms, regulators should be aware that market participants may attempt to evade required trading by seeking to design activities that fall short of published standards.

ii. *Uniformly mandate organised platform trading of derivative products*

Regulators may choose to impose a uniform mandate that all OTC derivatives products meeting certain standards (for example, those products that have been accepted for central clearing) to be traded on organised platforms as of a specific date. Such a mandate would require an immediate shift of derivatives products onto organised platforms, to the extent available, and hasten realisation of the benefits associated with a transition from OTC to organised platform trading, such as increased pre-trade transparency. To improve the efficacy of such a mandate and minimise market disruptions, regulators should ensure that organised platforms able to accommodate derivatives products with varying degrees of standardisation and liquidity are available in their respective jurisdictions, as well as organised platforms that can accommodate derivatives products that may be considered illiquid at the onset of the mandate, but could develop liquidity over time. Regulators should endeavor to coordinate with other regulators in establishing such a mandate, so as to minimize the potential for evasion of the mandate by market participants seeking to conduct their transactions outside the jurisdictional scope of the mandate.

D. Minimising Regulatory Arbitrage

The transition of derivatives trading from OTC to organised platforms must be undertaken in a manner that minimises the potential for regulatory arbitrage. Each of the actions described above involves a level of judgment by regulators and would require regulators to consider a number of factors, as well as the views of market participants and market data. In carrying out any of the actions set forth above, market regulators should attempt to coordinate their efforts as much as possible in order to lessen the risks of uneven implementation across jurisdictions, thereby reducing the scope of regulatory arbitrage and its potential to weaken the regulatory scheme.

Conclusion

As described in Chapter 1, derivatives trading can be undertaken on trading platforms that take multiple forms and exhibit a range of characteristics, but that have certain common elements, including access provisions, transparency requirements, trading rules, operational efficiency, resiliency, structural arrangements, and market surveillance capacities. In considering the suitability of such platforms for OTC derivative trading, Chapter 2 analyses the impact of a product's level of standardisation and liquidity on the use of the types of platforms described in Chapter 1. Further, Chapter 2 includes analysis of which type of platform may provide the most practicable venue for trading. Chapter 3 then considers the costs and benefits of a transition from OTC to organised platform trading, and identifies increased market competition, greater pre-trade transparency, and improved market surveillance, among others, as clear benefits of organised platform trading that are incremental to those provided by increased standardisation, central clearing and reporting to trade repositories.

Given this analysis, the Task Force concludes that it is appropriate to trade standardised 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 derivative product, the Task Force further concludes that there is a direct relationship between an organised 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 derivative products. Conversely, less structured platforms, as described in Chapter 2, could be utilised for the trading of relatively less liquid products and for products that are predicted to develop liquidity once traded on an organised platform. In this way, the incremental benefits of organised platform trading enumerated in Chapter 3 could be realised for a wide range of standardised 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 organised platforms, the Task Force recommends 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 standardised derivative products that can be appropriately traded on organised 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, as illustrated in Chapter 1, a range of platforms with certain specified characteristics can qualify as organised platforms. The Task Force has identified 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 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 have been identified by the Task Force 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 centralised system.

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

The members of the Task Force are not in agreement as to whether this additional characteristic should be considered a minimum requirement necessary for organised platforms to achieve the G-20 objectives of improving transparency, mitigating systemic risk, and protecting against market abuse in the derivatives markets or whether the first seven characteristics are sufficient to achieve the G-20 objectives.

Many Task Force members believe that, in order to achieve the G-20 objectives, the opportunity to seek liquidity and trade with multiple liquidity providers must be undertaken within a centralised system, such that each trading platform offers access to multiple liquidity providers. Centralising trading onto organised platforms that offer access for liquidity providers and liquidity takers based on objective criteria applied in a not unfairly discriminatory manner permits participation from a larger number of actors, and should mitigate systemic risk by reducing the concentration of derivatives activity in a few market participants, expanding liquidity sources, strengthening self-regulatory functions, and fortifying the central clearing process by creating a more liquid, transparent, and competitive pricing process. In addition, these members of the Task Force noted that such organised platforms operate independently of any one market participant and therefore, in their view, promote more efficient, effective, and impartial oversight, requiring less regulatory intervention to achieve the same outcomes, and strengthening protections against market

abuse.

Other Task Force members believe that benefits can be realised where the opportunity to seek liquidity and trade with multiple liquidity providers is offered within a product market as a whole, irrespective of whether a particular platform offers access to multiple liquidity providers. These members noted that, in their view, the first seven characteristics set out above represent a significant strengthening over and above current rules in the majority of IOSCO jurisdictions for the trading of the relevant OTC derivatives. These members also noted that the benefits of centralisation may differ according to market structure, that a market consisting of a mix of single and multi-dealer platforms for standardised derivatives may also provide systemic risk benefits, and that the application of the additional characteristic (and the associated exclusion of single dealers as an element of the market structure for standardised derivatives) would involve costs along with their additional benefits.

The Task Force recognises that, if some jurisdictions choose to establish requirements that give effect to all eight characteristics, while other jurisdictions do not, the resulting regulatory disparities have the potential to influence market participants' choice of venues in which to conduct business[84].

Finally, as noted in Chapter 4, market regulators can undertake a range of actions to facilitate a transition of derivatives trading from OTC to organised platforms exhibiting the characteristics described above. Regulators should be encouraged to consider which action or combination of actions may be most appropriate in their respective jurisdictions, depending upon the state of development of the derivatives product market. In all cases, it is critical that regulators attempt to coordinate such actions with their fellow regulators as much as possible.

[84] The Task Force notes the G-20 Leaders' recognition of the importance of "implement[ing] global standards consistently in a way that ensures a level playing field and avoids fragmentation of markets, protectionism, and regulatory arbitrage." Statement No. 12, *Leaders' Statement: The Pittsburgh Summit* (September 24 – 25, 2009), http://www.g20.org/Documents/pittsburgh_summit_leaders_statement_250909.pdf.

Appendix A: Trading Platforms

The platform characteristics described in Chapter 1 are taken, in part, from the regulatory regimes that govern the platform types set forth below.

Broker crossing systems (BCS), (according to the definition proposed by the European Commission)

A broker crossing system is a facility to assist the execution of client orders, involving the matching of client orders against other client orders, or against both other client orders and house orders (with the permission of the clients). The broker crossing system concept is proposed as a sub-regime within a family of organised trading facilities.

Designated contract markets (DCM)

Designated contract markets are boards of trade (or exchanges) that operate under the regulatory oversight of the US Commodity Futures Trading Commission, pursuant to Section 5 of the Commodity Exchange Act.[85]

Multilateral trading facility (MTF), (as defined by MiFID)

Multilateral trading facility means a multilateral system, operated by an investment firm or a market operator, which brings together multiple third party buying and selling interests in financial instruments – in the system and in accordance with non discretionary rules – in a way that results in a contract in accordance with a set of provisions outlined further by MiFID.

National securities exchange (NSE)

National securities exchange means a securities exchange that has registered with the US Securities and Exchange Commission under Section 6 of the Securities Exchange Act of 1934.[86]

Organised trading facility (OTF) sub-regime for OTC derivatives, (according to the definition proposed by the European Commission)

Organised trading facility (sub-regime for OTC derivatives) means a facility or system operated by an investment firm or a market operator that on an organised basis brings together buying and selling interests or orders relating to financial instruments, whether discretionary or non-discretionary, excluding facilities or systems already regulated as a regulated market, MTF or systematic internaliser. Such a facility or system will be required, under current proposals, to possess a range of particular characteristics including the provision of non-discriminatory multilateral access, support for pre- and post-trade transparency, the ability to report transaction data to trade repositories, and dedicated systems or facilities for the execution of trades. This concept is proposed as a sub-regime within a

85 7 U.S.C. § 7.

86 15 U.S.C. § 78f.

family of organised trading facilities.

Regulated market (RM), (as defined by MiFID)

Regulated market means a multilateral system operated and/or managed by a market operator, which brings together or facilitates the bringing together of multiple third party buying and selling interests in financial instruments – in the system and in accordance with its nondiscretionary rules – in a way that results in a contract, in respect of the financial instruments admitted to trading under its rules and/or systems, and which is authorised and functions regularly and in accordance with further provisions outlined in MiFID.

Swap execution facility (SEF) or security-based swap execution facility ("SB-SEF"), (as defined by the Dodd-Frank Act)

Swap execution facility (or security-based swap execution facility) means a trading system or platform in which multiple participants have the ability to execute or trade swaps (or security-based swaps) by accepting bids and offers made by multiple participants in the facility or system, through any means of interstate commerce.

Systematic internalisers (SI), (*as defined by MiFID and its associated implementing measures)*

Systematic internaliser means an investment firm which, on an organised, frequent and systematic basis, deals on own account by executing client orders outside a regulated market or a multilateral trading facility.

Appendix B: List of Task Force Members

Co-Chairs

Financial Services Authority, United Kingdom	Verena Ross
Securities and Exchange Board of India	Chairman C.B. Bhave
US Commodity Futures Trading Commission	Commissioner Jill Sommers
US Securities and Exchange Commission	Commissioner Kathleen Casey

Working Level Co-Chairs

Financial Services Authority, United Kingdom	Fiona Syer
Securities and Exchange Board of India	Amarjeet Singh
US Commodity Futures Trading Commission	David Van Wagner
US Securities and Exchange Commission	Brian Bussey

Members

Australian Securities and Investments Commission	Peter Chia Rhonda Luo Michael Sheehan
Comissão de Valores Mobiliários, Brazil	Sergio Schreiner
Dubai Financial Services Authority	Gerald Santing
Autorité des marchés financiers, France	Isabelle Massonnat
Bundesanstalt für Finanzdienstleistungsaufsicht, Germany	Dr. Stefan Pankoke Dr. Christian Sigmundt
Securities and Futures Commission, Hong Kong	Daphne Doo Ryan Ko
IOSCO Technical Committee Standing Committee 2	Thomas Eufinger
IOSCO Technical Committee Standing Committee 3	Stephen Po
Comissione Nazionale per le Società e la Borsa, Italy	Nicoletta Guisto
Financial Services Agency, Japan	Kazunari Mochizuki Makoto Seta Chikahisa Sumi
Comisión Nacional Bancaria y de Valores, Mexico	Angelica Gonzalez-Saravia
Autoriteit Financiële Markten, The Netherlands	Hans Wolters
Ontario Securities Commission, Canada	Debra Foubert
Comissão do Mercado de Valores Mobiliários	Margarida Matos Rosa
Autorité des marchés financiers, Quebec, Canada	Jean Lorrain Jean-Philip Villeneuve Derek West
Monetary Authority of Singapore	Tiak-Peow Phua
Commisión Nacional del Mercado de Valores	Miguel Ángel Herrero
Financial Market Supervisory Authority, Switzerland	Marc Luginbühl
Capital Markets Board, Turkey	Tuncay Yildiran Kubilay Dagli

Observing Members

Committee on Payment and Settlement Systems	Roland Neuschwander Anne Wetherilt
European Commission	Hannes Huhtaniemi
European Securities and Markets Authority	Eija Holttinen
OTC Derivatives Supervisors Group	Wendy Ng