Committee on Payment and Settlement Systems

Technical Committee of the International Organization of Securities Commissions

Guidance on the application of the 2004 CPSS-IOSCO Recommendations for Central Counterparties to OTC derivatives CCPs

Consultative report

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Foreword

This report, prepared by a working group (WG) jointly established in June 2009 by the Committee on Payment and Settlement Systems (CPSS) and the Technical Committee of the International Organization of Securities Commissions (IOSCO), presents guidance on the application of the 2004 *CPSS-IOSCO Recommendations for Central Counterparties* (RCCP) to the CCPs clearing over-the-counter (OTC) derivatives products (OTC derivatives CCPs).

Over the past several years, public and private sector entities have undertaken a coordinated effort to improve the post-trade infrastructure for OTC derivatives transactions. The recent financial crisis demonstrated the need to further enhance the safety and transparency in the OTC derivatives markets. As a result, authorities in many jurisdictions have set out several important policy initiatives encouraging greater use of CCPs for OTC derivatives markets. The CPSS and the Technical Committee of IOSCO support these positive developments.

A well designed CCP can reduce the risks and uncertainties faced by market participants and contribute to the goal of financial stability. Nevertheless, because of the complex risk characteristics and market design of OTC derivatives products, clearing them safely and efficiently through a CCP presents unique challenges that clearing listed or cash-market products may not. These aspects were not fully discussed in the 2004 report of the existing RCCP. Consequently, applying the RCCP to newly established OTC derivatives CCPs in practice has involved a considerable degree of interpretation and judgment. The WG reviewed the RCCP in light of these experiences and identified key new issues that arise when a CCP provides clearing services for OTC derivatives. With the aim of promoting consistent interpretation, understanding and implementation of the RCCP across arrangements for OTC derivatives transactions, the WG has developed guidance tailored to unique characteristics of OTC derivatives products and markets, which is presented in this report.

The recent financial crisis highlighted a severe lack of market transparency in OTC derivatives markets. As an important step in addressing this issue, OTC derivatives market participants, with the support of the regulatory community, are committed to establishing and making use of trade repositories (TRs) for OTC derivatives markets. A TR for OTC derivatives is a centralised registry that maintains an electronic database of open OTC derivative transaction records. In light of the growing importance of TRs in enhancing market transparency and supporting clearing and settlement arrangements for OTC derivatives transactions, the WG also developed a set of factors that should be considered by TRs in designing and operating their services and by relevant authorities in regulating and overseeing TRs, which has been published for consultation separately.[1] These two sets of policy guidance are complementary and, taken together, constitute an important part of the responses of the CPSS and IOSCO to the recommendations of the G20 that called for the strengthening of the robustness of the OTC derivatives market.[2]

The report is being issued now as a consultation document and comments are invited from any interested parties. Comments should be sent both to the CPSS Secretariat (cpss@bis.org) and the IOSCO secretariat (CCP-OTC-Recommendations@iosco.org) by 25 June 2010; please mention “CPSS-IOSCO OTC derivatives CCP” in the subject line of your

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[1] See CPSS and Technical Committee of IOSCO, *Consultative report: Considerations for trade repositories in OTC derivatives markets.*

[2] See, for example, G20, *Progress Report on the Actions of the Washington Action Plan*, 2 April 2009, p9.

e-mail. The comments will be published on the websites of the Bank for International Settlements and IOSCO unless commentators have requested otherwise.

The CPSS and the Technical Committee of IOSCO are grateful to the members of the working group and its Co-Chairs, Daniela Russo of the European Central Bank and Jeffrey Mooney of the US Securities and Exchange Commission, for their excellent work in preparing this report.

William C Dudley, Chair	Kathleen Casey, Chair
Committee on Payment and Settlement Systems	Technical Committee, IOSCO

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1. Introduction

Background

Over the past several years, public and private sector entities have undertaken a coordinated effort to improve the post-trade infrastructure for over-the-counter (OTC) derivatives transactions, in particular OTC credit derivatives. Recently, several central counterparties (CCPs) have begun to provide clearing and settlement services for OTC credit default swaps (CDSs). A similar arrangement had been introduced previously for interest rate swaps.

The Committee on Payment and Settlement Systems (CPSS) and the Technical Committee of the International Organization of Securities Commissions (IOSCO) believe that this is a positive development because, if well designed, CCPs can reduce systemic risk in financial markets. A CCP interposes itself between counterparties to financial transactions, becoming the buyer to every seller and the seller to every buyer. A well designed CCP with appropriate risk management arrangements reduces the risks and uncertainties faced by market participants. In doing so, it contributes to maintaining market confidence and liquidity in times of stress, and the goal of financial stability. Indeed, during the financial crisis in the autumn of 2008, the financial market infrastructures, including CCPs that already existed, generally performed well and helped prevent the crisis from becoming even more serious than it actually was.

Greater use of CCPs for OTC derivatives will increase their systemic importance. Accordingly, it is critical that the risk management at these CCPs should be robust and comprehensive. Nevertheless, because of the complex risk characteristics and market design of OTC derivatives products, clearing them safely and efficiently through a CCP presents unique challenges that clearing listed or cash-market products may not. In determining whether to authorise that OTC derivatives CCPs commence operations, relevant authorities for these CCPs seek to ensure that each CCP meets the standards set forth in the 2004 *CPSS-IOSCO Recommendations for Central Counterparties* (RCCP). Applying the RCCP to OTC derivatives CCPs has involved a considerable degree of interpretation and judgment by relevant authorities. Furthermore, the CPSS and the Technical Committee of IOSCO recognise that there is now greater need for consistent application and implementation of the RCCP as well as closer cooperation between relevant authorities, as these CCPs tend to be more international in terms of cleared products and markets, participants and operations, reflecting the global nature of OTC derivatives markets.

In June 2009 the CPSS and the Technical Committee of IOSCO established a joint working group (WG) to promote consistent interpretation, understanding and implementation of the RCCP across arrangements for OTC derivatives transactions. The WG reviewed the RCCP in light of its recent experiences, identified key new issues that arise when a CCP provides clearing services for OTC derivatives and developed guidance for such CCPs to address the unique characteristics of OTC derivatives products and markets. The CPSS and the Technical Committee of IOSCO are now releasing the guidance in this report for consultation.

Relationship to the CPSS-IOSCO consultative report entitled *Considerations for trade repositories in OTC derivatives markets*

The recent financial crisis highlighted a severe lack of market transparency in OTC derivatives markets. OTC derivatives market participants, with the support of the regulatory community, are committed to establishing and making use of trade repositories (TRs) for OTC derivatives markets as an important step in addressing the lack of market transparency. A TR for OTC derivatives is a centralised registry that maintains an electronic database of open OTC derivatives transaction records. A TR may establish links with other infrastructures and service providers supporting the market, including CCPs. In light of the growing importance of TRs in enhancing market transparency and supporting clearing and settlement arrangements for OTC derivatives transactions, the CPSS and the Technical Committee of IOSCO concluded that some form of policy guidance would be needed for sound design, operation and risk management of TRs. Thus, as part of its work, the WG has developed a set of factors (*Considerations for TRs*) that should be considered by both TRs and relevant authorities, which has been published for consultation separately.[3] These two sets of policy guidance - one for OTC derivatives CCPs and the other for TRs in OTC derivatives markets - are complementary and, taken together, constitute an important part of the responses of the CPSS and IOSCO to the recommendations of the G20 that called for the strengthening of the robustness of the OTC derivatives market.[4]

Relationship to the CPSS-IOSCO review of international standards for financial market infrastructures

This report is *not* presenting proposals for amendments to the existing RCCP. Instead, the guidance presented in this report will be incorporated, with further elaboration and adjustments as needed, into a comprehensive review of RCCP and other international standards for financial market infrastructures (FMIs). This comprehensive review has been recently launched by the CPSS and the Technical Committee of IOSCO, as announced in the press release on 2 February 2010.[5] It has been instigated because the Committees believe that there are lessons to be learned from the recent financial crisis and, more generally, from the experience of more normal operation in the years that have passed since these standards were originally issued.

Issues that are equally applicable to CCPs and other types of FMIs are *not* discussed in this report and will be considered in the comprehensive review. Important examples include the issues concerning money settlements and liquidity resilience of CCPs and other types of FMIs (including the use of central bank money and more robust arrangements for the use of commercial bank money) and risks arising from links among FMIs.

Scope of this report

This report provides the guidance on the application of RCCP to OTC derivatives CCPs, which is tailored to address the issues arising from unique risk characteristics of OTC derivatives products and markets. However, the report includes some limited guidance which aims to address issues that are not specific to OTC derivatives CCPs but are also relevant to CCPs for other types of products. This type of guidance is proposed in this report because the CPSS and IOSCO concluded that there is urgent need for such guidance on several issues in light of the lessons learned from the recent financial crisis. It should be noted, however, that the above-mentioned general review will work to further identify the need for this type of guidance. Also, as mentioned above, issues that are equally applicable to other types of FMIs than CCPs are not discussed in this report.

Organisation of this report

Chapter 2 provides an overview of the guidance.

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[3] See footnote 1.

[4] See footnote 2.

[5] The press release is available on the websites of the BIS and IOSCO.

Chapter 3 discusses distinctive features of OTC derivatives CCPs, focusing on differences between OTC derivatives markets and listed markets. In doing so, it clarifies the underlying need for guidance tailored to OTC derivatives CCPs.

Chapter 4 provides detailed discussion and commentary on the guidance as applicable to each existing recommendation in the RCCP. It discusses the background and need for the relevant guidance in light of the complexities associated with the clearing of OTC derivatives products.

Annex 1 discusses general factors that could affect a CCP's ability to clear OTC derivatives products. Annex 2 provides detailed discussions on two broad topics concerning Recommendation 13 (Governance): a CCP's ability to take extraordinary emergency actions and the role of market protocols that have been designed specifically for the OTC derivatives market. Annex 3 classifies market data available from CCPs. Annex 4 lists the members of the joint working group.

2. Overview of the proposed guidance on the application of the RCCP to OTC derivatives CCPs

Selected elements of the proposed guidance are presented (*in italics*) under the current headline of each of the relevant recommendations. No tailored guidance is proposed for Recommendation 7 (Custody and investment risk), Recommendation 9 (Money settlements), Recommendation 10 (Physical deliveries) and Recommendation 11 (Risks in links between CCPs).

Recommendation 1: Legal risk

A CCP should have a well founded, transparent and enforceable legal framework for each aspect of its activities in all relevant jurisdictions.

In the OTC derivatives market, there are industry standards and market protocols that apply to CCPs clearing these products. It is important for OTC derivatives CCPs to be transparent about the role of such standards and protocols in their rules, procedures and contracts.

Recommendation 2: Participation requirements

A CCP should require participants to have sufficient financial resources and robust operational capacity to meet obligations arising from participation in the CCP. A CCP should have procedures in place to monitor that participation requirements are met on an ongoing basis. A CCP's participation requirements should be objective, publicly disclosed, and permit fair and open access.

Where non-regulated entities are admitted to participate in an OTC derivatives CCP, it is important that the risks should be appropriately mitigated by its participation requirements and other appropriate measures.

If an OTC derivatives CCP uses procedures which introduce specific roles for its participants in the default procedures, it may need to consider if and to what extent additional participation requirements are necessary in order to ensure that the participants are able to perform their roles as expected.

Recommendation 3: Measurement and management of credit exposures

A CCP should measure its credit exposures to its participants at least once a day. Through margin requirements, other risk control mechanisms or a combination of both, a CCP should limit its exposures to potential losses from defaults by its participants in normal market conditions so that the operations of the CCP would not be disrupted and non-defaulting participants would not be exposed to losses that they cannot anticipate or control.

Certain risks of OTC derivatives products may only manifest themselves during stressed market conditions and may be amplified due to a correlation among risk factors. Consequently, an OTC derivatives CCP should ensure that it has the appropriate expertise to understand fully the characteristics of its cleared products and to effectively measure and manage credit exposures.

For some OTC derivatives products, a CCP's ability to measure its exposures may be affected by the lack of a continuous liquid market. It is important for an OTC derivatives CCP to use pricing data that it considers to be reliable, especially in times of market stress. It should review its pricing sources on an ongoing basis. Alternative pricing tools that are used when market prices become temporarily unavailable should be thoroughly tested, be understood by all participants and generate results in a timely manner.

Recommendation 4: Margin requirements

If a CCP relies on margin requirements to limit its credit exposures to participants, those requirements should be sufficient to cover potential exposures in normal market conditions. The models and parameters used in setting margin requirements should be risk-based and reviewed regularly.

Given the potential difficulty in measuring exposures, it is important that the margin methodology, and any material revisions, should be reviewed periodically by a qualified, independent internal group or third party and through rigorous backtesting and stress testing of margin requirements.

The bilateral nature of OTC derivatives transactions and the increased potential for customisation of contracts typically results in reduced fungibility and trading liquidity than that in listed markets. This aspect needs to be considered when an OTC derivatives CCP establishes margin levels that should be commensurate with the risks of each cleared product, taking into account the time it may need to hedge its exposures or liquidate positions in the event of a participant's default.

As correlations among complex financial products could become unstable in unanticipated ways in times of market stress, continual review of product correlations is particularly important for an OTC derivatives CCP that uses portfolio margining across different products. Clear disclosure to its participants about the scale of portfolio margining and the method used is highly beneficial.

Recommendation 5: Financial resources

A CCP should maintain sufficient financial resources to withstand, at a minimum, a default by the participant to which it has the largest exposure in extreme but plausible market conditions.

The size and adequacy of the financial resources available to cover losses to an OTC derivatives CCP should capture all relevant characteristics of the products that it clears. Given the potential difficulty in defining what constitutes "extreme but plausible market conditions" for particular OTC derivatives markets, it is important for an OTC derivatives CCP to have clear and up-to-date scenarios for the stressed market conditions used in its routine stress testing.

When an OTC derivatives CCP defines or changes the way each participant contributes to its financial resources and the way those resources are used, it needs to consider the potential impact on the incentives of participants to manage their own risk. It should also take into consideration that the scale and risk of participants' activities may not be homogeneous, including the fact that not all participants may clear all products cleared by the CCP.

Recommendation 6: Default procedures

A CCP's default procedures should be clearly stated, and they should ensure that the CCP can take timely action to contain losses and liquidity pressures and to continue meeting its obligations. Key aspects of the default procedures should be publicly available.

In the event of a participant's default, it may be difficult to close out or hedge exposures to the defaulting participant in a timely and orderly manner. To address such a scenario, an OTC derivatives CCP may need to consider having clearly defined arrangements that oblige surviving participants to perform certain roles in the default procedures, such as participation in an auction or allocation of the defaulting participant's portfolio. For certain OTC derivatives products that require considerable trading expertise, a CCP may need to make ex ante arrangements to ensure that it has sufficient trading staff with proper risk management expertise.

In managing the portfolio of a defaulting participant, an OTC derivatives CCP may need to enter into trades that hedge the individual positions within the portfolio or enter into a macro-hedge that attempts to manage the risk of an entire portfolio. In such a situation, a CCP may need to consider its ability and the timeframe required to obtain individual hedges; the cost of obtaining those hedges; and its ability and the associated cost to actively manage the associated risks (including basis risk) of the hedging strategy.

A CCP should clearly state its policies, procedures and any constraints relating to the segregation of positions and collateral between its participants and their customers; provide its participants with sufficient information on the level of segregation that is achieved in the CCP's operation; and endeavour to transfer the positions and collateral of customers of a defaulting participant.

Recommendation 8: Operational risk

A CCP should identify sources of operational risk and minimise them through the development of appropriate systems, controls and procedures. Systems should be reliable and secure, and have adequate, scalable capacity. Business continuity plans should allow for timely recovery of operations and fulfilment of a CCP's obligations.

As OTC derivatives CCPs are likely to rely on information or services from other market infrastructures or service providers, operational risk associated with such links should be understood and managed by strong arrangements for the selection and ongoing monitoring of the providers of services. A CCP's staff responsible for such selection and monitoring should have the necessary expertise.

If an OTC derivatives CCP establishes links with multiple venues to accept trades for clearing or starts to clear global OTC derivatives products, potential impacts on its capacity and scalability should be assessed and regularly reviewed.

Recommendation 12: Efficiency

While maintaining safe and secure operations, CCPs should be cost-effective in meeting the requirements of participants.

In OTC derivatives markets, where trading could occur over multiple venues, it is important for a CCP to conduct a thorough and regular analysis of risks, costs and benefits from accepting and clearing trades that are executed or processed at different venues.

As the scope of products that an OTC derivatives CCP clears may have important implications for how cost-effective it is for its participants (including indirect participants) to clear OTC derivatives products, an OTC derivatives CCP should have in place mechanisms to analyse the cost and operational reliability of clearing an OTC derivatives product.

Recommendation 13: Governance

Governance arrangements for a CCP should be clear and transparent to fulfil public interest requirements and to support the objectives of owners and participants. In particular, they should promote the effectiveness of a CCP's risk management procedures.

Participants in OTC derivatives CCPs are likely to be less homogeneous with greater direct or indirect participation by buy-side firms and non-domestic institutions. Governance arrangements for a CCP should give due consideration to the interests of different types of its participants, to broader stakeholders with direct and indirect interdependencies with the CCP and to the CCP's unique role in the market.

A CCP may need to take independent emergency actions in response to circumstances beyond its control. As such actions may have unintended consequences, a CCP should have a strong governance process that includes clear policies and procedures for identifying and *managing contingencies, engaging its participants and other stakeholders, and considering the impact of its actions on the stability of the market more broadly. The CCP should have a well established process for effective and timely decision-making and communication.*

Governance arrangements for a CCP should ensure that its decision to clear new products or accept new types of participants takes into account a wide range of issues, including risk management, legal soundness and transparency.

As participants in the OTC market, CCPs are expected to adhere to reliable industry standards and market protocols or act in a manner that does not conflict with such terms. Market governance arrangements should evolve in such a way that reflects the role of CCPs.

Recommendation 14: Transparency

A CCP should provide market participants with sufficient information for them to identify and evaluate accurately the risks and costs associated with using its services.

An OTC derivatives CCP should contribute to enhancing market transparency by making market data available to relevant authorities and the public in line with their respective information needs. Common standards for data representation and delivery are important for proper aggregation and consistent analysis of the data.

Recommendation 15: Regulation and oversight

A CCP should be subject to transparent and effective regulation and oversight. In both a domestic and an international context, central banks and securities regulators should cooperate with each other and with other relevant authorities.

Common reporting should be promoted by relevant authorities where more than one CCP provides its services across jurisdictions and/or where there are several relevant authorities from more than one jurisdiction involved in regulation and oversight of such CCPs.

3. Distinctive features of OTC derivatives CCPs and the need for tailored guidance

While OTC derivatives products share many characteristics with listed derivatives products, there are certain features that differentiate them. Because of these differences, OTC derivatives products present more challenges to a CCP's ability to clear them in a safe and efficient manner when compared to clearing listed derivatives products. This leads to the need for tailored guidance for OTC derivatives CCPs.

The differences between these products arise at least in part from differences in market structure. Listed products often trade on exchanges, which are more centralised and deterministic with respect to trading liquidity provision, price formation and discovery, and matching of participants' trading interests. These features contribute to greater market transparency. Historically, standardised and fungible products have been traded on exchanges. In contrast, OTC markets are decentralised and allow greater discretion to the market participants in customising contractual terms, providing market liquidity (eg quoting prices) and executing transactions. As such, OTC derivatives markets are typically characterised by information asymmetries and less market transparency overall. Because the successful operation of CCPs depends critically on timely information flows from markets and robust trading liquidity in the markets, the decentralised structure of OTC derivatives markets presents several distinctive challenges to CCPs:

(a) *Products suitable for clearing*: In general, all products listed on an exchange are centrally cleared. They are highly standardised and fungible. On the other hand, OTC markets allow for individual negotiation, which permits flexible development of products. As such, the population of OTC derivatives products suitable for clearing will not be constant, as market participants continuously develop products or as the level of liquidity in products changes over time. The benefits of reducing aggregate counterparty risk by clearing as wide a spectrum of OTC derivatives products as possible will vary with the ability of CCPs to manage associated risks effectively (see Annex 1 for general considerations for clearing OTC derivatives products).

(b) *Submission of transactions for clearing*: Listed markets consist of organised exchanges or other trading platforms that, in many cases, have been developed in parallel, and remain affiliated and/or closely integrated, with an underlying CCP. OTC derivatives markets that adopt centralised clearing models must often develop new platforms and processes in order to connect the trading environment to the CCP.[6] Furthermore, such platforms and processes may or may not be affiliated with the CCP. Finally, there are multiple electronic trading venues for OTC derivatives markets that are in various stages of development. Such conditions result in trading environments less closely integrated with the CCP and may therefore cause concerns with regard to the processing efficiency, operational reliability, interoperability and open access.

(c) *Risk management tools commensurate with the risks of OTC derivatives markets*: The bilateral nature of transactions executed in OTC derivatives markets allows for increased customisation of contracts, typically resulting in greater complexity as well as reduced fungibility and trading liquidity than those in listed markets. This in turn affects CCPs' ability to manage associated risks appropriately. In addition to typical risk management tools used by CCPs in listed markets, CCPs in OTC derivatives markets may employ other risk management processes designed for the unique risks of a cleared OTC derivatives product. Participant requirements, margin requirements, financial resources

[6] Some OTC derivatives markets are presently served by CCPs that are affiliated with organised exchanges but convert OTC derivatives products to "OTC look-alike" transactions.

and default procedures are particular areas where a CCP may need to consider additional tools tailored for OTC derivatives markets.

(d) *Pricing sources for risk management*: In order to appropriately measure and manage risk and calculate margins, a CCP must have access to reliable consensus pricing sources. While listed markets generally provide prices based on a centralised order book, OTC derivatives markets are quote-driven and therefore require separate services that aggregate quoted prices from multiple market participants (eg major dealers) and calculate composite consensus prices. Unless an OTC derivatives CCP performs this function itself, it relies critically on arrangements with service providers (see (e) below).

(e) *Interaction with other post-trade infrastructures*: Some OTC derivatives markets have developed supporting market infrastructures around OTC derivatives CCPs to address specific needs that do not apply in listed markets, such as TRs, pricing data services and portfolio compression services. Such services may be essential for the efficient operations and effective risk management in OTC derivatives markets and will interact closely with CCPs serving those markets.

(f) *Scope of participants and markets*: Reflecting the global nature of the OTC derivatives markets, some OTC derivatives CCPs are likely to become more international in terms of products (eg reference assets, denominations of currency), participants and operations than CCPs for listed products. As the international regulatory community promotes greater use of CCPs for OTC derivatives markets, a growing number of market participants are likely to seek access to OTC derivatives CCPs abroad especially if there are no feasible domestic alternatives. OTC derivatives clearing may involve a number of OTC derivatives CCPs and third-party service providers located in different jurisdictions or even different regions of the world. In addition, participants in OTC derivatives CCPs may be less homogeneous than participants in CCPs for listed products, given the potential for greater direct or indirect participation by buy-side firms promoted by the international regulatory community.[7] Therefore, an OTC derivatives CCP may need to pay close attention to cross-border aspects of legal and operational arrangements. It also may need to consider the use of bespoke participation requirements, the segregation and portability of indirect participants' positions and margins, and how it can incorporate these varied participants into its governance structure. There will also be greater need for close cross-border cooperation among relevant authorities.

(g) *Governance reflective of the OTC derivatives market*: Relationships among the participants in OTC derivatives markets have historically been determined by bilateral agreements, industry practices and market conventions, while participants in listed markets are bound by the rules set by trading venues and affiliated clearing houses. An OTC derivatives CCP must consider in its governance process the appropriate rules and management of the risks it takes on, its role in the market as a source of stability, as well as conventions, standards and protocols widely adopted by market participants.

(h) *Market transparency*: The decentralised structure of OTC derivatives markets and the still-developing state of trading infrastructure have also been less conducive to market transparency. Relevant authorities and the public need to have a comprehensive view of the market information in a timely manner. Relevant authorities have the need to identify and evaluate the potential risks posed by OTC derivative markets to the broader

[7] Prior to the onset of the financial crisis, OTC derivatives markets were broadly characterised by decentralised and often tiered arrangements for clearing and settlements. In particular, there was a growing use of prime brokerage arrangements, in which a limited number of major dealer firms acted as a prime broker, intermediating a large number of transactions between buy-side firms (eg hedge funds) and executing dealers.

financial system. They also have the need to strengthen the ability to monitor risks of individual market participants and market practices. In OTC derivatives markets there have been historically no centralised sources of information that are comparable with organised exchanges in listed markets. As a result, OTC derivatives CCPs have recently been looked upon as potential alternative sources of comprehensive data available to relevant authorities and the public in line with their respective information needs.

4. Descriptions of the proposed guidance on the application of the RCCP to OTC derivatives CCPs

Recommendation 1: Legal risk

A CCP should have a well founded, transparent and enforceable legal framework for each aspect of its activities in all relevant jurisdictions.

Guidance 1.1. Transparency on the role of industry standards and market protocols in the rules, procedures and contracts

Over the past few years, major participants in the OTC derivatives market have been working together to standardise documentation and develop various market protocols for OTC derivatives contracts under the auspices of the International Swaps and Derivatives Association (ISDA) and other industry groups. For example, the widespread use of standard master agreements has enabled market participants to improve the rates of timely confirmation. Adherence to key protocols, such as those for novating contracts, credit event auctions and restructurings, and close-out methodologies, has helped to strengthen the management of counterparty credit risk and increase legal certainty in the market. The industry's adoption of these documents and other market conventions has influenced market participants' behaviour and internal procedures both pre- and post-trade, often with the support of the regulatory community.

For all products it clears, the rules, procedures and contracts of a CCP should be clear in specifying, among other things, what documentation governs the rights and obligations of the CCP, its participants and other relevant parties that are involved in the CCP's operation. In designing its legal and operational framework, ***an OTC derivatives CCP will need to decide as to what manner it incorporates existing industry standards and market protocols*** (see Guidance 13.4 and Annex 2 for more detail on related governance issues). In line with paragraph 4.1.1 of the existing Recommendation 1, ***these decisions, and the resulting rules, procedures and relevant documentation should be clearly stated, internally coherent and readily accessible to the participants and the public.*** A high level of transparency is needed in particular when the CCP does retain discretion to adopt its own interpretation of such documentation practices by, for example, clarifying as much as possible the factors that will affect the interpretation.

Recommendation 2: Participation requirements

A CCP should require participants to have sufficient financial resources and robust operational capacity to meet obligations arising from participation in the CCP. A CCP should have procedures in place to monitor that participation requirements are met on an ongoing basis. A CCP's participation requirements should be objective, publicly disclosed, and permit fair and open access.

Guidance 2.1. Participation requirements for non-regulated entities

The expansion of services to clear OTC derivatives products by CCPs may lead to an increased interest in obtaining access to an OTC derivatives CCP from entities that have not participated in centralised clearing arrangements in the past (eg buy-side entities such as hedge funds or large corporates).[8] These entities may not be regulated or subject to routine

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[8] See footnote 8.

reporting requirements, or may be less well capitalised.[9] Furthermore, some of these entities may be structured in such a way that allows their financial resources to be used or set aside for purposes other than the business related to cleared transactions. Consequently, participation by these types of entities can present challenges to the risk management of a CCP.

Where a CCP admits non-regulated entities to clear a particular asset class, it should take into account any additional risks that may arise from their participation when establishing participation requirements for them. Likewise, ongoing monitoring tools and risk management procedures should allow the CCP to identify and mitigate any such risks.

For example, this could include: requiring the entity to post additional upfront collateral with the CCP; establishing requirements for the entity to designate staff responsible for overseeing CCP-cleared business; requiring the entity to submit certain reports on its exposures to unaffiliated trading markets or other OTC business; requiring an external certification or audit of robustness of the entity's operational capacity prior to admission and on an ongoing basis; employing risk management tools to limit the CCP's exposure to the entity; and/or introducing any other requirements to ensure that the entity meets relevant fit and proper standards.

Guidance 2.2. Participation requirements of an OTC derivatives CCP in which surviving participants play an active role in its default procedures

An OTC derivatives CCP may use procedures in its clearing processes which introduce specific roles for its participants. For example, one way an OTC derivatives CCP may seek to mitigate the risks arising from a participant's default is to oblige surviving participants to take an active part in the default procedures (see the guidance for Recommendation 6).

Paragraph 4.2.3 of the existing Recommendation 2 states: "*A CCP should establish requirements for participation to ensure that participants have robust operational capacity, including appropriate procedures for managing risks, such that the participants are able to achieve timely performance of obligations owed to the CCP.*" ***An OTC derivatives CCP may need to consider if and to what extent additional participation requirements are necessary in order to ensure that the participants are able to perform their roles in the default procedures as expected***, including a sufficient level of experience in the product area. For example, in cases where participants' staff may be seconded to provide trading expertise in the default procedures, staff's skills should be duly reflected in the participation requirements, with a commitment to regular rehearsals. At the same time, such additional requirements should be objective, permitting fair and open access and avoiding discriminating against classes of participants (as stated in paragraph 4.2.1 of the existing Recommendation 2).

Recommendation 3: Measurement and management of credit exposures

A CCP should measure its credit exposures to its participants at least once a day. Through margin requirements, other risk control mechanisms or a combination of both, a CCP should limit its exposures to potential losses from defaults by its participants in normal market conditions so that the operations of the CCP would not be disrupted and non-defaulting participants would not be exposed to losses that they cannot anticipate or control.

[9] Such entities may also (seek to) participate in CCPs other than OTC derivatives CCPs. This guidance is also applicable to such cases.

Guidance 3.1. Thorough understanding of unique characteristics of OTC derivatives products and their markets

Each product cleared by a CCP could have unique characteristics. The risk profiles of an OTC derivatives product can change under different market conditions due to the particular characteristics of the product. For some products, certain risks may only manifest themselves during stressed market conditions. In addition, some products may have non-linear risk characteristics (eg jump-to-default risk in a single-name CDS). In other instances, risk may be amplified due to a correlation among risk factors. For example, a CCP clearing CDS could experience a "double default" where a reference entity defaults and a CCP's participant defaults simultaneously because the participant had a large short position (ie sold credit protections) in the reference entity or where the credit risk of a reference entity and that of a participant with a large short position are highly correlated. In another scenario, a defaulting participant with a short position may turn out to be the reference entity (self-referencing CDS). More broadly, in OTC derivatives markets, determining "normal market conditions"[10] may be a challenge because of these factors, because there may not be as much market transparency or liquidity as in the context of listed markets or because the correlations between products may exhibit complex contingent behaviours and change suddenly in times of market stress.

An OTC derivatives CCP should ensure that it has the appropriate expertise to understand fully the characteristics of its cleared products and to effectively measure and manage credit exposures. This would include staff with knowledge of, for example, the specific risks associated with every product cleared, the functioning and behaviours of the relevant markets in normal and stress times, and relevant market conventions and protocols.

Guidance 3.2. The availability and reliability of pricing data for risk management

Key issue 1 of the existing Recommendation 3 states: "*A CCP should measure its exposure to its participants at least once a day and should have the capacity to measure its exposures on an intraday basis, either routinely or at a minimum when specified thresholds are breached. The information on market prices and participants' positions that are used to calculate the exposure should be timely.*" For some OTC derivatives products, a CCP's ability to measure its exposures may be affected by the lack of a continuous liquid market. In contrast to a listed market, there might not be a steady stream of transactions and pricing data that a CCP needs in order to establish mark-to-market prices for its positions. Illiquidity may result from the complexity of the product itself or the lack of a liquid market for related products where risks can be hedged. In some circumstances, market prices may simply be unavailable in a timely manner. Even when quotes are available, bid-ask spreads may be volatile and wide during times of market stress, which may in turn constrain a CCP's ability to measure its exposures in an accurate and timely manner. Market conventions on how prices are quoted or generated can further complicate a CCP's ability to establish a uniform price. One example is the spread-price conversion in the CDS market.

A CCP should use pricing data that it considers to be reliable, especially in times of market stress. It should analyse historical information on actual trades submitted for clearing and indicative prices available in the markets. ***An OTC derivatives CCP should review its pricing sources on an ongoing basis and address identified issues promptly***.

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[10] Normal market conditions are price movements that produce changes in exposures that are expected to breach margin requirements or other risk control mechanisms only 1% of the time, that is, on average on only one trading day out of 100.

A CCP should avoid using unreliable sources of market prices but when market prices become temporarily unavailable, the CCP needs to use other tools such as pricing models or its participants' quotes. ***Such alternative pricing tools should be thoroughly tested under a variety of market scenarios, be understood by all participants and generate results in a timely manner.***

An OTC derivatives CCP serving derivatives products which are traded in a range of time zones may need to consider changing its operational procedures (including extension of operating hours) to enable it to recalculate its exposures to participants at a time when the markets (including those for the underlying instruments) are liquid.

Guidance 3.3. Concentration risk

The complexity in some of the OTC derivatives products may lead to a market structure in which trading of such products is highly concentrated among a small number of market participants. As such, concentration risk may be more acute for some OTC derivatives products.

An OTC derivatives CCP should continually monitor the risk associated with the concentration in participants' positions. Concentration risk can be addressed in a variety of ways. For example, ***a CCP might have limits on the degree of concentration that a participant may reach. It may also address the concentration risk through additional or escalating margin requirements*** or it may use other techniques.

Recommendation 4: Margin requirements

If a CCP relies on margin requirements to limit its credit exposures to participants, those requirements should be sufficient to cover potential exposures in normal market conditions. The models and parameters used in setting margin requirements should be risk-based and reviewed regularly.

Guidance 4.1. Margin models and methodologies to address the unique characteristics of OTC derivatives products

Paragraph 4.4.2 of the existing Recommendation 4 states: "*In setting margin requirements, a CCP should use models and parameters that capture the risk characteristics of the products cleared (including historical price volatility, market volatility, and whether the products exhibit non-linear price characteristics) and that take into account the interval between margin collections.*" ***In light of specific risk characteristics of the products that it clears, an OTC derivatives CCP may need to develop more complex models and methodologies than those for more liquid products to calculate its potential risk exposure and to determine the appropriate level of margin requirements.*** The margin methodology should address any specific features (eg jump-to-default risk in a single-name CDS) or risk asymmetries attendant to a particular OTC derivatives product.

An OTC derivatives CCP with participants in a range of time zones may need to consider the need to adjust its procedures for margining (including the times at which it makes margin calls) taking into account the liquidity of a participant's local funding market and the operating hours of relevant payment and settlement systems.

Paragraph 4.4.2 of the existing Recommendation 4 states: "*The margin models and parameters should be reviewed and backtested regularly (at least quarterly) to assess the reliability of the methodology in achieving the desired coverage. During periods of market turbulence, these reviews should occur more frequently […].*" This may be particularly important for OTC derivatives CCPs given the potential difficulty in measuring exposures. ***The margin methodology, and any material revisions, should be reviewed periodically***

by a qualified, independent internal group or third party. Rigorous backtesting and stress testing of margin requirements should be an integral part of the CCP's risk management routine.

Guidance 4.2. Reliable liquidation assumption for OTC derivatives products

The appropriate liquidation time horizon may vary among products. The bilateral nature of transactions executed in OTC derivatives markets allows for increased customisation of contracts, typically resulting in greater complexity as well as reduced fungibility and trading liquidity than those in listed markets. In the event of a participant's default, the market of the cleared OTC derivatives products may become illiquid quickly and the CCP's ability to hedge the risk of the defaulting participant's positions during that time may be affected, leaving the CCP exposed to price movements for a prolonged period. ***This aspect needs to be considered when an OTC derivatives CCP establishes margin levels that should be commensurate with the risks of each cleared product, taking into account the time it may need to hedge its exposures or liquidate positions in the event of a participant's default.***

Guidance 4.3. Portfolio margining for OTC derivatives products

Correlations among complex financial products could become unstable in unanticipated ways in times of market stress. The issue may be particularly relevant for some OTC derivatives products because of their specific characteristics such as those discussed above in this section and in the section on Recommendation 3. ***If an OTC derivatives CCP uses portfolio margining across different products, it should analyse and manage potential risks that are typically associated with portfolio margining but could be further complicated in the context of OTC derivatives products. It should continually review product correlations. It should also clearly disclose to its participants the extent to which it engages in portfolio margining and the method used.***

Recommendation 5: Financial resources

A CCP should maintain sufficient financial resources to withstand, at a minimum, a default by the participant to which it has the largest exposure in extreme but plausible market conditions.

Guidance 5.1. Adequate size of financial resources for OTC derivatives CCPs

When a CCP clears OTC derivatives products, identifying the participant to which it has the largest exposure, either in a single product or across a portfolio, may be more complex. Defining what constitutes "extreme but plausible market conditions" may also need more careful analysis in the context of OTC derivatives markets, because there may not be as much market transparency or liquidity as in the context of listed markets. Moreover, as some exchange-traded derivatives products do, an OTC derivatives product may have non-linear risk characteristics (eg jump-to-default risk in a single-name CDS) that should be considered when making such a determination. The size of the markets for the products that the CCP clears should also be taken into account.

Key issue 1 of the existing Recommendation 5 states: "*Stress tests to check the adequacy of resources in the event of a default in extreme market conditions should be performed monthly, or more frequently when markets are usually volatile, less liquid, or when the size or concentration of positions held by a CCP's participants increases significantly.*" ***The size and adequacy of the financial resources available to cover losses to an OTC derivatives CCP should capture all relevant characteristics of the products that it clears.*** An OTC derivatives CCP should regularly review whether its stress testing methodology is adequate in light of the above and similar factors and refine it as appropriate. Key issue 1 of the existing Recommendation 5 also states: "*comprehensive stress tests, involving a full validation of models, parameters and assumptions and reconsideration of appropriate stress scenarios, should be conducted at least annually.*" ***Given the potential difficulty in defining what constitutes "extreme but plausible market conditions" for particular OTC derivatives markets, an OTC derivatives CCP should have clear and up-to-date scenarios for stressed market conditions used in its routine stress testing.***

Guidance 5.2. Contributions and allocation of financial resources for CCPs with multiple types of products and participants

When an existing CCP adds OTC derivatives products to its clearing arrangements and clears multiple types of products or when a CCP serves multiple types of participants, it may consider adjusting the way each participant contributes to the CCP's financial resources (including margins) and the way the CCP uses those resources in the event of a participant's default in a particular product. A CCP could adjust contributions, making those participants that bring greater risk to the CCP contribute more. Otherwise, the mutualisation of risk across diverse products or participants may be less effective or more costly than in the case of relatively homogeneous products or participants because risks posed to CCPs could vary by types of products or participants. A CCP could also adjust financial resources waterfall process (ie the order in which a CCP applies different types of its financial resources to meet a default loss, such as margins posted by the defaulting participant, clearing funds and the CCP's own assets), or pooling or designation of resources for specific sets of products or participants.[11]

As stated in paragraph 4.5.12 of the existing Recommendation 5, ***a CCP should analyse the potential impact of such arrangements on the incentives of its participants to manage their own risk and the arrangement put in place should be transparent to its participants, relevant authorities and market participants***. As OTC derivatives CCPs may have a less homogeneous group of participants, ***it is important to take into account the scale and risk of activities of different types of participants in designing such arrangements.***

Recommendation 6: Default procedures

A CCP's default procedures should be clearly stated, and they should ensure that the CCP can take timely action to contain losses and liquidity pressures and to continue meeting its obligations. Key aspects of the default procedures should be publicly available.

Guidance 6.1. *Ex ante* arrangements for surviving participants' active role in the default procedures

An OTC derivatives CCP may face specific issues in managing a participant's default. In particular, where its participants generate large unbalanced positions in complex products that may be illiquid or suddenly become illiquid in times of stress, it may be difficult to close out or individually hedge exposures generated by a participant's default in a timely manner without exposing the CCP to significant losses or materially impacting the market. The likelihood that individual participants' positions are both large and unbalanced may be greater if, for example, the OTC derivatives product cleared by a CCP is characterised by a highly concentrated dealer market, or if participants' derivatives exposures typically either hedge, or are hedged by, exposures in products that are not cleared by the CCP.

[11] Alternatively, a CCP may establish a new (affiliated) central counterparty for clearing an OTC derivatives product as a separate legal entity.

An OTC derivatives CCP may need to design specific or bespoke default procedures, taking into account specific characteristics of the products and markets that it serves, such as: product liquidity; product complexity; scale of individual participants' positions; a CCP's market coverage; the degree of concentration of trading activities in the market; and the time zones in which its participants operate and the products it clears are traded. That is, if a CCP has, or expects to gain, a high level of coverage in a complex product market that may become illiquid in times of stress and if its participant structure is such that a defaulting participant's portfolio could be of a size that would be difficult to liquidate in the arms-length market, bespoke default procedures may need to be considered.[12]

Paragraph 4.6.4 of the existing Recommendation 6 states: "*[*A*] CCP should have arrangements or mechanisms to facilitate the transfer, close out or hedging of a defaulting participant's proprietary positions promptly*". ***If it cannot be reasonably ruled out that the relevant market for the cleared product becomes illiquid in times of stress, an OTC derivatives CCP may need to consider having participants sign up ex ante to bid in an auction of the defaulting participant's portfolio, and, in extremis (ie if the auction process fails), accept an allocation of the portfolio to surviving participants.*** A CCP should assess the costs and benefits of all the default management options available to it in order to determine the best way to proceed. If a defaulting participant's portfolio is allocated to surviving participants, the method for determining the size and nature of any allocation should be appropriate and clearly defined. As an OTC derivatives CCP may have a range of different types of participants, it may need to take into account an individual participant's size and activities when it is obliging them to take the positions of a defaulting participant in the course of an auction or other allocation processes. The timing of an auction or allocation of a defaulting participant's portfolio may need to take into account the liquidity of the instruments contained in the portfolio in different time zones.

For certain OTC derivatives products, considerable trading expertise may be required to effectively implement the default procedures. Such expertise may not reside at the CCP. ***An OTC derivatives CCP may need to bridge this gap by arranging ex ante for surviving participants to second traders to assist in the hedging and close-out process.*** Potential conflicts of interest should be managed, eg by placing external communication restrictions on seconded traders in this situation. Alternatively, where possible, use of appropriately-skilled third-party traders may be appropriate.

Where an OTC derivatives CCP uses procedures which introduce specific roles for its participants in the default procedures, it may need to consider if and to what extent additional participation requirements are necessary in order to ensure that the participants are able to perform their roles as expected (see Guidance 2.2).

Guidance 6.2. Management of large positions in less liquid products in the default procedures

In managing the portfolio of a defaulting participant, a CCP may need to hedge the risk inherent in the portfolio. It may enter into trades that hedge the individual positions within the portfolio or it may enter into a macro-hedge, as an interim measure, that attempts to manage the risk of the entire portfolio.[13]

[12] See Guidance 3.3 and Guidance 6.2 for possible additional measures to address the risk of concentrated positions. See also Annex 1 for more general discussions on how several factors could influence a CCP's ability to manage the risk associated with the product that it chooses to clear.

[13] Macro-hedging is a hedging technique that is used to manage the risk of an entire portfolio of assets. In most cases, this would mean taking a single or a small number of positions that attempt(s) to offset the entire

Macro-hedging a portfolio may involve the risk of an imperfect hedge that should be controlled and managed by the CCP. As the prices of the individual positions within a macro-hedged portfolio change, the effectiveness of the hedge can weaken or even break down. As a result, a CCP may be exposed to unhedged risk and need to adjust its hedge of the portfolio, resulting in additional costs. However, it may not be feasible to hedge the positions in the portfolio individually due to lack of trading liquidity, possibly exacerbated by the default itself, or the large size of the defaulting participant's portfolio, or a combination of these factors. For some OTC derivatives products (such as CDS), these scenarios may be more plausible and macro-hedging may provide one suitable risk mitigation technique for OTC derivatives CCPs.

To manage the hedging and macro-hedging process, a CCP should consider (1) its ability and the timeframe required to obtain individual hedges for portfolio positions; (2) the cost of obtaining those hedges; and (3) its ability and the associated cost to actively manage the associated risks (including basis risk) of the hedging strategy up to the disposition of the portfolio of a defaulting participant.

Guidance 6.3. Governance over the implementation of default procedures

A CCP should be a source of stability and strength in times of market stress, such as when a market participant defaults. As such, a CCP's default procedures and the governance arrangements for the procedures are particularly important.

One area of potential concern is the level of decision-making authority and discretion that the CCP may have in implementing the established default procedures. While a CCP needs to have its ability to effectively manage the default of a participant, it should also ensure that its decisions do not create or exacerbate risks in the market. This could be a potential concern in cases where there are industry standards or market protocols that could conflict with the procedures that a CCP may choose to pursue (eg decisions to declare the default of a participant). Paragraph 4.6.8 of the existing Recommendation 6 states: "*[when a CCP manages the default of a participant, a] CCP's management should be well prepared and have sufficient discretion to implement default procedures in a flexible manner. The exercise of this discretion needs to be subject to appropriate arrangements to minimise any conflicts of interest issues that may arise.*"

An OTC derivatives CCP's governance arrangements for implementing its default procedures should be transparent and understood by all participants. Steps in the process that require management decisions and discretion and accompanying principles should be clearly articulated. The potential impact and consequences of different decisions should be understood by all participants. As preparation for implementing the default procedures, ***an OTC derivatives CCP should analyse the effect that different options for handling a participant's default could have on the market***, for example, possible effects on prices as a result of liquidating or hedging open positions of the defaulting participant or as a result of liquidating its collateral. A CCP should also consider taking steps to make it more feasible in the event of a participant's default to choose options that might be less disruptive to the market.

Guidance 6.4. The segregation and transfer of customers' positions and collateral

The segregation of customers' positions and collateral (including margin) plays an important part in the safe and effective transfer of customers' positions and collateral especially in the

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portfolio. Because a single position or a small number of positions can rarely offset the risks of a broad portfolio, macro-hedging can create imperfect hedges.

event of a participant's default.[14] Even if no transfer is envisaged, segregation can improve a customer's ability to identify and recover its collateral, which, at least to some extent, contributes to retaining customers' confidence in their clearing participants and may reduce the potential for "counterparty runs" on a deteriorating clearing participant. Participation requirements for OTC derivatives CCPs, in relation to the participant's financial standing (eg minimum capital requirements) in particular, may be more demanding than those for clearing other products, which may in turn lead to a market structure in which a number of more significant market participants are a customer of a direct participant rather than a direct participant of the CCP.

Key issue 1 of the existing Recommendation 6 states: "*There should be clear procedures […] for handling customers' positions and margin*". It is left open whether the customers' positions should be liquidated or transferred. The applicable insolvency law should permit the identification and separate treatment of customer and proprietary assets.

An effective segregation of customers' positions and collateral depends not only on the measures taken by a CCP itself but also on:

- applicable legal frameworks,[15] including those in foreign jurisdictions in the case of remote participants or cross-border financial groups; and
- measures taken by other parties, to the extent customers' collateral is held partly or wholly at the participant level (as opposed to the CCP level) or by other third parties.

In some jurisdictions the transfer of customers' positions after the opening of insolvency proceedings against a clearing participant may be stayed, avoided or reversed by applicable insolvency law. Therefore, in such jurisdictions there will be a clear distinction between a suspension and a default arising from circumstances other than insolvency on one hand, and a default following insolvency proceedings on the other.

Best practices are evolving in this area. It has been particularly motivated by the recent experience with difficulties caused by the commingling of proprietary and customer accounts at a failed major financial institution. In addition, the ongoing private and public initiatives encouraging greater use of CCPs for OTC derivatives by a wider range of market participants have led some OTC derivatives CCPs to review the possibility of extending their clearing services to the broader buy-side community and offering additional facilities to address customers' concerns about the security of their positions and collateral. For example, some CCPs are considering offering a client custody facility which would facilitate the transfer of the positions and collateral of customers of a participant to another participant, potentially covering transfers that occur in the event of default.

In order to address the issues relating to the segregation and transfer of positions and collateral of customers of a defaulting participant, ***a CCP should:***

(1) clearly state its policies, procedures and any constraints (legal, operational or otherwise) relating to the segregation, including how the positions and collateral of customers of a defaulting participant will be handled, especially when customers'

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[14] The transfer of a customer's positions and collateral can occur in a situation other than in the event of a participant's default. A customer that, for some reason, wants to change the dealer through which it clears its transactions would need to transfer its positions and collateral to another dealer. The segregation also plays an important role for an orderly exit of a CCP's participant that no longer meets participation requirements (see paragraph 4.2.5 of the existing Recommendation 2). A CCP's participant may no longer be able to meet participation requirements even if it has not caused any events of default as defined in the CCP's rules.

[15] In July 2009 major OTC derivatives dealers published a report that they submitted to their supervisors, in which the dealers suggested that legislative reform may be needed to enhance the protection of customer margin.

collateral is held partly or wholly at the participant level (as opposed to the CCP level) or by other third parties. In particular, a CCP should state clearly whether or not the CCP is able to make use of customers' collateral held at a participant or any other third parties in the event of a participant's default;

(2) ***provide its participants (and their customers through participants) with sufficient information on the level of segregation that is achieved in the CCP's operation*** so that customers can assess the risk and conduct due diligence; and

(3) ***endeavour to transfer the positions and collateral of customers of a defaulting participant***, to the extent permissible by applicable law, and provided that the customer and another participant (ie transferee) agree and that the safety of the CCP and surviving participants is not compromised.

Guidance 6.5. Periodic testing of default procedures

A CCP's default procedures should be well tested to ensure that they are effective in the event of a participant's default. The fact that the relevant parties are confident in the effectiveness of the procedures can help to maintain market confidence in times of stress. Indeed, such testing proved valuable in managing the failure of a major market participant in the autumn of 2008.

In addition to having an internal plan for default procedures, ***an OTC derivatives CCP should engage its participants and related service providers in periodic testing*** (eg table-top simulations) of its default procedures so that the CCP's management and participants clearly understand the process and identify any uncertainty due to the discretion allowed to the CCP in the event of a participant's default. Such tests should include all relevant parties that would likely be involved in the default procedures, such as members of the appropriate committee of the CCP, its participants and any related service providers. This is particularly important where surviving participants and/or third parties are relied upon to assist in the close-out process for CCPs (see Guidance 6.1) and where the default procedures have never been tested by an actual default.

Recommendation 8: Operational risk

A CCP should identify sources of operational risk and minimise them through the development of appropriate systems, controls and procedures. Systems should be reliable and secure, and have adequate, scalable capacity. Business continuity plans should allow for timely recovery of operations and fulfilment of a CCP's obligations.

Guidance 8.1. Operational risk associated with links with other types of market infrastructures and service providers

OTC derivatives CCPs may face additional sources of operational risk, as they are likely to rely on certain services from third-party service providers that are not typically used by CCPs for listed markets (eg TRs). OTC derivatives CCPs may receive trades from a multiple of trading venues or trade repositories. In addition, their risk management and operation are often critically dependent on providers of pricing data and, in the case of a CDS CCP, those responsible for the management of credit events.

If an OTC derivatives CCP uses a third-party service provider, the smooth functioning of the CCP may depend on the operational reliability of these providers. In some cases a CCP may be dependent on a single service provider and have no alternative sources for such services. Some of these may be core services that are essential to the functioning of the CCP (eg pricing data providers, TRs) but they may not be under the CCP's effective control. Issues relating to data confidentiality, data protection and the integrity of information critical to the

CCP's operations are important regardless of whether the CCP uses a third-party service provider or not, but they may be more relevant when it does.

An OTC derivatives CCP should understand and manage operational risk associated with links with other types of market infrastructures and service providers, such as TRs and pricing data providers. An OTC derivatives CCP should have strong arrangements for the selection and ongoing monitoring of the providers of services to ensure that each provider delivers the quality and quantity of service as expected. ***A CCP's staff responsible for such selection and monitoring should have the necessary expertise*** to manage the relationship and service, and should factor in the financial condition, quality of service and operational resilience of the providers.

Guidance 8.2. System capacity and scalability for links with multiple venues

Even where high clearing volumes in the near term are not expected, ***adequate consideration should be given to the consequences in terms of capacity and scalability for a CCP that is already active in other market segments, if it establishes links with multiple venues (eg exchanges, electronic trading venues, TRs and confirmation matching platforms) to accept trades for clearing or starts to clear global OTC derivatives products.*** If an existing CCP expands its clearing services to new products, the CCP should ensure that it has sufficient system capacity. It should evaluate the potential growth of such products and adjust its capacity planning metrics accordingly. As with CCPs in general, an OTC derivatives CCP should have procedures in place to regularly review operational reliability, including capacity levels against medium- and long-term volume projections. This aspect assumes greater importance as the international regulatory community promotes greater use of CCPs for OTC derivatives markets and the rate of growth in a CCP's clearing volumes can be substantial in the medium- and long-term.

Guidance 8.3. Operational issues for OTC derivatives CCPs serving a global market

Some OTC derivatives CCPs are likely to become more international in terms of products, participants and operations than other CCPs serving listed or cash-market products. Further, as the international regulatory community promotes greater use of CCPs for OTC derivatives markets, a growing number of market participants are likely to seek access to OTC derivatives CCPs abroad especially if there are no feasible domestic alternatives. An OTC derivatives CCP may use the services of third-party service providers located in different jurisdictions or time zones.

As paragraph 4.8.3 of the existing Recommendation 8 states: "*[…] CCPs should actively identify and analyse sources of risk, whether arising from the arrangements of the CCP itself, from those of its participants, or from external factors, and establish clear policies and procedures to address those risks.*" ***An OTC derivatives CCP that has participants and operations across jurisdictions should identify and address operational issues that may arise from these factors both before expanding its services and on an ongoing basis. It should properly factor in global implications such as the differences in time zones and business days and daily operating schedules*** (see Guidance 3.2 and Guidance 4.1 for specific discussions on potential implications for operational procedures for measuring credit exposures and margining).

Recommendation 12: Efficiency

While maintaining safe and secure operations, CCPs should be cost-effective in meeting the requirements of participants.

Guidance 12.1. Accommodating different needs of market participants

The clearing of OTC derivatives products through a well designed CCP offers an effective means to reduce risks in the OTC derivatives market. It is therefore important that CCP services should be provided in an efficient manner to ensure that market participants are incentivised to make use of CCPs for their OTC derivatives transactions. For example, a CCP's participation model could have a significant cost implication for those who may wish to access CCPs directly or indirectly.

When a CCP defines and enhances the efficiency of its services, the interests and needs may vary among the stakeholders, including its owners, direct participants and indirect participants (such as buy-side firms), and participants in different time zones. ***An OTC derivatives CCP should take a broad view on improving efficiency, and identify and consider the interests and needs of different stakeholders*** (for more see Guidance 13.3).

Guidance 12.2. Efficiency implication of decisions on links with multiple venues

The international regulatory community has been promoting greater use of CCPs for OTC derivatives markets with an emphasis on the need for OTC derivatives CCPs to be open to accept trades from multiple trading venues. ***In OTC derivatives markets, where trading could occur over multiple venues, it is important for a CCP to conduct a thorough analysis of risks, costs and benefits (including potential benefits to the overall market) of accepting and clearing trades that are executed or processed at different venues***, such as exchanges, electronic trading venues, TRs and confirmation matching platforms. This should help to ensure that the source of trade execution and processing is not a *de facto* barrier for clearing trades. This analysis should be conducted regularly.[16]

Guidance 12.3. Efficiency implication of decisions on the eligibility of products for clearing

The scope of products that an OTC derivatives CCP clears may have important implications for how cost-effective it is for its participants to clear OTC derivatives products. Therefore, ***an OTC derivatives CCP should have in place mechanisms to analyse the cost and operational reliability of clearing an OTC derivative asset class or a product within a particular asset class.*** Such analysis would include potential netting effects, potential reduction of systemic risk and potential cost (such as potential level of margins and clearing fund contributions, and operational cost) associated with the risk management arrangements that will be needed to address the risks specific to a particular OTC derivatives product that the CCP considers clearing (see also Guidance 13.3).

Recommendation 13: Governance

Governance arrangements for a CCP should be clear and transparent to fulfil public interest requirements and to support the objectives of owners and participants. In particular, they should promote the effectiveness of a CCP's risk management procedures.

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[16] In this context the concept of efficiency refers to collateral savings for participants of the CCP due to increased netting efficiency, while the existing Recommendation 12 mainly discusses the concept of a CCP's internal costs and inefficiency potentially caused by the lack of competition in the products and markets that the CCP serves.

Guidance 13.1. Representation of interested parties (including buy-side firms)

As a CCP extends its product coverage, the interests of its existing participants may diverge, since it is not certain that all existing participants will be active in all market segments covered by the CCP. In addition, potential new participants in OTC derivatives CCPs may become less homogeneous than in the past, with greater direct or indirect participation by buy-side firms, and, in some asset classes, greater direct or indirect participation by smaller non-domestic institutions, promoted by the international regulatory community.

Consequently, a CCP's governance arrangements should be designed in such a manner that they give due consideration to the interests of different types of its participants (including indirect participants), to broader stakeholders with direct and indirect interdependencies with the CCP and to the CCP's unique role in the market. This is particularly important if a CCP serves a global OTC derivatives market, and thus some participants are based in other jurisdictions and services extend beyond a local or domestic market.

Guidance 13.2. Governance over extraordinary emergency actions taken by a CCP[17]

An independent emergency action may be taken by a CCP in response to circumstances beyond its control. Although designed to ensure the continued operation of the CCP in extreme circumstances, such actions may have unintended consequences for the OTC derivatives market and there may be potential conflicts of interest among the CCP's owners, its operators, its participants and the broader market when the CCP makes such decisions.

To manage emergency situations a CCP should have a strong governance process that includes clear policies and procedures for identifying and managing contingencies, engaging the CCP's participants and other stakeholders, including its regulators, as appropriate, and considering the impact of its actions on the stability of the market more broadly. Emergency actions of a CCP should be balanced with the CCP's responsibilities to support risk reduction and market integrity, especially in a stressed financial environment. The CCP should have a well established process for making decisions to address emergencies in an effective and timely manner. It should have effective communication plans to ensure that its participants and regulators receive information about the CCP's decision in a timely manner and understand its implications.

Guidance 13.3. Governance over eligible contracts and participants

Owing to network externalities and economies of scale, CCPs may have a motivation to expand their clearing activity and netting effects to as many products as possible. In particular, CCPs may see growing business opportunities in OTC derivatives markets. With such an expansion, CCPs need to address issues of risk management, governance, legal soundness and transparency for CCPs to function well. Consequently, ***an OTC derivatives CCP should have effective governance arrangements for determining the products to be cleared and acceptance of new types of participants. Consideration should be given to the risks that are specific to new types of assets and products or participants because the expansion of its activities to them could have implications for a wide range of aspects of the CCP's risk management design*** (eg auctions, default procedures, single or multiple clearing funds). The analysis should cover whether the product is sufficiently standardised, has sufficient trading liquidity, and if fair, reliable and generally accepted pricing sources exist (see Annex 1 for more detailed discussions).

[17] See Annex 2 for more detailed discussions on this issue.

This underscores ***the importance of ensuring that staff, management and other decision-making bodies have adequate market and product expertise to consider the risks, costs and benefits of rendering a product and participant eligible for clearing.*** As clearing additional OTC derivatives products may require adjustments to the CCP's risk management and default procedures, the CCP's decision-making body should make the final decision, with appropriate consultation with user representatives.

Guidance 13.4. CCPs' role in developing industry standards and market protocols, and its adherence[18]

Over the past few years, major participants in the OTC derivatives market have worked together to standardise documentation and develop various contractual market protocols related to OTC derivatives contracts under the auspices of ISDA and other industry groups (see Guidance 1.1). Supervisors of the major OTC derivatives dealers have been supportive of these efforts, which are aimed at increasing legal certainty, transparency and stability in the market. Divergent practices by CCPs and individual market participants risk undermining the market efforts to develop processes to govern and reduce uncertainty in the OTC derivatives markets.

As participants in the OTC market, CCPs are expected to adhere to reliable industry standards and market protocols or act in a manner that does not conflict with such terms. A CCP offering clearing services in these markets must have governance arrangements that give due consideration to market protocols and the arrangements adopted should be transparent to the users of the CCP's services and its regulators.

Although CCPs may not have been involved in determining industry standards and market protocols from the outset, as they becomes significant market participants, ***market governance arrangements should evolve in such a way that reflects the role of CCPs.*** Such representation is particularly important when CCPs are expected to fully adhere to market-wide protocols and decisions. For example, as CCPs are now providing clearing services in the OTC credit derivatives market, it is appropriate for the interests of the relevant CCPs to be represented on the ISDA Credit Derivatives Determination Committee.

A CCP that clears CDS should also consider establishing an internal determinations committee with broad participant representation (that includes buy-side representation as appropriate) to serve as a venue for credit event determinations in case the relevant market committee does not make a determination. When the relevant market committee has made a determination but a CCP seeks to deviate from it, the CCP should take a careful decision-making procedure (eg more demanding voting procedure).

Recommendation 14: Transparency

A CCP should provide market participants with sufficient information for them to identify and evaluate accurately the risks and costs associated with using its services.

Guidance 14.1. Market transparency requirements[19]

The existing Recommendation 14 focuses on the transparency regarding the CCP's services (see Key Issue 1). However, the recent financial crisis highlighted a severe lack of transparency on transactions in OTC derivatives markets and the need to complement

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[18] See Annex 2 for more detailed discussions on this issue.

[19] See also CPSS and Technical Committee of IOSCO, *Consultative report: Considerations for trade repositories in OTC derivatives markets*.

information relevant to evaluating the safety and efficiency of a CCP itself (service transparency) with the provision of market data by the CCP (market transparency).

CCPs play a critical role in financial markets both as centralised infrastructures that support financial transactions among market participants and as major principals to those financial transactions. As such, CCPs are well placed to enhance the transparency of the markets they serve.[20] Enhancing market transparency is a particularly important issue in derivatives markets, which are typically global in scope, entail greater complexity than markets in cash products, and give rise to systemic concerns because of their contingent, leveraged nature as well as their linkages with markets in cash products. These risks are arguably the most pronounced in OTC derivatives markets, which by their nature and in practice have been less standardised, more decentralised and opaque.

Enhanced market transparency through CCPs improves the ability of market participants and relevant authorities to evaluate the overall risks in the markets served by the CCPs. It supports relevant authorities in their assessment of risks of individual participants in the CCPs.

In its contribution to enhancing market transparency, ***an OTC derivatives CCP should make available market data appropriate to the markets that it serves. The scope and level of granularity of the data should be in line with the respective information needs of relevant authorities as well as its users and the public. The market data provided by the CCP should be periodic and timely. Common standards should be used for data representation and delivery in order to support proper aggregation of the data and consistent analysis across reporting CCPs.*** Market data should be made available in aggregate form for the public and in non-public, participant-level form for relevant authorities. A CCP should identify and understand potential confidentiality and legal barriers in relevant jurisdictions that may restrict its ability to provide data for domestic or international relevant authorities and have a process in place to work with relevant authorities to resolve any data sharing restrictions where there are specific regulatory data needs.

Guidance 14.2. Service transparency requirements

Key issue 1 of the existing Recommendation 14 states: "*A CCP should provide market participants with sufficient information to evaluate the risks and costs of using its services*". Given the greater complexity of OTC derivatives products and their markets, adequate service transparency is particularly important for CCPs active in these markets. In addition, reflecting the ongoing private and public initiatives encouraging greater use of CCPs for OTC derivatives markets by a wider range of market participants, there is a greater need of prospective users for information on the CCP's services.

An OTC derivatives CCP should disclose data and qualitative information that is sufficient for current and prospective users to identify and evaluate accurately the risks, costs and benefits associated with their participation in a CCP. As discussed in other sections of this report***, an OTC derivatives CCP may employ, as needed, risk management arrangements that are tailored to address the specific risks that its products present. Consequently, an OTC derivatives CCP should be transparent about such arrangements (including whether such arrangements are employed or not). If an OTC derivatives CCP clears multiple products (including products that are not OTC derivatives products), the fee structure for such clearing services should be transparent*** so that current and prospective users can assess and compare costs easily and make informed choices. To this end, a CCP may

[20] See Annex 3 for more detailed discussions on the types of data available from CCPs.

wish to consider pricing specific services and functions separately. The precise scope of service transparency would depend on the business model of the concerned CCP.

Recommendation 15: Regulation and oversight

A CCP should be subject to transparent and effective regulation and oversight. In both a domestic and an international context, central banks and securities regulators should cooperate with each other and with other relevant authorities.

Guidance 15.1. Promoting common reporting

There is a growing trend in the OTC derivatives market to form more global post-trade infrastructures. As the international regulatory community promotes greater use of CCPs for OTC derivatives markets, a growing number of market participants are likely to seek direct or indirect access to non-domestic OTC derivatives CCPs. In addition, providing OTC derivatives services may require a CCP to establish relationships with non-domestic market infrastructures or service providers. As a result effective cross-border cooperation among the relevant authorities and promoting consistent approaches for regulation and oversight have become increasingly important.

Common reporting by OTC derivatives CCPs is taking on increased importance where more than one CCP provides its services across jurisdictions, potentially competing with each other and/or where there are several relevant authorities from more than one jurisdiction involved in regulation and oversight of such CCPs. Comparable information regarding linked or globally active CCPs has become particularly valuable to relevant authorities. Common reporting by OTC derivatives CCPs could also help to avoid imposing unnecessary cost on CCPs (see paragraph 4.15.4 of the existing Recommendation 15). Against this background, ***common reporting should be promoted by relevant authorities, specifying the common expectations of relevant authorities regarding the information that CCPs should generally make available to them.***

Annex 1: General considerations for clearing OTC derivatives products

OTC derivatives markets comprise a wide range of products that vary substantially in a number of factors. These factors typically interact with each other, reinforcing or counteracting in a complex way, to determine jointly the ability of a CCP to manage the risk associated with the product that it chooses to clear. They may also affect a CCP's commercial considerations in a similarly complex way. The intensity of these factors can change over time as a product and its markets (including supporting infrastructures) develop and mature.[21]

What follows are general (and non-exhaustive) considerations that should factor into any determination of whether a product can be cleared by a CCP in a manner that satisfies the expectations set out in the RCCP. The size and composition of a CCP's overall financial resources (eg margins, clearing fund) available to cover losses to the CCP also constitute an essential factor in such determination.

1. Standardisation of the product
    a. Does the product use standardised legal documentation, including definitions and contract specifications?
    b. Is the product traded using standardised conventions for filling in contract terms?
    c. Do market participants manage the product's lifecycle events using standard industry practices?
    d. Is the product electronically confirmed?[22]
2. Risk characteristics of the product
    a. Can the risks of the product be properly understood and measured? Does the product involve any unique or difficult-to-measure risks?
    b. Can the product be accurately represented in a stress test portfolio? Can stress-testing scenarios be developed that measure specific risks associated with the product and its interdependence with other products in a portfolio?
    c. Are there similar products that are currently being cleared and what has been the experience with such products?
3. Availability of price information of the product
    a. Is there sufficient price transparency in the market for the product to allow for determining fair, reliable and generally accepted pricing? Is the market for the product served by one or more consensus pricing sources that are fair, reliable and generally accepted? Does pricing the instrument depend on other external information sources (eg BBA reference rates)? Is there sufficient historical pricing data for the product to determine fair, reliable and generally accepted pricing?[23]
4. Trading liquidity of the product

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[21] In addition, these factors are likely to be endogenous. For example, the level of trading liquidity affects the ability of a CCP to manage its risk, which may in turn affect the level of trading liquidity. A well designed CCP contributes to maintaining market confidence and trading liquidity in times of market stress.

[22] This aspect is deemed a useful indicator of product standardisation.

[23] In case market prices become temporarily unavailable, an OTC derivatives CCP must have objective and well tested models in place to generate reliable prices. The robustness and reliability of such models would depend on the length and quality of historical pricing data.

a. Does the market in this product involve a diverse and balanced range of active participants? Is the market characterised by large concentrations of positions held by relatively few participants? Are market participants more likely to trade actively or hold positions in the product?

b. Is there sufficient liquidity in the product's market (or related markets such as those for the underlying instruments) to allow for active risk management by the CCP in the event of a participant's default, eg by hedging, liquidating and/or transferring the defaulting participant's positions.

Annex 2: Detailed guidance on CCP emergency actions and market protocols

Introduction

This annex provides further details on two of the issues that are discussed in the guidance for Recommendation 13 (Governance): a CCP's ability to take extraordinary emergency actions and the role of industry standards and market protocols that have been designed specifically for the OTC derivatives market. Industry representatives had requested guidance on the issues listed below in September 2009 and the contents of this annex were shared with those representatives in the form of a draft interim response in December 2009. The annex discusses detailed guidance with regard to:

1. The appropriate scope of CCPs' ability to take extraordinary emergency actions;
2. The appropriate CCP governance process and associated regulatory involvement in emergency circumstances;
3. The expectations for CCPs to limit the economic impact of emergency actions; and
4. CCPs' role in developing and adhering to industry standards and market protocols, and more specifically, whether all CCPs clearing CDS transactions should be expected to adopt market determinations related to credit events for CDS transactions.

Analysis and regulatory guidance

1. The appropriate scope of CCPs' ability to take extraordinary emergency actions

A CCP should have the ability to make independent decisions to appropriately manage its risks, safeguard against its insolvency and have the flexibility to take necessary action in extreme situations. The existing Recommendation 13 (Governance) states: "*[g]overnance arrangements are particularly important because the interests in relation to risk management of a CCP's owners, its managers, its participants, the exchanges and trading platform it serves, and the public are different and may conflict. To ensure that such conflicts do not undermine the effectiveness of a CCP's risk management, it is essential that those responsible for this aspect of a CCP's business have sufficient independence to perform their role effectively.*" Emergency actions of a CCP should be balanced with the CCP's responsibility to support risk reduction and market integrity, especially in a stressed financial environment.

It is a common practice for CCPs to have the ability to invoke, in extreme situations, emergency powers that temporarily provide relief to the CCP of obligations to perform on a contract or compensate participants for losses incurred from the failure to perform. Such invocation of emergency powers usually includes circumstances beyond the CCP's reasonable control such as force majeure situations, physical emergencies and extraordinary market events (eg complete and prolonged failure of price discovery mechanisms in the market) that may impair orderly operations of a CCP. This is in contrast to taking actions due to credit concerns or to manage economic outcomes, which are typically managed as part of the CCP's regular risk management processes.

The existing Recommendation 14 (Transparency) requires a CCP to provide market participants with sufficient information for them to identify and evaluate accurately the risks and costs associated with using its services. Accordingly, a CCP's rules should broadly specify the circumstances when the CCP has the ability to invoke emergency powers so that its participants can understand and manage the risk associated with their participation in the CCP and their contingent liabilities vis-à-vis the CCP. If and when such powers are used, efforts should be taken by the CCP to reduce any economic impact on affected parties and related trades (see Section 3).

An emergency action should not be undertaken lightly, and it should be limited to situations in which there is significant risk that failure to take action would result in the failure of the CCP.[24] It would not be acceptable for CCPs to take emergency actions and alter established processes for commercial reasons, to avoid operational burdens and without following due process. Furthermore, CCPs should not take emergency actions that, as far as can be judged with available information, would result in a greater level of uncertainty or systemic risk to the financial system. In addition, the CCP should ensure that all possible alternatives already permitted under the rules have been investigated before considering any form of emergency actions and ensure that the action being promoted is appropriate and proportionate.

Based on the principles outlined above, the following examples illustrate a few circumstances when it would not be acceptable for CCPs to use emergency powers.

- To unexpectedly modify its risk management controls and processes in a manner that is inconsistent with regulatory standards, such as the RCCP or in a manner that creates circumstances that are not manageable by its participants.
- To modify the established financial resources waterfall process in order to commercially benefit the CCP. Doing so would change the participation terms for the CCP's participants in a manner that changes the relative loss mutualisation that they have been expecting. Such action would also be inconsistent with the risk management framework that received regulatory approval(s).
- To step out of the clearing arrangement where the CCP reverses the cleared status of all or a subset of contracts or allocates outstanding contracts to its participants and expects the participants to revert to bilateral trade exposures, without the prior consent of the affected participants. Such action would undermine the primary purpose of a CCP to act as principal to the transactions it supports and centrally manage credit risk in the market. This type of actions would likely result in the unwinding of multilaterally netted exposures and require the CCP's participants to suddenly and unexpectedly manage significant gross bilateral credit exposures, which participants may not be prepared to do, particularly in times of stress. This would clearly result in additional systemic risk in the market and if a CCP were in a situation where this action was its only option to avoid its failure, an orderly wind-down of the CCP would be a more appropriate outcome.
- To void or refuse to perform on previously cleared contracts because market events or industry protocols/decisions have made the managing of the associated risk exposures difficult (this would not preclude the CCP from suspending the subsequent clearing of products if the CCP's rules permit such actions or using the various risk management tools available to the CCP to manage the relevant risks). The voiding of contracts or refusal to perform by a CCP would constitute another example of the CCP failing to perform on its primary mandate of acting as principal to the transactions it supports and would likely add more risk to the market when the CCP is intended to serve as a source of market strength and stability. In addition to the negative outcome of the powers being invoked, the existence of these powers is also a source of systemic risk. If the CCP has the option to take this type of actions, its participants would not be able to fully understand and manage their risks from participating in the CCP as there will always be

[24] As noted above, invoking emergency actions in circumstances that would impair the orderly operations of the CCP are acceptable, but in the case of other types of problems (eg due to credit concerns or to manage economic outcomes) that should be managed as part of the CCP's regular risk management processes, the higher systemic risk criteria (ie clear risk of potential failure of the CCP) should be considered.

the risk that its cleared contracts are suddenly void or no longer managed by the CCP. This uncertainty could be significantly destabilising in times of market stress.

2. The appropriate CCP governance process and associated regulatory involvement in emergency circumstances

CCPs must have an established governance process for both business-as-usual and emergency situations. While the specific conditions under which a CCP may invoke its emergency powers are likely to vary, a CCP should define the circumstances that may constitute an "emergency" and the steps that the CCP can take to manage the situation. The circumstances under which a CCP would invoke its emergency powers and the associated governance process should be clearly articulated in its rules and disclosed to its participants and regulators.

The appropriate process for CCPs to invoke emergency powers

Governance best practices would expect that a CCP have a well established decision-making process through its board, appropriate board committees and management. If, due to exigent circumstances, the members of the board or other relevant board committees are not available to guide the decision to invoke emergency powers, the CCP's management should be required to review such decisions with the board *ex post*.

The CCP should recognise that an independent and emergency action taken by a CCP may have unintended economic consequences for the OTC derivatives market and that there may be potential conflicts of interest among the CCP's owners, its operators, its participants and the broader market when making such decisions. At the same time, in many jurisdictions, a CCP's board will have a range of legal obligations, including towards the CCP's shareholders. Therefore the scope for the CCP to take into account conflicting factors, including advice or instruction from regulators, will be restrained by these obligations.

There should be a predefined policy and procedures for identifying and managing the potential conflicts of interest, engaging the CCP's participants and other stakeholders, including its regulators, as appropriate, and considering the impact of the CCP's actions on the stability of the market more broadly.

The CCP's process should also include its communication plans once a decision has been made to ensure that its participants and regulators receive information about the decision in a timely manner and understand its implications.

The appropriate regulatory involvement when emergency powers are used by CCPs

A CCP should keep its regulator(s) informed when there are situations which may result in the use of emergency powers. The CCP's decision-making process is independent, subject to a range of legal obligations, and does not directly involve regulators, but the CCP's regulator(s) may have broader market perspectives that the CCP should evaluate and consider, particularly in stressed market conditions. Such communication and coordination is especially important in circumstances where a CCP's decision may have systemic risk implications or when systemic risk concerns may guide a CCP's need to use its emergency powers. Under such scenarios, it is important that a CCP does not make any critical decisions in isolation that could result in the CCP contributing to destabilising the market during an already stressed time.

Further, the informed regulator(s) can keep the broader regulatory community apprised of relevant developments at the CCP, as appropriate. This will allow for any needed regulatory coordination and help promote consistent approaches.

3. The expectations for CCPs to limit the economic impact of emergency actions

By its nature as a principal to the transactions it supports, a CCP must meet its obligations to its participants under all market conditions including instances of price volatility, the default of a participant and market events that affect the contracts that have been cleared (eg with credit derivatives, a credit event on an underlying reference entity). The manner in which a CCP meets its obligations and adheres to market conventions to help preserve market integrity is vitally important whether there is one, two, or multiple CCPs serving a particular market.

In principle, a CCP's use of emergency powers should have an economically neutral effect on its participants, or, if that is not possible, should maintain the relative mutualisation of risk that its participants expect from the rules. Therefore, economic consequences that result from the use of emergency powers should be mitigated to preserve the economic terms of the affected trades and the original rules to the fullest practical extent. Since CCPs must maintain balanced positions and be profit neutral, they should mandate or otherwise mediate the transfer of any windfall directly acquired as a result of their decision from the beneficiaries to the losers of the decision.

4. CCPs' role in developing and adhering to industry standards and market protocols

In the OTC derivatives market, CCPs clearing these products have an additional element to consider, which is whether to adopt and adhere to industry standards and market protocols that have been established. By way of background, over the past few years, major participants in the OTC derivatives market have been working together to establish and adopt various contractual market protocols related to OTC derivatives contracts under the auspices of ISDA and other industry groups. Examples include protocols for novating contracts, credit event auctions and restructurings, and close-out methodologies in the event of a counterparty's default.[25] Supervisors of the major OTC derivatives dealers have been supportive of these efforts, which are aimed at increasing certainty, transparency and stability in the market.

As participants in the market, CCPs are expected to adhere to market protocols or act in a manner that does not conflict with such terms. Divergent practices by CCPs and individual market participants would undermine the market efforts to develop processes to govern and reduce uncertainty in the OTC derivatives markets. CCPs now offering clearing services in these markets must have governance arrangements that give due consideration to market protocols. The arrangements adopted by a CCP should be transparent to its participants and regulators. Supervisors of CCPs should encourage the use of reliable market conventions by CCPs where appropriate.

CCPs may not be involved in determining industry standards and market protocols as the market governance processes in the OTC derivatives market may have been established before CCPs began providing central counterparty services in these markets. As CCPs become significant market participants, market governance arrangements should evolve in such a way that reflects the role of CCPs. Such representation is particularly important when CCPs are expected to fully adhere to market-wide protocols and decisions based on such protocols.

Credit event management in the OTC credit derivatives market

In the OTC credit derivatives market, effective decision-making with respect to market and credit event determinations requires that the interests of all types of market participants are

[25] See ISDA website (http://www.isda.org/protocol/index.html).

represented so that determinations that are appropriate for the entire market can be made. Major market participants have established a number of market protocols related to OTC credit derivatives contracts as well as market governance arrangements, including the ISDA Credit Derivatives Determination Committee (DC) for credit events. The scope of the powers of the DC include determining whether a credit event has occurred, whether an auction will be held in connection with that event and what obligations are deliverable for purposes of an auction. The DC also decides whether a succession event has occurred and, if so, the identity of any successor entity. In addition, there is a general clause that allows the DC to consider "other determinations relating to the overall market".[26]

With CCPs now providing clearing services in the OTC credit derivatives market, it is appropriate for the interests of relevant CCPs to be represented on the DC. CCPs are a market-neutral principal to cleared trades and would benefit from understanding the potential issues and concerns of its participants when there are issues being discussed and resolved in the DC. At a minimum, relevant CCPs should be permitted to observe the DC process and utilise established processes to raise questions and concerns related to decisions made by the DC as any other market participant would. As CCPs clear a greater share of the market and gain more experience, the DC should, in consultation with regulators, re-evaluate the observer status of relevant CCPs to determine the appropriate membership role of CCPs.

ISDA (or the appropriate parties) should deliver a proposal to the Supervisors of the Major OTC Derivatives Dealers[27] that sets forth a plan with timeframes for involving CCPs in the DC process.[28] This plan should begin with including relevant CCPs as observers to the DC and set forth the criteria for CCP members (eg clearing values) and the structure/representation of CCP membership in the DC (ie individual CCPs vs collective representation by one designated CCP).

By definition, the DC members must adhere to the relevant ISDA protocols and so are bound by the decisions of the DC. Therefore, CCPs participating in the DC process would also be bound by its decisions, which would contribute to greater market certainty during times of stress.

It is further recommended that each CCP establishes an internal determinations committee with broad participant representation (that includes buy-side representation as appropriate) to serve as a venue for determinations on a credit event in case the relevant market committee (eg ISDA DC) does not make a determination. When the relevant market committee has made a determination but a CCP seeks to deviate from it, the CCP should take a careful decision-making procedure (eg more demanding voting procedure).

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[26] See Section 3 of the Rules of DC, available on the ISDA website, for detail on the full range of the DC's powers.

[27] Such supervisors consist of the Board of Governors of the Federal Reserve System, Connecticut State Banking Department, Federal Deposit Insurance Corporation, Federal Reserve Bank of New York, Federal Reserve Bank of Richmond, French Secrétariat Général de la Commission Bancaire, German Federal Financial Supervisory Authority, Japan Financial Services Agency, New York State Banking Department, Office of the Comptroller of the Currency, Securities and Exchange Commission, Swiss Financial Market Supervisory Authority and United Kingdom Financial Services Authority.

[28] In a letter submitted to the Supervisors of the Major OTC Derivatives Dealers on 1 March 2010, major dealers, ISDA and other market participants have committed to delivering such a proposal.

Annex 3: Classifying market transparency data available from CCPs

A CCP may provide information characterising the markets served by that CCP ("market transparency data"). This may include two main sets of information: (i) information on general market characteristics and activity with respect to transactions cleared by a CCP (eg information related to prices, volumes and values, and relevant currencies of cleared transactions); and (ii) aggregate information on the types of participants and concentration of participants' exposures within a CCP.

1. Information on general market characteristics and activity

Information on general market characteristics and activity is of interest to both regulators and the public (including other market participants, such as end investors). The role of CCPs in providing such information depends on the types of markets they serve. OTC derivatives CCPs can have a more significant function in this regard than either CCPs for cash markets or CCPs for listed (derivatives and cash) markets.

Market information for cash vs derivatives markets

Market information for cash markets typically includes pricing (both pre-trade and post-execution) and trading volume information in various representations (eg 52-week highs/lows, actives, largest gainers/losers, etc). Derivative instruments, because of their longer lifecycles and greater complexity, involve additional types of market information that arise solely in the post-trade environment and as such are directly available through CCPs: In addition to per-instrument pricing and trading volume information, derivatives markets involve post-trade market information such as open interest/positions and mark-to-market valuation information as well as information on the volume and value of settlements effected by the CCP and its participants, which indirectly indicates market activity.

Market information for listed vs OTC markets

In listed (derivatives and cash) markets, market information has been typically provided by exchanges and electronic trading venues, although the derivatives CCPs that support these trading infrastructures can also directly provide post-trade market information. In OTC markets, there has historically been less market transparency given their largely bilateral and not fully automated/standardised nature. Accordingly, the role of CCPs serving OTC markets for providing market transparency is more significant.

Market information available from OTC derivatives CCPs

OTC derivatives CCPs may not only provide the post-trade information described above (including the volumes and values of daily cleared transactions processed and the volumes and values of daily settlements between the CCP and its participants), but also serve as an indirect, second-best way to provide information that should otherwise come directly from where trades are negotiated and executed. Although CCPs are mainly users and not generators of market price information ("trading information" in the table below), OTC derivatives CCPs may in fact generate and be able to provide such information. For example, to effect settlements and to calculate valuations of derivative positions, they may compile executable, discrete pricing information sourced directly from its participants by themselves or employ non-executable, composite pricing information sourced from third-party service providers.

The table below provides an overview of the types of market information that may be provided by CCPs, classifying the markets served by CCPs into four categories: a) listed cash markets (eg equity exchanges); b) OTC cash markets (eg bond markets); c) listed derivatives markets; and d) OTC derivatives markets. The information items in *italics* are the classes of market information that may be provided by CCPs.

For OTC derivatives markets, the table highlights the possible role of OTC derivatives CCPs in enhancing transparency not only for post-trade information, but also for trading information (ie per-instrument, non-executable, composite pricing). As regards post-trade information, OTC derivatives CCPs should in principle play the same role in providing market transparency as CCPs for listed derivatives markets do. A complementary role in enhancing market transparency could be taken by TRs for OTC derivatives markets.

Markets	Trading information	Centralised source of trading information	Post-trade information	Centralised source of post-trade information
Listed cash markets	• per-instrument pre-trade prices • per-instrument post-execution prices • per-instrument trading volume	Exchanges; electronic trading venues	• *volume and value of cleared transactions* • *volume and value of settlements*	*CCPs* (affiliated exchanges often provide such information on behalf of underlying CCP)
OTC cash markets	• per-instrument pre-trade prices • per-instrument post-execution prices • per-instrument trading volume	OTC data aggregators; interdealer brokers; OTC trading platforms; regulatory reporting platforms	• *volume and value of cleared transactions* • *volume and value of settlements*	*CCPs*
Listed derivatives markets	• per-instrument pre-trade prices • per-instrument post-execution prices • per-instrument trading volume	Exchanges; electronic trading venues	• *volume and value of cleared transactions* • *volume and value of settlements* • *per-instrument open interest* • *per-instrument mark-to-market valuation*	*CCPs* (affiliated exchanges often provide such information on behalf of underlying CCP)
OTC derivatives markets	• per-instrument pre-trade prices • per-instrument post-execution prices • per-instrument trading volume • *per-instrument, non-executable, composite pricing*	OTC data aggregators; interdealer brokers; OTC trading platforms; *CCPs* (a source for composite pricing only)	• *volume and value of cleared transactions* • *volume and value of settlements* • *per-instrument open interest* • *per-instrument mark-to-market valuation*	*CCPs*; TRs (currently for open interest only)

2. Participant-level market information

CCPs typically provide participant-level information only to the relevant authorities. The level of granularity of such information reflects the need of each authority to meet their respective responsibilities, which could range from oversight of market infrastructures and supervision of individual market participants to financial stability and market integrity subject to potential confidentiality and legal barriers in relevant jurisdictions.

For example, aggregate information on the types of participants in a CCP and concentration of participants' exposures is useful for relevant authorities with a mandate to promote investor protection and/or financial stability to assess the distribution of risk exposures and possible implications for their objectives. Information on the positions, trading and settlement activities of individual participants in a CCP helps relevant authorities with a direct jurisdiction over these participants to meet their respective responsibilities. At the same time, this information is also highly relevant for the regulation, supervision and oversight of the CCP itself and should therefore also be available to the relevant authorities with a direct jurisdiction over the CCP.

Annex 4: Members of the CPSS-IOSCO joint working group

This report was produced for the CPSS and the Technical Committee of IOSCO by a joint working group, whose members are listed below.

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US Securities and Exchange Commission	Jeffrey Mooney

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Comissão de Valores Mobiliários, Brazil	Marcelo Queiroga Reis
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Bank of France	Frédéric Hervo
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Hong Kong Monetary Authority	Stanley Chan
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Bank of Japan	Koichiro Suzuki
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