

Implementing OTC Derivatives Market Reforms

Report of the OTC Derivatives Working Group

10 October 2010

Foreword

In September 2009, G-20 Leaders agreed in Pittsburgh that:

All standardised OTC derivative contracts should be traded on exchanges or electronic trading platforms, where appropriate, and cleared through central counterparties by end-2012 at the latest. OTC derivative contracts should be reported to trade repositories. Non-centrally cleared contracts should be subject to higher capital requirements. We ask the FSB and its relevant members to assess regularly implementation and whether it is sufficient to improve transparency in the derivatives markets, mitigate systemic risk, and protect against market abuse.

At the initiative of the Financial Stability Board (FSB), in April 2010, a working group led by representatives of the Committee on Payment and Settlement Systems (CPSS), the International Organization of Securities Commissions (IOSCO) and the European Commission was formed to make recommendations on the implementation of the G-20 objectives. The working group has focused on how implementation of these objectives, which were re-affirmed earlier this year by the G-20 Leaders at the Toronto Summit, can be consistently achieved across jurisdictions, while promoting greater use of OTC derivatives products in standardised form.

This report, which has benefitted from comments provided by the Basel Committee on Banking Supervision (BCBS), CPSS, and IOSCO, presents the working group's findings and recommendations as of September 2010.

The Co-Chairs are grateful to the members of the working group for their excellent work and dedication in preparing this report.

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Executive Summary

The recent financial crisis exposed weaknesses in the structure of the over-the-counter (OTC) derivatives markets that had contributed to the build-up of systemic risk. While markets in certain OTC derivatives asset classes continued to function well throughout the crisis, the crisis demonstrated the potential for contagion arising from the interconnectedness of OTC derivatives market participants and the limited transparency of counterparty relationships.

OTC derivatives benefit financial markets and the wider economy by improving the pricing of risk, adding to liquidity, and helping market participants manage their respective risks. However, it is important to address the weaknesses in these markets which exacerbated the financial crisis. To this end, building on the commitments set out in the Pittsburgh statement, the G-20 Leaders committed at the subsequent Toronto Summit to accelerate the implementation of strong measures to improve transparency and regulatory oversight of OTC derivatives in an internationally consistent and non-discriminatory way.¹

This report includes 21 recommendations summarised below, which address practical issues that authorities may encounter in implementing the G-20 Leaders' commitments concerning standardisation, central clearing, exchange or electronic platform trading, and reporting of OTC derivatives transactions to trade repositories:

- **Standardisation:** The proportion of the market that is standardised should be substantially increased in order to further the G-20's goals of increased central clearing and trading on organised platforms, and hence mitigate systemic risk and improve market transparency. The report sets out recommendations for authorities to work with market participants to increase standardisation, including through introducing incentives and, where appropriate, regulation.
- **Central clearing:** To implement the G-20 commitment effectively, it is necessary to specify the factors that should be taken into account when determining whether a derivative contract is standardised and therefore suitable for clearing. The recommendations do this, as well as address mandatory clearing requirements; robust risk management requirements for the remaining non-centrally cleared markets; and supervision, oversight and regulation of central counterparties (CCPs) themselves.
- **Exchange or electronic platform trading:** Further work is being set in train in the coming months to identify what actions may be needed to fully achieve the G-20 commitment that all standardised products be traded on exchanges or electronic trading platforms, where appropriate.
- **Reporting to trade repositories:** Authorities must have a global view of the OTC derivatives markets, through full and timely access to the data needed to carry out

¹ See June 2010 Toronto Summit Declaration, paragraph 19. In addition, Annex II to the Declaration provides: "We pledged to work in a coordinated manner to accelerate the implementation of over-the-counter (OTC) derivatives regulation and supervision and to increase transparency and standardisation. We reaffirm our commitment to trade all standardised OTC derivatives contracts on exchanges or electronic trading platforms, where appropriate, and clear through central counterparties (CCPs) by end-2012 at the latest. OTC derivative contracts should be reported to trade repositories (TRs). We will work toward the establishment of CCPs and TRs in line with global standards and ensure that national regulators and supervisors have access to all relevant information."

their respective mandates. The recommendations help achieve this objective, including that trade repository data must be comprehensive, uniform and reliable and, if from more than one source, provided in a form that facilitates aggregation on a global scale.

This report aims to set ambitious targets for fully implementing the G-20 commitments, while minimising the potential for regulatory arbitrage. It sets appropriate deadlines to meet the G-20's end-2012 commitments, and specifies bodies to take the recommendations forward.

Given the global nature of the OTC derivatives markets, continued international coordination in dealing with ongoing implementation of the G-20 commitments is critical. Work should be taken forward by the relevant standard setters and authorities to achieve international consistency. Furthermore, given the continuous innovation in the OTC derivatives markets, this report identifies areas where monitoring will need to continue and exploration of additional measures is recommended.

The FSB OTC Derivatives Working Group will monitor implementation of these recommendations and provide an initial progress report to the FSB by 31 March 2011.

Summary of Recommendations

Increasing standardisation

Standardisation is a key condition for central clearing and trading on exchanges or electronic trading platforms, and also helps to facilitate greater market transparency. To promote the G-20's vision for greater use of these safer channels, authorities must ensure that appropriate incentives for market participants to use standardised products are in place. In particular, authorities should counter incentives that market participants may have to use non-standardised products solely to avoid central clearing and trading requirements. We recommend the following:

1. Authorities should work with market participants to increase standardisation of OTC derivatives products' contractual terms. In setting priorities for increased standardisation of contractual terms, authorities should consider the systemic relevance of particular types of OTC derivatives products, including by assessing factors such as volumes and exposures.
2. Authorities should work with market participants to increase the proportion of the OTC derivatives markets that uses standardised operational processes and straight-through-processing. Greater use of standardised, automated processes will promote the use of standardised products.
3. To achieve increased standardisation of contractual terms and greater use of standardised operational processes as set out in the above recommendations 1 and 2, the OTC Derivatives Supervisors Group (expanded to include relevant market regulators) (ODSG) should continue to secure ambitious commitments from the major OTC derivatives market participants. These commitments should include publishing a roadmap by 31 March 2011 with demanding implementation milestones for achieving greater standardisation and, as an interim measure until mandatory clearing requirements are fully implemented, increasing volumes of centrally cleared transactions. The roadmap should set forth baseline metrics and forward-looking targets against which market participants will be measured.
4. Authorities should develop incentives and, where appropriate, regulation, to increase the use of standardised products and standardised processes. Authorities should examine new market activity on a regular basis to monitor the extent to which market participants may be trading non-standardised contracts solely for the purpose of avoiding central clearing and trading requirements and take steps to address such behaviour.

Moving to central clearing

To help mitigate systemic risk in the OTC derivatives markets, the G-20 Leaders agreed that all standardised derivatives contracts should be cleared through central counterparties by end-2012 at the latest. They also agreed that non-centrally cleared contracts should be subject to higher capital requirements. In combination with setting mandatory clearing requirements and raising capital requirements for non-centrally cleared contracts to reflect their risks, including

systemic risks, the use of central clearing should be expanded through industry commitments to increasing standardisation and volumes of centrally cleared transactions (as addressed by recommendations 1 through 4 above). Increased standardisation of contractual terms and operational processes should lead to greater liquidity and greater availability of reliable pricing data for such products, and thus a greater likelihood that a CCP can effectively risk manage them. For products that remain non-centrally cleared, authorities should set strengthened bilateral counterparty risk management requirements. Specifically, we recommend the following:

5. In determining whether an OTC derivative product is “standardised” and therefore suitable for central clearing, authorities should take into account (i) the degree of standardisation of a product’s contractual terms and operational processes; (ii) the depth and liquidity of the market for the product in question; and (iii) the availability of fair, reliable and generally accepted pricing sources. In determining whether a mandatory clearing requirement should apply, authorities should consider whether the risk characteristics of the product can be measured, financially modelled, and managed by a CCP that has appropriate expertise.
6. Authorities should determine which products should be subject to a mandatory clearing obligation; however, they should not require a particular CCP to clear any product that it cannot risk-manage effectively, and should not mandate central clearing in circumstances that are not consistent with the G-20 objectives. When authorities determine that an OTC derivative product is standardised and suitable for clearing, but no CCP is willing to clear that product, the authorities should investigate the reason for this. Subsequent to an investigation, if authorities determine there is insufficient justification for the lack of clearing, the authorities should take appropriate measures to promote central clearing. Such action could include creating incentives to encourage innovation by CCPs in a timely yet prudent manner or considering measures to limit or restrict trading in OTC derivatives products that are suitable for clearing but not centrally cleared.
7. For market participants to satisfy mandatory clearing requirements, access to CCPs (both direct and indirect, through client arrangements with direct participants) must be based on objective criteria that do not unfairly discriminate. Authorities should create a safe and sound environment for indirect access to clearing, and make any necessary proposals to change the legal framework and rules under which CCPs and market participants operate to achieve this. Authorities should monitor and, if detected, address unjustified impediments to indirect access. Authorities should require that CCPs and direct participants have effective arrangements in place that provide for the segregation and portability of customer positions and assets. In this context, authorities need to address the impact of insolvency laws and conflicts between insolvency laws that may arise in cross-border contexts.
8. Authorities should appropriately tailor any exemptions to mandatory clearing, and should not grant exemptions where doing so could create systemic risk. Authorities should actively monitor the use of any exemptions and review their appropriateness on a regular basis.

9. To help ensure a global regulatory level playing field and increase the safety of the financial system, CCPs that clear OTC derivatives should be subject to robust and consistently applied supervision and oversight on the basis of regulatory standards, that, at a minimum, meet evolving international standards developed jointly by CPSS and IOSCO.
10. Supervisors should apply prudential requirements that appropriately reflect the risks, including systemic risks, of non-centrally cleared OTC derivatives products, such as the reforms proposed by BCBS relating to higher capital requirements. In parallel, authorities should apply similar capital incentives to other financial institutions that trade OTC derivatives and are subject to capital regimes (such as broker-dealers and insurance companies). Authorities should consider whether measures other than capital incentives may be needed to encourage central clearing by market participants that are not subject to capital regimes (such as commercial entities or investors).
11. Recognising that some portion of the OTC derivatives markets, including non-standardised derivatives, will remain non-centrally cleared, authorities must ensure that market participants have robust and resilient procedures in place to measure, monitor and mitigate counterparty credit and operational risks associated with non-centrally cleared contracts. Authorities should set and apply strong bilateral risk management standards, including collateralisation, and require market participants to benchmark themselves against defined best practices. In this regard, the ODSG should continue to secure ambitious commitments from the major dealers for extensions of trade compression, dispute resolution, and portfolio reconciliation. Authorities should actively monitor the non-centrally cleared portion of the market to determine if additional or strengthened measures may be necessary.
12. To minimise the potential for regulatory arbitrage, IOSCO, working with other authorities as appropriate, should coordinate the application of central clearing requirements on a product and participant level, and any exemptions from them.

Promoting trading on exchanges or electronic trading platforms

The G-20 Leaders agreed that all standardised derivatives contracts should be traded on exchanges or electronic trading platforms, where appropriate. It may be appropriate to require trading of standardised derivatives on exchanges or electronic platforms where the market is sufficiently developed to make such trading practicable and where such trading furthers the objectives set forth by the G-20 Leaders and provides benefits incremental to those provided by standardisation, central clearing and reporting of transactions to trade repositories. Also, increasing public price and volume transparency for all derivatives transactions, including non-standardised OTC transactions, should be explored. We recommend the following:

13. IOSCO, with involvement of other appropriate authorities, should conduct an analysis by 31 January 2011 of: (i) the characteristics of the various exchanges and electronic platforms that could be used for derivatives trading; (ii) the characteristics of a market that make exchange or electronic platform trading practicable; (iii) the benefits and costs of increasing exchange or electronic platform trading, including identification of benefits that are incremental to those provided by increasing standardisation, moving to central clearing and reporting to trade repositories; and

(iv) the regulatory actions that may be advisable to shift trading to exchanges or electronic trading platforms.

14. Authorities should explore the benefits and costs of requiring public price and volume transparency of all trades, including for non-standardised or non-centrally cleared products that continue to be traded over-the-counter.

Reporting to trade repositories

G-20 Leaders agreed that OTC derivative contracts should be reported to trade repositories. By providing information to authorities, market participants and the public, trade repositories will be a vital source of increased transparency in the market, and support authorities in carrying out their responsibilities, including (i) assessing systemic risk and financial stability; (ii) conducting market surveillance and enforcement; (iii) supervising market participants; and (iv) conducting resolution activities. Trade repositories also can fulfil an important function as a source of data and downstream event processing services for market participants. We recommend the following:

15. Authorities should ensure that trade repositories are established to collect, maintain, and report (publicly and to regulators) comprehensive data for all OTC derivative transactions regardless of whether transactions are ultimately centrally cleared. Authorities should establish a clear framework for the regulation of trade repositories based on their essential functions as a source of information to authorities, market participants and the public. Trade repositories should be subject to robust and consistently applied supervision, oversight and regulatory standards that, at a minimum, meet evolving international standards developed jointly by CPSS and IOSCO.
16. Market regulators, central banks, prudential supervisors and resolution authorities must have effective and practical access to the data collected by trade repositories that they require to carry out their respective regulatory mandates. Access to trade repository information by official international financial institutions also should be permitted in appropriate form where consistent with their mandates.
17. In addition to current efforts to obtain client consents for regulatory reporting of relevant data, authorities should, where necessary, propose legislative measures to address legal barriers to data collection and dissemination by trade repositories. Authorities should ensure that appropriate dissemination and confidentiality arrangements are in place so that relevant authorities have full and timely access to the data relevant to their respective mandates.
18. Authorities must require market participants to report all OTC derivatives transactions, both centrally-cleared and non-centrally cleared, accurately and in a timely manner to trade repositories, or, in exceptional circumstances, to the relevant authority if it is not possible to report a particular transaction to a trade repository. Where transactions are centrally cleared or otherwise terminated early, reporting to trade repositories also must capture and preserve information on the original terms of the transaction.

19. Authorities with the legal mandate to set requirements for the reporting of transactions to trade repositories should consider the recommendations set out in the forthcoming report of the FSB Data Gaps and Systemic Linkages Group, and consult with the Committee on the Global Financial System (CGFS), the Bank for International Settlements (BIS), the ODSG and ODRF, to identify the data that should be reported to trade repositories to enable authorities to carry out their respective tasks and monitor, among other things, implementation of the G-20 commitments to central clearing and exchange or electronic platform trading. Further, as the data must be able to be readily aggregated on a global basis, by end-2011 CPSS and IOSCO, in consultation with authorities, and with the ODRF, should develop both for market participants reporting to trade repositories and for trade repositories reporting to the public and to regulators: (i) minimum data reporting requirements and standardised formats, and (ii) the methodology and mechanism for the aggregation of data on a global basis.

Assessing progress and cooperating in OTC derivatives market reforms

Many OTC derivatives markets are global, with the same products traded in multiple jurisdictions and by multinational institutions. Given that these markets function on a cross-border basis, it is important that there is international cooperation and coordination to fulfil enforcement and supervision responsibilities, minimise the potential for regulatory arbitrage, and fully and consistently implement the G-20's commitments. We recommend the following to achieve these objectives:

20. The ODSG, working with the standard setters, the BIS, other relevant authorities and market participants, should develop appropriate reporting metrics to measure to what extent the recommendations of this report, and more generally, the G-20 commitments to central clearing, exchange or electronic platform trading, and reporting to trade repositories, are being met. These metrics should be developed, and necessary data identified, on a timeline that will enable the FSB to assess implementation status as of the end-2012 deadline.
21. Authorities should continue to use, promote, and where necessary, develop bilateral or multilateral arrangements to facilitate consultation, cooperation and the exchange of information concerning OTC derivatives markets and participants among all relevant authorities across financial sectors. Authorities should ensure appropriate coordination for the mandatory clearing of OTC derivatives contracts involving parties or instruments in multiple jurisdictions and ensure such contracts are appropriately reported to trade repositories. In addition, the ODRF, working with CPSS and IOSCO, should continue to foster development of common frameworks for effective cooperation and coordination on oversight arrangements and information sharing among the relevant authorities for individual trade repositories and systemically important OTC derivatives CCPs.

1. Introduction

OTC derivatives benefit financial markets and the wider economy by improving the pricing of risk, adding to liquidity and helping market participants manage their risks. While markets in certain OTC derivatives asset classes continued to function well throughout the recent financial crisis, the crisis exposed weaknesses in OTC markets that had contributed to the build-up of systemic risk. These weaknesses included the build-up of large counterparty exposures between particular market participants which were not appropriately risk-managed; contagion risk arising from the interconnectedness of OTC derivatives market participants; and the limited transparency of overall counterparty credit risk exposures that precipitated a loss of confidence and market liquidity in time of stress.

To address these weaknesses, in September 2009, G-20 Leaders in Pittsburgh called for reforms in OTC derivatives markets, agreeing that:

All standardised OTC derivative contracts should be traded on exchanges or electronic trading platforms, where appropriate, and cleared through central counterparties by end-2012 at the latest. OTC derivative contracts should be reported to trade repositories. Non-centrally cleared contracts should be subject to higher capital requirements. We ask the FSB and its relevant members to assess regularly implementation and whether it is sufficient to improve transparency in the derivatives markets, mitigate systemic risk, and protect against market abuse.

Building on these commitments, the G-20 Leaders agreed at the June 2010 Toronto Summit to work in a coordinated manner to accelerate the implementation of OTC derivatives regulation and supervision and to increase transparency and standardisation.²

This report makes specific recommendations designed to promote international consistency in implementation by addressing practical issues that authorities may encounter as they implement the G-20 commitments to central clearing, exchange and electronic platform trading, and reporting to trade repositories.³ The report focuses on the objectives of improving transparency in the OTC derivatives markets, mitigating systemic risk and protecting against market abuse. It proposes regulatory action to increase standardisation and central clearing (Chapters 2 and 3), promote exchange or electronic platform trading (Chapter 4), and require reporting to trade repositories (Chapter 5). The annexes to the report provide further technical analysis and comparative background information on specific points referenced in the report's body.

Overview

As of December 2009, the notional value of outstanding OTC derivatives was over \$625 trillion.⁴ The OTC derivatives markets comprise a wide variety of product types with

² See Executive Summary on p. 1 for the relevant text of the G-20 June 2010 Toronto statement.

³ Annex 1 describes legislative reforms currently underway in some jurisdictions.

⁴ OTC derivatives market activity in the second half of 2009, BIS Monetary and Economic Department (May 2010).

widely differing characteristics and levels of standardisation across multiple asset classes.⁵ OTC derivatives are used in a variety of ways, including for purposes of hedging, investing, exploiting arbitrage opportunities and position-taking, among other things. In the past 10 years, the major OTC derivatives markets have typically grown much more rapidly than the underlying cash markets. Within the OTC derivatives markets, the rate of growth has differed across asset classes, with credit derivatives having experienced a particularly rapid expansion until the financial crisis.

Increasing standardisation and moving to central clearing

The OTC derivatives markets have traditionally been characterised by privately negotiated transactions entered into by two counterparties, in which each assumes the credit risk of the other and manages this risk bilaterally. While OTC derivatives are traded by a diverse set of market participants, such as banks, hedge funds, pension funds and other institutional investors, as well as corporate end-users and government entities, the market is dominated by a limited number of dealers. Derivatives dealers provide liquidity to the market by selling derivatives contracts to customers and managing the resulting risk exposures through offsetting transactions in the underlying assets, exchange traded derivatives, and further trades with dealers and customers in OTC markets. These dealers are therefore highly interconnected through a network of trades, creating contagion risk in the market.

The default of a dealer may result in significant losses for the counterparties of that dealer, either from the counterparty exposures to the defaulting dealer or from the cost of replacing the defaulted trades in times of stress. This may lead to a situation in which other market participants become unable to perform on their own obligations to other counterparties. This could trigger a chain of credit-related losses which could result in severe market disruptions and, in the worst scenarios, potentially cause a chain of defaults. The failure of a major OTC derivatives market participant also could lead to contagion because of uncertainty regarding who is linked to the failed participant, which in turn could cause markets to become illiquid. Although collateralisation typically is used to mitigate counterparty credit risks, if markets become illiquid, firms may encounter falls in the value of collateral and increases in mark-to-market counterparty exposures, as well as delays and difficulty when seeking to sell collateral. This may reduce credit protection, and in turn lead to further downward price adjustments, thereby increasing the amount of collateral required to support position-taking.

The shift of OTC derivatives products to central clearing would make significant progress toward mitigating this systemic risk by improving counterparty credit risk management, allowing multilateral netting, reducing uncertainty about participants' exposures, and increasing transparency of market activity.⁶ Central counterparties (CCPs) mutualise the risk of counterparty failure through the use of pre-funded default and guaranty funds. They also manage counterparty credit risk centrally, which could otherwise be built up through bilateral links between counterparties, and reduce exposures through multilateral netting and through collateralising potential future exposures. By replacing a network of bilateral exposures with

⁵ See Annex 2 for a chart showing the growth of OTC derivatives markets and the current breakdown by major asset class.

⁶ See "Central counterparties for over-the-counter derivatives," BIS Quarterly Review, September 2009; and "Making Over-the-Counter Derivatives Safer: The Role of Central Counterparties," Chapter 3, IMF Global Financial Stability Report, April 2010.

exposures to a CCP, central clearing also reduces uncertainty and can help provide regulators with a clearer picture of market participant exposures.⁷

To fully achieve the benefits of central clearing, a critical mass of OTC derivatives products must move to CCPs. This implies increasing the standardisation of products in order to make them suitable for central clearing. In addition to expanding the pool of derivatives contracts that are suitable for central clearing, increasing standardisation of OTC derivatives products provides other benefits including facilitating effective reporting to trade repositories and improving overall market transparency.

Chapters 2 and 3 of this report examine actions to increase standardisation and central clearing. Recognising that a portion of the derivatives market will not be centrally cleared, Chapter 3 also addresses improvements to the bilaterally risk managed segment of the market.

Promoting trading on exchanges or electronic trading platforms

The OTC derivatives markets are currently relatively opaque due to their privately negotiated, bilateral nature and the limited availability of transaction data such as prices and volumes. In stressed financial circumstances, these characteristics may make OTC derivatives markets less reliable and could lead to increased market and liquidity risks for participants. This opacity also may make valuing transactions more difficult. Because OTC derivatives trading often is not subject to the same level of market surveillance as exchange or electronic platform trading, market abuse may be less likely to be detected.

Exchanges and electronic trading platforms (collectively referred to in this report as “organised platforms”) often provide higher levels of transparency than OTC derivatives trading. This transparency includes both publication of quotes and orders for transactions (pre-trade transparency) and reporting to regulators and to the public of completed transaction details (post-trade transparency).

Although organised platforms are likely to improve transparency, they affect market liquidity and prices in ways that are beneficial for some participants while potentially not beneficial for others. Therefore, the determination of whether to take action to increase organised platform trading must be carefully considered. Furthermore, the determination of when it may be appropriate to require organised platform trading should be considered in light of the incremental benefits that organised platforms may provide relative to increased standardisation, central clearing and reporting to trade repositories.

Chapter 4 discusses factors to be considered and the steps that could be taken to increase exchange and electronic platform trading, and, recognising that further analysis is needed, sets out the parameters for this analysis.

Reporting to trade repositories

Regulators currently do not have a practical means of acquiring a full picture of market participants’ direct and indirect counterparty credit risk exposures. This incomplete picture of risk exposures makes it difficult for regulators to gauge the concentration of risk-taking

⁷ Note that this report uses the term “central clearing” to refer to clearing through a CCP (not clearing through a clearinghouse that processes payments).

activities across markets. During times of stress, this incomplete picture of risk exposures also may complicate official sector actions to stabilise markets.

By centralising the collection, storage and dissemination of information in a consistent fashion, trade repositories (TRs) can fulfil an important function as a credible source of data on OTC derivatives transactions for authorities, market participants and the public. Authorities can use this data source to identify and address vulnerabilities in the financial system and develop better-informed regulatory, supervisory, and other policies that promote financial stability and reduce systemic risk. Use of trade repository data also should help authorities to improve execution of their prudential supervision and resolution mandates, and to permit better market surveillance in service of the objective of protecting against market abuse.

For TRs to be able to fulfil these roles, it is critical that they are able to provide authorities with a global view of the OTC derivatives market for each asset class, covering all centrally cleared and non-centrally cleared transactions, accurately and in a timely manner. The recommendations therefore address regulatory actions to ensure comprehensive reporting of all OTC derivatives transactions.

Chapter 5 addresses the implementation of reporting of OTC derivatives transaction data to, and dissemination of transaction data by, TRs.

2. Standardisation

The G-20 Pittsburgh statement provides that “[a]ll standardised OTC derivative contracts should be traded on exchanges or electronic trading platforms, where appropriate, and cleared through central counterparties...”. In June 2010 in Toronto, the G-20 Leaders reaffirmed this commitment, and expressly stated their objective of increasing standardisation in the OTC derivatives markets.

Sufficient standardisation is a prerequisite for central clearing and exchange or electronic platform (collectively, “organised platform”) trading. Implementing the G-20 commitments to central clearing and appropriate organised platform trading in relation to particular OTC derivatives products demands a certain level of judgement regarding the degree of standardisation required. While the term “standardised contracts” could be narrowly interpreted to mean all contracts with standard contractual terms, in practice a more comprehensive set of elements, discussed below, must be considered in determining whether a product is sufficiently standardised to be suitable for central clearing and appropriate for trading on an organised platform.

Increasing standardisation in OTC derivatives markets has a number of benefits beyond increasing suitability for central clearing and organised platform trading. Increasing standardisation should improve the market in a number of ways, including: facilitating automated processing of transactions; increasing the fungibility of the contracts which enables greater market liquidity; improving valuation and risk management; increasing the reliability of information; reducing the number of problems in matching trades; and facilitating reporting to TRs.

As automated post-trade processing helps to promote product standardisation and is necessary to make central clearing and organised platform trading feasible, this chapter begins with a discussion of the current state of post-trade processing. The chapter then examines the elements that make an OTC derivative contract “standardised” and therefore suitable for clearing and appropriate for organised platform trading. The remainder of this chapter discusses the forces that drive the creation and use of non-standardised (bespoke) products, and implications for continued use of bespoke products as the G-20 commitment to increasing standardisation is implemented.

2.1 Post-trade processing and product standardisation

Following trade execution, OTC derivatives transactions require considerable operational processing, which must function efficiently and in an automated way for central clearing and reporting to TRs to be successful.⁸ Post-trade processes have improved significantly over the past five years in terms of efficiency and level of automation, but have developed at different rates in each of the asset classes.⁹

⁸ See Annex 3 for a graphic depiction of the post-trade processing lifecycle.

⁹ Among the improvements: (i) business processes have been improved to achieve same-day matching and to adopt and implement standard technology platforms; (ii) backlogs of unconfirmed trades have been reduced, and are now nearly non-existent for credit derivatives; (iii) dealers are accurately matching their trades at rates above 90% for credit, interest rate, and equity asset classes.

2.1.1 State of post-trade processing for OTC derivatives

In 2005, supervisors became concerned with the manually intensive nature of post-trade processing practices leading to lengthy confirmation lags, particularly in the credit default swap (CDS) market. Combined with increasing volumes, these issues contributed to a large backlog of unconfirmed trades. This backlog was a source of operational risk, as well as counterparty credit risk because counterparties did not have a full picture of their real exposures.

Over the past five years, market participants have worked with their primary supervisors to improve the post-trade processing environment (with supervisory cooperation having evolved to form the ODSG). Because of the heterogeneous nature of the OTC derivatives markets, improvements in automation have been inconsistent across asset classes.¹⁰ While significant progress has been made in automating CDS processing, in other asset classes, supervisors and market participants continue to work on the early prerequisites to full automation, such as greater documentation standardisation and electronic matching.

2.1.2 Automation and straight-through-processing (STP)

While the improvements since 2005 have laid the groundwork for achieving current G-20 objectives and have increased standardisation in the market, further standardisation and improvements are necessary to enable central clearing of large volumes of OTC derivatives by automating and further integrating the systems and processes. Full automation and straight-through-processing (STP)¹¹ facilitate central clearing and reporting to TRs, but cannot be accomplished without further product standardisation as well as standardisation of documentation, automation of manual processes, and changes to business practices.

For STP, automation is required particularly in the early steps of a transaction. Voice broking, currently a common way to negotiate trades, would need to make timely use of electronic confirmation systems in order for this means of trading to support STP. In addition, in some types of trading, manual bilateral processes may exist which need to be automated to reduce operational risk and reduce the amount of time each step of the trade process takes.¹²

2.2 Standardisation for central clearing and organised platform trading

When determining whether an OTC derivative contract is to be regarded as standardised and suitable for central clearing, authorities should take into account:

1. the degree of standardisation of a product's contractual terms and operational processes;
2. the depth and liquidity of the market for the product in question; and

¹⁰ See Annex 4 for a chart depicting the varying rates of automation.

¹¹ STP refers to the seamless integration of systems and processes to automate the trade process from end-to-end trade execution, confirmation and settlement. See SIFMA glossary (available at <http://www.sifma.org/services/techops/stp/other/STPGlossaryv3.0.xls>).

¹² According to the ISDA 2010 Operations Benchmarking Survey, in credit derivatives, for example, in 2009 13% of trade records contained errors, 56% of which were attributable to front office staff (survey available at http://www.isda.org/c_and_a/pdf/ISDA-Operations-Survey-2010.pdf).

3. the availability of fair, reliable and generally accepted pricing sources.¹³

As outlined in Chapter 1, centralising counterparty credit risk management of OTC derivatives products in CCPs is a key way to mitigate the systemic risk posed by the failure of a significant OTC derivatives market participant. If counterparty credit risk management is centralised in CCPs, CCPs must be able to appropriately risk manage the products they clear to help mitigate systemic risk. Thus, when determining whether a particular product should be considered standardised and suitable for central clearing, authorities should consider whether the risk characteristics of the product can be measured, financially modelled and managed by a CCP that has appropriate expertise.¹⁴

The interaction of the factors discussed above emphasises the importance of legal and operational standardisation. Although not sufficient on its own, legal and operational standardisation of OTC derivatives products can help to concentrate trading interest in particular products, increasing liquidity and the availability of reliable pricing sources. With these changes, the likelihood that such products can be risk managed by a CCP and eventually centrally cleared also increases.

Authorities should work with market participants to increase standardisation of OTC derivatives products' contractual terms. In setting priorities for increased standardisation of contractual terms, authorities should consider the systemic relevance of particular types of OTC derivatives products, including by assessing factors such as volumes and exposures. **(Recommendation 1)**

Authorities should work with market participants to increase the proportion of the OTC derivatives markets that uses standardised operational processes and straight-through-processing. Greater use of standardised, automated processes will promote the use of standardised products. **(Recommendation 2)**

To achieve increased standardisation of contractual terms and greater use of standardised operational processes as set out in the above recommendations 1 and 2, the OTC Derivatives Supervisors Group (expanded to include relevant market regulators) (ODSG) should continue to secure ambitious commitments from the major OTC derivatives market participants. These commitments should include publishing a roadmap by 31 March 2011 with demanding implementation milestones for achieving greater standardisation and, as an interim measure until mandatory clearing requirements are fully implemented, increasing volumes of centrally cleared transactions. The roadmap should set forth baseline metrics and forward-looking targets against which market participants will be measured. **(Recommendation 3)**

¹³ See "General considerations for clearing OTC derivatives products," found in Annex 1 to the RCCPs (cf. footnote 23 and text box p.30).

¹⁴ This analysis is distinct from the determination of whether a specific CCP is capable of effectively managing the risk of clearing a particular product. CCPs may be specialised, and may only be capable of risk-managing a subset of standardised OTC derivatives. It is conceivable that a product may be standardised and suitable for clearing but with no specific CCP willing to clear it. See Section 3.2.1 regarding approaches authorities may take to deal with this situation.

Authorities should develop incentives and, where appropriate, regulation, to increase the use of standardised products and standardised processes. Authorities should examine new market activity on a regular basis to monitor the extent to which market participants may be trading non-standardised contracts solely for the purpose of avoiding central clearing and trading requirements and take steps to address such behaviour. (*Recommendation 4*)

2.2.1 Legal and operational standardisation

OTC derivatives contractual terms must be standardised to facilitate organised platform trading and central clearing but they need not be identical for each parameter. Rather, legal and operational standardisation will impose some structure on the terms of the contract that will facilitate automated processing and the ability for participants to replicate the trade easily. This allows market participants to trade in and out of contracts more easily, which in turn enables greater market liquidity.

Credit Default Swap standardisation

Both product and process standardisation are interrelated and key conditions for increased automation and central clearing of OTC derivatives. As a result of targeted supervisory encouragement since 2005, credit derivative market participants have standardised CDS product design and post-trade processes in tandem, leading to greater operational efficiencies, encouraging higher volumes in standardised transactions, and most significantly, providing the requisite operational environment for the implementation of centralised risk-reducing infrastructure, including portfolio compression, reporting to TRs and central counterparty clearing. Many standardised processes have become codified into CDS legal documentation and trading conventions, and in turn, the standardisation of product design has enabled market participants to implement infrastructure that automates and centralises other processes.

The experience with CDS has demonstrated the close interrelation of product and process standardisation. For example, the standardisation of coupons in the single-name CDS product was largely motivated by the desire to standardise an efficient process for offsetting contracts. The market-wide adoption of fixed coupons allowed single-name CDS instruments to be centrally cleared, in effect standardising counterparty credit risk management in these products. The “Big Bang Protocol”¹⁵ further standardised a number of critical operational processes. The protocol: (i) “hardwired” a standard auction mechanism into CDS trading documentation, eliminating the need for *ad hoc* protocols; (ii) incorporated the resolutions of the ISDA Determinations Committees into the terms of standard CDS documentation; and (iii) instituted a common standard effective date for CDS transactions. Codifying key standardised processes into the products has brought greater certainty to managing the risk of CDS transactions and has provided the structural foundation for greater automation, higher volumes in standardised transactions, and ultimately to the establishment of centralised risk-reducing infrastructure, such as CCPs.

¹⁵ 2009 ISDA Credit Derivatives Determinations Committees and Auction Settlement CDS Protocol (available at: <http://www.isda.org/bigbangprot/docs/Big-Bang-Protocol.pdf>).

Legal standardisation refers to the use of common legal documentation, including master netting agreements, definitions and confirmations which set forth contract specifications commonly used by market participants. Industry standard documentation, such as the widely used ISDA¹⁶ Master Agreement and related asset-class-specific definitions and confirmations, offer a framework for documenting the trading relationship between counterparties for OTC derivatives products. In addition to providing a means of establishing the economic terms of transactions in a standardised format, the framework is designed to set forth the legal and credit relationship between the parties and to facilitate cross-product netting of transactions in the event of a close-out.¹⁷

Operational standardisation is measured by the extent to which product trade processing and lifecycle events are managed in a common manner to a widely agreed-upon timetable. Lifecycle events include trade capture and revision, confirmation, settlement, and close-out or termination. Common handling of lifecycle events indicates that an OTC derivative market may be suitable for central clearing because the clearing process incorporates many of these practices as a matter of course.

In addition, standardisation of certain trading conventions may facilitate central clearing and organised platform trading. For example, the move to standardisation of several product features in the CDS market has facilitated the industry's move to central clearing of CDS.¹⁸ The use of common identifiers for underlying asset references or reference entities (such as Markit's RED Codes) is an additional example of components of derivatives contracts that can be standardised and facilitate central clearing and reporting to trade repositories.

A degree of flexibility for certain contractual terms may be retained in products that are nonetheless sufficiently standardised to be suitable for central clearing and trading on organised platforms. Such terms may include payment dates, maturities, and the inclusion of payment triggers or options based on different underlying events. However, general agreement on the menu of terms for a given product is required. If there is a common agreement on definitions, and a commonly agreed upon range within which certain economic parameters can be modified, some degree of customisation of terms may be possible.¹⁹ The degree of customisation can impact the liquidity of the contract.

Certain product types are already recognised by the G-14 dealers as highly contractually and operationally standardised. This includes the vast majority of credit derivatives products; almost all interest rate derivatives products; and the majority of OTC equity derivatives products.²⁰ One metric that can be used to assess the level of operational standardisation by product type is the percentage of total dealer-to-dealer transaction volume that is

¹⁶ The International Swaps and Derivatives Association (ISDA) is the trade association for the OTC derivatives industry (<http://www.isda.org>).

¹⁷ Such netting benefits are discussed further in Section 3.6.1.

¹⁸ See box on p. 13 for more detail on CDS standardisation.

¹⁹ For example, some derivatives exchanges offer exchange-traded products that permit customization of contracts within certain specified parameters. See, e.g., Chicago Board Options Exchange Flexible Exchange Options (FLEX Options), which permit customisation of exercise price, exercise style and expiration dates. FLEX Options are cleared through a central counterparty.

²⁰ These statements are based upon analyses prepared by the G-14 dealers in connection with their commitments to their primary supervisors. See box on p. 26 and footnote 36.

electronically processed. By this metric, credit derivatives products, interest rate derivatives products, energy commodities derivatives products, and foreign exchange non-deliverable forwards are all highly operationally standardised.²¹

2.2.2 Market liquidity of OTC derivatives products

Authorities should consider market liquidity when determining whether a product is standardised and suitable for central clearing and appropriate for organised platform trading.

With regard to suitability for central clearing, authorities should consider a CCP's ability to manage its position in the product if a clearing member defaults. A CCP faces market risk following a default by a clearing member, as the default results in the CCP having an unbalanced book. Thus, the CCP's ability to rebalance its book via the market (by closing out, liquidating or hedging its positions with the defaulting member), or through default management mechanisms with the remaining clearing members (by auctioning off or allocating defaulted positions), is critical. A CCP's ability to rebalance its book via the market after the default of a clearing member depends on the liquidity of the market; hence the importance of market liquidity for an OTC derivatives product when determining whether the product is sufficiently standardised to be suitable for central clearing. Nevertheless, a derivatives product still may be suitable for clearing by a CCP, even if it cannot be reasonably ruled out that the market for the product could become illiquid in times of stress. In such circumstances, a CCP may have rules establishing default management arrangements whereby their clearing members agree *ex ante* to bid in an auction of the defaulting member's portfolio, and, in extreme cases (i.e., if the auction process fails), although not a solution for illiquidity, accept an allocation of the portfolio.²²

With regard to organised platform trading, it must be noted that there are numerous examples of attempted exchange trading of highly standardised futures contracts which failed to establish sufficient liquidity and ultimately were abandoned. Of course the degree of liquidity required for successful organised platform trading also will depend on the nature of the particular platform. Typically, a higher degree of liquidity may be required for successful exchange trading than may be required for central clearing.

In assessing liquidity, consideration should be given to whether the liquidity in the market for the OTC derivatives product has historically remained stable through time, and whether it is likely to remain sufficiently liquid following the default of a clearing member. With regard to the latter criterion, consideration should be given to whether an OTC derivatives product is traded by a diverse and balanced range of active participants. For example, it may not be possible to hedge a position via the market in a product where there are only one or two dominant market participants.

²¹ See Annex 4 which sets out the percentages of total deal volume as reported by the G-14 dealers across all counterparties that are executed bilaterally and processed (i.e., confirmed) on electronic platforms.

²² See "Guidance 6.1. Ex ante arrangements for surviving participants' active role in the default procedures," Guidance on the application of the 2004 CPSS-IOSCO Recommendations for Central Counterparties to OTC derivatives CCPs by IOSCO and CPSS (May 2010). See also box on p. 30.

2.2.3 Availability of pricing data for OTC derivatives products

Authorities should consider the availability of adequate pricing data in the market for the product when determining whether a product is standardised and suitable for clearing.²³

Pricing data is needed for product positions to be marked to market and for participants to post variation margin. Pricing data is also needed for a CCP to model potential future price movements and to set initial margin and default fund requirements accordingly. Long run historic data needs to be available, including, ideally, for stressed periods, to set these levels effectively.

Pricing data may be available through a liquid market. Organised platforms may provide prices based on orders in a limit order book. In the case of dealer quotations, there should be an adequate number of market-makers with the expertise to quote a price on the product. OTC derivatives markets are quote-driven and therefore require separate services that aggregate quoted prices from multiple market participants (e.g., major dealers) and calculate composite consensus prices.

In the absence of market prices, pricing data may be derived from generally accepted pricing models or closely aligned pricing indices. For example, certain OTC derivatives products are priced by reference to liquid and transparent international pricing benchmarks.

Products for which reliance on model-based prices poses particular challenges for effective risk management, and where other pricing sources are not available, may not be sufficiently standardised to be suitable for central clearing. Such products may include those with highly volatile markets, or those with idiosyncratic product features, embedded optionality, or discontinuous processes (such as “jump-to-default”). New or developing products also may embed risks that are not fully appreciated or anticipated. Such embedded risks may include uncertain correlations between products, which can be important for price monitoring, portfolio margining and default management. New and developing products that require reliance on model-based pricing for risk management likewise may not be sufficiently standardised to be suitable for central clearing.

In determining whether an OTC derivative product is “standardised” and therefore suitable for central clearing, authorities should take into account (i) the degree of standardisation of a product’s contractual terms and operational processes; (ii) the depth and liquidity of the market for the product in question; and (iii) the availability of fair, reliable and generally accepted pricing sources. In determining whether a mandatory clearing requirement should apply, authorities should consider whether the risk characteristics of the product can be measured, financially modelled, and managed by a CCP that has appropriate expertise.

(Recommendation 5)

²³ The CPSS-IOSCO Consultative Report, “Guidance on the application of the 2004 CPSS-IOSCO Recommendations for Central Counterparties to OTC derivatives CCP” (available at <http://www.bis.org/publ/cpss89.pdf?noframes=1> and <http://www.iosco.org/library/pubdocs/pdf/ioscopd320.pdf>.) notes that with respect to pricing, a CCP should consider: (i) whether there is sufficient price transparency in the market for the product to allow for determining fair, reliable and generally accepted pricing; (ii) whether the market for the product is served by one or more consensus pricing sources that are fair, reliable and generally accepted; (iii) whether pricing the instrument depends on other external information sources (e.g., BBA reference rates); and (iv) whether there is sufficient historical pricing data for the product to determine fair, reliable and generally accepted pricing.

2.3 Bespoke OTC Derivatives

As outlined in Chapter 1, the recent financial crisis exposed weaknesses in OTC derivatives markets that had contributed to the build-up of systemic risk. These weaknesses included the build-up of large counterparty exposures between particular market participants which were not appropriately risk-managed; and contagion risk arising from the web of interconnectedness of market participants created by bilateral clearing of OTC derivatives products; and the limited transparency of overall counterparty credit risk exposures. Bespoke products may be particularly susceptible to these weaknesses, as evidenced by market participants' failure to appropriately risk manage a number of bespoke credit derivatives products. The G-20 commitments aim to mitigate the systemic risk of bespoke products in the future by increasing standardisation and transparency.

Despite the benefits that standardisation and central clearing of OTC derivatives products provide, legal and operational standardisation imposes structures and limitations on the economic function of a derivatives product. Market participants looking to hedge a specific risk may not find a standardised product that would effectively match their exposure and instead may prefer to use a bespoke product. Because they are customised to meet particular user needs, bespoke OTC derivatives products often will not have the level of standardisation required for central clearing or trading on organised platforms.

This section of the report discusses the reasons that some firms opt to use bespoke products and why dealers provide them. An implication of this analysis is that non-standardised bespoke products will continue to represent a portion of the OTC derivatives markets. However, as non-standardised products are not suitable for central clearing, bilateral risk management of these products should be improved.

2.3.1 Characteristics of bespoke products

Bespoke products range from tailored but very simple to products that are highly complex. Customised features of bespoke products may include, among others: (i) underlying assets; (ii) strike prices; (iii) payouts; (iv) currency; (v) caps and floors; and (vi) exercise dates. Examples of bespoke products and typical users are set out in Annex 5.

Some products may be so complex or customised they may require a day or more to price (and weeks to negotiate the governing documents). There may not be secondary market pricing sources for many bespoke derivative products. These factors can make central clearing of bespoke products difficult. Although they are customised, if bespoke products use some sufficiently standardised terms such as exercise dates, they may lend themselves to some level of operational standardisation. Bespoke products that reach a sufficient level of standardisation may be clearable and appropriate for trading on organised platforms.

2.3.2 The demand for bespoke products

Demand for bespoke products comes from a variety of market participants. These include non-financial corporate end-users such as airlines, financial sector end-users such as insurance companies and banks, as well as hedge funds and institutional investors including pension funds, mutual funds, university endowments, and sovereign wealth funds. Derivatives dealers themselves also may have tailored needs that can be met through the use of bespoke products.

The primary reasons why some market participants currently prefer bespoke products to standardised products, and may continue to do so in the future, are: (i) to achieve more precise hedging; (ii) to meet the stringent criteria required for hedge accounting treatment; and (iii) to create tailored investment strategies. In addition, with the implementation of mandatory clearing requirements and their associated additional costs, market participants may have increased incentives to use bespoke products. Another factor that may drive the demand for bespoke products is that they may be tailored to exploit loopholes in regulations.²⁴

Market participants may choose bespoke products when they are better able to meet their specific, non-standard, hedging needs. In some cases, an OTC derivatives product that is precisely tailored to a user's specific needs may allow the user to hedge at lower cost than if the user relied on more standardised products.²⁵

In addition to more precise hedging, many market participants use bespoke products because the hedges that they provide are more likely to meet the stringent criteria for hedge accounting under the standards of either the International Accounting Standards Board (IASB) or the U.S. Financial Accounting Standards Board (FASB). One of the criteria requires a demonstration of a high degree of correlation between the hedging derivative and the hedged risk both at the outset of the hedge and on an ongoing basis, which is referred to as being "highly effective."²⁶ If this criterion is not met, and the derivative used to hedge a position and the position itself receive different accounting treatments, these differences can create volatility in the firm's accounting profit and loss (P&L) and can increase the firm's cost of capital.²⁷

Market participants also may invest in bespoke products as a method to more efficiently take on risk exposures for position-taking purposes. For example, an investment manager may

²⁴ For example, an institutional investor that is bound by rules that prevent it from investing in equities may be able to invest in OTC derivatives such as equity linked notes, a fixed income instrument whose performance is linked to equity markets. Additionally, if regulatory capital charges differ for illiquid loans in the banking book, and for tradable products whose performance is tied to those loans, then an OTC derivative product that is tied to those loans may permit the end-user to obtain exposure to some of the risk of those loans while avoiding the regulatory capital charges associated with directly investing in the loans themselves. Hedge accounting requirements and rules that require derivatives exposures to be marked at their fair value were put in place to address this particular issue.

²⁵ For example, a firm located in Country X that makes periodic purchases from Country Y on specific dates faces unique firm-specific risk related to the average Country X/Country Y currency rate that the firm pays on the days that it exchanges Country X's currency for Country Y's currency to effect purchases from Country Y during the month. A firm may choose to use an OTC derivatives product that is based on the average of the exchange rates on the firm's purchase dates if such bespoke products provide the firm with a more effective and less costly hedge than is available by using only standardised products.

²⁶ Among the requirements for a hedge to be highly effective is a requirement that the hedging instrument (derivative) be expected to achieve high offset, generally interpreted in practice as a change of 80 – 125% of the change in the value of the hedged item.

²⁷ In some cases, movements toward fair value accounting can result in volatility from derivatives being automatically offset against hedged risks, reducing the need for hedge accounting treatment. However, many firms may still desire hedge accounting treatment even if all financial instruments are measured at fair value on the balance sheet. Moreover, fair value rules and hedge accounting rules are currently being modified. This is expected to take time for both the international financial reporting standards and US GAAP, and the final shape of these rules is uncertain. See Annex 6 for additional detail on hedge accounting, the fair value option and FASB/IASB consideration of fair value accounting.

have a view on how a particular set of firms will perform over time and use a derivative to obtain equity exposure to that particular basket of firms.²⁸

Another factor that could influence the use of bespoke products in the future is a desire to avoid mandatory clearing requirements that apply to standardised products. In some cases, market participants may seek to avoid the additional direct costs associated with the requirement to post initial margin and make guaranty fund contributions that comes with central clearing. However, other, more indirect costs, such as those from wider bid-offer spreads and lower capital requirements, may be lower with centrally cleared products. Dealers also may benefit from higher profits on bespoke products, and they may therefore be incentivised to create bespoke products to maintain greater opacity in pricing than they would otherwise be able to if the products were centrally cleared and traded on organised platforms. On the other hand, as mandatory clearing requirements are implemented, market participants' needs for bespoke products may decrease as a wider selection of standardised products become available. Authorities should monitor the OTC derivatives markets to determine whether bespoke products are being used to avoid central clearing and organised platform trading requirements, and take appropriate action to address this if detected.²⁹

2.3.3 Dealers' role as suppliers of bespoke products

As is the case for many standardised OTC derivatives, dealers are generally on at least one side of a bespoke products transaction, and in some cases act as market makers. Dealers supply the bespoke products and then manage the risk transferred to them from the users. Users may be willing to pay a fee to transfer such risks to the dealers because the risks may be costly or difficult for them to manage on their own. Dealers are willing to take the risks because they can manage them as part of their overall risk portfolio more cheaply or easily than users.

When dealers trade bespoke products, they manage the associated risk in several ways. They may sell some of the risk to other dealers or clients; hedge the risk either dynamically or statically by taking positions in other products, including standardised or exchange traded products; and they may choose to have open exposures to the remaining portions of risk that they cannot hedge.

2.3.4 Implications of increasing usage of standardised products

As more OTC derivatives products are standardised and moved to central clearing and traded on organised platforms, the costs and benefits to users of such products may change, depending on the individual users, products, and trading conditions.

Market participants may benefit from lower costs if they are able to generate the same or better cash flows using standardised products as they were able to achieve by relying on bespoke products. Standardisation may result in additional liquidity and competition which may, in turn, reduce spreads compared to bespoke products, particularly when traded on an

²⁸ It may be less expensive to invest in a bespoke derivative product whose value is linked to how that basket of stocks performs than to invest in the underlying stocks, especially if some of them are illiquid. Because the firms that are included in a basket are customised for the investor, such positions, although individually simple, are highly bespoke.

²⁹ See Recommendations 4 and 11, and Sections 3.5 and 4.4 of this report for a more in depth discussion of how authorities can address inappropriate use of bespoke derivatives products.

organised platform.³⁰ In addition, if standardised products are centrally cleared, a user may benefit from relatively lower capital requirements as well as additional collateral protections, such as segregation and portability in the event of a clearing member's insolvency, which may not be available when the user relies upon bespoke product transactions with bilateral counterparties.³¹

Increased standardisation may increase hedging costs or exposures to unwanted risks for some users if standardisation results in less availability of bespoke products to construct precise hedges. In addition, if standardised products are centrally cleared, some users may have to provide additional collateral to the CCP to clear the product which would introduce a new funding cost and also a new liquidity risk to manage.³²

³⁰ See Chapter 4 for more on the benefits and limitations of exchange and electronic trading of derivatives products.

³¹ In the case of centrally cleared OTC derivatives products, segregation refers to a collateral holding arrangement pursuant to which a collateral recipient (i.e., clearing member or CCP) holds a client's (i.e., end-user's) collateral in an account segregated from the clearing member's own assets so as to protect the client's assets from the insolvency of a clearing member. Portability refers to the ability to transfer or novate a clearing member's client positions and assets in the custody or control of the CCP to another clearing member in the case of the original clearing member's insolvency. See Section 3.3.2 which addresses concerns regarding indirect access to CCPs and client clearing.

³² Historically, corporate end-users have not been required to post collateral *per se*; dealers, in many cases, built the cost of their credit exposures to such end-users into the price of the product.

3. Central clearing

To help mitigate counterparty credit risk, a key component of systemic risk in the OTC derivatives markets, the G-20 Leaders agreed that all standardised derivatives should be cleared through central counterparties by end-2012 at the latest. They also agreed that non-centrally cleared contracts should be subject to higher capital requirements. In combination with setting mandatory clearing requirements and raising capital requirements for non-centrally cleared contracts to reflect their risks, including systemic risks, authorities should (i) incentivise greater use of central clearing, including by securing industry commitments related to standardisation and increased central clearing, and (ii) set strengthened bilateral counterparty risk management requirements for products that remain non-centrally cleared. Taken together, these approaches form a complementary package that should significantly increase the portion of the OTC derivatives markets that is centrally cleared and reduce risks.

This chapter assesses the practical steps that need to be taken by jurisdictions to implement the G-20 commitment to central clearing in a consistent way. As more OTC derivatives products are centrally cleared, the soundness of CCPs will assume an even more important position in the financial system. This chapter therefore also assesses key regulatory requirements for CCPs.

3.1 Progress toward central clearing

Measuring progress toward central clearing presents challenges. While infrastructure is being put in place, much work remains to achieve the commitment that all standardised OTC derivatives products are centrally cleared. Metrics need to be developed that provide the basis for more meaningful analysis and better quality data made available to enable authorities to set clearing targets. This section of the report assesses the current state of central clearing based on information that is currently available, and identifies how data reporting needs to improve, highlighting the importance of TRs going forward.

Progress toward central clearing can be seen in the establishment of CCPs that clear OTC derivatives products. Several CCPs have been established that clear OTC derivatives, primarily interest rate swaps, CDS and commodity-related swaps. Major OTC derivatives CCPs and the derivatives products they clear are set out in Annex 7.

Measuring the extent to which standardised derivatives are being cleared on CCPs presents challenges. One metric is that used by the G-14 dealers for their clearing commitments to their primary supervisors is based on a narrow definition of “eligible” products.³³ This measure, however, provides only limited insight.

Another metric could be the percentage of notional amount outstanding that is centrally cleared. Based on currently available data, however, only estimates can be made. The table below sets out the estimated percentage by asset class and product type of notional amounts outstanding of OTC derivatives on CCPs. This percentage represents the portion of outstanding trades for which a CCP is a counterparty. This may under-represent the total volume of trades that are centrally cleared, particularly with respect to CDS, as in some cases

³³ See text box on p.26.

trades between dealers and the CCP may be netted into a smaller number of outstanding trades.³⁴ Furthermore, total notional amount outstanding as set out in the table below does not include non-dealer to non-dealer transactions; in addition, the total notional outstanding presented for interest rate swaps and credit default swaps represents predominantly dealer-to-dealer trades, as trades with a dealer on only one side of the transaction are not consistently reported.

Estimated percentages of major OTC derivatives asset classes and products on CCPs¹			
	Total notional outstanding (USD equivalents in trillions)	Notional outstanding on a CCP (USD equivalents in trillions)	Percentage of total on a CCP
Interest rate derivatives ²	356.8	108.4	31%
- Interest rate swaps	231.6	108.0	47%
- Basis swaps	12.5	0.4	3%
Credit default swaps ³	25.0	3.3	13%
- Multi name	10.4	2.3	22%
- Single name	14.7	1.1	8%
Equity ⁴	6.6	0	0
Commodity	2.9 ⁴	–	20 – 30% ⁵
Foreign exchange ⁴	49.2	0	0

¹ This table represents an estimation of central clearing in major OTC derivatives asset classes and products as of September 2010 and should not be interpreted as an indication of the level of standardisation or the clearability of the asset classes and products identified. ² Source: TriOptima, end July 2010. To ensure that the total notional outstanding amounts are comparable with outstanding volumes for other non-centrally cleared OTC derivatives, the presented numbers have been adjusted to include only one contract for every two contracts booked with a CCP. Without this adjustment, the total notional amount outstanding is equal to the sum of the adjusted notional and the notional on a CCP. For example, for all interest rate derivatives this number is 356.8+108.4=465.1. ³ Source: DTCC, end July 2010. This number may under-represent the total volume of trades that are centrally cleared, as in some cases, trades between dealers and the CCP may be netted into a smaller number of outstanding trades. ⁴ Source: BIS, end December 2009. ⁵ Source: Approximation based on supervisory data, September 2010.

The difficulties in obtaining useful and comparable central clearing data are a serious impediment to understanding the overall state of the OTC derivatives markets and setting central clearing targets. Because of the challenges presented by currently available data, and because the determination of which products can be standardised and risk managed by a CCP requires knowledge of market conditions and product risk and liquidity characteristics, market participant cooperation will be vital for authorities in determining where increasing

³⁴ There seems to be very limited multilateral netting of interest rate derivatives, including those that are on a CCP. In contrast, there appears to be substantial multilateral netting and termination of CDS contracts, including those that are not on a CCP.

standardisation and central clearing is feasible. In this regard, securing the commitment of market participants to produce a roadmap with demanding implementation milestones, baseline metrics and forward-looking targets will be an important input.³⁵ Ensuring that requirements for reporting to TRs include parameters that capture the data necessary to apply meaningful metrics, as further discussed in Chapter 5, is also critical.

The ODSG, working with the standard setters, the BIS, other relevant authorities and market participants, should develop appropriate reporting metrics to measure to what extent the recommendations of this report, and more generally, the G-20 commitments to central clearing, exchange or electronic platform trading, and reporting to trade repositories, are being met. These metrics should be developed, and necessary data identified, on a timeline that will enable the FSB to assess implementation status as of the end-2012 deadline. *(Recommendation 20)*

3.2 Regulatory implementation of a mandatory clearing requirement

In principle, all derivatives that are sufficiently standardised with regard to the factors set out in Section 2.2 of this report should be centrally cleared. For OTC derivatives products that are not centrally cleared, higher capital requirements should reflect the higher systemic risk costs of these derivatives. As market participants that are subject to capital regimes will thus be paying for the costs of their contributions to systemic risk, they should be incentivised to move toward standardised and clearable derivatives products that present less systemic risk.

As discussed more in depth in Section 3.4, there are limits to what risk based capital incentives can, and should, achieve with regard to incentivising a shift to central clearing. There are also limits to what can be achieved through the use of additional measures to incentivise central clearing, discussed in detail in Section 3.5, such as exercising supervisory examination powers and securing market participant commitments,.

Therefore, as higher capital requirements and other measures are unlikely to achieve the shift of all standardised OTC derivatives to central clearing on their own, authorities should implement mandatory clearing requirements where necessary to ensure that all standardised derivatives are centrally cleared.

³⁵ See Recommendation 3.

Clearing targets established by the OTC Derivatives Supervisors Group

The ODSG started working with a group of the major credit derivatives dealers in 2005 to address confirmation backlogs and other operational processing issues. More recently, the ODSG has been working with market participants to encourage central clearing of certain OTC derivative products. The market participants committed in July 2008 to using a CCP for credit derivatives and in September of 2009 established targets for submitting and clearing trades for interest rate derivatives and credit derivatives. In March 2010, the G-14 dealers set dates to increase many of these targets.³⁶

The metric used by the G-14 dealers to assess whether they are meeting their clearing commitments is the percentage of new and historical “eligible” products³⁷ that are being centrally cleared.³⁸ In general, the G-14 dealers have been meeting their clearing targets defined in terms of eligible OTC interest rate and credit derivatives.³⁹

3.2.1 Role of authorities in determining products subject to mandatory clearing

Authorities should determine which products should be subject to a mandatory clearing obligation, to ensure that public policy is being set by the authorities rather than by CCPs. When authorities, taking into account the factors set out in Section 2.2 above, determine that a product is standardised and suitable for clearing, but no CCP is willing to clear that product, authorities should investigate the reason for this. Among other things, authorities may examine whether legitimate risk issues discourage CCPs from offering the product or whether conflicts of interest exist in the governance of relevant CCPs. Subsequent to an investigation, if the authority determines there is insufficient justification for the lack of clearing, the authority should act, where appropriate, to facilitate central clearing. Such action may include creating incentives to encourage innovation by CCPs in a timely yet prudent manner or considering measures to limit or restrict trading. When considering such actions, authorities should have regard to issues such as the impact on users who rely on the product in question for effective risk management, and the potential for incentivising the use of other products. It may be the case that authorities will need additional statutory authority to take such measures.

Authorities need to implement mandatory clearing requirements in a manner conducive to the ultimate objective of systemic risk reduction. To deal with the practical challenges presented, limited exemptions from application of mandatory clearing requirements that are internationally coordinated may be warranted. Authorities should bear in mind that not subjecting a particular product to mandatory clearing requirements could create a potential for regulatory arbitrage, as market participants may design contracts so that they fit the terms of a

³⁶ The G-14 commitment letter, listing the firms in the G-14 (comprising the largest 14 OTC derivatives dealers), is available at: http://www.newyorkfed.org/newsevents/news/markets/2010/100301_letter.pdf.

³⁷ “Eligible” is defined by the G-14 dealers to mean transactions where both counterparties belong to the CCP which accepts the product for clearing.

³⁸ As of March 2010, for OTC interest rate derivatives, the G-14 dealers have committed to their supervisors to collectively clear over 90% of new “eligible” interest rate derivatives (weighted average notional) and 75% of historical “eligible” trades (weighted average notional). For OTC credit derivatives, the G-14 have committed to collectively clear 85% of all new and historical “eligible” trades (weighted average notional).

³⁹ As of July 2010: for OTC interest rate derivatives: 93% of new “eligible” trades and 80% of historical “eligible” trades; for OTC CDS: 82% of new “eligible” trades and 96% of all historical “eligible” trades.

product that is not required to be cleared. Authorities will need to actively monitor whether this is occurring on a material scale.

Authorities should determine which products should be subject to a mandatory clearing obligation; however, they should not require a particular CCP to clear any product that it cannot risk-manage effectively, and should not mandate central clearing in circumstances that are not consistent with the G-20 objectives. When authorities determine that an OTC derivative product is standardised and suitable for clearing, but no CCP is willing to clear that product, the authorities should investigate the reason for this. Subsequent to an investigation, if authorities determine there is insufficient justification for the lack of clearing, the authorities should take appropriate measures to promote central clearing. Such action could include creating incentives to encourage innovation by CCPs in a timely yet prudent manner or considering measures to limit or restrict trading in OTC derivatives products that are suitable for clearing but not centrally cleared. (*Recommendation 6*)

To minimise the potential for regulatory arbitrage, IOSCO, working with other authorities as appropriate, should coordinate the application of central clearing requirements on a product and participant level, and any exemptions from them. (*Recommendation 12*)

Authorities should appropriately tailor any exemptions to mandatory clearing, and should not grant exemptions where doing so could create systemic risk. Authorities should actively monitor the use of any exemptions and review their appropriateness on a regular basis. (*Recommendation 8*)

3.2.2 Considerations with respect to exemption of certain counterparties

In principle, market participants should be required to clear standardised OTC derivatives contracts through a CCP. Authorities should have conservative criteria for considering exemption of certain entities from mandatory clearing. Authorities should not grant exemptions where these would create systemic risk.

Requiring all financial institutions to comply with mandatory clearing requirements would reduce the potential for regulatory arbitrage inside the financial sector by preventing the outsourcing of derivative operations into smaller financial entities. However, requiring non-systemically important financial institutions to comply with central clearing obligations presents challenges, particularly with access to CCPs. Section 3.3.2 discusses access issues in more detail. This does not necessarily mean that mandatory clearing requirements should capture only the largest financial firms, as positions of small firms in the OTC derivatives markets may be significant. While the default of a large financial firm is likely to have a systemic impact, experience suggests that the degree of interconnectedness also is an important determinant of systemic relevance.⁴⁰

Depending on the circumstances, requiring all non-financial entities to comply with mandatory clearing requirements may not be necessary to reduce systemic risk. Some may

⁴⁰ See, e.g., Brunnermeier, M. et al (2009), “The fundamental principles of financial regulation”, Geneva Reports on the World Economy 11, and Chapter 2, IMF Global Financial Stability Report (April 2009).

trade OTC derivatives predominantly to hedge risk arising from their commercial activities, and this usage of OTC derivatives (where assets and hedges are inversely correlated in terms of value) typically represents a lower probability that the hedging firm's failure would create a significant loss to the system were the firm to default. Non-financial entity end-users may have insignificant or sporadic involvement in the market and their interconnectedness and associated externality of default may be limited. Furthermore, non-financial entities may have difficulties accessing the liquidity that is needed to meet the margin calls of a CCP resulting from its mark-to-market valuation of a particular contract. Even if they have no such difficulties, they may find building the operational capacity to handle such margin calls costly.⁴¹

If authorities opt to exempt non-financial entities from the application of mandatory clearing requirements, they must be satisfied that such exemptions, either on a collective or individual firm basis, do not present systemic risk or undermine the benefits of CCP clearing for the market. Thus, authorities will need to actively monitor OTC derivatives market activity to determine whether the activity of exempt entities is of a scale that could present systemic risk. If exempted participants build up positions approaching systemic importance, then the exemption would need to be reviewed and potentially terminated.

Furthermore, if a jurisdiction chooses to exempt such participants from mandatory clearing requirements, international coordination will be critical to reduce the scope for regulatory arbitrage. There will be an ongoing need to monitor whether the grounds on which a participant has been exempted continue to apply.

Monitoring of the sort described above requires the availability of reliable information. It is therefore essential that all transactions, regardless of whether they are subject to mandatory clearing requirements, of all market participants, both financial and non-financial, are reported to TRs.

3.2.3 Phase-in considerations for historical contracts

To ensure the G-20 commitment that all standardised OTC derivatives should be centrally cleared is fully met, the existing stock of outstanding historical contracts must also be considered. While new products subject to mandatory clearing requirements would be cleared through CCPs, consideration should be given to moving the existing stock of historical contracts (backloading) to CCPs where practicable. For this to be feasible, regulators would need to be satisfied that CCPs could handle the inflow of contracts that backloading would entail. It therefore may be necessary for regulators to assist the CCPs in prudently managing the backloading process, for example, by establishing targets and timetables. Prioritisation for moving to central clearing should be given to historical OTC contracts that are particularly risky, bind together many market participants, and are broadly used.

⁴¹ These concerns already manifest themselves for non-CCP cleared contracts. While large financial firms typically conclude OTC derivative contracts under ISDA Master Confirmation Agreements that are subject to a Credit Support Annexes (CSAs) governing the exchange of collateral to cover the counterparty credit risk, smaller financial firms or non-financial firms may not necessarily use CSAs.

3.3 CCPs as critical infrastructure

CCPs that clear OTC derivatives can be critical market infrastructures whose orderly functioning is vital for financial stability. As more contracts are centrally cleared, it becomes even more important to ensure that CCPs are sound.

To help ensure a global regulatory level playing field and increase the safety of the financial system, CCPs that clear OTC derivatives should be subject to robust and consistently applied supervision and oversight on the basis of regulatory standards, that, at a minimum, meet evolving international standards developed jointly by CPSS and IOSCO. *(Recommendation 9)*

In addition, the implementation of mandatory clearing requirements highlights the importance of two other dimensions relating to CCP design: the need to ensure non-discriminatory access to CCPs; and the need to assess the incentive structure governing CCPs' decision making. Both these issues will be covered in the revised CPSS-IOSCO standards for financial market infrastructures (FMIs).

Authorities also should ensure appropriate coordination, if necessary, for the mandatory clearing of OTC derivatives contracts involving parties in multiple jurisdictions and ensure that such contracts are appropriately reported to TRs. In developing coordinating frameworks, authorities also should consider the appropriateness of linkages among international and national infrastructures. Linkages among CCPs and the issues this raises will be addressed in the revised CPSS-IOSCO standards for FMIs.

3.3.1 Robustness of CCP risk management and regulatory oversight

CCPs should comprehensively manage the risks that their clearing members pose while considering systemic implications, and have a sound risk-management framework that can effectively identify, monitor, and manage risks, as well as provide appropriate incentives for their participants to manage and contain their risks vis-à-vis the CCP. This framework should include active board and senior management oversight of the CCP; appropriate policies and procedures to eliminate or mitigate credit, liquidity, operational and other risks; appropriate policies and procedures to deal with the default of a clearing member; information and control systems and other tools to identify, measure, monitor, manage, and limit risks; and comprehensive internal controls to monitor and assess the adequacy of risk management policies and procedures. This comprehensive risk framework must account for any unique risks associated with the OTC derivatives product or market, and consideration should be given to measures designed to ensure the safety and robustness of CCPs even in stressed situations. Thus, CCP access to sources of liquidity including in times of stress is important. Whether this liquidity should be made available to CCPs by central banks is an important issue that is beyond the scope of this report. The appropriate liquidity resources and structures of CCPs will be addressed in the revised CPSS-IOSCO standards for FMIs.

CPSS-IOSCO standards

The 2004 CPSS-IOSCO report Recommendations for Central Counterparties (RCCPs)⁴² currently serves as the global benchmark by which the operations of a CCP are assessed. In recent years, several authorities used the RCCP standards to evaluate CCPs that were established to provide central clearing services for OTC derivatives transactions. Because of the complex risk characteristics and structure of OTC derivatives markets, applying the RCCPs to newly established OTC derivatives CCPs has involved, in practice, a considerable degree of interpretation and judgment. To promote consistent application and interpretation of the RCCP for these CCPs and to provide guidance on certain unique aspects of OTC derivatives transactions, in May 2010 CPSS and IOSCO published a consultative report, Guidance on the application of the 2004 CPSS-IOSCO Recommendations for Central Counterparties to OTC derivatives CCPs.

In parallel, in light of the growing importance of TRs in enhancing market transparency and supporting clearing and settlement arrangements for OTC derivatives transactions, also in May 2010 CPSS and IOSCO published a separate consultative report, Considerations for Trade Repositories in OTC derivatives markets. This report discusses 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.

The consultative reports will be incorporated into CPSS and IOSCO comprehensive review of their standards for all FMIs: (i) the Core Principles for Systemically Important Payment Systems; (ii) Recommendations for Securities Settlement Systems; and (iii) the RCCPs (collectively and with the consultative reports, the CPSS-IOSCO standards). A public consultation on the standards for FMIs is expected in early 2011

Where CCPs compete with each other, or operate in multiple jurisdictions, consistent standards of oversight of CCPs are important to prevent regulatory arbitrage and to prevent CCPs from attempting to attract clearing volume by lowering margining or other risk management requirements. At a minimum, regulators should seek to incorporate the evolving standards developed jointly by CPSS and IOSCO into their regulatory regime and work to ensure that CCPs subject to their jurisdiction meet or exceed the standards in a robust and consistent manner. CCPs must be subject to robust regulation and oversight by authorities with the legal mandate to do so. Authorities should also develop frameworks for cooperation and coordination for CCPs with cross-border activity which address regulatory oversight of, and information sharing in relation to such CCPs.

Authorities have been working together since October 2009 in a forum known as the ODRF to provide regulators with a means to cooperate, exchange views and share information related to OTC derivatives CCPs and TRs on a regular basis. The ODRF's objectives are to promote consistent oversight approaches for OTC derivatives CCPs and TRs, through international cooperative oversight arrangements, and to coordinate the sharing of information by CCPs and TRs with regulators.

⁴² Available at: <http://www.iosco.org/library/pubdocs/pdf/IOSCOPD176.pdf> (Nov. 2004).

Authorities should continue to use, promote, and where necessary, develop bilateral or multilateral arrangements to facilitate consultation, cooperation and the exchange of information concerning OTC derivatives markets and participants among all relevant authorities across financial sectors. Authorities should ensure appropriate coordination for the mandatory clearing of OTC derivatives contracts involving parties or instruments in multiple jurisdictions and ensure such contracts are appropriately reported to trade repositories. In addition, the ODRF, working with CPSS and IOSCO, should continue to foster development of common frameworks for effective cooperation and coordination on oversight arrangements and information sharing among the relevant authorities for individual trade repositories and systemically important OTC derivatives CCPs. (*Recommendation 21*)

3.3.2 Access to CCPs

To satisfy mandatory clearing requirements, market participants must be able to access a CCP to clear the standardised contract in question, either through direct clearing membership or indirectly through a clearing member (client clearing). Where access is indirect, authorities should ensure that CCPs and direct participants have effective arrangements in place to enable both the segregation and the portability of customer positions and assets.

The desirability of wider direct participation should be balanced against the risk to the CCP arising from more diverse and non-traditional entities being clearing participants. This means that, depending on a range of factors, direct access to CCPs will be restricted at least to some extent. Furthermore, decisions by clearing members to offer clearing to indirect participants are ultimately based on commercial and risk considerations. Currently, rules governing access to CCPs by market participants vary across CCPs, in part reflecting the risk characteristics of the products they clear. OTC derivatives CCPs generally have high membership standards, because the products typically are more complex, and such standards are necessary to ensure that clearing participants can fully participate in default procedures and loss mutualisation. These standards have the potential to make direct membership less available for entities such as buy-side firms and smaller financial institutions. These entities may not be able to access the CCPs directly.

Authorities should ensure that the criteria CCPs adopt for direct membership are objective and do not unfairly discriminate. Criteria should, however, be risk-focused and sufficient to protect the financial integrity of the CCP, and meet evolving international standards developed jointly by CPSS and IOSCO.

Where direct access is not available for buy-side or other market participants, the industry and regulators have worked to increase access to OTC derivatives clearing primarily via client clearing. To date, however, only low volumes of client trades have been cleared in certain products. Authorities should continue to facilitate a dialogue among OTC derivatives CCPs, dealers, buy-side firms and smaller market participants.

Clearing for a more diverse and non-traditional set of clearing members may pose challenges for CCPs, including how to assess differences in the regulatory oversight of clearing members and the ability of clearing members to participate in default procedures. Such challenges should not, however, be used as an excuse for discriminatory exclusion from direct access if appropriate methods of addressing the CCPs' concerns are available. The requirement to post

margin that comes with clearing OTC derivatives may be new for some market participants, including buy-side firms. Client clearing may not be available to smaller dealers because current direct participants may not want to take on smaller market participants in a client clearing or indirect relationship. Indirect access may also not result in the indirect participant receiving the benefits of CCP clearing (such as reduced capital charges). Logistical issues such as markets located in one time zone and CCPs in another may make client clearing impractical.

For client clearing to be a viable option, authorities should ensure that a safe and sound environment for indirect access exists. When assessing the adequacy of client protections under indirect access, authorities need to consider whether the insolvency laws under which the CCP operates support the segregation and portability of customer positions and assets. Authorities also should address the impact of potential conflicts in insolvency and other relevant commercial laws that may limit the effect of the protection and the fact that such conflicts may be exacerbated in the cross-border context. Where necessary, insolvency law may need to be strengthened to support segregation and portability. If these protections are not in place, the result may be that systemic risk is increased. In some jurisdictions and under some clearing models, there is legal uncertainty with respect to segregation and portability regimes for buy-side positions. Thus, authorities also should make any necessary proposals to change the legal framework and rules under which CCPs and participants operate to achieve a safe and sound environment for indirect access. Authorities should also require that, at a minimum, CCPs meet the evolving international standards jointly developed by CPSS and IOSCO including the guidance provided with regard to the segregation and transfer of customers' positions and collateral.

3.3.3 CCP governance

In view of the global nature of the OTC derivatives markets and the implementation of mandatory clearing requirements, there will be different types of clearing members (both direct and indirect) with different interests and objectives. Accordingly, authorities should ensure the governance arrangements of a CCP take into account differing interests among its participants and its broader stakeholders, with direct and indirect interdependencies with the CCP, such as clients and service providers, and to its unique role in the market. The application of mandatory clearing requirements also warrants particular attention to the decision-making process of the CCP to ensure that risk considerations are the key motivating driver, and that the CCP does not take excessive risk in pursuit of profit. Through the process of authorizing CCPs and the approval of their services, regulators should seek to ensure that the appropriate governance arrangements are in place to that effect. These issues will be covered in the revised CPSS-IOSCO standards for FMIs.

For market participants to satisfy mandatory clearing requirements, access to CCPs (both direct and indirect, through client arrangements with direct participants) must be based on objective criteria that do not unfairly discriminate. Authorities should create a safe and sound environment for indirect access to clearing, and make any necessary proposals to change the legal framework and rules under which CCPs and market participants operate to achieve this. Authorities should monitor and, if detected, address unjustified impediments to indirect access. Authorities should require that CCPs and direct participants have effective arrangements in place that provide for the segregation and portability of customer positions and assets. In this context, authorities need to address the impact of insolvency laws and conflicts between insolvency laws that may arise in cross-border contexts. *(Recommendation 7)*

3.4 Capital requirements

Risk-based capital rules should take into account the systemic risk costs of OTC derivatives contracts, and the BCBS reform package is an attempt to better internalise these costs. If these costs are properly incorporated in capital rules, then market participants will pay for the costs of their contributions to systemic risk and will have the proper incentives to move toward standardised and clearable derivatives products that carry less systemic risk. BCBS has proposed reforms which would increase capital required for counterparty credit risk related to OTC derivatives for banks and other similarly prudentially regulated institutions, and improve bilateral risk management requirements for non-centrally cleared OTC derivative contracts, to more accurately reflect the higher risk typically inherent in such arrangements.⁴³ According to these proposals, non-centrally cleared derivatives will be subject to capital requirements that are higher than those for centrally cleared derivatives. Conversely, derivative trade exposures to CCPs (e.g., collateral and mark-to-market exposure) will be subject to a modest risk weight (e.g., in the 1%-3% range) for trades with a CCP that meets CPSS-IOSCO standards and risk-sensitive requirements for the residual risk of default fund contributions. Further to the current reform proposals, BCBS also has begun a fundamental review of the prudential regime for trading activities, which could further enhance the capture of risks associated with OTC and centrally cleared derivatives contracts, potentially reinforcing incentives for lower risk activity.

It is important to note that capital requirements for non-centrally cleared derivatives and centrally cleared derivatives are based on the relative risks of bilateral net and multilateral net positions. Accordingly, there are limits to what risk based capital incentives can, and should, achieve as regards standardisation and central clearing. Furthermore, risk based capital incentives may be outweighed by the higher costs of central clearing, notably the requirement to provide initial margin and guaranty fund contributions. Thus, capital requirements are only one aspect of the relative economic costs associated with counterparty risk management versus centrally cleared derivatives contracts, and thus these incentives alone are unlikely to achieve the goal that all standardised derivatives be centrally cleared.

⁴³ See Annex 8 for a summary of the proposed reforms.

Furthermore, capital incentives apply only to banks and potentially to other institutions subject to prudential regulation. To the extent banks or other regulated financial institutions act as the market makers or counterparties (and pass on the cost to their counterparties), capital incentives will be a strong influence in ensuring appropriate usage of standardisation and central clearing by other market participants. However, to the extent both counterparties are unregulated entities (such as commercial entities or investors), other measures to reduce systemic risk, to the extent possible, including mandatory clearing requirements and requirements to employ more robust bilateral counterparty risk management practices, need to be used to ensure that such participants have the correct incentives with respect to the standardisation and central clearing of OTC derivatives.

Supervisors should apply prudential requirements that appropriately reflect the risks, including systemic risks, of non-centrally cleared OTC derivatives products, such as the reforms proposed by BCBS relating to higher capital requirements. In parallel, authorities should apply similar capital incentives to other financial institutions that trade OTC derivatives and are subject to capital regimes (such as broker-dealers and insurance companies). Authorities should consider whether measures other than capital incentives may be needed to encourage central clearing by market participants that are not subject to capital regimes (such as commercial entities or investors). (*Recommendation 10*)

3.5 Additional measures to incentivise central clearing

As mandatory central clearing requirements are implemented, market participants may have incentives to use non-standardised products to avoid them.⁴⁴ In addition to countering these incentives by securing industry commitments to increase product and operational standardisation,⁴⁵ authorities should consider measures to incentivise central clearing.

Through the exercise of supervisory authority, authorities can aim to counter incentives that market participants may have to avoid mandatory central clearing requirements by using non-standardised products. In exercising their examination authority, supervisors and market regulators should seek to ensure that OTC derivatives transactions entered into by the firms they regulate are consistent with the G-20 objectives. To this end, authorities should monitor the extent to which market participants are structuring products as non-derivatives (such as repo transactions) that in economic terms are equivalent to derivatives or using non-standardised products to avoid mandatory clearing requirements, and if such behaviour is detected, take steps to address it.

As an interim measure until mandatory clearing requirements are fully implemented, authorities should continue to secure commitments from market participants to increase volumes of OTC derivatives transactions that are centrally cleared. Targeted regulatory persuasion and moral suasion in relation to market participants and CCPs is a useful source for bringing about change in an efficient and flexible manner, and has already resulted in many operational improvements in OTC derivatives markets. It has the advantage of not

⁴⁴ See Section 2.3.2 for a more detailed explanation of these incentives.

⁴⁵ See Recommendation 3.

unnecessarily restricting financial innovation or creating barriers to business. As mandatory clearing requirements are implemented, incentives for the industry to voluntarily agree to central clearing targets so as to prevent further prescriptive regulatory action may diminish. Reliance solely on non-binding techniques to bring about a move to central clearing of all standardised derivatives is unlikely to be sufficient in the long run. However, in the interim period until mandatory clearing requirements are in place, non-binding techniques will provide motivation to the market participants and can provide a useful roadmap to achieve long-term objectives. Furthermore, as discussed more extensively in Section 3.1, industry participation in determining where increasing standardisation and central clearing is feasible is vital given the lack of data currently available to regulators.

As it may be the case that market participants will seek to use bespoke products to avoid increased transparency tied to the use of standardised products that are centrally cleared or traded on organised platforms, requiring disclosure to the market, potentially of prices and volumes of all derivatives transactions (including non-standardised transactions), could diminish the incentive to use bespoke products. This approach is discussed in detail in Section 4.4.

3.6 Risk management of non-centrally cleared derivatives

Mandatory clearing requirements will capture only standardised OTC derivatives. Non-centrally cleared contracts will continue to be subject to bilateral counterparty risk management. The primary benefits of clearing through a CCP are that the CCP multilaterally nets and therefore reduces counterparty risk, and that it also provides for mutualisation of the loss beyond the contributions of the defaulting member via default and guaranty funds. In addition to these obvious differences, clearing through CCPs also means that risk is managed centrally and the interconnectedness of market participants built up through bilateral transactions is reduced and may be better managed. Thus, ultimately, no matter how robust bilateral counterparty risk management becomes, it will not address interconnectedness to the same extent as clearing through properly structured and regulated CCPs.

Today, most OTC derivatives are risk managed on a bilateral basis between counterparties.⁴⁶ Even with implementation of mandatory clearing requirements and capital incentives, a portion of the OTC derivatives markets is expected to remain bilaterally risk managed. Thus, the associated credit risk of interconnected counterparties remains a concern. There are a number of risk management processes to address the counterparty credit risk arising from OTC derivatives transactions: due diligence prior to establishing the relationship, determining and setting risk appetite, setting and monitoring credit line limits; as well as mitigation measures including bilateral netting, collateralisation, and portfolio reconciliation.⁴⁷ In addition, portfolio trade compression is a tool designed to address operational risk, among other benefits.

To ensure appropriate use of such processes, authorities must continue to secure commitments from market participants in this regard and monitor the non-centrally cleared portion of the

⁴⁶ See table p. 24 setting out estimated percentages of notional amounts outstanding of OTC derivatives on CCPs.

⁴⁷ 2010 ISDA Market Review of OTC Derivative Bilateral Collateralisation Practices (available at: http://www.isda.org/c_and_a/pdf/Collateral-Market-Review.pdf).

market to determine if additional or strengthened measures may be necessary. Additionally, authorities must ensure that market participants have robust and resilient procedures in place to measure, monitor and mitigate counterparty credit, liquidity and operational risks associated with non-centrally cleared contracts. Authorities should set and require market participants to benchmark to best practices for bilateral risk management, including strong bilateral collateralisation requirements.

3.6.1 *Bilateral netting*

An important method of addressing the credit risk arising from OTC derivatives transactions is through the use of enforceable bilateral netting, which parties can achieve by documenting all of their transactions under master netting agreements such as the ISDA Master Agreement. Following the occurrence of an event of default of a party (such as bankruptcy or insolvency), the individual transactions' exposure between the two parties are netted and consolidated into a single net "lump sum" obligation. A party's exposure is therefore limited to this net sum which may then be offset by the available collateral being applied against the net exposure. As such, it is critical that the amount of collateral held is in line with the party's pre-determined risk appetite for exposure to the defaulted entity, and that the collateral provisions between the parties are legally enforceable. In recognition of the risk reduction benefits of close-out netting, many jurisdictions provide favourable capital and accounting treatment to parties that have enforceable netting agreements in place. Enforceable bilateral netting arrangements are a common commercial practice and are an important part of robust risk management and minimisation of capital costs.

3.6.2 *Bilateral collateralisation*

Collateralisation remains among the most widely used methods to mitigate counterparty credit risk in the OTC derivatives markets, and market participants have increased their reliance on collateralisation over the years. As part of the standard framework for documenting OTC derivatives, collateralisation is provided for in the CSA form published by ISDA, which can be appended to the Master Agreement between the two parties. The standard terms of a CSA can be amended by the two parties as a matter of commercial negotiation. For example, terms such as initial margin payment amounts and the levels of unsecured thresholds are typically negotiated, thereby varying between contracts.

In practice, market trading conventions and credit risk considerations lead to a range of collateralisation in different OTC derivatives asset classes. For example, certain types of counterparties such as sovereigns (and related governmental entities) may enter into CSAs in which they receive but do not post collateral and non-financial end-users typically are not asked to enter into CSAs and hence do not post collateral. At the end of 2009, 78% of all derivatives trades entered into by large derivatives dealers were subject to collateral agreements.⁴⁸ Approximately 85% of market participants' collateral agreements were bilateral (full two-way posting of collateral) with 70% of trade volume covered.⁴⁹

⁴⁸ See ISDA Margin Survey 2010 Preliminary Results.

⁴⁹ See ISDA Margin Survey 2010 Preliminary Results.

Some OTC derivatives market participants argue that they do not trade frequently enough to voluntarily undertake the operational burden and expense of collateralisation. This group includes corporations whose business models may not easily sustain the cash flows required for collateralisation.

Market participants may find other methods of counterparty credit risk mitigation more cost-effective than bilateral collateralisation. These alternatives include firms adding a “credit-charge” into a transaction’s pricing, taking security over fixed assets or hedging the counterparty exposure using credit derivatives. Short-dated OTC derivatives products may present lower risk and may not be secured with collateral. While market participants may selectively collateralise other OTC derivatives products, such as metals, energy and commodities products, other forms of credit protection, such as letters of credit or parent company guarantees, may be common.

3.6.3 Portfolio reconciliation and dispute resolution

Disputes over differences between portfolio and trade valuations, and consequent delays, can potentially increase uncollateralised exposures particularly during times of stress, as parties cannot agree on the mark-to-market value that should be subject to collateralisation. These disputes can be minimised if both counterparties to a trade employ frequent and automated portfolio reconciliation processes. Portfolio reconciliation refers to the process by which the records of collateralised OTC derivatives portfolios of two parties are compared and matched based on the key economic attributes of the underlying trades, including their valuations, to ensure the consistency of the record throughout the life of each trade. Various techniques are used for portfolio reconciliation ranging from in-house solutions to vendor-serviced technology. The frequency and automation of portfolio reconciliation has increased substantially between dealers as a result of joint initiatives with supervisors.

Once the portfolio of collateralised trades has been reconciled by the parties, the effectiveness of this risk management tool relies on parties having robust and timely dispute resolution procedures in place to resolve differences in the portfolios. To this end, authorities should strongly encourage the market to adopt effective dispute resolution protocols such as ISDA’s Collateral Dispute Resolution Procedure. However, because a large portion of potentially disputed transactions can be addressed by prevention, frequent and automated portfolio reconciliation is a more pro-active risk management approach.

3.6.4 Portfolio trade compression

Multilateral portfolio trade compression services for OTC derivatives seek to eliminate unnecessary or duplicative trades from the market while maintaining a market participant’s overall exposure or risk in the market. This allows dealers to reduce operational risk, freeing up liquidity and capital. By reducing the gross notional outstanding of OTC derivatives in normal times, portfolio trade compression provides effective measures to address the risk associated with uncoordinated, disorderly close-out transactions in individual dealers of the positions of a defaulting major dealer. Compression is offered by several vendors and major market participants are now engaged in regular compression exercises. This has contributed to

the reduction of the notional outstanding value of interest rate derivatives by \$103.1 trillion and that of credit derivatives by \$72.4 trillion .⁵⁰

Recognising that some portion of the OTC derivatives markets, including non-standardised derivatives, will remain non-centrally cleared, authorities must ensure that market participants have robust and resilient procedures in place to measure, monitor and mitigate counterparty credit and operational risks associated with non-centrally cleared contracts. Authorities should set and apply strong bilateral risk management standards, including collateralisation, and require market participants to benchmark themselves against defined best practices. In this regard, the ODSG should continue to secure ambitious commitments from the major dealers for extensions of trade compression, dispute resolution, and portfolio reconciliation. Authorities should actively monitor the non-centrally cleared portion of the market to determine if additional or strengthened measures may be necessary. (**Recommendation 11**)

⁵⁰ For interest rate derivatives, as reported by TriOptima as of 31 August 2010 (http://www.trioptima.com/services/trireduce/trireduce_statistics); for credit derivatives, \$65.8 trillion reduction as reported by TriOptima, and \$6.6 trillion reduction as reported by Markit / Creditex as of September 2010.

4. Exchange and electronic platform trading

The G-20 Leaders have stated that “[a]ll standardised OTC derivative contracts should be traded on exchanges or electronic trading platforms, where appropriate.” It may be appropriate to require that standardised derivatives trade on exchanges or electronic trading platforms where the market is sufficiently developed to make such trading practicable and where such trading furthers the objectives set forth by the G-20 Leaders, and provides benefits incremental to the benefits provided by measures aimed at standardisation, central clearing, and reporting of transactions to trade repositories.

This chapter begins with a description of platforms for derivatives trading and key features of some exchange and electronic trading platforms. It then sets out possible regulatory approaches to increase trading on organised platforms, and encourage the exploration of increasing public price and volume transparency for all derivatives transactions, including non-standardised OTC transactions. The chapter concludes with a call for further analysis to address approaches, including incentives, targets, and other types of regulatory action, that may be advisable to further G-20 objectives and shift more trading to exchanges or electronic trading platforms.

4.1 Platforms for derivatives trading

Derivatives trading can be executed through a variety of channels that can be conceptualized along a spectrum based on whether trades are negotiated multilaterally or bilaterally. At one end of the spectrum, trading takes place on a fully multilateral basis using well-defined rules about how multiple orders interact. These venues, particularly if they exercise regulatory powers over their members, typically operate as registered exchanges. At the other end of the spectrum are wholly bilateral negotiations between individual market participants, where the only restriction on what can be traded and how the transaction will be executed is what the two parties are willing to agree.

Between the two ends of the transaction negotiation spectrum are models that blend elements of multilateral and bilateral trading mechanisms. For example, some trading systems are multilateral in nature but may lack the formal rules of trading that regulated exchanges have. Similarly, a system operated by a single dealer could allow multiple customers of the dealer to participate, but would not be thought of as an exchange because the system does not provide for interaction and price competition among multiple participants. Some systems facilitate bilateral trading by, for example, streamlining post-trade processes, but do not provide for multilateral pre-trade transparency.

The term “over-the-counter” or “OTC” is generally used to denote trading models away from the regulated exchange end of the spectrum, although some trading mechanisms that are typically thought of as OTC (such as dealer trading platforms) may have certain elements in common with exchange trading.

Exchanges and electronic trading platforms are defined and regulated in different ways in various jurisdictions; and different types of exchanges and electronic trading platforms suit the trading needs of different types of market participants. For example, in equity trading some platforms are designed to provide limited public transparency. This suits the needs of

some participants who choose to buy or sell large positions. Other organised platforms provide more transparency of trades and prices and suit the needs of those who prefer the benefit of transparency to ensure they are receiving competitive prices.

Differences in the definitions and regulation of exchanges and electronic trading platforms exist across jurisdictions and provide a range of trading fora that suit different types of participant trading needs. At the same time, differences in the definitions and regulations of exchanges and electronic trading platforms may provide the potential for regulatory arbitrage. Annex 10 sets out brief descriptions of organised platforms for derivatives trading in Asia, Europe and the United States.

4.2 Features of exchange and electronic platform trading

Along the trading-venue spectrum, exchanges and electronic trading platforms may exhibit a range of features that provide some or all the benefits of exchange and electronic platform trading. Examples of such features are non-discretionary and transparent rules governing the operation of the system; objective criteria for the efficient execution of orders; appropriate pre- and post-trade transparency; fair and orderly markets; non-discriminatory access; registration and oversight or supervision by regulators; operational resilience; and surveillance. Key features of exchange and electronic platform trading include the high degree of standardisation required, a high level of both pre- and post-trade transparency, and automated post-execution processes.⁵¹ The discussion below is based on general characteristics of some organised platforms.⁵²

4.2.1 Pre- and post-trade transparency

Organised platforms often provide higher levels of transparency than OTC derivatives trading. Transparency includes reporting to regulators and reporting to the public of completed transaction details (post-trade transparency), and publishing quotes and orders for transactions (pre-trade transparency). Exchanges generally have legal obligations and mechanisms to ensure both pre- and post-trade transparency to market participants and reporting of transactions to regulators and, in some cases, to the public.

OTC derivatives markets often offer limited pre-trade transparency to third parties.⁵³ Generally, the level of post-trade transparency in OTC derivatives markets currently is very limited for regulators,⁵⁴ the public, and, to some extent, even participants in the OTC markets. This may increase, however, as market regulators are given greater authority in this area under national legislation and, as discussed in Chapter 5 of this report, with greater use of TRs.

⁵¹ The degree of standardisation required for organised platform trading is discussed in Section 2.2.

⁵² As noted above, exchanges and electronic platform trading platforms are defined differently in different jurisdictions, and vary significantly in their characteristics. See Annex 9.

⁵³ Typically, a customer that wants to trade will ask several dealers for price quotes, and quotes provided are made available only to the customer that has requested them. Some organised platforms may offer request-for-quote (RFQ) functionality in which the platform enables the customer to solicit quotes for an instrument from several dealers simultaneously, and allows the customer to trade with the dealer of its choice.

⁵⁴ Some national regulators require OTC derivatives transactions to be reported to them.

The main reasons cited by market participants for the current lack of transparency in OTC derivatives markets include: (i) OTC products' lack of "standardisation" and therefore limited usefulness of transparency that, in the extreme, may even be misleading where observers compare trade prices but fail to appreciate the differences in the products; and (ii) the assessment of counterparty credit risk that is imbedded in OTC derivatives prices, thereby making the price of the transaction unique to the counterparty of the trade.

Pre- and post-trade transparency can affect the liquidity of markets in ways that may be beneficial to some market participants by improving the quality of prices. A properly designed transparency regime (which, amongst other factors, takes into consideration the individual specifics of the market and its participants), may deliver price formation benefits and in turn wider market efficiency benefits. Moreover, the interaction of market participants on organised platforms facilitates the provision of fair, reliable and generally accepted pricing which can be used for valuations and risk assessment. At the same time, post-trade transparency may reduce the liquidity that would be provided for large trades. While pre-trade transparency provided by organised platforms may increase the costs of large transactions due to information leakage, this could be mitigated through waivers or exemptions from transparency requirements.

The transparency arrangements that would result from organised platform trading and their consequences for liquidity need to be considered when determining whether mandatory organised platform trading or other regulatory action to promote organised platform trading is appropriate. In particular, the effects of mandatory organised platform trading on transparency and the ability of market participants to provide and access liquidity in markets should be examined. Relevant considerations may include whether the market is large enough to support multiple types of platforms to accommodate the goals of different types of traders, or so small that only a single platform is feasible. Additionally, the determination of when organised platform trading is appropriate may depend on the incremental benefits that organised platforms can provide relative to increased standardisation and central clearing and reporting to TRs.

These factors should be considered by IOSCO and other appropriate authorities in carrying out the recommended analysis.

4.2.2 *Market surveillance*

Another distinguishing feature of exchanges and some electronic trading platforms is that they conduct or are subject to surveillance of members for compliance with exchange or platform rules. Such market monitoring may assist regulators in detecting and preventing market abuse and systemic risk. In some jurisdictions, electronic trading platforms do not have formalised rules or formal monitoring and surveillance obligations. In these jurisdictions, users are more likely to be subject to client agreements than conduct rules.

4.3 Possible regulatory actions to increase trading on organised platforms

Possible actions to increase trading of standardised OTC derivatives on exchanges or electronic platforms could involve mandatory requirements, incentives, targets, or a combination of these or other tools. Any such action should take into account that organised

platform trading may be unsuccessful unless there is a sufficient level of underlying liquidity in the product concerned.

Authorities could place mandatory trading requirements on products that are already traded on organised platforms, expecting the amount of the overall derivatives market covered by such requirements to gradually expand as market participants bring more and more standardised OTC derivatives to exchanges or electronic trading platforms. Alternatively, authorities could mandate that certain standardised OTC derivatives be traded on an organised platform based upon common principles that apply across products or on a product by product basis.

Organised platform trading only can be created in particular products if organised exchanges and electronic trading platforms are willing and able to trade these products, which is based in no insignificant part on market demand for these products in sufficiently standardised form. If however, market participants are reluctant to move OTC derivatives contracts onto organised platforms in the first place, this approach may not allow authorities to achieve the level of organised platform trading they desire.

Under another approach, authorities could make a determination regarding the factors which would make trading the specific standardised OTC derivative product on an organised platform appropriate. This could apply to all products across asset classes or on a product-by-product basis based upon factors specific to each product. The approach would have to address circumstances where there is insufficient liquidity to support organised platform trading.

Another approach would be to use incentives or targets to encourage organised platform markets to be created by market participants before, if necessary, mandating that an OTC derivative must be traded on an organised platform. Some of the benefits of exchange trading (e.g., transparency and efficiency of price formation, open and fair access, operational efficiency and risk reduction, and liquidity) are subject to economies of scale and scope, as well as network externalities. Increased price and volume public transparency for all derivatives transactions, as discussed in more detail in Section 4.4, may decrease the incentives to trade OTC.

Pre-trade transparency requirements may accommodate specific transaction types, such as those that are large in scale. Even where mandated, trading on organised platforms might include exemptions for some transactions, such as trades that represent non-addressable liquidity (e.g., hedging transactions where the derivatives leg and the cash leg are interdependent). Even where market participants agree on the benefits of exchange or electronic trading and would like to see an exchange or electronic trading platform established, coordinated joint action by market participants is necessary. Such collective action may be difficult in the absence of official action to encourage it.

Authorities should explore the benefits and costs of requiring public price and volume transparency of all trades, including for non-standardised or non-centrally cleared products that continue to be traded over-the-counter. (<i>Recommendation 14</i>)

4.4 Increasing public transparency of OTC derivatives transactions

In addition to the steps outlined above that authorities could take to encourage exchange or electronic platform trading and hence increased public transparency of derivatives transactions, authorities could act to increase the level of transparency, in a globally consistent manner, not only for those derivatives products traded on organised platforms, but for all derivatives transactions, including for non-standardised products traded in the OTC markets. Requiring prices and volumes of such transactions to be disclosed to the market may counter the incentive that market participants have to develop needlessly complex and non-standardised products to evade organised platform trading and central clearing requirements.

A cost-benefit analysis of possible measures to increase public price and volume transparency would need to address, among other things, whether and how meaningful disclosure can be provided to market, particularly where products are highly customised and complex, and the impact on the effectiveness of OTC derivatives products as hedging instruments.

Authorities also are encouraged to explore how increased public transparency could be implemented, including potentially through requiring public disclosure by market participants or TRs.

4.5 Further analysis needed

Organised platform and OTC derivatives trading may meet different kinds of needs. As a result, they can be considered as complementary trading models and could co-exist for the same product, particularly if market regulators have adequate authority to address current deficiencies in OTC derivatives markets, such as the lack of pre- and post-trade transparency. Pre- and post-trade transparency assists the price formation process, and thereby can facilitate the valuation of OTC derivatives products necessary to a CCP's risk management. While organised platform trading may be highly preferable in some ways (for instance, through the synergies that exist between trading platforms and post-trade infrastructures), shifting products from OTC to organised platform trading may not be successful unless there is sufficient liquidity in those products.

Further analysis needs to address the actions that may be advisable to increase exchange and electronic platform trading to provide benefits that are incremental to benefits provided by the measures aimed at standardisation, central clearing, and reporting to TRs. This analysis should address approaches, including incentives, targets, and other types of regulatory action that may be advisable to further G-20 objectives and shift more trading to exchanges or electronic trading platforms.

IOSCO, with involvement of other appropriate authorities, should conduct an analysis by 31 January 2011 of: (i) the characteristics of the various exchanges and electronic platforms that could be used for derivatives trading; (ii) the characteristics of a market that make exchange or electronic platform trading practicable; (iii) the benefits and costs of increasing exchange or electronic platform trading, including identification of benefits that are incremental to those provided by increasing standardisation, moving to central clearing and reporting to trade repositories; and (iv) the regulatory actions that may be advisable to shift trading to exchanges or electronic trading platforms. (*Recommendation 13*)

5. Reporting to trade repositories

The G-20 Pittsburgh statement provides that OTC derivatives contracts should be reported to TRs. By centralising the collection, storage, and dissemination of information in a consistent fashion, TRs can fulfil an important function as a credible source of data on OTC derivatives transactions for authorities, market participants and the public.

TRs will play a vital role in increasing transparency to authorities. The data maintained in TRs will allow authorities to address vulnerabilities in the financial system and to develop well-informed regulatory, supervisory and other policies (and assess the effects of such policies) that promote financial stability and reduce systemic risks. It is critical for authorities to have a global view of the OTC derivatives markets by asset class. Use of such data also enables authorities to carry out their prudential supervision and resolution mandates, and to conduct market monitoring and enforcement.

TRs also act as a source of information not only to authorities, but also to market participants and the public.⁵⁵ The use of TRs also will encourage standardisation of legal and operational terms, as some degree of homogeneity is crucial for effective transaction reporting by counterparties and for related services offered by the trade repository. As such, authorities (i) should ensure that TRs are established to collect and maintain comprehensive OTC derivative transaction data; and (ii) must require market participants to report all OTC transactions, both centrally cleared and non-centrally cleared accurately and in a timely manner to TRs (or, in exceptional circumstances, to relevant authorities). Where transactions are centrally cleared or otherwise terminated early, reporting to TRs also must capture and preserve information on the original terms of the transaction.

This chapter assesses the current state of development of reporting to TRs; identifies issues related to the implementation of reporting of transaction data to, and dissemination of transaction data by, TRs; and makes recommendations on how authorities can operationally achieve the G-20 objectives in this area.

5.1 Establishment of trade repositories

A TR for OTC derivatives is a centralised registry that maintains an electronic database of OTC derivatives transaction records. Following the events of 2008, authorities recognised a need for a source of comprehensive and uniform data about the OTC derivatives markets. To this end, authorities have encouraged the establishment of TRs.

As of end-July 2010, global TRs have been established for credit, interest rate, and equity derivatives.^{56, 57} The primary characteristics of these TRs are set out in Annex 10.

⁵⁵ TRs also may be providers of additional automated post-trade services. The provision of automated post-trade services is not inherent to the functionality of a TR. However, examples of such services that may be offered include management of life-cycle events and downstream trade processing services based on the TR's records.

⁵⁶ In 2009, the G-14 dealers committed to reporting all of their CDS trades to a TR. At that time, a trade repository for credit derivatives was already in existence and used by the industry. To promote the development of TRs for all interest rate and equity derivatives, in 2008 and 2009 ISDA sought proposals for the creation of central TRs for these asset classes. Two entities were selected to provide TR functions for these asset classes.

⁵⁷ The global credit derivatives TR, located in New York, will maintain identical data in an affiliate located in London.

Despite the progress made, these global TRs are in varying stages of implementation and differ in design, offered functionality, and available data. Some jurisdictions have measures in place to promote centralised reporting of transactions on a national, regional, or product specific level.⁵⁸

5.2 Trade repository oversight and data access

TRs are central points of access to data for market participants and authorities. As such, authorities must have full and timely access to comprehensive, uniform and reliable data and must therefore ensure that TRs are established to collect and disseminate such data for all centrally cleared and non-centrally cleared OTC derivatives transactions.

5.2.1 Regulatory oversight

The data maintained by a TR will be used by a number of entities including the TR's participants, but in particular by relevant authorities to obtain information needed to carry out their respective mandates relating to the OTC derivatives markets, as well as by other infrastructure and service providers such as CCPs. TRs are a core component of post-trade processing, and as such, operational reliability, safeguarding of data and availability of data are necessary to ensure that TRs meet the requirements of their users. To avoid damaging market confidence, information accuracy and robust data security are critical. Accordingly, authorities, market participants and the public must have confidence that TRs will discharge their functions effectively and consistently.

In view of the global nature of OTC derivatives markets and the global scope of some existing TRs, national regulation needs to be complemented by effective cooperation and coordination among relevant authorities regarding regulation and supervision of TRs. Authorities also should ensure that OTC derivatives contracts involving parties or instruments in multiple jurisdictions are appropriately reported to TRs. Consequently, frameworks to accomplish this should be established. Work on this is already underway in the ODRF, which is a forum for regulators to cooperate, exchange views and share information related to OTC derivatives CCPs and TRs. Specific cooperative arrangements between national authorities should be established on the basis of international standards.

Authorities should ensure that trade repositories are established to collect, maintain, and report (publicly and to regulators) comprehensive data for all OTC derivative transactions regardless of whether transactions are ultimately centrally cleared. Authorities should establish a clear framework for the regulation of trade repositories based on their essential functions as a source of information to authorities, market participants and the public. Trade repositories should be subject to robust and consistently applied supervision, oversight and regulatory standards that, at a minimum, meet evolving international standards developed jointly by CPSS and IOSCO. (*Recommendation 15*)

⁵⁸ Brazil has a full-fledged reporting system dating back to the early 1990s that ensures high levels of transaction reporting, while Japan and South Korea have updated their regulatory frameworks to require transaction reporting.

Authorities should continue to use, promote, and where necessary, develop bilateral or multilateral arrangements to facilitate consultation, cooperation and the exchange of information concerning OTC derivatives markets and participants among all relevant authorities across financial sectors. Authorities should ensure appropriate coordination for the mandatory clearing of OTC derivatives contracts involving parties or instruments in multiple jurisdictions and ensure such contracts are appropriately reported to trade repositories. In addition, the ODRF, working with CPSS and IOSCO, should continue to foster development of common frameworks for effective cooperation and coordination on oversight arrangements and information sharing among the relevant authorities for individual trade repositories and systemically important OTC derivatives CCPs. (*Recommendation 21*)

5.2.2 Access to data by authorities

Authorities (including central banks, prudential supervisors, resolution authorities and market regulators) that require information on OTC derivatives transactions in order to carry out their respective mandates must have sufficient and timely access to relevant data. Authorities obtaining access to data must have the ability to keep the data confidential. Access to TR information by official international financial institutions should also be permitted in appropriate form where consistent with their mandate.

Regulatory coordination and cooperation are necessary to support the reporting of full data both to and from TRs. Regulators should mutually support their right of access to relevant data and agree to guiding principles on how to process access requests.

One issue potentially affecting full reporting to TRs and data access is restrictions imposed by privacy and confidentiality laws in some jurisdictions. To overcome these difficulties there are ongoing initiatives to seek client consent on a coordinated industry basis,⁵⁹ but legislative or regulatory changes may be necessary to permit authorities access to the full dataset relevant to their respective mandates. When implementing transaction reporting, authorities should propose legislative or regulatory action to facilitate access to data by concerned authorities and ensure that considerations such as client confidentiality limitations do not prevent adequate access to information.

Where data access to TRs has been established for authorities, the authorities should use the data as fully as possible in order to fulfil their mandates and to identify any gaps in available data.

Market regulators, central banks, prudential supervisors and resolution authorities must have effective and practical access to the data collected by trade repositories that they require to carry out their respective regulatory mandates. Access to trade repository information by official international financial institutions also should be permitted in appropriate form where consistent with their mandates. (*Recommendation 16*)

⁵⁹ See Annex 11 for an explanation of legal obstacles to the reporting of client data and the two routes identified (client consent and change in local law) to ensure that disclosure is permitted.

In addition to current efforts to obtain client consents for regulatory reporting of relevant data, authorities should, where necessary, propose legislative measures to address legal barriers to data collection and dissemination by trade repositories. Authorities should ensure that appropriate dissemination and confidentiality arrangements are in place so that relevant authorities have full and timely access to the data relevant to their respective mandates. *(Recommendation 17)*

5.3 Data coverage, quality and reliability

As outlined above, TRs serving markets in each of the major OTC derivatives asset classes are in various stages of implementation. Authorities should prioritise the establishment and move to full operation of TRs in accordance with the systemic importance of the related OTC derivative asset class. If, in exceptional circumstances, it is not possible to report a particular transaction to a TR, authorities should require market participants to report the transaction to the relevant authority. In such circumstances, however, data protection and confidentiality restrictions may prevent authorities in some jurisdictions from sharing the received information in the same manner as a TR. Thus, data collected and maintained by relevant authorities may prove less useful for its intended purpose than if it were reported to a TR.

Authorities also must work together to prescribe the minimum requirements for TR functionality and the data to be collected by TRs in order to ensure that TRs can provide the information authorities need to carry out their respective mandates. Authorities should ensure that TRs are established that provide aggregate global coverage of the global derivatives market and that the data collected can be aggregated so as to provide a comprehensive view of the market. The establishment of uniform data standards and functional requirements for data exchange will be a necessary condition for authorities to have a timely and consistent global view for assessing and analysing the OTC derivatives markets. One beneficial solution would be to establish a single global data source to aggregate the information from TRs. However, while the issue of the number and location of TRs, as well as the number and location of CCPs, is an important one, it is beyond the scope of this report.

Furthermore, the highest levels of quality and reliability of OTC derivatives transaction records are essential for the data to be of practical use for regulatory and policymaking purposes. To that end, authorities should ensure that market participants report and TRs collect and provide data of the highest reliability practicable, so that it can be relied upon for critical analysis and decision-making.

The breadth and depth of information needed by authorities varies according to their respective mandates and may continue to evolve over time. Such mandates and objectives include: (i) assessing systemic risk and financial stability; (ii) conducting market surveillance and enforcement; (iii) supervising market participants; and (iv) conducting resolution activities. Accordingly, the relevant authorities should collectively work with TRs to identify their specific needs for each objective, to develop specifications for the functionality and data elements that will enable them to carry out their responsibilities, and to ensure that these specifications are consistent and well coordinated across the various objectives and types of authority.

TRs must collect data on, and maintain a database of all centrally cleared and non-centrally cleared trades. Where transactions are centrally cleared or otherwise terminated early, reporting to TRs also must capture and preserve information on the original terms of the transaction, as well as any subsequent changes over the lifecycle of the trade. Such transaction data must consist of affirmed sides of each transaction which should be paired. Authorities must be able to retrieve up-to-date data on an ongoing basis in a common and easily accessible format that enables each authority to aggregate the information to which it has access. Furthermore, data must employ precise, consistent semantics to facilitate accurate interpretation. Authorities must be able to retrieve transaction event (flow) data at different levels of granularity, from aggregate statistics to transaction level information. TRs must collect and maintain data at a high level of detail. Transaction event data must preserve information on the original terms of the transaction that is complete as practical and possible, and includes, for example, preserving the underlying reference, trading counterparties, price, and the time and date of the original transaction. TRs must also collect information on central clearers' exposures to transactions. Recognising that the full scope of such information currently is not being collected by existing repositories, authorities should ensure that, over an appropriate timeframe, TR capabilities and reporting requirements evolve so that this information is collected and maintained by TRs.

TRs should collect data to enable monitoring of gross and net counterparty exposures, wherever possible, not only on notional volumes for each contract but also market values, exposures before collateral, and exposure value net of collateral with a full counterparty breakdown. This would allow for the calculation of measures that capture counterparty risk concentrations both for individual risk categories as well as the overall market.

Authorities must require market participants to report all OTC derivatives transactions, both centrally-cleared and non-centrally cleared, accurately and in a timely manner to trade repositories, or, in exceptional circumstances, to the relevant authority if it is not possible to report a particular transaction to a trade repository. Where transactions are centrally cleared or otherwise terminated early, reporting to trade repositories also must capture and preserve information on the original terms of the transaction. (*Recommendation 18*)

To assess implementation of the G-20 commitments on centralised clearing and transaction reporting, authorities must be able to measure industry performance. TRs should collect sufficient data that would permit authorities to conduct detailed analysis on the level of standardisation and central clearing by asset class, among other things. The requirement for market participants to provide TRs with information on all transactions, both centrally cleared and non-centrally cleared, is a necessary condition for such an assessment.

For authorities to be able to carry out their mandates, standards governing TR data quality and reliability are necessary. Without such standards, authorities will be limited in their effective use of the data. In addition, data provided to TRs must be able to be readily aggregated on a global basis. Thus, it is important that international standards concerning standardisation of reporting formats and mechanisms for aggregation of data are established.

Authorities with the legal mandate to set requirements for the reporting of transactions to trade repositories should consider the recommendations set out in the forthcoming report of the FSB Data Gaps and Systemic Linkages Group, and consult with the Committee on the Global Financial System (CGFS), the Bank for International Settlements (BIS), the ODSG and ODRF, to identify the data that should be reported to trade repositories to enable authorities to carry out their respective tasks and monitor, among other things, implementation of the G-20 commitments to central clearing and exchange or electronic platform trading. Further, as the data must be able to be readily aggregated on a global basis, by end-2011 CPSS and IOSCO, in consultation with authorities, and with the ODRF, should develop both for market participants reporting to trade repositories and for trade repositories reporting to the public and to regulators: (i) minimum data reporting requirements and standardised formats, and (ii) the methodology and mechanism for the aggregation of data on a global basis. (*Recommendation 19*)

Annex 1: Legislative and regulatory reform progress

Asia

Hong Kong

The Hong Kong Treasury Markets Association (TMA) has set up a task force to examine issues in connection with the clearing and reporting of OTC derivatives in Hong Kong, including the feasibility to establish a local CCP. TMA has requested industry comments on the subject, which will later be presented to the Hong Kong Monetary Authority.

Japan

In May 2010, the Japanese Diet passed a bill amending the Financial Instruments and Exchange Act.

Under the new law, CCP clearing will be made mandatory for OTC derivatives transactions in which the transaction value in Japan is significant and where the reduction of settlement risk through central clearing would be deemed necessary for the stability of the Japanese market. Given that trade relationships exist across nations, and that there are existing entities which provide global clearing services, mandatory CCP clearing can be undertaken by domestic or foreign CCPs licensed to operate in Japan, or by approved domestic CCPs linked to foreign CCPs. However, for OTC derivatives transactions in which the clearing criteria relates closely to the corporate bankruptcy criteria under the domestic law, these must be cleared by licensed domestic CCPs. The exact products included in the central clearing requirement will be specified by Cabinet Office Ordinances.

In addition, there will be a mandatory reporting requirement for financial institutions. For trades that are subject to mandatory CCP clearing, the CCP must store the trade information and report it to the regulator. Separately, financial institutions may either submit information to the designated TR (foreign or domestic), or to the regulator directly.

Implementation of the amended law will take place by November 2012.

Singapore

In May 2010 the Singapore Exchange Derivatives Clearing Limited (SGX-DC) ended a public consultation which sought comments on proposed amendments to the SGX-DC Clearing Rules that include the introduction of a new trade registration system for the registration of interest rate swaps and Asian foreign exchange forwards.

European Union

The European Commission's proposal on market infrastructures (CCPs and trade repositories) was published in September 2010. The proposal's objectives are to increase transparency in the OTC derivatives market and to make it safer by reducing counterparty credit risk.

To increase transparency, the proposal requires that detailed information on OTC derivatives contracts entered into by EU financial and non-financial firms are reported to trade

repositories and made accessible to supervisory authorities. In addition, it requires that trade repositories publish aggregate positions by class of derivatives. To reduce counterparty credit risk, the proposal introduces stringent rules on prudential, organisational and conduct of business standards for CCPs. It also mandates CCP-clearing for contracts that are eligible and imposes risk management techniques for derivatives that are not cleared by a CCP. The proposal provides for some limited exemptions from clearing and reporting requirements for non-financial firms.

Changes to the Markets in Financial Instruments Directive (MiFID) are expected by spring 2011. The reform is likely to encompass amendments to require transaction reporting of clearly specified OTC derivatives for market abuse detection purposes to be developed in conjunction with CCPs and TRs.

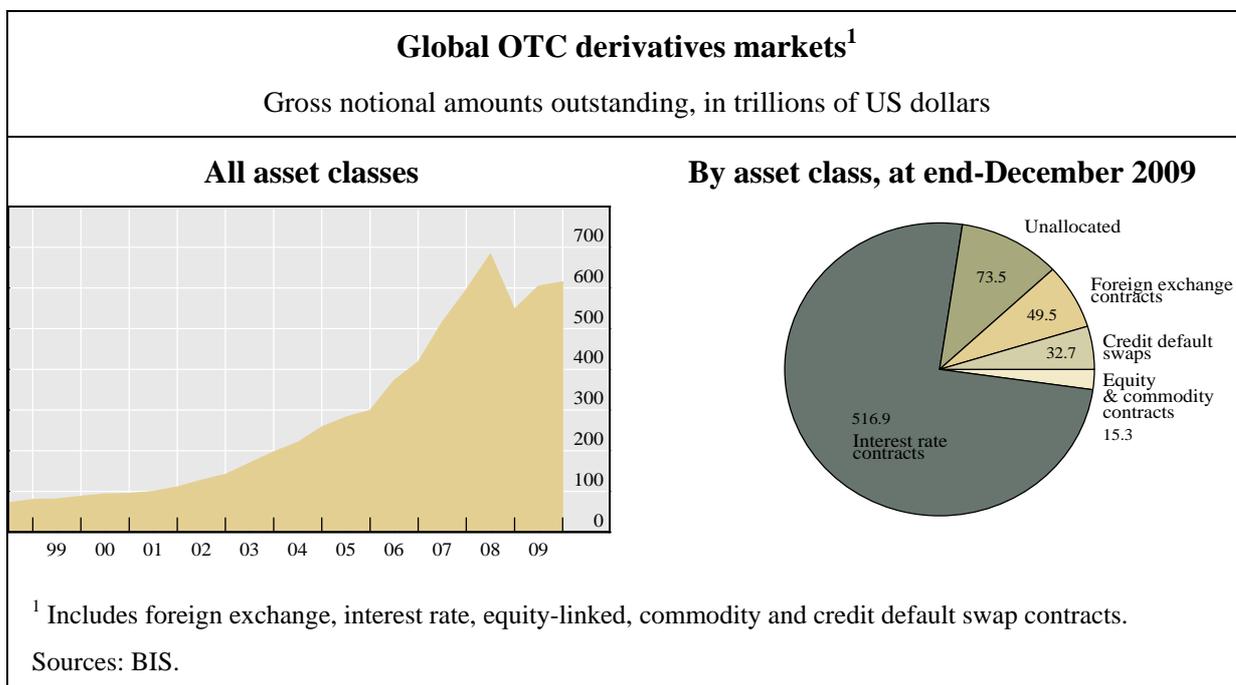
United States

In July 2010, the US enacted the Wall Street Transparency and Accountability Act of 2010, which regulates the OTC derivatives market as part of comprehensive financial reform legislation (Dodd-Frank). Under Dodd-Frank, primary regulatory responsibility for OTC derivatives is shared between the CFTC and SEC.

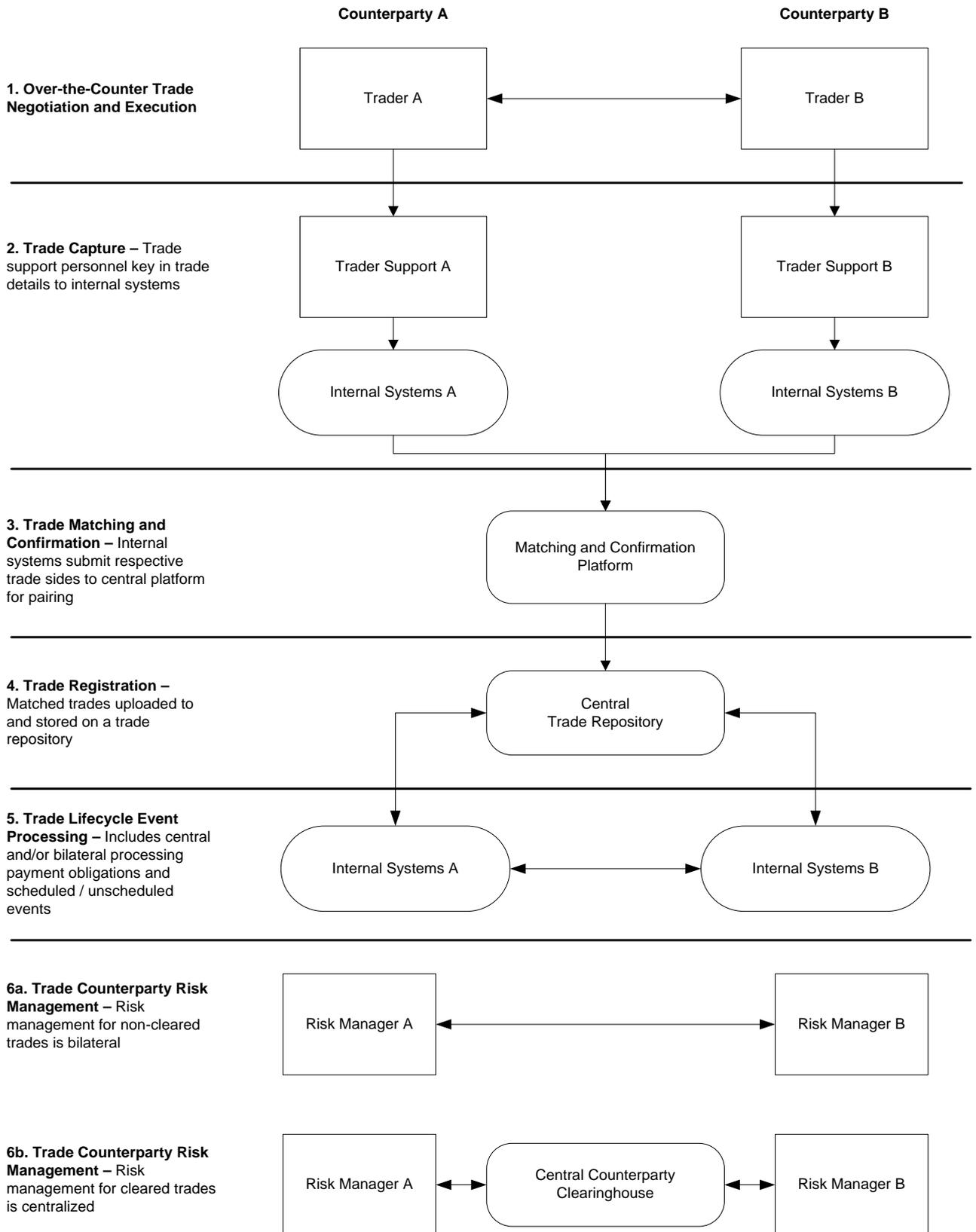
At a high level, Dodd-Frank requires central clearing for certain swaps. It includes an exemption from the mandatory clearing requirement for end-users hedging commercial risks. Generally, swaps subject to the clearing requirement are required to be traded on an exchange or swap execution facility unless no exchange or swap execution facility makes the swap available for trading.

For reporting to trade repositories, Dodd-Frank requires that all swaps, both centrally and non-centrally cleared, be reported. All swaps and security-based swaps must be reported to a data repository or, if no data repository will accept the transaction, to the CFTC or the SEC, respectively.

Annex 2: Size and composition of the global OTC derivatives markets



Annex 3: Post-trade processing flowchart



Annex 4:
Electronic processing of OTC derivatives contracts
by asset class and product type

Asset class – product type	Electronically processed volume⁶⁰ as of June 2010
Interest Rates	78.0%
Credit	98.8%
Equity	33.3%
Commodities – Energy	79.1%
Commodities – Metals	64.2%
Commodities – Other	37.1%
FX – Non-Deliverable Forwards	75.6%
FX – Vanilla Non-Deliverable Options	46.5%
FX – Simple Exotic Options	8.9%

This table provides an overview of the level of electronically processed volume or automation in each of the asset classes. The percentage has been calculated by dividing the electronically processed volume (representing trades executed bilaterally and processed on electronic platforms (i.e. confirmed)) by the total volume (representing the total deal volume reported by the G-14 dealers across all counterparties). The electronically processed volume as a percentage of the total volume provides an indication of the population of electronic trades out of all transactions (not only those that included within the G-14 definition of “eligible” trades). This provides an indication of the overall level of automation and can be one metric used to consider the level of standardisation in the entire market.

Asset class	Matching without modification
	as of June 2010
Interest Rates	95.7%
Credit	97.7%
Equity	92.4%

The percentages presented are an indication of the accuracy of trades submitted to matching and confirmation platforms. They represent the number of trades that did not have errors (i.e., that did not need to be modified prior to confirmation).

⁶⁰ Percentages are averages derived from data reported by the G-14 dealers.

**Annex 5:
Examples of bespoke products and typical end-users**

Bespoke product	Typical end-users
Interest rate swap whose floating rate is reset on a customised set of dates	Those seeking to hedge their future exposures to interest rate risk
Put options on a basket of stocks	Investors with downside exposure to the stocks in a basket seeking downside hedging protection. Purchasing protection on the basket is less expensive than purchasing protection on each stock separately. Alternatively, one could purchase protection on a standardised index, but this involves basis risk.
Natural gas swaps or options with a customer-chosen underlying spot natural gas price	Chemical companies, electricity producers, users of refrigeration services, and other large scale corporate users of natural gas
Option to purchase a synthetic bond at one of a set of specific future dates (a Bermudan option)	Investors in callable bonds, such as pension funds and insurance companies. Investors in callable bonds run the risk that the bond will be called early by the bond issuer on one of a set of pre-specified call dates. A Bermudan option gives the option holder the right to purchase a bond with the same characteristics on the callable bonds potential call dates. This helps the buyer of the option hedge against the call risk.
Option whose payoff is based on the yield spread between 1-year and 6-month bonds one year from the date of inception of the option contract	Investors seeking to speculate on spread widening or narrowing or hedge against that risk. It may be less expensive to invest in the option than hedge or speculate by trading in the underlying bonds.
<p>¹ One example is a put option that insurance companies may purchase from derivatives dealers in order to protect against principal shortfalls for variable annuity products. The protection that is provided needs to be tailored to the characteristics of the different pools of variable annuity investors, and the asset portfolios that the investors chose. We are aware of trades with greater than 100 pools of investors protected, and the period of protection lasting for more than 30 years.</p>	

Annex 6: Hedge accounting and the fair value option

Under the standards of the International Accounting Standards Board (IASB) and the US Financial Accounting Standards Board (FASB), all derivative instruments are measured at their fair value in a firm's balance sheet. If a derivative is used to mitigate a risk to which a firm is exposed but hedge accounting is not applied, volatility in the firm's accounting profit and loss (P&L) may result. This volatility may not be representative of the firm's true economic volatility and can be damaging to a firm. If the volatility is overstated and misinterpreted as being representative of the firm's economic volatility it may raise the firm's financing cost. Hedge accounting allows firms to reflect in the financial statements the impact of certain risk management decisions related to the use of derivatives by linking the accounting for the derivative with the accounting for the hedged items. It reduces volatility that would otherwise occur when either (a) the risk being hedged is not reflected in the financial statements⁶¹ or (b) the hedged item is measured in the balance sheet at an amount other than fair value.⁶² In order for a hedging relationship to qualify for hedge accounting, it must meet a stringent set of criteria, including demonstrating a high degree of correlation between the hedging derivative and the hedged risk both at the outset of the hedge and on an ongoing basis, which is referred to as being "highly effective."⁶³ When a derivative instrument is used in a hedge relationship that is not considered highly effective, hedge accounting is not permitted. When a relationship qualifies as "highly effective" but is not perfectly effective, the extent of mismatch is recorded as "ineffectiveness" in the accounting P&L, which also gives rise to some volatility.

Application of hedge accounting is not always necessary for P&L recognition of risk exposures and an associated derivative instrument to be matched. For example, when financial instruments are measured at fair value, whether as required by or electively as permitted by the applicable accounting standards, both sides of some hedging transactions are measured at fair value so the accounting mismatch of risk positions is addressed without applying complex hedge effectiveness tests otherwise required. Although there are some differences, both FASB and IASB standards permit companies to elect fair value accounting for certain financial instruments. (This election is sometimes referred to as the fair value option.) Banks and other companies may choose this accounting for a variety of reasons, including that they are sometimes able to better convey relevant financial information by immediately recognizing in P&L changes in fair value of financial instruments to which the option is applied. In other circumstances, banks and other companies may use the fair value option to avoid the costs and complexities associated with separately accounting for embedded derivatives that significantly modify the cash flows of their host contracts as

⁶¹ Such as a cash flow hedge of forecasted variable interest payments, in which case hedge accounting would result in the change in the derivative's fair value not being recognized in the accounting P&L until the interest payments occur.

⁶² Such as a fair value hedge of interest rate risk for a loan measured at amortized cost, in which case hedge accounting would result in changes in the loan's fair value being recognized each period to the extent those changes are due to interest rate risk.

⁶³ Among the requirements for a hedge to be highly effective is a requirement that the hedging instrument (derivative) be expected to achieve high offset, generally interpreted in a practice as a change of 80 – 125% of the change in the value of the hedged item.

required by other aspects of IASB and FASB standards. However, fair value accounting has the potential to create volatility because, while fair value changes of derivatives would automatically offset against changes in the fair values of the instrument with the hedged exposure, changes in the fair value of that instrument (other than those risks being hedged) would also be recognised. Another reason some companies do not prefer fair value accounting as an alternative to hedge accounting is that once designated at fair value by management using the fair value option, financial instruments must continue to be reported at fair value with changes in fair value reported in P&L over their remaining lives. Thus, unlike hedge accounting, this management designation is irrevocable. As with hedging strategies to which hedge accounting is applied, bespoke transactions may improve hedging strategies using the fair value option when the changes in the fair values of the hedged exposures completely or substantially offset the fair value changes of the derivatives hedging instruments, thus eliminating or substantially reducing P&L volatility.

The FASB is currently reviewing its standard for measurement of financial instruments, including the use of fair value. For several reasons, many firms will still desire hedge accounting treatment, whether or not recognised financial instruments are measured at fair value on the balance sheet.⁶⁴ The use of fair value in financial statements continues to garner debate, and financial instrument, fair value measurement, and hedge accounting rules are all currently being modified. FASB and IASB are currently aiming for convergence of their standards during 2011, and the final shape of these rules is currently uncertain.⁶⁵

⁶⁴ In addition to the reasons indicated above, another reason is that when the hedged item is not recognized in the financial statements (i.e., it is a forecasted transaction) or the firm only wants to hedge certain embedded risks, such as interest rate risk or foreign currency risk, and does not want all fair value changes in the hedged item recognized in the P&L.

⁶⁵ FASB has proposed simplified hedge accounting criteria as part of its comprehensive exposure draft on financial instruments and derivatives hedge accounting, issued on 26 May 2010. The International Accounting Standards Board (IASB) also plans to issue an exposure draft to simplify its hedge accounting requirements in the third quarter of 2010, which once finalized, is expected to be effective in 2013.

**Annex 7:
Major OTC derivatives (live and developing) CCPs and characteristics**

Asset class	Clearinghouse	OTC derivatives products cleared
Interest Rate	CME Clearing	Interest rate swaps and forward rate agreements by “substituting” them for cleared-only futures positions
	International Derivatives Clearing Group	IDEX USD Interest Rate Swap Futures are contracts on USD denominated interest rate swaps. IDCH uses the Exchange of Futures for Swaps (EFS) function to convert OTC IRS contracts into economically equivalent IRS futures contracts
	LCH.Clearnet Ltd Swap Clear	Plain vanilla interest rate swaps in a variety of tenors and variety of currencies and Overnight Index Swaps
Credit	CME Clearing	North American CDS indices
	Eurex	European CDS indices and some single name components of those indices
	ICE Clear Europe	European CDS indices and the single name components of those indices (currently a sub-set)
	ICE Trust US	North American CDS indices and the single name components of those indices (currently a sub-set)
	LCH Clearnet SA	European CDS indices and (planned) single name components of those indices
Equity	Eurex	Eurex and LCH.Clearnet Ltd offer clearing of OTC-negotiated equity derivatives that are substituted for a listed equity derivative when cleared, it is not clearing under a bilateral ISDA standard master agreement
	LCH.Clearnet Ltd (through Liffe’s Bclear platform)	
Commodity	CME’s ClearPort	OTC agricultural commodities, OTC energy, and OTC metals (gold & other precious)
	LCH.Clearnet Ltd	OTC Iron Ore Swaps, Fertilizer Swaps, Freight Forwards (dry, bulk, wet), Soft and Agricultures
	ICE Clear Europe	OTC energy (crude and refined products, power, natural gas), emissions (EUA, CER, Futures)
	SGX AsiaClear	Energy , Iron Ore & Freight (dry bulk, wet and containers)
Foreign Exchange	None	None

Annex 8: Capital requirements: current reforms

The Basel Committee on Banking Supervision (BCBS) is reviewing whether it has appropriately capitalized for risks related to derivative transactions.⁶⁶ It is expected that these reforms will increase the capital a bank is required to hold for the market risk and for the counterparty credit risk related to derivatives. A review of loss experience from OTC derivatives has led the BCBS to propose the following reforms.

- Market risk rules are being enhanced to include incremental default risk (which covers synthetic exposures to credit risk that were not contemplated in the original market risk amendment). Market risk rules will also require securitisation (banking book capital) charges for synthetic exposures to tranching in the trading book.
- Counterparty credit risk modelling requirements may increase the estimates of exposures by requiring a stress period to be included in the 3 years of historical data used to estimate the future exposure amount of OTC derivatives.
- Counterparty credit risk modelling of exposure over the margin period of risk may be increased from 10 to 20 days for OTC derivatives where netting sets are large or have demonstrated frequent disputes over margin, where collateral is illiquid or where the derivative is an exotic transaction which will be difficult to replicate. Further, it is proposed that the margin period of risk will double if a material number of disputes are experienced in a netting set. A longer margin period of risk will have the effect of increasing the estimate of future exposure – thereby requiring a bank to hold more capital in respect of such trade – and therefore incentivise banks to require higher initial margin for collateralised trades, or to complete such trades through an exchange or central clearinghouse, to reduce the cost of such additional capital.
- Counterparty credit risk management practices and resources are to be improved by banks. Rules are proposed to preclude banks from holding heavily structured (i.e. re-securitisation) paper as collateral for non-centrally cleared derivatives and to double the haircuts associated with securitisation collateral posted to secure derivatives. Dedicated and sophisticated collateral management resources will be required for banks engaged in OTC derivatives. Models used by banks to calculate counterparty credit risk and determine the required level of capitalization will be subject to more robust back testing and other validation techniques.
- Counterparty credit risk will have an add-on capital requirement for the risk of a one-way credit valuation adjustment (CVA). Many of the losses experienced from OTC derivatives were due to mark to market losses arising from the credit deterioration of a counterparty (without a default). Before this proposal, capital was held by banks in respect of potential counterparty default but not in respect of the deterioration of a counterparty leading to CVA losses. The CVA add-on is an attempt to provide a

⁶⁶ See in particular the reforms announced in the December 2009 BCBS Consultative Document “Strengthening the resilience of the banking sector” (available at: <http://www.bis.org/publ/bcbs164.pdf?noframes=1>). These reforms are to be announced in their final form by the end of 2010.

simple interim measure to correct for this deficiency in risk capture of the capital rules.

- Credit Risk Weights for IRB (internal ratings based) firms will, due to a multiplier in the “asset value correlation” (AVC), increase where the derivative counterparty is a financial intermediary that is a regulated bank, broker/dealer or insurance company with assets of at least US\$100 billion, and will also increase when the counterparty is an unregulated financial intermediary, including highly leveraged entities that generate the majority of their revenues from financial activities, such as hedge funds and financial guarantors. The AVC is one of the variables in the formula that determines the risk weight applied to the exposures under the IRB.
- Derivative counterparty credit exposures to CCPs will continue to have a preferential capital treatment. However, to continue to encourage the use of CCPs, while recognising that an exposure to a CCP is low risk (but not risk-free) and needs to be monitored, a low non-zero risk weight (e.g. in the range of 1% to 3%), rather than the current nil expected exposure (which results in zero capital), will be required for a exposure to a CCP. A bank’s exposure to a CCP will only receive this preferred exposure if the CCP meets certain defined criteria (e.g. the CPSS-IOSCO criteria which are currently being updated) to ensure the CCP has adequate financial resources and risk management practices (e.g. collateral margins and operational requirements) and will thereby reduce systemic risk.
- Other non-trade or non-qualifying exposures to CCPs will receive higher capital charges. For example, if a bank has counterparty credit exposure to a CCP that does not comply with the CPSS-IOSCO standards – or if a bank has a default/guarantee fund exposure to a CCP – such exposure will require the bank to hold more capital than a trade exposure to a compliant CCP. This should ensure that banks have a strong preference to deal with CCPs that comply with better practices and that are subject to robust supervision. In addition, to the extent a CCP’s margining and own financial resources result in material reliance on default/guarantee funds, a bank’s default/guarantee fund exposure to such CCP will receive higher risk weights than trade exposures to that CCP, in order to reflect the higher risk associated with an exposure that arises from the mutualisation of losses across clearing members. The risk weight that will be applied to exposures to the default/guarantee fund of a CCP is still under discussion in the BCBS.
- Liquidity rules also affect derivatives. Proposals require banks to consider the impact of non-centrally cleared derivatives, and related collateral management activities, on a bank’s liquidity. For example, banks will need to model the liquidity impacts of their credit downgrades and will need to prepare for the impact of having to return collateral to bilateral counterparties and obtain the return of collateral posted with other counterparties.
- Leverage rules consider the impact of derivatives as off-balance sheet items. These proposals seek to ensure that an estimate of the financial leverage provided by off-balance sheet derivatives is calculated by banks.

Annex 9: Description of exchanges and trading platforms

Asia

Hong Kong

In Hong Kong, the two major operating electronic trading platforms are often referred to as AMS/3 and HKATS, which provide electronic matching of bid/offer prices for relevant securities/ derivatives products. The Hong Kong Exchanges and Clearing Limited offers electronic trading platforms in both cash and derivatives markets. In the cash market, AMS/3 serves as an electronic trading platform for the below products. Moreover, the Hong Kong Futures Automatic Trading Systems (HKATS) offers another platform for trading various derivatives products as below. Separately, there is the Electronic Trading Platform (ETP) which covers bond products such as Exchange Fund Bill and Note and Government Bond.

Currently, there is no explicit plan for moving all the OTC derivatives towards electronic trading in Hong Kong. However, the Hong Kong Exchanges and Clearing Limited is exploring the business viability of offering central clearing services for OTC derivatives, such as interest rate swaps and non-deliverable forwards. Steps have to be taken to identify elements for further standardization in this market and more study is necessary to understand its feasibility.

Japan

In Japan, following previous consultations with market participants concerning the regulation of OTC derivatives trades, and taking into consideration the current status of derivatives trades in Japan's markets, the Japanese Financial Services Agency has come to a conclusion that, at present, it does not appear necessary or appropriate to require exchange trading or the use of electronic trading platforms with respect to derivatives transactions.

Europe

In line with the G-20, in October 2009, the European Commission published a Communication setting out its "future policy actions to increase transparency of the derivatives market, reduce counterparty and operational risk in trading and enhance market integrity and oversight." Building upon the G-20 statement, the European Commission established that eligible trades for exchange-trading take place on organized trading venues and that adding exchange trading to central clearing would eliminate the bilateral nature of concluding trades, resulting in highly visible prices, volumes and open interest, and facilitate market access.

The European landscape currently comprises two main categories of business: organized multilateral trading venues (known as "regulated markets" (exchanges) and "multilateral trading facilities" or MTF) and OTC business, including various types of platforms such as systematic internalisers and non-transparent crossing networks. The first category provides multilateral matching of orders, systems governed by non-discretionary and transparent rules,

and fair and equal access to market participants. Conversely, OTC business is not transparent, not governed by non-discretionary rules, and does not offer fair access to market participants.

In July 2010, the Committee of European Securities Regulators published a consultation paper to explore, among other things, the kind of incentives that could effectively promote exchange trading of derivatives contracts that are currently traded over-the-counter.⁶⁷

United States

In the US, consistent with the G20 framework, Dodd-Frank requires OTC derivatives contracts subject to the mandatory clearing requirement to be traded on regulated exchanges or other regulated trading platforms. If no regulated exchange or trading platform makes the contract available for trading, trading on an exchange or trading platform is not required. Dodd-Frank, however, provides additional tools for regulators to oversee the OTC derivatives market.

Dodd-Frank establishes a new category of regulated trading platforms (swap execution facilities) on which derivative contracts could be traded in addition to regulated exchanges for futures and options on futures (designated contract markets) and securities (national securities exchanges). The legislation contains exemptions for certain end-users to the mandatory clearing requirement, and thus to the mandatory trading requirement.

⁶⁷ “Standardisation and exchange trading of OTC derivatives,” CESR consultation paper issued July 2010 (available at: <http://www.cesr.eu> under the heading “Consultations”).

**Annex 10:
Characteristics of global trade repositories**

Asset class	TR	Established or recognized	TR location/ regulator	Trade reporting and record keeping	Information reporting and/or availability⁶⁸
Interest rate	TriOptima	Developed through an ISDA RFP process and launched in January 2010	Stockholm / Swedish FSA	Data is populated via monthly reporting by the G-14 dealers. Portfolio information is uploaded manually, trades are one-sided and not matched and records are not considered legally binding. Information is held for cleared and non-cleared transactions, although some data may be anonymised or not submitted.	Information is reported to regulators as monthly reports summarizing outstanding trade volumes, gross notional, currency breakdowns and maturity profiles by product type. Aggregate data is available on TriOptima's website. Reporting to regulators is expected to increase to a weekly basis by late 2010
Credit	Warehouse Trust	2006, but dealers committed to record trades in such TR in 2009	NY / FRBNY and NYSBD ⁶⁹	Maintains current contract details on the official legal (gold) record, for both cleared and non-cleared trades, as well as the single sided, non-legally binding (copper) records for reporting purposes only. Gold records allow for downstream processing and are populated via matching/confirmation platform automatically.	Provides weekly reports on current and historical data on notional amounts of contracts outstanding and contract turnover on gold records. Information on electronically confirmed and customized contracts can be provided upon request. From September 2010 on, authorized regulators are expected to obtain data directly from WT's website. The ODRF has prepared guidance for WT to identify data that regulators would expect to request from WT.
Equity	DTCC/ MarkitSERV Joint Venture	Developed through an ISDA RFP process; launched in July 2010	London / UK FSA	DTCC will be rolled out in a phased approach with the G-14 dealers currently reporting one-sided trade information to the repository on a monthly basis	DTCC currently provides information to regulators on, notional value, the number of open positions, currency and maturity.

⁶⁸ No price, time stamp or master agreement data is contained within any of the global trade repositories

⁶⁹ DTCC will also maintain identical credit derivatives data in a subsidiary located in London and regulated by the UK Financial Services Authority.

Commodity	As part of the ODSG efforts, the G-14 commodity dealers have partnered with the ISDA to build consensus and support among dealers and non-dealers for a TR in commodities. The goal was to develop an ISDA RFP by the third quarter of 2010, although this has been postponed. The initiative was promoted by an IOSCO task force, which had been mandated by the G20 to implement specific measures to reduce oil market volatility. The G20 has identified the oil markets as a primary concern because of their macroeconomic and consumer impact. The ODSG is partnering with the IOSCO task force on these transparency efforts.
Foreign exchange	There is presently no operational global TR for OTC FX derivatives and one is not expected to be developed in the short term. CLS Bank issued a press release ⁷⁰ on October 2009 announcing the decision <i>to</i> extend its coverage as the trade data repository for the global foreign exchange market, but market participants have not coalesced around the initiative yet.

⁷⁰ <http://www.cls-group.com/Media/Pages/NewsArticle.aspx?id=46>.

Annex 11: Legal obstacles to the reporting of client data

The process for reporting data to the global TRs has developed differently for the credit, interest rates and equity derivatives asset classes. For credit derivatives, Warehouse Trust (WT) maintains the official legal record of the trade from third party matching and confirmation vendors and from counterparties, where both counterparties have agreed to submit their trade information to WT. For other asset classes, such as interest rates and equity, dealers submit trade information directly to the trade repositories, and therefore clients (non-submitting counterparties) do not directly authorise the submission.

Under current law in some jurisdictions, the dealer (the submitting party) may be obliged to treat its clients' identity, but not the underlying transaction details, as confidential information. The relevant laws concerning confidentiality are those which apply in the dealer's jurisdiction and those that apply under the law that has been selected to govern the transaction.⁷¹ The location of the TR is not a factor in determining which client confidentiality laws are applicable.

Without client identity information, the quality of the data gathered by the TR is reduced and compromises regulatory use of the data.

Analysis of the G-20 jurisdictions has revealed that client confidentiality laws apply in a large number of jurisdictions. In order to avoid breaching such laws, three potential solutions have been identified to ensure that disclosure is permitted (discussed below). These routes should equally work in any of the jurisdictions identified with client confidentiality laws (although some potential obstacles may exist to the first route in some countries):

4. Client consent to the disclosure is sought and received;
5. A change in (local) law which (i) imposes a legal duty on the submitting firm to report full information to the TR; (ii) incorporates an over-ride of local client confidentiality laws as applicable to (a) an entity in that jurisdiction and (b) contracts with a governing law of the jurisdiction; or
6. Legislation requires bilateral submission.

Client consent

Obtaining client consent does not require legislative change and therefore may be pursued as an interim solution. It would require the publication of a form of industry standard protocol that fulfils the requirements for client consent. Clients would then have the option to sign up to this protocol which would effectively waive their right to confidentiality. However, because the protocol is voluntary, and many clients are currently unregulated entities, clients may not sign up.

⁷¹ In most cases, this is the law governing the ISDA Master Agreement, which is generally New York or English law.

Change in local law

Changing the local law would impose a legal duty on the submitting firm to report full information to the TR (thereby over-riding client confidentiality restrictions). Under this option, it would be necessary to determine which jurisdictions would be required to change their law to cover both the local law of the jurisdiction of the dealer and the governing law of the contract to guarantee the relevant disclosure. The major advantage of this approach is that it would apply automatically once the local law is changed and there would be no ability of a client to “opt-out.” However there are a number of disadvantages with this route, including the significant number of jurisdictions where a law change would be necessary and the time needed to effect legislative change. Also, this option will resolve the issue at a global level only if all relevant jurisdictions made consistent provisions in their local laws.

Legislation requires bilateral submission

If authorities required bilateral submission, the major advantage would be to avoid the client confidentiality issues. It would have the added benefit of potentially providing higher quality data reconciliation across parties. However, this increase in reporting firms and associated processing may be costly for TRs and for firms that are required to build the associated infrastructure. In addition, legislative change may not be possible to mandate reporting from all parties, regardless of type and jurisdiction.

Annex 12: Members of the OTC Derivatives Working Group

Co-Chairs	<p>Brian Bussey (representing IOSCO) Associate Director for Trading Practices and Processing Division of Trading and Markets Securities and Exchange Commission</p> <p>Stacy Coleman (representing CPSS) Vice President Bank Supervision Group Federal Reserve Bank of New York</p> <p>Patrick Pearson Head of Financial Markets Infrastructure Internal Market DG European Commission</p>
Brazil	<p>Otavio Yazbek Commissioner Comissão de Valores Mobiliários (CVM)</p>
Canada	<p>Mark White (representing BCBS) Assistant Superintendent, Regulation Sector Office of the Superintendent of Financial Institutions</p>
France	<p>Edouard Viellefond Managing Director Regulation Policy and International Affairs Division Autorité des marchés financiers (AMF)</p>
Germany	<p>Thomas Schmitz-Lippert Executive Director International Policy/Affairs Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin)</p>
Hong Kong	<p>Daryl Ho Head of Market Development Division Hong Kong Monetary Authority</p>
Japan	<p>Takashi Nagaoka Director, International Financial Markets International Accounting Planning and Coordination Bureau Financial Services Agency</p>
Korea	<p>Jeon Suhan Deputy Director Financial Services Commission</p>

United Kingdom	Paul Chilcott Head of Payments and Infrastructure Division Bank of England
	David Lawton Head of Market Infrastructure and Policy Financial Services Authority
United States	Sarah Josephson Associate Director – OTC Clearing Division of Clearing and Intermediary Oversight Commodity Futures Trading Commission
	Jeff Mooney Assistant Director Division of Trading and Markets Securities and Exchange Commission
	Matthew Pritsker Senior Economist, Risk Analysis Section Division of Research and Statistics Federal Reserve Board of Governors
	Andreas Schönenberger Principal Market Infrastructure Expert in the Oversight Division Directorate General Payment and Market Infrastructure
BIS	Jacob Gyntelberg Senior Economist
IMF	John Kiff Senior Financial Sector Expert
CPSS	Daniel Heller Secretary General
IOSCO	Werner Bijkerk Senior Policy Advisor
FSB	Rupert Thorne Deputy Secretary General
	Sarah Casey Otte Member of the Secretariat