White Paper:
The Future of the OTC Markets

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ICAP WHITE PAPER

THE FUTURE OF THE OTC MARKETS

The global wholesale over the counter ("OTC") markets are critical to the effective functioning of the worldwide financial system. The vast majority of financial asset classes only exist in the OTC environment and consequently the efficient functioning of these markets is essential for the free flow and availability of capital, the mitigation of risk and investor choice. This paper assesses the current status of the trading, transaction processing and risk management infrastructure that supports the wholesale segment of the OTC markets and sets out some recommendations that we believe would improve the quality and robustness of this infrastructure.

1. SUMMARY OBSERVATIONS AND RECOMMENDATIONS

1.1. OTC markets have a crucial role to play in all national and international economies alongside and complementary to exchange markets. They have played a major role in global economic development and have been the hub of developments that benefit savers, investors, businesses and governments. The perception of OTC markets as "unregulated" overlooks that fact that all major market participants are individually regulated and codes of conduct are set by supervisors in many OTC markets. The OTC markets are not the root cause of current market problems (though the lack of transparency in some parts of the OTC world may have exacerbated some of the market reactions to current problems). OTC trading should and will continue to develop.

1.2. There is no doubt that an overhaul of some areas of the regulatory framework supporting wholesale financial markets is now necessary. In certain areas this overhaul may need to be extensive. But serious - and perhaps unintended and unfortunate - consequences may well follow if a wrong diagnosis of the problem is reached and/or the wrong actions are taken in response to the current market turmoil. The impact of these consequences would fall on many "bystanders" outside wholesale

OTC markets, including governments and corporate and retail borrowers and investors.

1.3. Specifically, the regulatory response to current events needs to focus on simplifying and enhancing the transparency of the already existing OTC market infrastructure and making this more robust in those areas where it is too fragile.

1.4. Regulations should mandate - as the New York Federal Reserve and others have been proposing - wider adoption of central counterparty ("CCP") give up and/or central clearing for OTC derivative markets. In those OTC markets that do not already operate a central counterparty, a CCP/clearing house that is independent of the trading platforms for those markets should be mandated.

1.5. The solution to current problems in financial markets does not lie in attempting to mandate the transfer of OTC trading onto exchanges. The OTC markets have traded, and need to continue to trade, separately from exchange markets for many reasons. OTC markets are both larger in scale than exchange markets and a vital risk management tool and as such their use benefits governments, corporations, investors and individuals worldwide. An exchange solution needlessly grants the exchange a monopoly on trade execution (which is usually accompanied by restricted access to clearing) which thereby leads to increased trading costs and risk and diminished flexibility.

1.6. The OTC market has already invested significantly in developing its infrastructure. This infrastructure does already contribute hugely to reducing risk but needs to be further developed and better leveraged for the benefit of all.

We believe that the following additional specific changes need be made in the way the OTC markets operate:

1.7. Wider adoption of electronic trading. Electronic trading creates greater price transparency, enables simpler and faster trade capture, affirmation and confirmation and easier supervision of trading activity. Electronic trading should be adopted for more OTC markets.

1.8. Quicker settlement cycles in all securities markets. A T+1 settlement cycle for all securities markets should be mandated.

1.9. Faster and automated affirmation/confirmation of all derivatives trades. The affirmation and confirmation of all OTC trades in all markets needs to be automated and accelerated as close as possible to the trade date.

1.10. Greater use of pre-booking netting. In many cases, transactions can legally and economically be netted, rather than settled on a gross basis. This should be mandated as it would materially reduce the operational and credit risks incurred by market participants.

1.11. Wider adoption of portfolio reconciliation. More regular and comprehensive reconciliation of OTC trade details and valuations between counterparties should be mandated.

1.12. Wider adoption of portfolio compression in derivatives markets. More regular and comprehensive compression of derivative portfolios, ideally on a multi-lateral basis, should be mandated to liberate capital and reduce risk.

1.13. These further improvements in the OTC markets and their infrastructure can be made relatively easily. Rather than rushing to develop new infrastructure, better and more extensive use should be made of the tremendous capabilities of the existing OTC market infrastructure, which has been battle tested and shown to operate very effectively, even at moments of severe market stress. The "turnkey" development of completely new market infrastructure is unnecessary and will require significant implementation time and incur a high level of risk.

1.14. These initiatives would deliver huge benefits for both buy and sell-side OTC market participants and "clean" data for regulators. They would materially reduce the operational, contingent credit and market risks that OTC market participants face; increase auditability and processing capacity of the existing OTC market infrastructure; severely reduce the need for continuing additional investment to meet the needs of

growing markets; and materially reduce the costs incurred by market participants and improve their operating performance and return on capital.

2. INTERDEALER BROKERS AND ICAP

2.1. Interdealer brokers sit at the crossroads of wholesale financial markets, facilitating the flow of liquidity in both OTC and exchange transactions between commercial and investment banks and other major financial and non-financial institutions around the world. These deals may be transacted through traditional "voice" brokers, matching buyers and sellers on the phone, or through a variety of electronic trading platforms.

2.2. ICAP is the leading interdealer broker in the global wholesale markets. It is active in all of the OTC and many exchange traded fixed income, equity, FX, commodities and credit asset classes, in both cash and derivative form, across both developed and emerging markets. On behalf of its customers the firm transacts on average over US$1.5 trillion of volume each day. Its operations are connected to over 2,000 dealing rooms in 50 countries worldwide.

2.3. ICAP also owns and operates, outright or through equity stakes, a number of OTC trading platforms and post trade services businesses and has a strong interest in the continuing health, efficiency and safe operation of the global wholesale financial markets.

3. BACKGROUND ON OTC MARKETS

Development and Structure of OTC and Exchange Markets

3.1. The OTC markets have developed in parallel to those markets traded on traditional stock, futures or commodities exchanges. The relationship between the two is often portrayed as competitive, but is in reality more often symbiotic. OTC and exchange markets each have separate, distinctive and logical reasons to exist, none of which are called into question by the current market turmoil.

3.2. Exchanges – such as NYSE Euronext, NASDAQ, the London Stock Exchange, Eurex, CME Group – provide a trading venue for assets that are by their nature simple, in as much as they are all based on a single key measure or parameter (such as the anticipated financial performance of a company in the case of shares, or the value of a specific interest bearing bond or commodity at a time in the future in the case of exchange listed derivatives) and whose characteristics can be standardised. These markets, due to their "monolithic" structure, attract a wide range of participants who, by posting a modest amount of margin, trade standardised contracts in a single, deep and liquid marketplace. All exchange contracts are given up to a CCP/clearing house for settlement as discussed below.

3.3. In contrast, the wholesale OTC markets offer a deep and liquid trading venue for professional market participants, such as major banks and financial institutions, to execute transactions, the key terms of which are individually negotiated, rather than standardised. As such, it is no surprise that asset class innovation tends to originate within the OTC space. Some types of OTC asset class may over time become commoditised and migrate to the exchange environment; but this does not always happen. In OTC derivative markets, counterparties usually have bilateral arrangements in place to offset their contingent credit risk on each other by giving (or taking) collateral against that risk. In some of the more significant asset classes, OTC trades are either "given up" to a CCP or underwritten by a clearing house. As they have matured, several of the larger more homogeneous OTC markets have started to trade electronically as market players have recognised (as they have also on exchanges) the benefits of screen based trading.

Central Counterparties and Clearing

3.4. There is a crucial distinction between the functions of a CCP (which guarantees credit), a clearing house (which provides operational functions to risk manage, clear and settle trades) and an exchange (which provides an open all-to-all market for traders). Exchange organisations sometimes combine all three functions in one group of companies. But CCP and clearing house functions do not have to be tied to exchanges or exchange products and these functions already provide valuable

services to the OTC market, independently of an exchange, just as much they can as to the exchange traded market.

3.5. The key advantage of the CCP is that it acts as an intermediary, standing between the market participants on the two sides of a trade and guaranteeing the performance of each party to the other. The clearing house is in turn supported by capital posted by its members into a "default fund" that covers losses in the event of the default of one such member. In this way the CCP acts as a kind of "shock absorber" to the market in the event of the default of one or more market participants, allowing the net market impact of such an event to be managed with the least disruption. Recent events with the Lehman bankruptcy (and many earlier incidents) have proved that this approach works extremely well.

3.6. The key advantage of the clearing house is that it centralises all the operational functions that are otherwise duplicated by many market participants (thereby increasing efficiency and reducing risk) and imposes standardised processes for marking to market, posting collateral to immunise risk, payment and other functions (thereby increasing transparency and further reducing risk).

Size and Significance of the OTC markets

3.7. The rapid development of the OTC markets over the past 25 years has been well documented elsewhere. Academic advances from the late 1970s onwards, the development of the swap market in the early 1980s, advances in technology, changes in regulation, and the evolution of the asset management industry have all played an important part in the very rapid growth of OTC markets in many asset classes including foreign exchange, interest rates, credit, equities, energy, commodities and metals in both "developed" and "emerging" financial markets.

3.8. OTC markets have grown extraordinarily successfully and achieved such importance for two fundamental reasons.

3.9. First, the bespoke and individually negotiated nature of OTC contracts makes them much more attractive, and suitable, for hedging risk. Since exchange contracts are

standardised and “real world” economic risk is normally non-standardised, traders who use exchanges for hedging purposes have to continue to live with the differential between their real underlying exposure and the payoff on their hedges. In short, exchange contracts very rarely provide a perfect hedge for actual economic risk. By contrast, users of the OTC markets can hedge their risk precisely and transfer to professional OTC market participants the residual risk they would otherwise be forced to live with if they had used an exchange product. Therefore, OTC contracts can hedge risk precisely.

3.10. It should also be understood that this point is not only an economic “risk” issue for those needing to hedge but also has important financial accounting consequences. Accounting standards set tests for “hedge accounting” that require very close matching of underlying risk with hedges for those hedges themselves to be allowed. These standards therefore oblige (for sound economic reasons) companies and other entities that are subject to them to use OTC markets rather than exchange products on most occasions.

3.11. Second, OTC markets do not suffer from the “information asymmetry” that is inevitable in exchange markets, where very experienced participants with access to very fast and accurate information participate alongside less experienced or knowledgeable participants who do not share that advantage. The relatively restricted range of participants in the wholesale segment of OTC markets – generally only major banks and financial institutions – makes a level playing field of “buyers” and “sellers” of comparable stature, armed with similar levels of expertise and information.

3.12. Effective markets require buyers and sellers to have confidence in each other – not only that transactions will be honoured once a contract is entered - but also that neither side is able to take advantage of the other as a result of access to better information. If this cannot be demonstrated buyers and sellers will not be persuaded to meet and create a market.

3.13. It is sometimes claimed that the wholesale OTC markets are inherently undesirable because they are only open to major, experienced firms. However, it should be remembered that this is the normal structure of all markets. In virtually every

commodity or asset class a wholesale market exists alongside a retail market. The wholesale market exists to allow major participants to trade and lay off risk between themselves in bulk. The retail markets exist to allow smaller participants to trade and lay off risk in the much smaller and specific quantities and description that they need. It is no accident that it is normal for the two to co-exist alongside each other. Forcing either large market players to lay off risk in a retail market or small market participants to use the wholesale market creates much bigger risk than separating the two sets of players into complementary markets.

3.14. After two and a half decades of growth the wholesale OTC markets are very substantial. We estimate that on average about 2 million individual OTC trades (involving 4 million counterparty transactions); corresponding to about $5 trillion in size, occur each day across the range of FX, interest rate, credit, equity and commodity asset classes in both cash and derivative forms.

3.15. Despite the fall-out from the current financial crisis, whose root causes lie elsewhere, the development of the OTC markets has made a huge contribution to global risk mitigation in both that context and in economic growth over the past 25 years. It is important to distinguish between ineffective supervision of individual market participants and changes to, or regulation of, market structure itself. Innovations in risk management originating in the wholesale markets, including clearing, have had a profound and hugely beneficial effect on the way in which corporations, investment firms and governments manage their financial risks. The more efficient allocation of resources and freer flow of capital that they have allowed has dramatically increased predictability and stability in government, corporate and individual financial planning; and enabled much more rapid growth in the global economy, relative to what would have been achieved without them. The benefits derived by governments, corporations, investment management firms and individuals have been reflected in greater prosperity, choice and flexibility for these beneficiaries. The effects have been profound, right down to the level of many millions of individuals around the world and the way they manage their personal assets and liabilities and retirement funds. Accordingly, the consequences of any changes to the structure or operation of the OTC markets need to be very carefully considered.

Regulatory status of OTC and Exchange markets

3.16. The distinction is often made between "regulated" and "unregulated" markets, with exchange markets often presented as "regulated", due to the fact that exchanges are mandated to regulate the content, behaviour and participation in specified products. However, the perception that OTC markets are unregulated is not true. In contrast to exchanges, the primary regulatory focus in OTC markets is on the participants themselves based on their activity, the nature of their counterparties and type of assets involved. Exchanges are recognised by a lead regulator and not very heavily scrutinised by other regulators on an on-going basis, while in contrast the OTC environment is complex, with multiple layers of overlapping and interlocking rules and governance. The settlement processes in FX are dictated and influenced by central banks; the settlement of government bonds is specified by the sovereign issuer; the size, scope and terms of bond issues are anyway set by the issuer, and are subject to transparency regulations; eligibility; settlement and default rules in a wider range of products are set by CCPs, clearing houses and central securities depositories; the Capital Requirements Directive extends not just prudential principles but also systems and controls requirements to all international parts of regulated groups that have EU headquarters; Automated Trading Systems and Multilateral Trading Facility regulations under MiFID and equivalent US and international regulations impose additional layers of regulation on electronic markets over and above the usual "regulated firm" rules that apply to their operators and participants, while in the derivative markets rules of operation, valuation and netting have been agreed by trade associations in conjunction with regulators – such as the Master Agreements published by the International Swaps and Derivatives Association (ISDA), the Securities Industry and Financial Markets Association (SIFMA), and the International Securities Lending Association (ISLA), all of which have been recognised by regulators, most importantly in the EU and US, as a valid basis for netting exposures for regulatory capital and risk reporting purposes. OTC market activity is also itself subject to extensive codes of conduct set by regulators such as the Bank of England's NIPs Code in the UK, the multiple codes that have been created since MiFID, and international codes of best practice such as those produced by the foreign exchange trade association ACI. It may be tempting to regard the "regulated market" as the more robust model, but while exchange rules are certainly aimed at ensuring orderly markets, examples of inappropriate behaviour,

operational failures and actual losses are found among market participants in both the exchange and the OTC world, suggesting that where failures do occur, these are the result of ineffective supervision of individual market participants as much as the market structure itself, whether exchange or OTC. Recent examples of significant failures in the exchange traded world include: the collapse of Barings in 1995 as a result of $1.3bn losses in exchange listed Japanese stock futures and options, Sumitomo's $2.5bn losses in copper futures in 1998, Liu Qibing's losses of up to $1bn in copper futures in 2005, Mizuho's loss also in 2005 of $250m in Japanese equity trading, Amaranth's $6.5bn loss in natural gas futures in 2006 and Societe Generale's $7.1bn loss on European stock index futures in 2007.

Current Market Disruption, OTC Markets and Regulation

3.17. We believe that the current market disruption is fundamentally a result of loss of confidence in financial reporting, specifically in relation to the valuation of certain types of mortgage backed securities, coupled with a systemic failure to practise prudent risk management. This impact of this loss of confidence has been hugely magnified because of the build up of leverage in the financial system in recent years, inadequate attention to liquidity management, a lack of transparency in reporting and management failure to understand balance sheet risk. Derivatives generally and credit derivatives in particular have received much abuse because they are perceived to have been the tool through which speculators have taken leveraged and uncontrolled bets on credit. This is despite the fact that they have been the vehicle through which banks have assisted mortgage providers and other corporations to reduce risk and hedge their cash flows and have helped market participants to mitigate credit risk exposures to bond issuers and other borrowers. Credit and other derivatives are in our view a symptom of the underlying problem rather than its cause.

3.18. Some have argued that OTC markets are inherently defective and that the current market turmoil illustrates the desirability of transferring trading onto the organised exchanges described above. While superficially appealing this argument misses – and will therefore fail to correct - the fundamental point that the market crisis is caused by a lack of confidence in financial reporting and by the actions of individual market participants – not by a lack of confidence in market structure or processing. No

market structure – neither OTC nor exchange – can determine the correct price for (say) a 1 month unsecured inter-bank loan if there is material uncertainty about the repayment of that loan caused by overwhelming concern about the financial state of the borrower as evidenced by its financial reporting. Exchange trading does not solve this financial reporting issue and therefore it does not address or assist in solving the fundamental causes of the current market crisis.

3.19. Settlement through a CCP/clearing house (which is an entirely separate issue from trading on an exchange) can reduce risk for market participants and is a desirable development for OTC markets. As described above, CCPs provide transparency, can act as shock absorbers and have many risk management benefits.

3.20. There is no doubt that an overhaul of some areas of the regulatory framework supporting wholesale financial markets is now necessary. In certain areas this overhaul may need to be extensive. But serious - and perhaps unintended and unfortunate - consequences may well follow if a wrong diagnosis of the problem is reached and/or the wrong actions are taken in response to the current market turmoil. The impact of these consequences would fall on many "bystanders" outside wholesale OTC markets, including governments and corporate and retail borrowers and investors.

3.21. The regulatory response to current events need in our opinion to focus on simplifying and enhancing the transparency of the already existing OTC market infrastructure and making this more robust in those areas where it is insufficient.

4. OTC MARKET INFRASTRUCTURE

Overview of OTC Market Infrastructure

4.1. The infrastructure that supports wholesale OTC markets is extensive and costly – in large part due to the range and complexity of different asset types. We estimate that the operating costs of the transaction processing, risk management, settlement,

clearing and accounting functions for wholesale OTC market participants to be about $12 billion annually. It employs many tens of thousands of people worldwide.

4.2. Huge advances have been made in improving the infrastructure that supports OTC markets over the past two decades, including: the development of standardised documentation within an enhanced legal framework by industry bodies such as the ISDA and the ISLA; the introduction of collateral support to mitigate counterparty risk; the development of robust payments mechanisms such as Real Time Gross Settlement (RTGS); and improvements in the clearing and settlement processes in many markets.

4.3. During the same period, a sophisticated array of services have been developed by a variety of organisations to improve the capacity and robustness of the OTC market infrastructure, including among others: Deriv/Serve and the Trade Information Warehouse operated by the DTCC, SWIFTNet Accord and SWIFTNet Affirmations operated by SWIFT, eConfirm and TZero operated by ICE, SwapClear and RepoClear operated by LCH.Clearnet, TriReduce and TriResolve operated by TriOptima, MarkitWire (formerly SwapsWire) operated by Markit and Harmony operated by Traiana.

4.4. Of particular benefit recently has been the work done by (a) the Committee on Payment and Settlement Processes ("CPSS") Working Group in 2006 with regard to deal confirmation and documentation, the use of collateral, the use of central counterparties in OTC markets, the implications of the growth of prime brokerage, unauthorised novations and derivative closeout processes and (b) the Counterparty Risk Management Policy Group (CRMPG II and III) on systemic risk mitigation, risk monitoring and management, documentation, accounting standards, and credit market infrastructure.

4.5. The OTC market continues to make very impressive progress in the upgrading of the robust infrastructure of its market as the following examples illustrate:

- about 80% of all trading in credit default swap indices and 50% of all trading in credit default swap single same derivatives in Europe is conducted electronically

(with the associated auditability, STP and cost benefits). This compares to 0% just two years ago;

- about 74% of all credit default swap transactions and 68% of all interest rate derivative transactions are now backed by collateral. This compares to 30% in 2003;
- the time taken to process credit default swap trade confirmations has fallen by more than 75% since 2003;
- a significant proportion of wholesale interest rate swap transactions are now cleared through SwapClear; the oil derivative market is cleared through NYMEX Clearport or ICEClear; the EU emissions market is cleared through LCH.Clearnet, the European Repo market is cleared through RepoClear;
- safe payment processing is provided for nearly 60% of the OTC FX market through CLS;
- since the launch of its multilateral OTC derivative tear-up service in 2003, TriOptima has terminated 2.2 million OTC derivative transactions with an aggregate notional value of $63 trillion. In the first half of 2008 alone, TriOptima terminated over 800,000 transactions with an aggregate notional amount of $25 trillion and effectively halved the outstanding size of the index credit default swap market in just 6 months.
- since its launch in early 2007, the OTC derivative portfolio reconciliation service run by TriOptima has grown to provide weekly reconciliations on about 10 million individual derivatives transactions – corresponding to about 50% of the entire number of OTC transactions outstanding globally
- since its launch in 2006, the Harmony FX processing network provided by Traiana has grown to process over 150,000 FX transactions daily and materially alleviated infrastructure constraints in the rapidly growing FX prime broking industry

4.6. At times of market stress (e.g. the Asian and Russian market crises, the collapse of LTCM in 1999, collapse of Delphi in 2006, and banking and other defaults in 2008), the infrastructure serving the OTC markets has risen to the challenge of providing timely close-out of transactions and exposures for market participants. In October, for example, LCH Clearnet organised – with no market impact - the close out of $9,000bn of interest rate swaps in Lehman Brothers' portfolios following the bankruptcy of that firm. Nevertheless, a number of factors suggest that significant further effort should

be directed to improving the quality of the infrastructure that supports OTC markets. These factors are explored in more detail below, but include:

- The rapid rate of growth of some OTC market volumes
- The inherently volatile nature of the prices of some OTC market instruments
- The capacity constraints on some OTC processing utilities and the back offices of some OTC market participants
- The inter-connectedness of some key market participants, e.g. those providing prime broking and clearing/settlement functions to other participants of the OTC markets

External Factors Influencing OTC market infrastructure

4.7. Four principal factors have, combined, had a significant impact on the post trade environment for OTC markets:

4.8. The growth of derivatives trading: the lower capital utilisation of derivatives makes them a more efficient and attractive medium for trading than cash markets for many market participants. For this reason, trading volumes in derivatives are frequently a multiple of volumes in the equivalent underlying cash markets. In comparison with the cash markets, OTC derivatives transactions create (a) more complex and longer-lived operational workload, (b) medium or long term contingent credit risk for participants on each other and (c) have slower trade affirmation/confirmation procedures that can create time delays between a transaction being executed and it being officially recognised in the books and records of each counterparty. Significant measures have been taken, and are being taken, by the industry to address these problems (e.g. the creation of MarkitWire and the development of the ISDA Collateral Support Annex). Nevertheless, all these issues have increased the complexity of the operational tasks facing OTC market participants and created significant capacity challenges for their back offices.

4.9. Growth of Electronic trading: Electronic trading is the logical end-state in the evolution of most OTC markets as commoditisation, competition and narrowing bid-ask spreads oblige market participants to find cheaper and more efficient execution channels for

mature products. Electronic trading also greatly increases the transparency of price formation and market activity, which is a significant benefit. When electronic trading is introduced new trading techniques become possible, in particular algorithmic trading. This in turn drives steep volume growth and increasing ticket numbers, both of which add to the back office burdens of market participants.

4.10. Best Execution: Regulatory pressure for best execution (notably MiFID in Europe and Regulation NMS in the US) has fostered competition to provide the "best value" execution venues. The development of multiple execution venues (particularly in equities) has fragmented liquidity and increased ticket numbers. Unfortunately this has had the perverse (and presumably unintended) result of increasing the complexity of the settlement process and significantly increasing overall, fully loaded, trading costs.

4.11. Increasingly sophisticated investors: demographic change, the search for yield and focus on absolute returns have led to significant change in the asset management industry generally and rapid growth in the hedge fund industry in particular. This in turn has fostered rapid growth in prime broking; created a sub-set of market participants preferring to settle their derivatives trading through the payment/receipt of a simple financial (cash) transfer rather than by the traditional physical delivery/transfer of actual securities, commodities or other underlying assets; and development of derivatives markets in new asset classes. However, the infrastructure that supports prime broking is still new. Many OTC market settlement processes are set up to provide physical rather than cash settlement, and thereby unnecessarily increase operational and counterparty risk. And the infrastructure that supports OTC trading in newer asset classes is not as well established or robust as that for the older ones.

4.12. In summary, these external factors have in our view created the need for some further attention to be paid by the OTC industry to its infrastructure. The means to strengthen the infrastructure already exist. What is required is wider adoption, in a more concerted way, by more of the participants in the OTC market of the tools that already exist.

5. KEY CHANGES NEEDED IN OTC MARKET INFRASTRUCTURE

5.1. In summary, we believe that efforts to improve the quality and safety of the infrastructure that supports OTC markets should be focussed on the following key goals.

5.2. Wider adoption of electronic trading. Today the spot FX and major worldwide government bond markets all trade electronically. The benefits of electronic trading are numerous: price transparency is greater, trade capture is simpler and can be automated more easily, trade affirmation and confirmation are easier, regulatory reporting requirements are easier to fulfil. Electronic trading needs to be adopted by more OTC market participants for more markets than at present. Electronic trading of credit default swaps in North America and of interest rate swaps globally would be a major step forward for the industry.

5.3. Quicker settlement cycles in all securities markets. All significant OTC securities and repo markets worldwide are already cleared. However there is still wide variation in settlement time cycles. In some markets this process takes three working days (and hence up to five calendar days if a weekend intervenes). In others it is completed in one working day. We believe more resources should be devoted to achieving a T+1 settlement cycle for all securities markets. This effort will require more work by the respective central counterparties and clearing houses on their own infrastructures.

5.4. Faster and automated affirmation/confirmation of all derivatives trades. We concur with the goals of the CRMPG and wholeheartedly support the global regulatory push to speed up and automate the affirmation and confirmation of OTC trades as close as possible to trade date. At present this process still takes too long.

5.5. Greater use of net cash settlement. We believe that individual and systemic risk could be much reduced, and transparency increased, if there was a clearer distinction between transactions that genuinely require to be settled by the delivery/transfer of actual securities, commodities etc. and those that could be settled on a financial basis by the payment/receipt of a simple cash transfer representing the market value of the transaction. To support this objective, much greater use needs to be made in future of

tools that already exist to facilitate the "netting" of transactions that are currently settled on a "gross" or "physical" basis.

5.6. Wider adoption of central counterparty give up and/or central clearing for OTC derivative markets. In those markets that do not already operate a central counterparty, introducing a CCP/clearing house for risk mutualisation and as a shock absorber would have many risk management benefits; provided that access to that CCP/clearing house is open to all execution venues on a level playing field. Vertical integration of CCP/clearing with a single execution venue (as happens on some exchanges) diminishes competition, increases costs and reduces flexibility. Greater use of CCP functions should also potentially facilitate further progress with portfolio reconciliation and compression and netting or transactions.

5.7. Wider adoption of portfolio reconciliation. Regular, or ideally continuous, reconciliation of trade biographical details and valuations between counterparties would greatly reduce operational risk by enabling market participants to be certain that their transaction records were truly accurate all the time. Technology to perform this function already exists (e.g. TriResolve) and should be more widely used.

5.8. Wider adoption of portfolio compression in derivatives markets. Because of the relatively long tenor of individual derivatives transactions, portfolios of derivatives grow quite large in size over time. Even though the real credit risk in a large portfolio is a fraction of the overall portfolio size, these large portfolios create increased operational risk. Normally it is possible to reduce materially the overall "size" of a portfolio of derivatives by "compressing" or "tearing up" transactions within the portfolio that naturally offset each other. Regular compression of derivative portfolios, ideally on a multi-lateral basis, reduces operational risk, credit risk and systemic risk (and thereby increases return on capital for market participants). Technology to perform this function already exists (TriReduce) and should be more widely used.

5.9. We believe that these further improvements in the OTC market infrastructure can be made relatively easily. Three points are fundamental:

- The solution does not lie in attempting to transfer OTC trading onto exchanges. The experience of previous attempts to move OTC market trading onto an exchange format has been very poor. In the past couple of years attempts to launch FX trading (FXMarketSpace) and credit default futures (on both CME and Eurex) have all failed to take hold. This is no accident. The majority of participants in the FX and CDS markets need the flexibility that OTC markets allow and cannot accept the standardisation that exchanges enforce. These and other OTC markets trade, and need to continue to trade, separately from exchange markets for all the reasons outlined in Section 3 above.

- Central counterparty mechanisms must be required to maintain open and fair access to all trading venues and participants wishing to use them. This is not just an issue of ensuring fair and open competition in trading – which is a fundamental point - but (equally importantly) of ensuring that the CCP/clearing house is actually adopted by the market. If CCP/clearing is "tied" to a particular trading venue, market participants will fear that that trading venue may abuse its economic power, to the disadvantage of traders, once its "tied" CCP/clearing house has acquired a critical mass of clearing business. This fear will in turn make market participants very reluctant to adopt such a CCP/clearing solution in the first place, thereby undermining the whole purpose. In this situation the market simply remains uncleared, participants live with the implicit inefficiency and cost, and the systemic benefits of the CCP/clearing house structure are lost.

- Rather than rushing to develop new infrastructure, better and more extensive use should be made of the tremendous capabilities of the existing OTC market infrastructure, which has been battle tested and shown to operate very effectively, even at moments of severe market stress.

5.10. We believe that multiple benefits would accrue from pursuing these initiatives for both buy and sell-side OTC market participants and for regulators. The economic self-interests of market participants are more closely aligned with the interests of market regulators than many at first assume. Apart from the specific merits mentioned in 5.2 – 5.8 above, pursuing these initiatives would:

- Materially reduce the operational, contingent credit and market risks that OTC market participants face as well as systemic risk
- Materially increase auditability and processing capacity of the existing OTC market infrastructure. Substantially reduce errors and opportunities for market abuses and the need for continuing additional and heavy investment to meet the needs of a growing market;
- Materially reduce the costs incurred by OTC market participants in processing transactions and improve their operating performance and return on capital.

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