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Mr Daniel Heller,
Head of Secretariat
Committee on Payment and Settlement Systems
Bank of International Settlements
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Dear Mr Heller,

Global Valuation Limited is delighted to be given the opportunity of commenting on the consultative report 'Principles for financial market infrastructures'.

The Committee on Payment and Settlement Systems makes an effort to enforce the robustness and the efficiency of financial market infrastructures (FMIs) and sets the premises for their growth.

Most of the issues addressed by the Committee revolve around counterparty credit risk (CCR). Since CCR management practices during the financial crisis were responsible for as much as two thirds of banks' losses, the choice of focus is certainly justified.

We believe that the regulatory proposal that has been tabled marks a significant step forward. However, we would like to draw the Committee's attention to perhaps unintended or unexpected consequences that the legislation will have in the market place.

The punitive CVA VaR capital charges combined with the new framework for CCPs are designed to encourage a major wave of restructuring for derivative transactions with the intent of favouring cleared OTC derivatives over uncleared ones. The draft proposal correctly remarks that the shift to full collateralization raises the prospect of liquidity risk for non-bank counterparties which are currently not equipped to withstand the volatility of margin variation with their own liquid capital resources. This situation creates the market premises for the emergence of liquidity providers acting as margin lenders on behalf of buy side entitites. A further natural development one may foresee is the issuance of debt structures by margin lenders which amount to CCR securitization schemes.

The draft document does not comment about margin lending and, so far, the BIS did not release estimates on the size of the market for margin lending which needs to be created. However, by extrapolating ISDA estimates for US corporates alone, we would argue that the new market will have a material volume, attracting and effectively sterilizing in custodian accounts several trillion dollars in capital.

Regulators are taking a pro-active rather than a reactive role by pushing ahead for OTC clearance. We believe regulators should also be proactive regarding the market for margin lending that OTC clearance will unavoidably generate. This is particularly important given the break-neck speed at which market restructuring is progressing and the sheer size of the margin lending market required to immunize the financial system from liquidity risk at non-bank entities.

What causes and who bears CVA volatility risk

Historically, banks have provisioned against counterparty credit risk by computing a Credit Valuation Adjustment (CVA) and by passing this on to clients on an upfront basis.

Typically, in the case of long dated fixed income instruments, the upfront fee is itself financed by means of a fixed stream of payments embedded in the transaction. Receiving these structures with payments in installments is economically equivalent to receiving an upfront payment combined with a sale of default protection to the counterparty.

According to a typical CSA agreement, one monitors the mark-to-market value of derivative transactions assessed under the assumption of no counterparty credit risk. Whenever the mark-to-market value crosses a contractually defined threshold, the liable party of the derivative transaction is obliged to post cash collateral to cover the amount in excess of the threshold. The key point is that collateral thresholds are typically not zero. In the case of most sovereigns and some large corporations, thresholds are actually infinite as these parties don't post collateral at all.

The habit of charging the CVA upfront is equivalent to the reciprocal sale of a default protection option embedded in each and all derivative transactions. If two parties B and C enter a transaction, B sells to C protection on the default of C at contract inception with payment upfront. Conversely, C sells to B contingent default protection in case B defaults. We refer to these default protection contracts as "CSA embedded options". The CVA is the fair value to the protection seller of CSA embedded options .

Since the beginning of derivative markets, CVA receipts were simply provisioned

against counterparty default risk. The situation changed in the year 2006, when documents defining mark-to-market accounting standards such as FAS 157, FAS 159 and IAS 39 recognized the status of CSA embedded options as separate balance sheet entries. From an accounting angle, the decision is logical and not questionable. However, repercussions were vast and far reaching.

A first implication of the new mark-to-market rules is that embedded default protection options need to be marked-to-market. Secondly, an embedded option which is an asset for one party should be a liability for the other, i.e. the logical implication of recording a balance sheet entry for the CVA is to have the counterparty record and mark to market a DVA entry. The DVA stands for the Debt Valuation Adjustment. The DVA is equal in absolute value to the CVA for the protection seller but enters on the balance sheet of the protection buyer with the opposite sign.

The fair value of CSA embedded options varies with time because of the correlated effect of the changing market factors affecting the underlying derivative fair value and the changing credit worthiness of the counterparty. A bank subject to the rules of mark-to-market accounting is thus left with the choice between two solutions: either (i) manage CVA volatility risk by active trading or (ii) stop issuing embedded CSA default protection options and simply require full collateralization of derivative transactions. Historically, banks followed the first route, while the draft document on FMIs aims to trigger a shift toward the second mode of operation.

The volatility of CSA embedded options has several serious macro-economic consequences and implications. In order for banks to actively hedge their CVA exposure, they need to buy credit protection on their own counterparties. The scarse liquidity in CDS markets potentially induces the widening of counterparty CDS spreads. This widening can have detrimental repercussions on default probabilities themselves and trigger a vicious loop. Furthermore, because of the difficulties in CVA hedging, banks are at risk of incurring in substantial losses triggered by events of credit degradation of counterparties, even in situations without actual default events.

The valuation of embedded options necessitates modelling wrong-way risk and correlations among default events. These tasks can be confortably and honestly accomplished in full respect of the basic principles of pricing theory and without resorting to uncontrollable approximations, at the condition that one is willing to use modern technologies and adequate mathematical modelling techniques. Unfortunately, there is stark resistance to the adoption of modern technologies and most banks resort to seriously faulty numerical approximations. Regulators tend to micro-manage numerical approximations by providing numerous formulas in official documents with the intention of creating a level playing field, but

not without generating numerous odd and unintended consequences.

Even in case the CVA is not volatile, a stragegy of holding CVA capital in reserve is suboptimal with respect to purchasing insurance across the entire capital structure in advanced. Because of the characteristically skewed shape of a loss distribution, banks that simply provision CVA capital tend to record small profits most of the time (when the CVA accrued is higher than the actual loss), while more seldom they record large losses. To stabilize this risky revenue pattern, banks should transfer tail risk to investors, i.e. they should securitize. Unfortunately, the variability of the CVA makes it very difficult to securitize tail risk for CCR portfolios robustly. Transfering first loss is easier but not a practice to be encouraged as it would give rise to moral hazard and concentrate tail risk, as opposed to dissolve it.

The DVA has sometime been referred to as the "evil twin" of the CVA because it opens a Pandora's box of controversial implications. Hedging the DVA is materially impossible as a bank should short its own credit. The only way for an entity to receive the payoff of a CSA default protection contract on itself is to actually default.

DVA accounting also misplaces incentives. As the credit worthiness of an entity degrades, the mark-to-market of the DVA gives rise to a gain to be recorded on the balance sheet. Instead, if a bank succeeds to improve its credit-worthiness it will have to record a substantial and unhedgeable loss.

We have heard calls for the dismissal of the DVA altogether. We agree with this calls although, on logical grounds, we also agree with accounting boards: as long as we have CSA embedded options and we record the CVA on the balance sheet, we also need to have an entry for the DVA so that a gain for one party is reflected as a loss for the other. Not doing so, would effectively result in fiat monetary creation, an obviously unacceptable consequence. The conclusion is that the only way to eliminate the DVA is to set it to zero by eliminating the CVA altogher. The draft document on FMIs is commendable because it goes precisely in this direction.

The proposed new regulatory environment

Regulators have stated the intent to move over a large portion of OTC derivatives trades to central counterparties (CCPs) clearing houses. We agree that a market infrastructure based on CCPs could help to reduce counterparty credit risk in various ways.

A first benefit of CCPs is netting. In an ideal situation, each entity would cover its entire portfolio under a single over-arching netting agreement. A CCP infrastructure goes a long way in this direction by enabling multilateral and

cross-product netting. Cross-netting among CCPs would also be highly beneficial, notwithstanding the jurisdictional hurdles to be overcome to harmonize cross-border bankruptcy laws.

Secondly, CCPs radically reduce counterparty credit risk by subjecting all parties to full collateralization provisions. As a result, under these rules the CCP is only marginally affected by the default of a single counterparty. Since there are no more CSA embedded options, the CVA is rigorously zero and so is the DVA. At first sight, the primary causes that triggered the great majority of losses during the financial crisis would be radically obviated. But first impressions could be deceiving, especially since the proposed regulatory framework appears to be incomplete, as we explain below.

In a situation where full collateralization is requested as a standard, new forms of systemic risk materialize in the form of liquidity risk at non-bank entities. It is not difficult to imagine scenarios where non-bank entities are subject to correlated and system-wide calls for margin variation which they cannot meet. This would trigger massive unwinds of derivative transactions which could further amplify the move in market prices which triggered the margin variation calls in the first place. In other words, it is not difficult to imagine a self-fertilizing chain reaction leading to a new form of financial crisis.

As counterparty credit risk is squeezed out of banks and morphes into liquidity risk for non-banks, we believe that the market will spontaneously develop liquidity provision services in the form of margin lending to seize the opportunity of the newly created inefficiency.

Margin lending can take various forms.

A straightforward but trivial route is to structure margin lending in such a way to produce a structure which is economically equivalent to having embedded CSA options. Namely, the structurer B would enter in a derivative transaction with counterparty C while using a CCP for clearing. Simulataneously, B would sell to C a funded contract of contingent default protection on C by taking up the obligation to post the full margin variation on C's behalf through the life of the transaction. In exchange, C would compensate B either upfront or in installments with a stream of fixed interest payments. This sort of margin lending structure would obviate to the default risk for C and would accomodate for the new regulations but would defeat the purpose of the new CCP regulation entirely.

In this trivial scenario, counterparty credit risk would morphe into plain credit risk and the structurer B would have to manage both risks simultaneously. There have been calls in the press advocating the virtues of merging market and counterparty credit risk, but we strongly disagree. We believe this would

defeat one of the qualifying goals of the proposed CCP regulations and should not be allowed. Instead, we believe one should have a third entity A separate from B intervene as a margin lender. In this fashion, B would only be facing replication risk while A would only be facing counterparty default risk. Since the two sorts of risk are managed with vastly different techniques, separation will greatly augment the ability to hedge properly.

A further element of concern in the trivial margin lending scenario is that embedded CSA options would be essentially resurrected. Even in case a third party A collects these embedded options, the risk would remain. In fact, this situation would be very similar from the risk management viewpoint to the one typical in advanced financial institutions where a CVA desk collects CSA embedded options. The difference in a fully funded scenario would be that the CVA desk would also have to provision lines of credit on the client's behalf. This would reinstate the sort of risks that drove the crisis and compound it further by concentrating substantial liquidity risk on the CVA desks acting also as margin lenders.

The only virtuous form of margin lending is one whereby a third party A grants to the counterparty C a revolving line of credit to meet the full margin requirement but without selling to C a long term default protection option on C itself. We call such revolving lines of credit "margin revolvers". Ideally from A's viewpoint, A should be selling only overnight default protection to C. The need to renew lines of funding on an overnight basis would however still expose C to liquidity risk. A more reasonable compromise is to have A grant a margin revolver to C on an entire netting set over a short period of time in a range between one month to one year. We believe that this is the form of margin lending that regulators should sustain and encourage.

Margin lending whereby spreads are periodically reset effectively transfers CVA volatility risk to counterparties themselves. This is beneficial on many accounts.

On average and assuming fair pricing, the net present values of expenses an entity C would face to cover for its own default protection in derivative transactions would still be precisely equal to CVA. However, the realized payment will vary depending on the evolution of creditworthiness of C. In case, C's credit improves, C will pay less than CVA, while otherwise C may pay more than the CVA. Hence, margin lending with floating spreads will encourage virtuous behaviour and penalize credit degradation. Furthermore, in case credit degradation occurs, the liable derivative counterparty would have an incentive to flatten the risk profile of its derivative book by unwinding at least in part as a way to reduce funding costs. This incentive would decrease the systemic risk impact of forced unwinds concentrated at the time of default.

Margin lending with floating spreads is favored on economic grounds as the

cost passed on to counterparties is only the CVA, on average. The alternative strategy of fixed rate margin lending whereby CSA default protection options are still sold at contract inception is substantially costlier as the bank would still be subject to CVA VaR capital requirements and would have to pass on these costs to the client. The CVA VaR capital charge does not apply to margin lending with floating spreads simply because CVA volatility risk is passed on to clients.

Margin lenders would have a competitive advantage in the procurement of funding to meet margin variation calls as they could diversify their exposure among many counterparties. To meet margin variations, an individual non-bank entity would have to borrow a substantial capital buffer paying a cost of funding including its own credit spread but then immobilizing the capital in cash accounts, at significant cost. By careful risk management, a margin lender would be in a far better position to optimize the use of capital buffers shared across a diversified pool of borrowers.

We believe that regulators should be aware and analyze carefully the possibility of allowing the establishment and growth of a market for margin lending with floating spreads. Regulators may be tempted to apply measures to discourage this direction on the basis that these structures would lower substantially Basel III regulatory capital impact. We believe this would be a mistake because the economic benefits of margin lending with floating spreads are evident. Regulatory capital can be controlled also with other tools, although a recalibration might be required.

The global economic impact of a market for margin lending would be substantial and can have consequences even on the monetary front. Estimates of the total funding required to cover collateral requirements under Basel III and Dodd-Frank are of about 1 trillion for US corporates alone, according to the ISDA. By extrapolation, we would argue that several trillions would be required on a global scale. Since collateral will be held by custodians and cannot be re-hypothecated, this massive transfer and sterilization of capital will have a large scale monetary effect and be even capable of sedating inflationary pressures. Restricting the forms of acceptable collateral to sovereign debt would also cause the level of debt tolerance of sovereigns to rise.

We believe that margin lenders would be an important element of a robust financial infrastructure. We would recommend to encourage the creation of a large number of relatively small margin lenders, each with modest total capitalization, so that the default of an individual margin lender could be more easily reabsorbed by the system. A crucial measure ensuring risk mitigation would be to limit the duration of margin lending contracts to a short duration (e.g. one year at most), in such a way to exclude the resurrection of CSA embedded

options.

Given the very material amounts of capital involved on a global scale, it is important that regulators act to identify modes of funding for margin lenders which present low systemic risk and encourage them. One mode of funding would be to allow commercial banks to deploy client deposits to the margin lending business. This is however a venue that we do not advocate. We believe it would be preferable to allow margin lenders to fund themselves on capital markets by using securitization structures.

The securitization of portfolios of margin revolvers presents various elements of novelty with respect to standard funded structures such as CLOs or CBOs. A simplification is that in our case, since assets are short term, also liabilities need to be of matching maturity, i.e. short term. A complication is that a securitization portfolio for a margin lender cannot be fully invested in margin revolvers but needs to allow for capital buffers to meet calls for margin variation. Also, the margin lender would have to actively hedge market risk by accurately modelling the underling portfolio of netting sets. Finally, margin lenders should allow for changing netting sets, with procedures to accomodate for revisions of spreads with a quick turn-around time.

The modelling challenges facing margin lenders revolve around the ability to model portfolios of netting sets down to the single instrument level. To a margin lender issuing margin revolvers, the concept of CVA is meaningless. What matters is the ability to simulate cash waterfalls for portfolios of netting sets. No approximate formulas or quick shortcuts are imaginable for such a complex task. However, we believe that modern technologies are sufficient to the task, even ruling out uncontrollable approximations. We find that it is indeed possible nowadays to generate cumulative loss distributions for portfolios of netting sets. These distributions contain very detailed information, both for hedging purposes and for the investor's benefit.

The information content of loss distributions is far richer than that of traditional rating schemes and can possibly become a mean for communicating risk information, similarly to standard practices already followed in the insurance industry. Distributions can also be used as a mean to restrict management actions by margin lenders.

One possible obstruction to the formation of a market for margin lending of sufficiently vast scale is the need for non-bank entities to protect information on their derivative position. A solution to address this concern at least in part is to have the borrower provide scenario contingent mark-to-market information to the lender, as opposed to full portfolio information. This information could be generated by the borrower using models calibrated by the lender. Also in this case, a solution is quite feasible, as long as there is willingness to use modern

computational technologies.

Conclusions

In conclusion, we value all efforts made by the Committee on Payment and Settlement Systems to mitigate the impact of counterparty credit risk in the financial system. The decisions taken by the committee to mandate full collateralization in derivatives markets is an important step. What is missing however is a framework for margin lending which in our view will play a crucial role, one way or the other, in shaping up the future financial system.

Various forms of margin lending are possible, at least in principle. As we explained, long term margin lending on an upfront basis or at fixed rates could restore the status quo, void the regulator intention and simply add inefficiencies on traditional structures which have already proven fragile and prone to developing systemic risk. Other forms of margin lending based on periodic resets would instead reflect the intent of the regulator and indeed resolve at the root the primary causes of the financial crisis. We conclude that the regulator should express a clear preference regarding these matters at these early stages of market development.

Yours Sincerely,

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