



New OTC derivatives rules focus on central clearing as a means of controlling credit risk and increasing transparency. Counterparties to non-cleared trades will be subject to much higher collateral and capital requirements.

## Sovereigns in Search of Solutions: OTC Derivatives Reform: Direct and Indirect Impacts

The fundamental reform of over-the-counter (OTC) derivatives markets is having a profound impact on how these instruments are used. The core objectives of the reforms, which include the Dodd-Frank Wall Street and Consumer Protection Act (the Dodd-Frank Act) in the US, European Market Infrastructure Regulation (EMIR) and similar measures throughout Asia, are to centralise and manage counterparty credit risk and increase transparency. This is to be achieved through the four principal requirements of the regulatory agenda, namely:

- (i) execution on electronic trading venues;
- (ii) clearing through central counterparties (CCPs);
- (iii) reporting to trade repositories; and
- (iv) collateralisation of bilateral derivatives exposures.

The focus is on the conduct of the OTC derivatives business by financial institutions. Non-financial derivatives users are largely exempted from the clearing requirement subject to threshold levels of activity, the intention being to preserve the ability of such users to hedge commercial exposures efficiently.

The process of reform raises challenging questions for another category of OTC derivatives users: the sovereign institutions. This category includes central governments, sovereign wealth funds, state-sponsored pension schemes, debt management offices (DMOs), central banks and supranational institutions such as the International Monetary Fund (IMF), Bank of International Settlements (BIS), World Bank and the European Investment Bank (EIB).



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The evolving regulatory framework as it applies to sovereign entities is somewhat inconsistent. The proposed Dodd-Frank Act regulations classify non-US sovereigns ('the government of any foreign country, or a political subdivision, agency or instrumentality thereof<sup>1</sup>) as financial end-users, and therefore subject to the Dodd-Frank Act provisions requiring exchange trading and clearing of eligible derivatives contracts, trade reporting and collateralisation of uncleared trades. A non-US sovereign entity is extremely critical of this approach,<sup>2</sup> but the final outcome remains unclear.

In Europe, EMIR exempts European Union (EU) member state, regional and local governments and DMOs, members of the European System of Central Banks and various supranational institutions from the obligation to clear and report OTC derivatives activity.<sup>3</sup> Similarly, the Monetary Authority of Singapore's current consultation paper appears to exempt all governments, central banks and supranational institutions from both clearing and reporting requirements.<sup>4</sup>

There is further uncertainty over the extent to which exemptions to the Basel III capital adequacy rules, and in particular the new Credit Valuation Adjustment (CVA) capital charge, will be consistent with exemptions to the clearing and reporting requirements of the Dodd-Frank Act and EMIR rules for OTC derivatives reform.

The Basel III proposals require that banks must provide capital to absorb potential CVA losses on any bilateral OTC derivatives trade, irrespective of the counterparty type. However, exemptions are being sought as the rules are transposed into law. For example, the latest Council of the EU draft of the Capital Requirements Directive (CRD4), which implements the Basel III recommendations in EU law, suggests that banks will not be required to set aside capital against potential CVA losses arising from exposures to certain sovereign entities; in fact, the Council draft borrows the wording for exemption of sovereign entities directly from EMIR.<sup>5</sup> Until exemptions are clarified in each jurisdiction however, it should be assumed that bilateral trades with sovereigns will be subject to the new capital requirement.

The proposed CRD4 and EMIR exemptions focus on sovereign and quasi-sovereign entities within the EU; the treatment of exposures to sovereign counterparties from external jurisdictions remains unclear. The application of the various national and supranational rules is determined by several factors, of which the terms of the contract traded and the domicile of the respective counterparties to the trade are most significant.

The continuing debate over 'extraterritoriality', that is, the applicability of a set of rules outside the direct jurisdiction of the overseeing regulator, complicates matters further. For example, as currently understood, the Dodd-Frank Act might deem any OTC derivatives trade conducted outside the US with an overseas branch of a US institution to be subject to the provisions of the Dodd-Frank Act.

European sovereigns have generally expressed concern over the potential impact on counterparty selection as a result of the proposed Dodd-Frank Act extraterritorial scope; the de facto exclusion of US financial institutions as potential counterparties would have a very negative impact on derivatives pricing, liquidity and risk management.

<sup>1</sup> Proposed Rules (Prudential Regulators)', Federal Register Vol.76 No.91, Wednesday May 11, 2011, p.27571 and 'Proposed Rules (CFTC)', Federal Register Vol.76 No.82, Thursday April 28, 2011, p.23735.

<sup>2</sup> Comment for Proposed Rule 76 FR 23732', Norges Bank Investment Management, 6 July 2011.

<sup>3</sup> Proposal for A REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on OTC derivative transactions, central counterparties and trade repositories 15148/11', Council of the European Union, 4 October 2011, Article 1 para. 4, p.583.

<sup>4</sup> Proposed Regulation of OTC Derivatives', Monetary Authority of Singapore, February 2012, s3.3.7, s4.3.5.

<sup>5</sup> Proposal for A REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on prudential requirements for credit institutions and investment firms - Presidency Compromise 7042/12', Council of the European Union, 1 March 2012, Article 372 para. 3a, p.583.

The final impact of the rules on sovereigns remains uncertain; sovereigns may find that some of their OTC derivatives activities become subject to mandatory clearing or collateralisation.

Sovereigns are generally regarded as low risk counterparties, and as such have not generally been required to provide collateral.

We expect that a common approach will ultimately be reached between the major strands of regulatory reform to avoid market distortions and regulatory arbitrage, but inconsistency and conflict between national and supranational rules persists. Until a consistent framework of exemptions from both capital adequacy and clearing requirements across jurisdictions may be agreed, the possibility remains that sovereigns may find that some of their OTC derivatives activities become subject to mandatory clearing or collateralisation.

### The status quo may become unsustainable as counterparties face mounting liquidity and capital challenges

Sovereign securities issuers, including governments, central banks and DMOs use OTC derivatives to manage the duration and currency profile of their liabilities. Sovereign investors such as Sovereign Wealth Funds and state-sponsored pension schemes are also extensive users of OTC derivatives for implementing investment strategies and hedging exposures. An Organisation for Economic Cooperation and Development (OECD) paper<sup>6</sup> published in November 2011 reveals that the most intensively used contract types are interest rate swaps (IRS) and cross-currency swaps (CCS). We note that IRS represent the largest portion of the overall OTC derivatives market, and are the most widely cleared OTC derivatives today.

Sovereigns are generally regarded as prestigious clients with low credit risk, and thus enjoy favourable terms of business. Under the unilateral Credit Support Annex (CSA) documentation that is a common feature of sovereigns' current relationships with their commercial derivatives counterparties, they are not required to provide collateral to secure their derivatives liabilities, and in most cases see limited benefits and considerable costs in altering this arrangement.

The preference of sovereigns for unilateral collateral terms is considered by their commercial counterparties to be at odds with the post-crisis reforms of the banking sector and the OTC derivatives markets. However, under the new rules, commercial banks will most likely incur higher costs to service their sovereign clients for the following reasons:

- **The potential netting benefits offered by clearing are lost.** A key advantage of clearing is that it maximises scope for netting of exposures and therefore minimises margin requirements compared to fragmented bilateral exposures. If a sovereign insists on remaining outside clearing, if permitted under applicable regulation, counterparties may incur higher collateral costs and seek to recover some of this in the pricing of bilateral trades, to the detriment of the sovereign. Anecdotal evidence suggests that some dealers are no longer prepared to take on bilateral exposures that cannot be netted with cleared exposures through a CCP.
- **Unilateral collateral obligations reducing liquidity from the banks.** While banks usually do not call for collateral from sovereign counterparties, they must provide collateral for the offsetting hedge transactions which are undertaken with commercial counterparties. These margin requirements are increasing sharply for both cleared and uncleared OTC derivatives trading under the new rules. At the same time, banks are faced with tighter liquidity constraints under Basel III, and so the retention of liquid assets is at a premium.
- **Continued support of uncollateralised exposures to sovereign counterparties could require additional regulatory capital to be set aside against potential credit losses** (see Basel III enhanced capital adequacy requirements appendix). If the Basel III CVA capital charge is to be imposed on sovereigns' commercial counterparties, banks will have to source additional capital to sustain their sovereign client business. This will mainly affect relationships with sovereign issuers that suffered deteriorating credit ratings in the latest phase of the financial crisis.

<sup>6</sup> 'Regulatory Reform of OTC Derivatives and its Implications for Sovereign Debt Management Practices', OECD, November 2011.

The economics of servicing sovereign counterparties are changing, and banks may be forced to pass on higher collateral and capital costs through the pricing of bilateral OTC derivatives trades.

Sovereigns may find that it is cheaper to embrace central clearing or to provide collateral to reduce the indirect impact of the new rules on their OTC derivatives activities.

The combined effect of the new regulatory framework is that the current basis on which commercial banks support their sovereign counterparties will become less economical unless some of the incremental cost of foregone netting opportunities and increased collateral and capital obligations can be passed through in the pricing of bilateral OTC derivatives trades.

#### **Could clearing and collateral management be the way forward for sovereigns?**

Sovereigns may therefore face a choice in terms of the best way to manage the direct and indirect costs created by the new regulations. The widespread use of OTC derivatives reflects their usefulness in managing exposures and hedging risks, and we do not expect that sovereigns will choose to curtail their derivatives activities. An alternative approach for sovereign market participants is to develop a clearing and collateral management strategy to address their particular requirements and constraints. In Europe, the Portuguese and Irish DMOs began to post collateral in 2010 and 2011 respectively. The Swedish, Danish and Latvian governments are reported to be considering following suit.

Our expectation is that more sovereigns may choose to embrace central clearing and post collateral to their bilateral commercial counterparties; this may reflect a desire to demonstrate leadership to the market in support of the G-20 reforms, to reduce the indirect impact on bilateral OTC derivatives pricing discussed above, and to pre-empt the possibility that clearing may in any case be imposed on sovereigns in certain jurisdictions.

#### **So, if sovereigns are to post collateral, what form should this collateral take and what are the associated operational considerations?**

It is a generally accepted principle that assets correlated with the counterparty should not be accepted as collateral to avoid wrong-way risk. Further, CCPs and other counterparties impose concentration limits on collateral as part of their risk management process. This means that it may not be possible for counterparties to accept only sovereign debt as collateral for a sovereign issuer's exposures.

Counterparties may choose to overlook wrong-way risk if they are able to rehypothecate these assets; government bonds are desirable as they represent high-quality CCP-eligible collateral. The extension of the Dodd-Frank Act and expected EMIR rules on collateralisation of bilateral trades will substantially reduce scope for the redeployment of collateral assets in this way. Sovereigns may therefore have to source alternative assets to deliver as collateral; this can be managed through the repo market but this approach introduces incremental counterparty credit risk and operational overhead.

If a sovereign engages in cleared derivatives markets, it will need to consider the costs and benefits of direct CCP membership or appoint clearing brokers to manage the clearing process on its behalf. Direct membership of a CCP exposes the sovereign to the associated obligations to aspects of the CCP's risk mutualisation process, including default fund contributions. We therefore expect sovereign institutions to appoint clearing brokers to access cleared derivatives markets.

From an operational perspective, the following aspects of best practice for collateral management for clearing and bilateral exposures may need to be addressed:

- **Documentation:** the cost of establishing the requisite legal documentation, whether for clearing relationships or two-way CSAs for bilateral activity, should not be underestimated. Additional documentation associated with collateral segregation and third-party custodial arrangements may also be needed.
- **Daily reconciliation of positions with counterparties:** many OTC derivatives market participants use one of the multi-lateral reconciliation services to perform daily reconciliations on a substantially straight-through basis. However, sovereigns may prefer to perform reconciliation directly if position and exposures are regarded as sensitive.

- **Daily valuation of positions and calculation of counterparty exposures:** the requirement to mark positions to market on a daily basis for the calculation of exposure and margin obligations may represent an incremental operational process as some sovereign entities account for their liabilities on a book cost basis.
- **Processing of margin calls:** sovereign entities may need to be able to receive and process margin calls from counterparties on a daily basis. Where a sovereign utilises clearing facilities, it is possible that intra-day margining may be required.
- **Inventory management:** depending on the degree of flexibility that a sovereign entity requires in terms of allocating assets to meet margin calls on an active basis, it may be necessary to establish a formal collateral inventory management process with supporting data and systems infrastructure to ensure that sufficient liquid, eligible assets are available to collateralise OTC derivatives liabilities.
- **Reporting:** whether trading bilaterally or through CCPs, sovereigns may also become subject to reporting and transparency requirements, adding further operational overhead.

### Next steps – establishing a clearing and collateral management strategy

We have therefore seen that even if mandatory execution, clearing and reporting requirements are not imposed on sovereigns, the indirect impact on bilateral derivatives pricing could be sufficiently material to warrant a detailed analysis of the relative costs and benefits of voluntarily adapting to central clearing or two-way collateral arrangements.

The first step in embracing clearing is to identify what access to CCPs is needed, and to evaluate and appoint clearing brokers accordingly. If the scope of a sovereign institution's OTC derivatives activity requires access to multiple CCPs, perhaps along product or geographical lines, then it is beneficial to consolidate the supporting collateral management process to ensure that collateral assets are allocated as efficiently as possible.

Collateral management, particularly for a commercial bank that actively participates in derivatives and secured lending markets, is increasingly sophisticated and reflects substantial investment in specialist skills, processes and systems infrastructure. As more stringent regulatory capital and collateral requirements are imposed, banks are under pressure to source and deploy eligible collateral assets as cheaply and efficiently as possible to sustain returns.

The likely scope of sovereigns' collateral management operations is unlikely to be as complex as those managed by commercial banks, but must not be underestimated. Sovereign institutions looking to implement a flexible and robust collateral management process have a choice of approaches in terms of building, buying or outsourcing some or all aspects of their collateral management function. The approach taken by each institution will depend on the scope of their future derivatives strategy, and the corresponding assessment of relative costs and benefits. We argue that a pragmatic approach to clearing and collateral management may deliver clear and immediate benefits in terms of market access, improved derivatives pricing and overall market stability.

Sovereigns can draw on service providers to establish a flexible, robust and cost-effective collateral management capability.

## Appendix: Basel III enhanced capital adequacy requirements

The Basel III capital adequacy framework, which is expected to be adopted in all major global financial markets, represents another leg of the regulatory response to the financial crisis, and seeks to reinforce the financial system by requiring banks to hold more capital of higher quality than before. The critical role of counterparty credit risk in the systemic propagation of credit losses during the crisis is addressed by a strengthening of the existing Basel II capital charge and the introduction of an incremental capital charge to support mark-to-market counterparty losses through a Credit Valuation Adjustment (CVA) process. The Basel III consultation paper states that:

*Banks will be subject to a capital charge for potential (i.e. forward-looking) mark-to-market losses (i.e. credit valuation adjustment – CVA – risk) associated with a deterioration in the creditworthiness of a counterparty. While the Basel II standard covers the risk of a counterparty default, it does not address such CVA risk, which during the financial crisis was a greater source of losses than those arising from outright defaults.<sup>7</sup>*

The 'greater source of losses' attributable to CVA volatility has been estimated to represent two-thirds of total credit losses incurred during the financial crisis,<sup>8</sup> suggesting that regulators want to impose on banks a three-fold increase in capital to be set aside against potential future credit losses.

The new CVA capital charge will apply only to exposures arising from uncleared OTC derivatives trades. Trades cleared through a CCP carry a flat 2% risk weight for the purposes of calculating the counterparty credit risk capital charge (although CCP default fund contributions must also be reflected in capital), and are exempt from the CVA capital charge altogether. The CVA capital charge can therefore be seen as an incentive to encourage the migration of OTC derivative activity from bilateral to centrally-cleared.

CVA formalises the process by which a dealer charges a higher spread on a swap transaction with a more risky counterparty than it would when entering the same trade with a less risky counterparty. There is no definitive market standard for how CVA should be calculated, nor how it should be applied. Not all banks incorporate a CVA charge in their pricing of a swap transaction; some establish a provision against the CVA exposure, while others may look to hedge it, perhaps using Credit Default Swap (CDS) contracts. In many banks, CVA is aggregated with a single desk which charges other trading desks to hedge their contribution to CVA.

The initial draft of the Basel III framework proposed that the impact of CVA would be modelled by carrying out a Value-at-Risk (VaR) calculation on proxy zero-coupon bonds representing the bank's expected exposure to each of its OTC derivatives counterparties. This 'bond equivalent' approach has been modified to reflect the outcome of the industry consultation process. The final version of the Basel III proposals, issued in June 2011 specifies two processes for the calculation of CVA and the related capital charge; the 'advanced' approach for banks with the appropriate Internal Model Methodology (IMM) approvals for counterparty credit risk and specific interest rate risk for bonds, and the 'standardised' approach for all others.

<sup>7</sup> Bank for International Settlements 'Basel III: A global regulatory framework for more resilient banks and banking systems', December 2010 (rev June 2011), p.3.

<sup>8</sup> 'Impact Assessment accompanying the document Regulation of the European Parliament and the Council on prudential requirements for the credit institutions and investment firms', European Commission, 20 July 2011, s3.4.

The key parameters in the 'standardised' CVA capital charge formula are the following:

- Exposure at Default (EAD): the total prospective exposure of the bank to a given counterparty summed across netting sets. EAD is calculated as Effective Expected Positive Exposure (EEPE) multiplied by a correlation parameter alpha ( $\alpha$ ). If the counterparty provides collateral, EAD is calculated net of the value of the collateral;
- Maturity: the formula uses the effective maturity of the portfolio of trades with the counterparty;
- Credit quality: the formula uses a look-up table of weighting coefficients that reflect the counterparty's credit rating. If the counterparty does not have an external credit rating, internal credit ratings may be used. More advanced institutions may use CDS spreads or proxies to represent creditworthiness.

The formula also takes into account the effect of hedges constructed using index or single-name CDS in the final calculation of the CVA capital charge. However, recent experience suggests that sovereign CDS contracts are unreliable hedging instruments, and the use of index CDS contracts to create hedges for counterparties that are not reference entities for single-name CDS contracts is also problematic.

In general therefore, the effect of the formula is that a bank's CVA capital charge will be higher where:

- the counterparty has mainly directional liabilities with little netting benefit and/or does not provide collateral to offset the exposure created by its portfolio of OTC derivatives trades;
- the portfolio of trades has long maturity;
- the counterparty has a weak or deteriorating credit rating;
- counterparty credit risk hedges are imperfect or impractical.

Although the Basel III rules have yet to be implemented in legislation, most derivatives dealers are already factoring a CVA component into the pricing of OTC derivatives trades with counterparties that do not provide collateral, or only provide collateral above a threshold exposure. These banks do not, however, set aside capital against the calculated CVA. Basel III not only stipulates how CVA is to be calculated but also requires capital to be set aside.

Anecdotal evidence suggests that the CVA capital charge calculated under the Basel III process is broadly equivalent to the calculated CVA, which is itself higher than would be calculated under most banks' standard CVA processes because Basel III does not permit the dampening of CVA with Debt Valuation Adjustment (DVA). DVA is part of a banks' CVA process which attempts to capture the offsetting effect of a deterioration of the bank's creditworthiness relative to its counterparty.

It should also be noted that the capital charge associated with the counterparty credit risk charge also increases under Basel III because of the requirement to use stressed Effective Expected Positive Exposure (EEPE) to be used. Taking the impact of the Basel III modified counterparty credit risk and CVA capital charges together, rough estimates suggest that banks could face a capital charge 3-5 times higher for an uncleared compared to an equivalent cleared trade.

When a sovereign, pension fund or corporate client approaches a dealer to execute a bilateral OTC derivative trade, the increase in the capital charge (or the cost of establishing the hedge required to mitigate the capital charge) that the bank is required to apply will increasingly be reflected in the pricing of the trade. To the risk free price is then added the bank's calculated CVA, the Basel III CVA capital charge and the incremental uplift in the Basel III counterparty credit risk capital charge. Dealer analysis published in Risk magazine<sup>9</sup> suggests an annual increase of almost 20bp on 10-year IRS contracts and over 30bp on 20-year IRS contracts; this clearly represents a material impact where large notional values are being transacted.

<sup>9</sup>'Crunch Time for Corporates', Risk, October 2011 pp.37-8.

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