

Tools for Mitigating Credit Risk in Foreign Exchange Transactions

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Introduction

In November 2009, the Foreign Exchange Committee (FXC) and its Buy-Side Subcommittee released a paper that reviewed the over-the-counter (OTC) foreign exchange market. The paper highlighted certain features that were seen to have supported the resilience of the foreign exchange market during the recent period of financial market turmoil in 2007 and 2008. One highlighted feature related to credit risk management in foreign exchange. This document is intended to provide a more in-depth review of this topic and to introduce updated language to the FXC's best-practice documents on operational risk and trading guidelines.

Credit Risk in Foreign Exchange: Overview

In any financial market transaction, market participants are subject to credit risk. Credit risk is defined as the risk that a counterparty defaults, or fails to make payment or perform on a transaction prior to or upon settlement. This amount at risk is quantified as the then-current mark-to-market value of the transaction plus any estimated change in that value over the term of the transaction. Estimates for changes in the market value may incorporate the forward curve for the relevant currency pairs, the historical volatility of those currency pairs, the tenor of a given transaction, and other factors.

In the traditional foreign exchange market,¹ each transaction involves an exchange of two currencies and that exchange may be settled on a spot basis (generally within two business days) or a forward basis (more than two business days). For these transactions, each counterparty is expecting a future inflow of a

fixed amount of foreign currency agreed upon at the outset of the trade. In the event of counterparty default, or non-performance, the remaining counterparty to the trade may be forced to return to the market to obtain the currency it had expected to receive from the defaulting counterparty. Thus, the full amount of the exposure is the expected replacement market value of that position upon settlement.

In the foreign exchange option and non-deliverable forward market, settlement amounts are not fixed upon trade date, but rather are contingent upon the performance of a particular currency during the term of the transaction. Additionally, settlement may not necessarily be made as an exchange of two currencies, but rather in a single currency and as a contract for differences. As in the traditional foreign exchange market, the full amount of the exposure is the expected replacement market value of that position on the valuation date or exercise date, as applicable.

Credit Risk in Foreign Exchange: Risk Mitigants

Short Tenor of Transactions

A transaction's term to maturity is an important factor in estimating and managing credit risk. As the term of an exposure lengthens, so too does the estimated volatility. As projected volatility rises, so too does the associated projected credit risk exposure. Accordingly, credit risk should be monitored and managed for the entire life of an outstanding transaction. Thus, the longer the transaction's term, the longer the period during which credit risk needs to be actively managed. Unlike in the

¹ In this paper, the traditional foreign exchange market includes deliverable foreign exchange (FX) spot, swap, and other outright forward transactions.

interest rate and credit derivatives markets, where transactions can have long tenors, managing credit risk in FX is aided by the relatively short-term nature of these products.

- Foreign exchange spot transactions generally have a settlement period (and exposure period) of two days or less. Spot transactions make up roughly 37 percent² of global foreign exchange turnover.
- Ninety-nine percent of FX swap and forward transactions—which together make up 56 percent³ of the global foreign exchange market—have an original term to maturity of one year or less. Indeed, 68 percent of these products have a term to maturity of less than seven days.

While in general credit risk may be less extensive in the OTC foreign exchange market than in other markets, particularly given the relatively short-term nature of the majority of transactions, it is by no means negligible. Each foreign exchange market participant should manage counterparty credit risk by analyzing the credit of its trading counterparties, defining acceptable levels of counterparty credit risk, and mitigating such risk where possible.

Master Netting Agreements

Having master agreements in place that permit closeout netting in an event of default of one of the parties is one mechanism that can be used to more effectively mitigate credit risk. Bankruptcy laws in numerous jurisdictions recognize the contractual right of the non-defaulting party to close out and net the values of foreign exchange transactions documented under a master agreement to a single amount (payable by, or to, such party). In the OTC foreign exchange market, the most common master agreements used are published either by ISDA (such as the 1992 and 2002 ISDA Master Agreements) or the FXC (such as IFEMA, ICOM, FEOMA, and IFXCO). These master agreements specify not only the various events of default and termination events applicable to the parties—including bankruptcy, failure to pay or perform under the transactions, and cross-default to indebtedness (in excess of specified thresholds)—but also provide the methodology for calculating the net closeout value payable to or by the non-defaulting or non-affected party of the transactions governed by these agreements.

Availability of Credit Support Annexes

A credit support annex (CSA) can also be negotiated as a supplement to these master agreements. CSAs provide for the movement of collateral between parties during the term of outstanding transactions governed by the master netting agreement in order to reduce the net exposure that may result in the event of a trading counterparty's bankruptcy or other default under such agreement. Under a CSA, one or both parties agree to post collateral to secure counterparty credit exposure, typically on a mid-market, net basis. Under these CSAs, failure to deliver required collateral also constitutes an event of default.

Credit Risk in Foreign Exchange: A Closer Look at Credit Support Annexes

Mechanics of a CSA

CSAs commonly used in the OTC foreign exchange market define the amount of collateral that must be delivered by one party to the other, or bilaterally between the parties. These arrangements are typically documented either as security interests under New York law or as outright transfers under English law, with the difference in approach being driven primarily by certain legal hurdles involved in creating and enforcing a security interest or “charge” under English law. ISDA publishes the most frequently used New York and English law versions of these credit support arrangements, both of which effectively permit the non-defaulting party to set off collateral held by it against the net receivable owed to it under the master agreement, thus reducing (or, perhaps, eliminating) the net amount owed to it in the event of a default. These arrangements are also recognized under the bankruptcy laws of numerous jurisdictions.

There may be two components to any collateral arrangement. The primary component is a requirement to deliver collateral based on the net mark-to-market valuation of all transactions documented under the master agreement, or “variation margin.” In the case of the ISDA CSA, variation margin is determined based on mid-market values for the transactions and does not reflect the bid or offer spread that would result in replacing the transactions in an actual default of one of the parties. Variation margin is calculated at mid-market in order to avoid one party being preferred over the other as a result of calculating the mark-to-market value of transactions at that party's side of the market (which would include bid or offer, as applicable). Variation margin is most commonly calculated based on the previous day's closing marks and is delivered on a daily basis to the party that has the net receivable in the event of a closeout of the transactions. The obligation to deliver variation margin is also based on specific thresholds (or “Threshold Amounts” under the ISDA CSA) either at or in excess of zero, which reduces the required variation margin a party is obligated to deliver by that threshold amount. Thresholds can be tied to a party's credit ratings, with reduced threshold amounts (and thus increased collateral amounts) being specified in the case where a party's credit rating has deteriorated.

The other component to the collateral requirement is commonly referred to as “initial margin” (or “Independent Amount,” the term used in the ISDA CSA). The purpose of this collateral requirement—which may be defined for specific transactions, a portfolio of transactions, or all transactions governed by the relevant master agreement, either in the credit support document or in transaction confirmation—is to provide additional cushion beyond the mark-to-market exposure. In cases where a party's trading partner is in default, the initial margin serves as a buffer to protect against market movements in transaction values during the time between the last variation margin delivery and the date on which the non-defaulting party can actually close out positions and apply collateral or when a

² Turnover statistics are based upon the 2010 Bank for International Settlements triennial preliminary results (<http://www.bis.org/publ/rpfx10.pdf?noframes=1>). For the purposes of the percentages cited above, total foreign exchange instruments include spot transactions, outright forwards, and foreign exchange swaps, as well as currency swaps and options and other products.

³ See footnote 2.

bid-offer spread is applied in order to determine replacement value. Parties can negotiate whether to include an independent amount requirement for some or all transactions, as well as the terms of such requirement, which can be a fixed amount, a percentage of the notional amount of one of the currencies to be delivered, or based on some other type of risk measurement, such as value-at-risk.

In general, collateral delivered in the OTC foreign exchange market under credit support arrangements tends to be in the form of cash or highly liquid securities (often government securities such as U.S. Treasury bills, notes, or government agency securities). While other, less liquid, forms of collateral may be negotiated by the parties, less liquid collateral is not as common for a variety of reasons, including the need to maximize the value of such collateral at the time it is liquidated and converted to cash (if held in the form of securities) following a trading counterparty's default. Less liquid types of collateral may not be as easy to liquidate, nor realize as much cash value. For this reason, parties to credit support arrangements will typically negotiate haircuts to the face value of any non-cash collateral, although it is often difficult to predict the value of such collateral in times of general market distress.

Benefits of a CSA

By reducing counterparty credit exposure, broad use of CSAs helps to further strengthen the smooth functioning of, and robust liquidity offered by, the global foreign exchange market. CSAs provide a framework within which market participants can extend credit to parties that they may otherwise not have transacted with, or in magnitudes that otherwise may not have been offered. Further, this collateral framework can help to reduce systemic risk given the ability to set off all or a portion of amounts owed between the parties by recourse to the collateral. Finally, when trading with a counterparty that is fully collateralizing its exposure, the other party may be able to provide for better transaction pricing, particularly if rehypothecation of the collateral is permitted under the CSA.

Given the above, market participants have increasingly moved toward collateralized arrangements under the CSA. Even when not fully collateralized on a bilateral basis, parties are increasingly diminishing the asymmetric unsecured amounts that one party may have. Additionally, market participants are hardwiring Independent Amount requirements into CSAs for a variety of reasons. For example, as FX trades are mostly electronically confirmed and do not afford the opportunity to include any other details aside from the economics of the transactions, it is necessary to embed Independent Amount into the CSA rather than in a confirmation. CSAs are particularly efficient in the foreign exchange market because there is a higher level of confidence for determining the underlying market risk within a given portfolio of transactions due to the transparency and abundant liquidity in this market. This has the consequence of facilitating collateral calls and the operational mechanics of the CSA. As a result, valuation disputes in connection with collateral calls involving foreign exchange transactions tend to be easier to resolve than in more complex or less liquid asset classes.

Key Considerations about the Enforceability of CSAs

Parties should determine the enforceability in a bankruptcy of both the master netting agreement and the form of CSA in the jurisdiction where the particular counterparty is organized. In particular, parties should consider whether the termination and valuation of transactions on a net basis under the laws of the counterparty's jurisdiction in the event of a counterparty's bankruptcy are enforceable. Parties should also consider whether the non-defaulting party can liquidate collateral held pursuant to the CSA and set off such liquidated amount against the net amount owed without any delay or restriction.

ISDA has obtained opinions on the enforceability of the closeout netting provisions of the ISDA Master Agreement from over fifty jurisdictions and enforceability of the CSA in over forty jurisdictions with respect to the above. The Financial Markets Lawyers Group has also obtained closeout netting opinions from thirty-four jurisdictions for the ICOM, IFEMA, FEOMA, and International FX and Currency Opinion 2004 Master Agreement Terms and Conditions Agreement. Parties should carefully review these opinions for relevance to their own circumstances and seek further legal advice where appropriate, including with respect to counterparties organized in jurisdictions for which ISDA or the FXC have not obtained such opinions. For example, opinions may be limited as to product, agreement, or counterparty type. Opinions should also be carefully read to determine whether specific actions must be taken or are necessary or advisable, in particular with regard to the perfection of any security interest in collateral. Parties should also carefully consider which set of bankruptcy laws apply to a particular counterparty, giving consideration to matters such as that party's most likely primary insolvency proceeding and, in the case of banks, the treatment of a particular bank branch in a multi-branch bank counterparty. In the case of bank branches, parties should further consider whether an ability to close out the ISDA in a particular branch may have an adverse impact on the ability to close out the multi-branch bank in its primary proceeding.

Case Study: CSAs and the Lehman Brothers Bankruptcy

The financial crisis of 2007-2008 offered many examples of the benefits of having CSAs in place with both clients and interbank counterparties. In the case of the Lehman Brothers bankruptcy, most of the major interbank market participants had ISDA or other master netting agreements with CSAs in place with Lehman's various booking entities. Accordingly, the associated collateral posting largely mitigated the exogenous shock of this event in the foreign exchange market, a weekend bankruptcy filing by an investment-grade-rated institution. This was not the case in many other, less liquid, markets, and having the CSAs in place served to protect the FX market from much of the volatility experienced in these other markets.

In contrast to the interbank market, many clients of Lehman Brothers did not have master netting agreements and CSAs in place. In some instances, clients did not have a master netting agreement in place at all, which meant that they did not have any right to close

out the transactions upon the occurrence of the bankruptcy (and instead were subject to the right of the trustee to assume or reject, or “cherry pick,” transactions that were favorable to the estate), nor did they have the further right to determine a net payable or receivable. In other instances, clients had master netting agreements but without CSAs in place as well. While a master netting agreement such as an ISDA without a CSA allows the non-defaulting party in a bankruptcy of its counterparty to close out and net transactions to a single net payable or receivable, it does not provide protection for any resulting net loss, which is simply a claim that it must file in the bankruptcy proceeding for which it may be entitled to some level of recovery in the future. Consider an example in which a client had a net positive mark-to-market exposure to Lehman Brothers of \$50 million. With an ISDA in place, the client was able to net the outstanding positions and was ensured that Lehman would be unable to “cherry pick” the winning trades from the losing trades. However, without a CSA in place and the associated placement of collateral, the client was still forced to replace the positions lost due to the bankruptcy, or the \$50 million replacement cost, and wait for a number of years for some recovery on its \$50 million claim in the bankruptcy.

Recommendation

Given the significant benefits offered by the use of CSAs to further mitigate credit risk in foreign exchange, the Committee has decided to update its core best-practice guidance documents, “Guidelines for Foreign Exchange Trading Activities” and “Management of Operational Risk in Foreign Exchange.” Accordingly, new language has been inserted within the “Control Functions, Risk Management” section to encourage the use of master netting agreements and credit support annexes in the Trading Practices document. Similarly, language in Best Practice no. 3 of the Operations Management document, “Use Master Netting Agreements,” has been supplemented with a discussion of CSAs. Of course, it is important for practitioners to be aware of how CSAs are structured, how they work, and the implications of using CSAs in their risk management strategies. Thus, we encourage individuals to consult with their internal staff resources spanning a variety of divisions including, but not limited to, legal, risk management, and compliance. Additionally, individuals should consider issues such as the legal enforceability of CSAs as highlighted in the discussion above as well as other issues such as cash held away and interest earned on that cash. Finally, institutions should evaluate the benefits of having a CSA in place given the general creditworthiness of a counterparty, as well as the type of activity in which that counterparty engages, such as tenor of transactions, style of trading, volatility, and various other factors.

The Committee strongly believes that broader use of CSAs is to the benefit of all individuals active in the global foreign exchange market as well as to the market as a whole. In recent years, members have indicated that the number of CSAs covering foreign exchange products has risen sharply and has resulted in a significant reduction in estimated counterparty credit risk exposure through collateralization; nonetheless, it has been suggested that capacity for further gains in use clearly exist. In offering this best-practice

guidance, the members pledge to continue to expand their own use of CSAs to achieve additional risk-reducing benefits and, further, to help encourage clients to do the same. Accordingly, the Committee pledges to continue to work more closely with the Buy-Side Subcommittee as a next step in order to determine and address obstacles to greater use of CSAs among the end-user community.

Credit Risk in Foreign Exchange: Updated Best-Practice Guidance

(1) Updated Guidance in “Guidelines for Foreign Exchange Trading Activities”

METHODS OF ENHANCING CREDIT POSITIONS

Institutions are encouraged to manage their credit risk exposure through the use of master netting agreements and collateral arrangements, such as credit support annexes (CSAs).

Netting agreements

Agreements that reduce the size of counterparty exposures by requiring the counterparties to offset trades so that only a net amount in each currency is settled and provide for a single net payment upon the closeout of all transactions in the event of a default or termination event.

Collateral arrangements

Arrangements in which one or both parties to a transaction agree to post collateral (usually cash or liquid securities) for the purpose of securing credit exposures that may arise from their financial transactions.

Master netting agreements specify not only the various events of default and termination events applicable to the parties, including bankruptcy, failure to pay or perform under the transactions, and cross-default to indebtedness (in excess of specified thresholds), but also provide the methodology for calculating the net closeout value payable to or by the non-defaulting or non-affected party of the transactions governed by these agreements.

By reducing counterparty credit exposure, broad use of CSAs in connection with master netting agreements helps to further strengthen the smooth functioning of, and robust liquidity offered by, the global foreign exchange market. CSAs provide a framework within which market participants can extend credit to parties that they may otherwise not have transacted with, or in magnitudes that otherwise may not have been offered. Further, this collateral framework can help to reduce systemic risk given the ability to set off all or a portion of amounts owed between the parties by recourse to the collateral.

Institutions may also reduce their credit risk exposure through a variety of other means:

Special purpose vehicles

Specially capitalized subsidiaries or designated collateral programs organized to obtain high third-party credit ratings.

Mark-to-market cash settlement techniques

The scheduling of periodic cash payments prior to maturity that equal the net present value of the outstanding contracts.

Closeout contracts,

or options to terminate arrangements in which either counterparty, after an agreed-upon interval, has the option to instruct the other party to cash-settle and terminate a transaction.

Material change triggers

Arrangements in which a counterparty has the right to change the terms of, or to terminate, a contract if a pre-specified credit event, such as a rating downgrade, occurs.

Multilateral settlement systems (such as CLS)

Collaborations that may reduce settlement risk among groups of wholesale market counterparties.

(2) Updated Guidance in “Management of Operational Risk in Foreign Exchange”

Best Practice no. 3: Use Master Netting Agreements with Credit Support Annexes Attached

If a bank elects to use a master agreement with a counterparty, the master agreement should contain legally enforceable provisions for “closeout” netting and/or settlement netting.

“Closeout” and settlement netting provisions in master agreements permit a bank to decrease credit exposures, increase business with existing counterparties, and decrease the need for credit support of counterparty obligations. Closeout netting clauses provide for 1) appropriate events of default, including default upon insolvency or bankruptcy, 2) immediate closeout of all covered transactions, and 3) the calculation of a single net obligation from unrealized gains and losses. Closeout provisions have the added benefit of a positive balance sheet effect under Financial Accounting Standards Board (FASB) Interpretation 39, which allows the netting of assets and liabilities in the unrealized gains and losses account if netting is legally enforceable in the relevant jurisdiction.

Closeout netting provisions help to protect a bank in the event of a counterparty default. When a counterparty defaults, and a closeout netting agreement is not in place, the bankruptcy trustee of the defaulting party may demand payment on all contracts that are in-

the-money and refuse to pay on those that are out-of-the-money. If the defaulting counterparty takes this action, the non-defaulting party may be left with a larger-than-expected loss. A master agreement signed by both parties with enforceable closeout netting provisions ensures that the counterparty remains responsible for all existing contracts and not just those it chooses to endorse.

Settlement netting permits parties to settle multiple trades with a counterparty with only one payment instead of settling each trade individually with separate payments. Consequently, settlement netting decreases operational risk to the bank in addition to reducing settlement risk. To realize the settlement netting benefits, however, a bank’s operations function must commence settling on a net basis. Therefore, it is essential that operations receive a copy of the agreement or be notified of the terms of the executed agreement. Given the benefits of settlement netting, it is in a bank’s best interest to include settlement netting in any master agreement that it may enter into.

The following master agreements have been developed as industry-standard forms. Each form includes provisions for settlement netting (included as an optional term) and closeout netting:

- ISDA Master Agreement,
- IFEMA Agreement covering spot and forward currency transactions,
- ICOM Agreement covering currency options,
- FEOMA Agreement covering spot and forward currency transactions and currency options.

These netting provisions should satisfy relevant accounting and regulatory standards as long as legal opinions are able to conclude that the agreements are legally enforceable in each jurisdiction in which they are applied. Banks should confer with local legal counsel in all relevant jurisdictions to ensure that netting provisions are enforceable. To the extent that local counsel suggests that certain provisions of a master netting agreement may be unenforceable, the bank should ensure that other provisions in the agreement could be enforced nonetheless.

A credit support annex (CSA) can also be negotiated as a supplement to these master netting agreements. CSAs provide for the movement of collateral between parties during the term of outstanding transactions governed by the master netting agreement in order to reduce the net exposure that may result in the event of a trading counterparty’s bankruptcy or other default under such agreement. Under a CSA, one or both parties agree to post collateral to secure counterparty credit exposure, typically on a net basis. Under these CSAs, failure to deliver required collateral also constitutes an event of default under the master netting agreement.

There may be two components to any collateral arrangement. The primary component is a requirement to deliver collateral based on the net mark-to-market

valuation of all transactions documented under the master agreement, or “variation margin.” In the case of the ISDA CSA, variation margin is determined based on mid-market values for the transactions and does not reflect the bid or offer spread that would result in replacing the transactions in an actual default of one of the parties. Variation margin is calculated at mid-market in order to avoid one party being preferred over the other as a result of calculating the mark-to-market value of transactions at that party’s side of the market (which would include bid or offer, as applicable). Variation margin is most commonly calculated based on the previous day’s closing marks and is delivered on a daily basis to the party that has the net receivable in the event of a closeout of the transactions.

The other component to the collateral requirement is commonly referred to as “initial margin” (or “Independent Amount,” the term used in the ISDA CSA). The purpose of this collateral requirement—which may be defined for specific transactions, a portfolio of transactions, or all transactions governed by the relevant master agreement, either in the credit support document or in transaction confirmations—is to provide additional cushion beyond the mark-to-market exposure. In cases where a party’s trading partner is in default, the initial margin serves as a buffer to protect against market movements in transaction values during the time between the last variation margin delivery and the date on which the non-defaulting party can actually close out positions and apply collateral or when a bid-offer spread is applied in order to determine replacement value.