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Research Notes

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The Importance of Close-Out Netting

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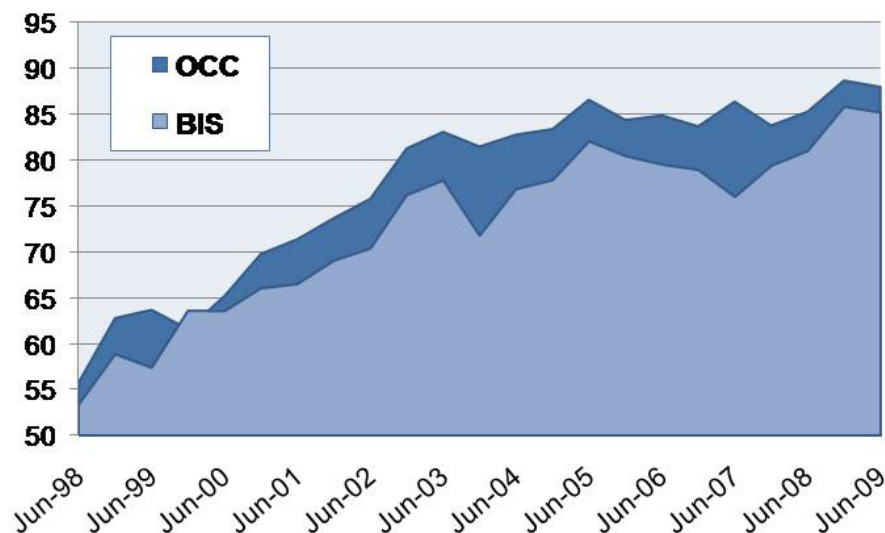
Summary

- Close-out netting has reduced over-the-counter derivatives credit exposure by over 85 percent; without the benefits of netting, banks worldwide might face a capital shortfall of over \$500 billion.
- Close-out netting is necessary because it enables derivatives participants to protect against adverse market changes following default of a counterparty.
- Policymakers have consistently supported the enforceability of close-out netting because it promotes financial system stability.
- Current proposals designed to promote orderly resolution of failed financial institutions should be crafted carefully to avoid weakening the benefits of close-out netting.

Introduction

Close-out netting is the primary means of mitigating credit risks associated with over-the-counter derivatives. Figure 1 shows that the risk mitigation benefits of netting are substantial: according to the Bank for International Settlements, netting benefit, measured as the difference between gross mark-to-market value and credit exposure after netting, was over 85 percent as of mid-2009. A similar measure for banks chartered in the United States was even greater, at about 90 percent of mark-to-market value.

Figure 1:
Netting benefit



Support for netting is well-nigh universal in the financial industry as well as among policy makers; by early 2010, thirty-seven countries had enacted legislation that provides explicitly for the enforceability of close-out netting. The longstanding consensus among industry and policy makers suggests that close-out netting is one of the more successful examples of international legal and regulatory harmonization. Most recently, in March 2010 the Basel Committee on Banking Supervision reaffirmed its support for close-out netting.

In reaffirming its support, however, the Basel Committee also called for short delays to termination and close-out of insolvent financial institutions in order to allow time to transfer the insolvent firm's financial contracts to a solvent firm. But there have also been more radical suggestions, mostly from academic researchers in the United States, that derivatives be subject to normal bankruptcy procedures. If such suggestions were to become reality, the enforceability of close-out netting would come into question.

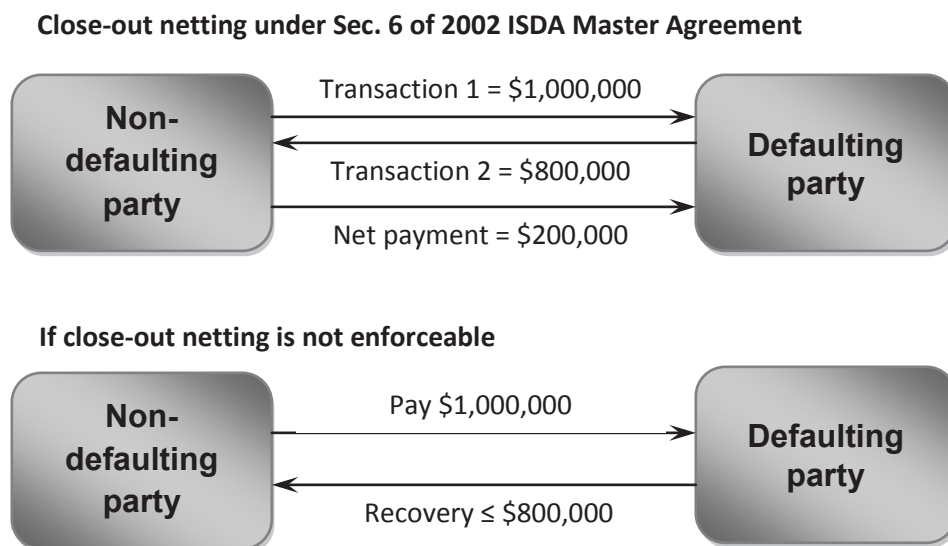
The objective of this Note is to restate the case for close-out netting and to show the necessary conditions for netting to mitigate risk effectively. The first section describes the mechanics of close-out netting. The second section shows why close-out netting is essential to the safe and efficient functioning of markets for derivatives and other financial contracts. The third section describes the legal prerequisites, commonly called "safe harbors," that are necessary for netting to work effectively. The fourth section discusses current efforts to modify the insolvency treatment of derivatives in certain cases. Finally, the Note outlines potential unintended consequences of restrictions on close-out netting.

What is netting?

The ISDA Master Agreement serves as the contract under which over-the-counter derivative transactions between two counterparties take place. Each transaction is not a separate contract, but is incorporated by reference into a *single agreement*. Netting takes two forms in the ISDA Master Agreement. *Payment netting* takes place during the normal business of a solvent firm, and involves combining offsetting cash flow obligations between two parties on a given day in a given currency into a single net payable or receivable; payment netting is essentially the same as *set-off*.

The other form of netting is *close-out netting*, which applies to transactions between a defaulting firm and a non-defaulting firm. Close-out netting refers to a process involving termination of obligations under a contract with a defaulting party and subsequent combining of positive and negative replacement values into a single net payable or receivable. Figure 2 on the following page shows how netting works. The defaulting and non-defaulting party are engaged in two swap transactions: for the non-defaulting party, Transaction 1 has a negative replacement cost of \$1 million while Transaction 2 has a positive replacement cost of \$800,000. If close-out netting is enforceable, the non-defaulting party is obligated to pay the net difference of \$200,000 to the defaulting party. Had the net amount favored the non-defaulting party, the non-defaulting party would become a general creditor to the defaulting party for the net obligation. But if close-out netting were not enforceable, the non-defaulting party would be obligated immediately to pay \$1 million to the defaulting party but then wait, possibly months or years, for whatever fraction of the \$800,000 gross amount it recovers in bankruptcy. The result of close-out netting is to reduce credit exposure from gross to net exposure.

Figure 2:
Payment obligations
with and without close-
out netting



The close-out netting process involves three steps: termination, valuation, and determination of net balance. Termination means that the non-defaulting party puts an end to the obligations under the Agreement. The second step, valuation, is the process of determining the replacement cost of each transaction under the contract. Finally, determination of net balance means that positive values—those owed to the non-defaulting party—and negative values—those owed by the non-defaulting party—are netted against each other under the single agreement in order to determine a final *close-out amount*.

What happens next depends on which party owes the netted close-out amount to the other. If the defaulting party owes the close-out amount to the non-defaulting party, the non-defaulting party can apply the value of collateral posted by the defaulting party to the net obligation; collateral in excess of the net obligation must be returned to the insolvency administrator. The non-defaulting party's residual claim after netting and application of collateral will be treated the same as other unsecured claims and will be paid at the same time as other unsecured claims as determined by a bankruptcy court. But if the non-defaulting party owes the close-out amount to the defaulting party, it may set off the amount that it owes against the amount owed to it by the defaulting party under other, non-derivative contracts. The non-defaulting party will pay to the insolvency administrator any net close-out amount remaining after set-off.

Why close-out netting is necessary

Close-out netting is an essential component of the hedging activities of financial institutions and other users of derivatives. For swap dealers, which specialize in bringing counterparties together for transferring risk, the need for netting stems from the dealer's central role in risk intermediation. Each time a dealer enters into a transaction with a counterparty, the dealer takes on exposure to the transferred risk. The dealer does not normally wish to retain the exposure, however, so it enters into offsetting hedge transactions. By maintaining a *matched book*—or more accurately, *balanced book*—of offsetting transactions, the dealer avoids unwanted exposure to movements in interest rates, currencies, and other sources of market risk. The result

of this hedging activity is that, over time, the aggregate of derivatives activity includes a large number of inter-dealer and other hedge transactions that function largely to adjust risk positions and limit exposure to market movements. Indeed, the trillions of dollars of derivative notional amounts outstanding are largely the result of this ongoing hedging and rebalancing process.

Dealer hedge transactions involve many counterparties, all of which pose some risk of default. If a counterparty were to default, the dealer can no longer assume its exposures are hedged. The dealer will consequently find itself exposed to unanticipated market movements. In order to neutralize the exposures, the dealer needs to adjust the portfolio to bring it back into balance by either replacing the defaulted transactions or by unwinding the offsetting hedge transactions or both. Netting and collateral facilitate this rebalancing process, netting by reducing the exposure that needs to be rebalanced and collateral by providing resources that can be offset against replacement costs. Even when derivatives are cleared through a central counterparty, it is necessary to balance market risks: if a default occurs under clearing, close-out netting is essential to the ability of the clearing house to manage its risks through rebalancing.

Similar considerations apply to users of derivatives. In contrast to dealers, derivatives users such as corporations or hedge funds do not maintain a matched book, yet they do seek to attain a desired risk profile. A corporation, for example, might use derivatives to control its exposure to currency fluctuations, while a hedge fund might use derivatives in arbitrage or relative value trades. If a dealer were to default, these counterparties would need to replace the defaulted transactions in order to return to their desired risk positions. As with dealers, netting would facilitate returning to the desired exposures.

Necessary conditions for netting

In some jurisdictions, most notably England and other jurisdictions that follow English legal traditions, established law supports the right of creditors to pursue the close-out netting process following the insolvency of a counterparty. But in many jurisdictions, bankruptcy laws and other statutes place restrictions on a creditor's ability to implement the process. In the United States, for example, the Bankruptcy Code does not normally recognize *ipso facto clauses* that allow termination of a contract as a consequence of bankruptcy. Further, the United States and many other jurisdictions place stays on the ability of most creditors to pursue their claims against a debtor that files for bankruptcy and to apply collateral posted by the debtor. Finally, insolvency administrators might engage in *cherry picking*, which involves an insolvency administrator demanding performance of contracts favorable to the bankrupt firm but rejecting contracts burdensome to the bankrupt firm.

In most countries, it has been necessary to enact specific netting legislation in order to achieve statutory recognition of the elements of the netting process described above; the ISDA Model Netting Act provides a template for such legislation. According to ISDA, thirty-seven jurisdictions as of this writing have enacted—and four more are considering—legislation that explicitly provides for the enforceability of close-out netting. ISDA also collects legal opinions regarding enforceability of the close-out netting provisions of the ISDA Master Agreement with counterparties located in a particular jurisdiction; ISDA currently has netting opinions for fifty-four jurisdictions. And similarly, ISDA has obtained opinions regarding the enforceability of ISDA Credit Support Documents in forty-four jurisdictions.

No two jurisdictions have exactly the same laws, but the experience of the United States, in which the Bankruptcy Code has been amended several times since 1978 to accommodate financial contracts, illustrates the types of safe harbor provisions that are necessary to make netting enforceable. One safe harbor allows termination following an event of default despite the U.S. Bankruptcy Code's general prohibitions. Another specifies that automatic stays do not apply. There is one major exception, however, if the defaulting entity is a failed bank: United States banking law provides for a one business day delay following appointment of a receiver in order to allow regulators the opportunity to transfer the entire book of transactions to a solvent entity. If the regulators are not successful, termination can go ahead. Finally, a third safe harbor provision restricts cherry picking by affirming the enforceability of the single agreement structure in which all transactions under a master agreement are treated as one contract. These three elements—termination, exemption from automatic stays, and restriction of cherry picking—appear in different forms in netting legislation around the world.

Challenges to netting

Following the 2008 credit crisis, policy makers turned their attention to developing procedures for the resolution of failures of systemically significant financial firms. In connection with these efforts, regulators have sought to delay for short periods the ability to terminate contracts in order to complete the orderly transfer of the insolvent firm's derivatives and other financial contracts to a solvent firm. Other than seeking short delays to termination, however, policy makers have emphasized the importance of preserving and even strengthening netting, collateral, and other credit risk mitigation mechanisms.

But there have also been suggestions from a handful of academics and bankruptcy lawyers in the United States that go farther than the regulatory recommendations by suggesting that the safe harbors described above be abolished altogether. The arguments cite a variety of justifications: one commentator argues that the ability to terminate can lead to systemic crisis; others suggest that close-out netting and other risk mitigation mechanisms reduce incentives to monitor credit quality; and still others argue that close-out netting works at cross-purposes to the objectives of bankruptcy by redistributing risk from derivatives participants to other parties. Given the potential consequences of changing the treatment of derivatives, policy makers have viewed such arguments with caution. As mentioned above, inability to terminate or net contracts with an insolvent firm would leave surviving firms vulnerable to losses caused by sudden market changes. And more generally, changing the treatment of derivatives and other financial contracts would represent a major departure by the United States from the trend toward cross-border convergence of the treatment of derivatives in insolvency and from the widespread acknowledgement by policy makers of the contribution of netting to financial stability.

Consequences of changes

Regulatory proposals to add some discretion to the close-out netting process might remain consistent with risk mitigation by individual counterparties so long as the resolution procedures include appropriate limits. First, if a transfer does not occur during a specified period, counterparties should have the ability immediately to terminate their contracts with the insolvent institution. Second, if the institution that assumes the derivatives book itself becomes insolvent or otherwise defaults at a later

date, termination and close-out netting rights should be available to counterparties of the assuming firm. Finally, any proposed temporary delay to termination should be kept as short as possible. Delays longer than, say, the one business day delay currently allowed the Federal Deposit Insurance Corporation following appointment of a receiver might unnecessarily expose market participants to market risks, especially if a failure were to occur during a period of market instability. A delay of five days, for example, would subject non-defaulting parties to up to five days of market exposure. Had such a delay occurred in November 2008, when the 10-year U.S. dollar interest rate swap rate fell from 4.07 percent to 3.14 percent over a five-day period, the credit exposure on \$1 billion of 10-year interest rate swaps would have increased by \$77.3 billion, which is the present value of a 93 basis point change over a ten-year period. If the counterparty to these swaps were to default at this time, the non-defaulting party could face additional losses of up to \$77.3 million. The consequences would be especially severe if the defaulting party were a major dealer because non-defaulting dealers might have exposures of large multiples of \$1 billion of 10-year interest rate risk to the defaulting party.

More troubling are the implications of weakening or removing altogether the safe harbor provisions that are essential to close-out netting. First, if close-out netting were not enforceable, market participants would need to assume that gross exposure, not net exposure, is the relevant measure of counterparty risk. According to the Bank for International Settlements, netted credit exposure for banks worldwide as of June 2009 was \$3.7 trillion, compared with gross market value of \$25.4 trillion. Loss of netting would in this case mean that credit exposure would increase by nearly \$22 trillion—a factor of almost seven—and lead to significant shortfalls in collateral and capital. With regard to collateral, it simply would not be feasible to raise \$22 trillion of additional collateral. With regard to capital, banks globally could require \$500 billion or more of additional capital to cover their shortfall.¹ At the largest global banks that are major derivatives dealers, the consequences would be especially severe: at the end of 2008, a particularly volatile year, it was not unusual for a bank to report a netting benefit in excess of \$1 trillion. Offsetting the loss of such a benefit would require \$24 billion of additional capital at a single bank. Such shortfalls of collateral and capital could have catastrophic consequences. Banks would attempt to raise whatever capital they could, but would likely end up shedding significant amounts of risk, leading to massive asset contractions, possible financial crises, and an extended period of weak economic activity.

Another effect of the loss of close-out netting would be that the inability to adjust market risk positions would make it difficult to trade or manage risk with certainty. Market participants, as well as clearing houses, would face substantial, uncontrollable risks because they could neither replace nor unwind the defaulted transactions with certainty. In addition, market participants would lose the ability to engage in offsetting trades in order to reduce exposure to a counterparty as credit problems became apparent. Instead, non-defaulting parties would have incentives either to cut back or

¹Using the Bank for International Settlements exposure statistics described above, moving from net to gross exposure would increase the relevant exposure measure by \$21.6 trillion. Assuming, conservatively, an average Basel II counterparty risk weight of 30 percent for the additional exposure and an 8 percent required capital ratio, banks worldwide could face a capital shortfall of almost \$520 billion.

terminate transactions with troubled counterparties earlier than would be the case with netting. Under such circumstances, troubled firms would likely find it more difficult to manage their way out of financial difficulties, which could lead to an increase in overall insolvencies. Further, if a major market movement or other macroeconomic shock were to occur during these conditions, market participants could experience widespread and significant losses because their portfolios are not hedged. In other words, there would be a systemic crisis.

Conclusion

Close-out netting has stood the test of time and has proven itself adaptable to a wide variety of legal jurisdictions. For that reason, policy makers should attempt to preserve the benefits of netting as they develop resolution procedures for systemically important financial institutions. Instead of reconsidering netting, it would be preferable to focus on reducing the risks and improving the functioning of over-the-counter derivatives and other financial contracts. There are numerous such efforts underway at present. For example, the industry has committed to move a substantial share of over-the-counter derivatives activity to clearing houses, which themselves require close-out netting to manage their risks. The industry has also committed to increase transparency and to improve the efficiency and effectiveness of collateralization. Such efforts promise real benefits compared with the uncertain consequences of changes that weaken close-out netting.

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ISDA, which represents participants in the privately negotiated derivatives industry, is the largest global financial trade association, by number of member firms. ISDA was chartered in 1985, and today has over 830 member institutions from 57 countries on six continents. These members include most of the world's major institutions that deal in privately negotiated derivatives, as well as many of the businesses, governmental entities and other end users that rely on over-the-counter derivatives to manage efficiently the financial market risks inherent in their core economic activities.

Since its inception, ISDA has pioneered efforts to identify and reduce the sources of risk in the derivatives and risk management business. Among its most notable accomplishments are: developing the ISDA Master Agreement; publishing a wide range of related documentation materials and instruments covering a variety of transaction types; producing legal opinions on the enforceability of netting and collateral arrangements (available only to ISDA members); securing recognition of the risk-reducing effects of netting in determining capital requirements; promoting sound risk management practices, and advancing the understanding and treatment of derivatives and risk management from public policy and regulatory capital perspectives.

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