

ABCs of ISDA agreements: advising the investor

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Abstract

Purpose – *The purpose of this paper is to provide an introduction to benefits of using over-the-counter (OTC) derivatives when implementing an investment strategy. The paper aims to examine the basic legal structure of OTC derivative transactions and the International Swaps and Derivatives Association (ISDA) agreements used to document such transactions. The paper also aims to offer advice to institutional investors on steps they can take during the negotiation of ISDA agreements to reduce associated counterparty, termination and liquidity risk.*

Design/methodology/approach – *The paper outlines the typical structure of OTC derivative trades; summarizes the documents used to establish a trading relationship, and outlines key considerations for institutional investors during the negotiation of ISDA agreements.*

Findings – *An institutional investor should carefully review and negotiate ISDA documents to properly implement OTC derivative trades that conform to the investor's overall business operations and investment strategy.*

Practical implications – *While achieving the benefits of OTC derivative trades, an institutional investor also can negotiate agreements to reduce risks associated with these transactions.*

Originality/value – *The paper provides practical guidance from experienced securities and derivatives lawyers.*

Keywords *Investments, Derivative markets, Securities, Investors*

Paper type *Technical paper*

I. Introduction

Institutional investors (investors) have dramatically increased their use of swaps and over-the-counter (OTC) derivatives contracts in recent years (see ISDA Market Survey, 2007). These investors include registered investment companies, hedge funds, charitable foundations, ERISA plans, university endowments and large corporations. The OTC market offers Investors a wide array of benefits when implementing a trading strategy.

Trading in OTC derivatives allows an investor to manage risks associated with its business activities or its financial assets (see Helm *et al.*, 2009). An investor can, for example, use OTC derivatives to lower funding costs, reduce exposure to fluctuating exchange rates (see Levitt, 1998), or gain synthetic exposure to a basket or index of securities (see Department of the Treasury, 2001, pp. 3-4). Additionally, OTC derivatives offer an Investor the advantage determining the terms and conditions of trades and developing tailor-made contracts for each trade, permitting the Investor to hedge particular and precise risks and management needs (see Hu, 2007). Moreover, an investor engaging in OTC derivatives enjoys a certain degree of confidentiality in respect to its transactions because the OTC derivatives market remains unregulated[1].

This article explains the basic legal structure of OTC derivative arrangements. We also discuss how associated documents should be negotiated from the perspective of an investor.

II. The basics of ISDA relationships

A. *The investor and the dealer*

Most OTC trades involve two counterparties in an arms-length bilateral relationship. Investors are the end-users of trading services offered by major investment banks and broker-dealers (dealers), which serve as the trading counterparties[2]. Investors represent the buy side in the majority of OTC derivative transactions.

To get started, an investor typically approaches a dealer to discuss the types of derivative business and services the dealer may offer and to determine if such services fit the investor's trading needs and investment strategy. The parties would generally discuss the contemplated OTC trades, and the dealer would usually provide quotes for the cost of implementing such trades. If the parties agree in principle to establish a trading relationship, they would next negotiate and execute an "ISDA Master Agreement," a form of contract created by the International Swaps and Derivatives Association (ISDA)[3].

An investor and a dealer may trade a wide variety of OTC derivative transactions under the umbrella of an ISDA Master Agreement. These transactions include, among others, interests rate swaps[4], credit default swaps (CDS)[5], and equity swaps[6]. See Figure 1 for an illustration of these common OTC transactions.

B. *The ISDA Master Agreement*

The ISDA Master Agreement is a bilateral contract between an investor and a dealer counterparty[7]. Most swaps and OTC derivative trades are documented using this form of contract and definitions published by ISDA. The ISDA Master Agreement and the Schedule to the ISDA Master Agreement (together, the "Master Agreement")[8] apply to all OTC trades.

The Master Agreement documents the terms that are the source of credit protection for parties trading in OTC derivatives. The Agreement contains terms that specify the credit relationship between the Investor and its counterparty (such as events of default and termination events) but the document does not contain specific transaction terms. The specific transaction terms are memorialized in a document referred to as the trade confirmation ("Confirmation"), a separate contract that supplements the Master Agreement (see Harding, 2004, p. 22).

The rationale behind this structure is that in the OTC market no entity outside the trading parties ensures that all payments and margin calls pursuant to a trade are made (as would be the case in exchange-traded transaction). Therefore, each party must understand and agree to its counterparty's creditworthiness and ability to perform its payment obligations. The Master Agreement helps the parties account for counterparty risk.

In a typical ISDA relationship, an investor will enter into a Master Agreement with its dealer counterparty, which will apply to all OTC transactions between them. In addition, for each OTC trade, the parties will enter into a confirmation, which will document terms specific to the particular trade, such as the type of trade (e.g. interest rate swap), notional value, additional collateral requirements, valuation dates, settlement currency and any transaction fee. See Figure 2 for an illustration of the basic ISDA agreements.

Until recently, an investor would occasionally sign confirmations with no Master Agreement in place because of time constraints and the desire to enter into a trade. An investor may do this under the assumption that a Master Agreement would be negotiated at a later date.

However, an investor should be keenly aware that trading without a Master Agreement entails significant risks. A confirmation will only document trading terms specific to a particular transaction. If a dealer becomes financially distressed, the source for any credit

Figure 1 Parties and common OTC transactions

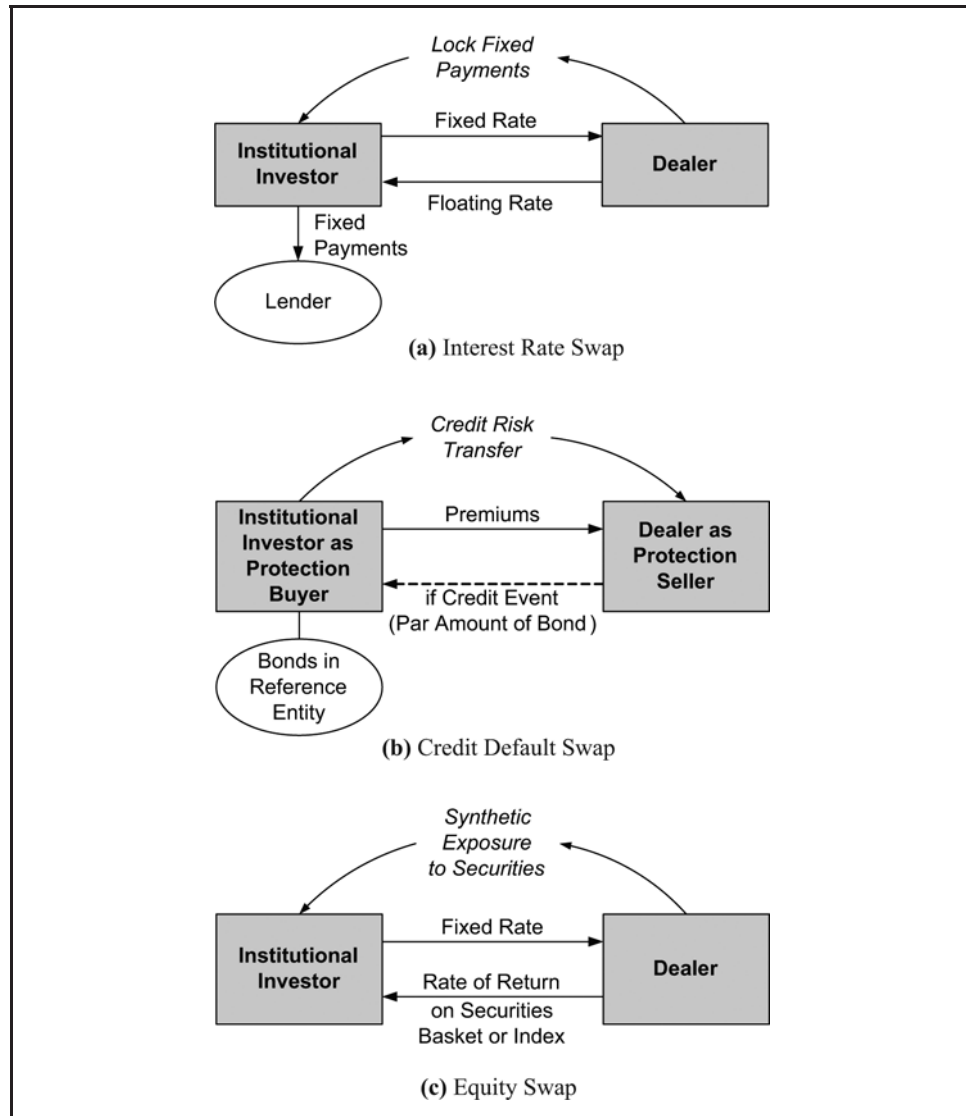
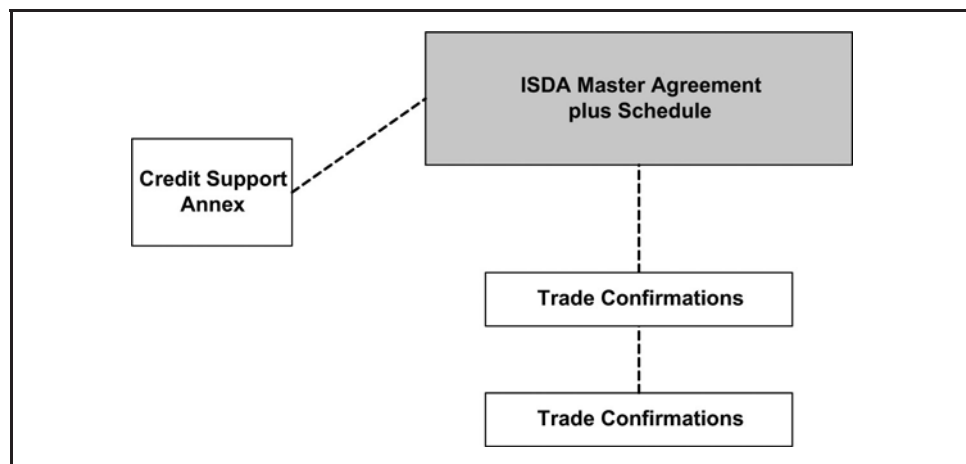


Figure 2 Basic ISDA agreements



protection for the investor will be the Master Agreement, not the confirmation. A first and crucial step, therefore, is for Investors to ensure they negotiate and have signed Master Agreements with all trading counterparties (see Schubert, 2007a).

C. The basic obligations of the parties in an ISDA relationship

The Master Agreement and trade confirmation outline several obligations that apply to both trading parties, such as delivery of financial statements and communications regarding potential events of default. However, the most important obligation under any OTC trade is the obligation to make payments when required under the terms of the confirmation and the requirement to post collateral to secure trade positions.

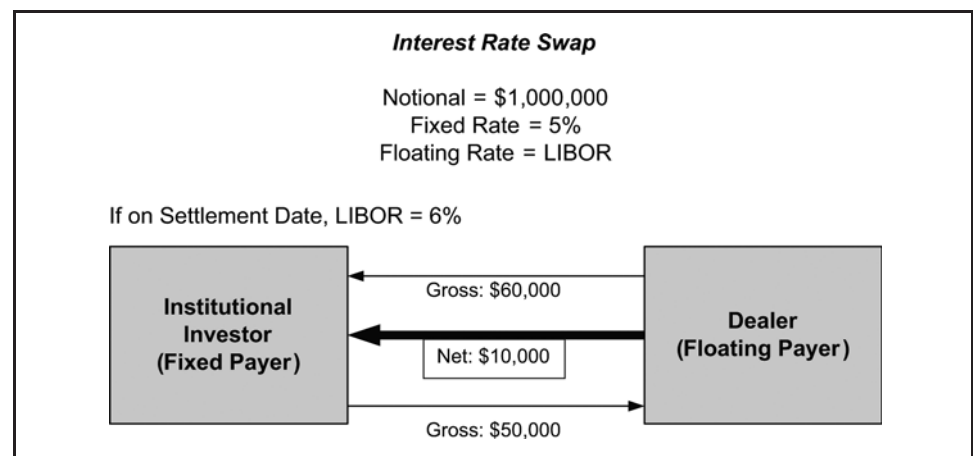
The confirmation defines the dates when the cash flows are to be paid and the way cash payments are calculated. The party acting as the calculation agent (typically the dealer) usually calculates cash flows over a notional principal amount. The notional principal amount is generally not exchanged between counterparties, but used as a reference amount to determine the sum of the actual payments. Additionally, until an OTC trade is settled, one party may have an obligation to post margin to the other party depending on the market movement of the underlying trade. In most OTC trades, counterparties agree to exchange one stream of cash flows against another stream as net payments[9].

For example, assume that an investor enters into a simple interest rate swap with a Dealer. The Investor agrees to pay a fixed interest rate of 5 percent based on a notional amount of \$1,000,000, while the dealer will pay a floating interest rate such as LIBOR[10] with respect to the same notional amount. The Confirmation indicates that interest payments by each party must be made every three months for one year. At the end of every three-month period – the settlement date – the parties will make a net payment reflecting the difference between what is owed by the fixed rate payer and the floating rate payer. In our example, if on the first settlement date the LIBOR rate is 6 percent, the dealer will make a net payment to the Investor of \$10,000, the difference between a 5 percent fixed rate payment on \$1,000,000 (or \$50,000) and a 6 percent floating payment on \$1,000,000 (\$60,000). See Figure 3 for an illustration of these cash flows and netting arrangements.

D. Margin obligations – Credit Support Annex

The market value of an OTC trade may fluctuate significantly during the life of the trade and between settlement dates; therefore, most parties entering into an ISDA relationship will agree to secure positions under existing trades by posting margin. Counterparties to a Master Agreement typically enter into a “Credit Support Annex” to the Master Agreement. The Credit Support Annex is a separate bilateral agreement that documents in detail the obligation to post margin collateral and the different terms that apply to margin requirements

Figure 3 Cash flow and netting



(such as timing for collateral transfers, events of default, types of collateral acceptable and valuation of collateral)(ISDA Collateral Steering Committee, 2010a).

The terms governing margin obligations under a Credit Support Annex can be varied and complex, but the main objective of the Credit Support Annex is to delineate the obligation of each party to post “variation margin” and, if required, an “independent amount” of collateral. The variation margin is the collateral required to secure positions under a trade as the market value of the trade changes between settlement dates.

In the example above, assume that one month into the trade (but two months before the first settlement date) the LIBOR rate is 4 percent. If the trade were to be settled at the one-month mark, the investor would have to make a net payment of \$10,000 to the dealer (the difference between a fixed rate obligation of 5 percent of \$1,000,000 (\$50,000) and a floating rate obligation of 4 percent of \$1,000,000 (\$40,000)). One month into the trade, the dealer is “in the money” and has a \$10,000 exposure to the investor. To cover this exposure, the dealer makes a margin call for \$10,000, and the investor posts \$10,000 to the dealer in variation margin.

Additionally, the Credit Support Annex may define an independent amount (ISDA Collateral Steering Committee, 2010b), which is a sum of collateral that a party is required to post at the outset of the trade, regardless of the market value of the trade and its counterparty's exposure on any given date. The independent amount is in effect collateral cushion that a dealer often requires to address specific concerns the dealer may have about the risk of a trade or the creditworthiness of a counterparty.

The independent amount often is calculated as a pre-determined percentage of the notional value of the trade. In our example, assume that the Credit Support Annex requires the investor to post an independent amount of collateral equal to 10 percent of the notional amount of the trade. On the first day of the trade the investor will need to post \$100,000 to the dealer (10 percent of \$1,000,000). The dealer will keep this amount as additional security during the life of the trade and usually will not be required to return it until the final payment takes place on the last settlement date, for instance, one year after the parties entered into the swap.

III. Negotiation of the ISDA Master Agreement

In the majority of Master Agreements, the dealer typically has considerable discretion to take actions that may impact the OTC trading relationship, such as closing out all open positions, requiring additional margin and changing the valuation for existing positions. In stable markets and when an investor is performing well, dealers are unlikely to exercise these rights, and an investor may believe its trading positions are reasonably well protected by standard trading documentation that was not negotiated.

However, recent global market volatility and the ongoing credit crisis has demonstrated that when trading conditions are strained, a dealer is likely to use any discretionary rights available to it to reduce its monetary exposure. As a result, an investor with poorly negotiated documents may face additional and burdensome margin calls, the inability to challenge dealer valuations, and the increased risk of defaults that can cut across the Investor's trading relationships with numerous counterparties. Poorly negotiated documentation can rapidly become a gateway to insolvency if an Investor's trading documents permit simultaneous liquidation of most of the Investor's trading positions upon a single default (see Schubert, 2007b).

In light of the recent Lehman debacle and the near collapse of the American International Group, Inc. (“AIG”)[11], an investor should not only negotiate trading documentation to protect itself against default and liquidity risks, but also approach new and existing trading relationships with the goal of obtaining protections against dealer counterparty credit risk. The Lehman list of creditors includes many OTC investors, which are now in line with Lehman's unsecured creditors (see Kentouris, 2010).

Investors should not rush through the negotiation process and agree to the standard “industry” terms. Many investors that agreed to the Master Agreement form presented to them without further negotiation, quickly realized upon the credit crisis that they enjoyed a false sense of security and that the “industry” terms are much more favorable to the dealer than the end-user.

This article next provides an overview of the primary areas of risk and certain key terms that warrant attention when negotiating Master Agreements and related documents. The key terms, concerns and principles discussed will remain critical to the establishment of a successful, arm’s-length trading relationship, independent of how future regulation might affect the clearing of OTC trades and margin requirements.

A. Dealer-counterparty credit risk

1. Credit ratings, transfer and termination rights. To protect against dealer default, an investor should evaluate the credit rating and creditworthiness of each prospective counterparty[12]. The investor should avoid entering into trading contracts with unrated affiliates of dealers created primarily to engage in trading activities. If a prospective counterparty is not rated, the investor should obtain a guarantee from a rated affiliate of the unrated counterparty that is sufficient to cover all of the counterparty’s potential obligations to the investor.

The Master Agreement also should not provide the dealer with discretion to transfer rights and obligations under the trading agreements to one of the dealer’s affiliates without the investor’s prior written consent. Dealers may make use of this right to transfer obligations to unrated affiliates or foreign branches, which may in turn make recovery of collateral or tracing of assets significantly more difficult. An investor should not give a blanket advance approval of such transfers and consider any request for transfers in light of all prevailing circumstances at the time the counterparty requests a transfer. Any transfer provision should require notice and consent, and mandate that such transfer, if approved, be to a counterparty of equal or higher credit rating.

In most instances, a dealer will request termination events in a Master Agreement that are triggered by certain credit events affecting the investor. Most commonly these additional termination events are tied to a decline in an investor’s net asset value. An investor should seek similar self-protective provisions and request implementation of a ratings-based termination event that applies to the dealer.

Typically, an investor can request that a termination event be triggered if the dealer’s rating (or its guarantor’s) falls below investment grade. While this is certainly a level of protection that an investor should obtain, the Lehman collapse demonstrates that in practice a single-rate decline termination event may not provide the investor with sufficient advance notice of a dealer’s financial problems.

An investor entering into a new ISDA relationship may wish to consider alternative terms that would give it the ability to terminate the transaction before the dealer’s credit rating declines below investment grade. Two options to consider include:

1. A ratings-based termination event triggered if the dealer’s credit rating declines by three or more rating levels within a specified time period, typically three or six months.
2. A ratings-based termination event triggered by an increase in the dealer’s credit default swap spread[13] over a certain margin within a specified time period.

2. Dealer’s use of collateral. A dealer’s right to hold and rehypothecate an investor’s posted collateral should be carefully considered. The parties in a trading relationship commonly request and give rehypothecation rights to the party holding collateral[14]. However, because such right allows a dealer to commingle funds held as collateral with its own assets, rehypothecation increases the risk that an investor that has posted collateral will be treated as an unsecured creditor if the dealer files for bankruptcy. Although dealers are unlikely to forego rehypothecation rights in the context of an ISDA relationship, the investor should request certain safeguards in their documents.

An investor should negotiate terms in the Credit Support Annex requiring the dealer to hold collateral in the USA. The annex should also mandate that the dealer hold collateral with a rated custodian in a segregated account if the dealer's credit rating falls below a certain threshold or if the dealer triggers a ratings-based termination event. An investor may also request an automatic suspension of rehypothecation rights upon a dealer default.

As previously discussed, most dealers will also require that a counterparty post an independent amount of collateral at the outset of the trading relationship. An investor should attempt to exclude any independent amount from re-hypothecation rights. If the dealer counterparty becomes insolvent, any collateral posted by the investor as variation margin to cover open positions should, in practice, closely resemble the close-out value of the trade. This allows the parties to set off such collateral against payments due upon early termination of trades.

Nonetheless, since the independent amount is extra collateral typically posted by the investor as additional protection, it would be significantly harder for an investor to recover any independent amount held by an insolvent dealer. This is particularly the case if the dealer has exercised re-hypothecation rights with respect to such independent amounts by re-pledging or lending securities posted by the investor.

B. Termination and default risk

1. Cross-default provisions. If an investor's trading needs change in response to market conditions the investor is likely to engage in transactions beyond those envisioned at the time it executed the Master Agreement. If the Master Agreement has weak default provisions and the Investor triggers a default, the Investor may also trigger defaults in its other trading relationships (including prime brokerage relationships) that have a cross default term, creating an unforeseen cascade of defaults that may lead to insolvency. The cross default provision in a Master Agreement allows a dealer to call an Investor in default when the Investor is in default under a separate contract with another counterparty.

To understand the potential impact of cross default terms in an ISDA relationship, assume that an investor has a Master Agreement with dealer A and a prime brokerage agreement with dealer B, which contains a "basic"[15] cross default term. If the investor defaults under the Master Agreement with dealer A, not only can dealer A close-out the investor's positions and liquidate all collateral it holds, but so can dealer B. An event like this could trigger cross default terms across the investor's other trading relationships, which in turn could lead to premature liquidation of all of the investor's open positions. As this example illustrates, cross default terms in an agreement that is negotiated poorly can ultimately control all of the investor's trading relationships.

To mitigate the potential effect that a cross default provision may have, an investor should use a "cross acceleration" standard instead of a basic cross default standard in form Master Agreements and trading contracts. The typical cross acceleration[16] provision reads as follows:

Dealer A can call the Investor in default upon the occurrence of any breach, repudiation or the occurrence of a default or termination event by the Investor under any contract *that has resulted in the early termination of such contract and in liquidation of all transaction thereunder.*

By using a cross acceleration standard, an investor can ensure that a dealer will only exercise its cross default rights if the counterparty in the third-party agreement has actually exercised its default remedies. This limits the likelihood that the dealer will exercise cross default rights and call the Investor in default under a Master Agreement except when the investor has experienced a significant credit event.

2. Dealer discretionary events. When negotiating additional termination events, an investor should avoid agreeing to termination events that are determined completely at the dealer's discretion. Dealers commonly have a termination right tied to a decline in the investor's financial performance. In addition, most dealers often propose additional termination events as a result of a "materially adverse change" in the investor's performance or financial statements. Events of default triggered by a materially adverse change are entirely at the

dealer's discretion, giving the investor no control as to when or how such an event is triggered. Before agreeing to any performance-related termination event, an investor should be able to answer the following two questions in the affirmative:

1. Is termination triggered by an event that clearly indicates a deterioration of the investor's credit?
2. Is termination tied to a measurable performance standard and not determined solely at the dealer's discretion?

3. *Optional early termination.* Investors and dealers are increasingly seeking protection against market volatility and unstable credit conditions by incorporating "optional early termination" provisions into their trading documents, giving either party the right (at any time or on the anniversary of a trade) to terminate the trade on a "no fault" basis. An optional termination provision can provide an investor with flexibility and enable it to terminate trades that it no longer wants to hold, which may be helpful in times of financial stress.

Nonetheless, there are certain risks to optional termination provisions that an Investor should consider. The investor should consider the mechanics for determining a termination payment for a trade that has been terminated by choice of the dealer.

Typically, termination amounts should be calculated using the method agreed to in the Master Agreement. If the parties have agreed to use a "market quotation" method (seeking dealer quotes to price a replacement trade), the investor should not agree to a different method of calculation upon an early optional termination by the dealer. An investor should also consider any early termination fees and make sure that such fees are negotiated and are fair in relation to the notional value of the trade[17].

The optional termination terms also should not be drafted to be defined as a termination event under the Master Agreement. Even if the termination payments will be calculated as if a termination event has taken place, to define the optional termination event a "termination event" can lead to unexpected risk, because cross default terms in other trading documents of the investor may be triggered by a "termination event" under any of the investor's agreements (see Schubert, 2007c).

Finally, investors should consider implementing a "defaults"- specific email address and adding language to the Master Agreement that requires the dealer to send a mandatory copy of any communications relating to events of default and termination events to this e-mail. This is an operational precaution Investors may easily adopt and which can help a party react to a potential default in a timely manner. The defaults-specific email address would automatically forward any communications to the appropriate persons at the investor or the investor's manager.

C. Liquidity risk

1. *Margin requirements.* In the context of OTC trading agreements, liquidity risk is typically linked to margin requirements. In a trading relationship, when the mark-to-market of all open positions exceeds a certain exposure threshold (the investor is "out of the money" under the trade at a given measurement or valuation time), the investor generally will have to post collateral to cover its counterparty exposure.

As previously noted, dealers may require that an investor post an independent amount of collateral in addition to variation margin. In the Credit Support Annex to the ISDA Master Agreement, the parties can specify what independent amounts are required for specific types of trades. Investors should consider negotiating at the outset of the trading relationship the collateral obligations for each transaction and, to the extent possible, request that independent amounts will not apply to either party. In the alternative, the parties may pre-negotiate independent amounts specific to each type of trade. This can be accomplished by terms in the Credit Support Annex or by agreeing to a specific independent amount in the trade confirmation.

In either case, investors should not agree to language that allows the dealer to adjust the independent amount or change margin requirements over the life or duration of a trade, either at the dealer's discretion or based on the dealer's determination of certain factors connected to the volatility of the trade. This is a trap that can quickly lead an investor to default or to the undesirable position of being subject to arbitrary margin calls[18].

2. Prime brokerage arrangements. In evaluating liquidity related risk when entering into an ISDA relationship, an investor should consider all business relationships (existing or planned for the immediate future) between the investor and its prospective counterparty. An investor commonly will enter into a trading relationship with a dealer that also acts as the investor's prime broker. A dealer in a prime brokerage relationship with the investor often attempts to import into the trading relationship events of default or "trigger" events from the prime brokerage agreement ("PBA").

An investor should generally resist linking margin or default terms between an ISDA Master Agreement and a PBA because prime brokerage relationships are usually structured as "demand" facilities, permitting the dealer to increase margin at its discretion and without cause or advance notice. Significant increases in margin requirements by a prime broker will likely increase the cost of holding positions with the broker and in extreme situations can result in liquidity problems for the Investor affecting both the prime brokerage and trading relationships.

D. The calculation agent role

The calculation agent's duties are complex and can impact significantly the economics of an ISDA trading relationship. The role of the calculation agent often varies depending on the products the parties trade, but generally the calculation agent is responsible for determining the amounts owed by each party on each payment date for each outstanding trade (see Harding, 2004, p. 503).

Additionally, trade confirmations assign certain trade-specific tasks that require the calculation agent to make key determination at its discretion. Given the importance of the calculation agent determinations, investors are often troubled by the fact that as a starting point, most dealers will appoint themselves as calculation agent. Therefore, an investor should ask for certain provisions to limit dealer discretion, particularly since recent events have shattered the belief that large financial institutions are "too big to fail."

At a minimum, an investor should require that if an event of default has occurred and is continuing with respect to the dealer acting as calculation agent, then the investor or (more often) a third-party dealer will serve as calculation agent. An investor should require that all determinations and calculation made by the calculation agent be subject to agreement by the parties and that the parties agree to calculation agent dispute mechanics in the Master Agreement.

A dealer frequently resists dispute mechanics that divest it from discretion in its role as calculation agent. A dealer will often seek to impose limits on when dispute mechanics apply or for what types of trades. A dealer may also seek to modify or set dispute mechanics only at the confirmation level. However, an investor entering into an ISDA relationship should secure dispute mechanics to cover at least the type of trades the investor needs for its investment strategy. The investor should carefully review individual trade confirmations to ensure the dealer is not circumventing language agreed to in the Master Agreement by introducing superseding provisions in the trade confirmation.

IV. Conclusion

OTC derivative products and trading documentation have grown in complexity and the pace at which such transactions are effected has also increased in recent years. The recent financial crisis and impending regulation of the OTC derivatives market have highlighted the importance of appropriate planning and the need for investors to take steps to manage implementation of ISDA Master Agreements.

Careful review of the Master Agreement, the Credit Support Annex, trade confirmations and other trading documentation remains essential. Investors should request draft documentation from possible dealer counterparties as soon as practicable, having more time to review the documents will allow investors and their management to properly assess the impact of the documents' terms on the overall business operation of the investor and its investment strategy.

Notes

1. OTC swaps remain exempt from the registration provisions of the Securities Act of 1933 (Securities Act). The Commodity Futures Modernization Act of 2000 (CFMA) amended the Securities Act and the Securities Exchange Act of 1934 (Exchange Act) to specify that swap contracts between "eligible contract participants" are not securities for purposes of each Act's registration provisions. In August 2009, the Obama administration sent a bill to Congress containing its proposed "Over-the-Counter Derivatives Markets Act of 2009." Among other things, the proposed legislation would require that certain swaps be defined as "standardized", be exchange traded and centrally cleared. See US Department of the Treasury (2009).
2. Among the banks and broker dealer providing OTC derivative services to Investors are JP Morgan Chase, Goldman Sachs, Morgan Stanley, Credit Suisse, Deutsche Bank, UBS AG, Bank of America, Citibank, Barclays, Société Générale and HSBC Bank. See generally, Members of the International Swap and Derivatives Association, Inc. Board of Directors (2009).
3. ISDA was chartered in 1985, and currently has over 810 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 financial market risks. See www.isda.org
4. In a simple interest rate swap, a party agrees to pay its counterparty a predetermined, fixed rate of interest on a notional principal amount on specific dates for a specified period of time. Concurrently, the other party agrees to make payments based on a floating interest rate on that same notional principal on the same specified dates for the same specified time period. The two cash flows are paid in the same currency.
5. The most popular credit derivative is a credit default swap ("CDS"), a contract that provides insurance against a default by a particular company or sovereign entity. In a CDS, two counterparties agree to isolate and separately trade the credit risk of a third-party reference entity (the "reference entity"). Under a CDS, the buyer of protection typically pays a periodic fee to the seller of protection in exchange for a contingent payment by the seller of protection upon a credit event happening with respect to the reference entity.
6. There are several types of equity swaps, a common equity swap transaction is a swap agreement in which one party makes payments based on a set rate, either fixed or variable, while the other party makes payments based on the return of an underlying asset, which includes both the income the asset generates and any capital gains.
7. See www.isda.org
8. ISDA has published two forms of the Master Agreement (the 1992 Form and the 2002 Form) which remain widely used by Institutional Investors and Dealers. Although the majority of provisions between the 1992 Form and the 2002 Form are the same, ISDA introduced some significant revisions to the 2002 Form of the Master Agreement, including introduction of a different methodology for calculating payments upon early termination of trades, a force majeure termination event; reduction of several default grace periods; and introduction of a set-off clause. See Harding (2004, pp. 139-41).
9. Under Section 2(c) of the Master Agreement, parties may net payments due on the same date, in the same currency and in respect of the same transaction or trade. However, parties wishing to make net payments across different transactions to be settled on the same date and in the same currency, must make an election in the Schedule to the Master Agreement.
10. The London Interbank Offered Rate or LIBOR, is an interest rate at which banks can borrow funds, in marketable size, from other banks in the London interbank market. The LIBOR is fixed on a daily basis by the British Bankers' Association.

11. The problems that AIG encountered arose from the credit default swaps for which AIG acted as protection seller for certain collateral debt obligations. The collateral debt obligations that AIG protected contained mostly subprime mortgage-backed securities that plunged in value. See Desmond (2008) and also Lewis (2009).
12. The credit rating for most Dealers or their parent entities is typically available as information published by rating agencies such as Moody's Investor Services, Inc. (www.moody.com), and Standard & Poor's, a division of The McGraw-Hill Companies, Inc. (www.standardandpoors.com). Additionally, sophisticated Investors will also use alternative sources, including market informal sources to help determine the creditworthiness of a Dealer.
13. A company's credit default swap spread is the cost per annum for protection against a default by the company, typically measured by the rate of payments made per year by the buyers of protection with respect to a particular Reference Entity. See Hull *et al.* (2004).
14. Paragraph 6(c) of the Credit Support Annex grant the party holding collateral for a particular trade (the Secured Party) the right to use or rehypothecate posted collateral. In the ISDA relationship rehypothecation typically occurs when a Dealer, to whom an Investor has hypothecated (or pledged) securities as collateral to secure trade position, pledges those same securities to a separate broker or bank to secure other trades and positions held by the Dealer. See Harding and Johnson (2002, p. 220).
15. See Section 5(a)(vi) of the 1992 or the 2002 ISDA Master Agreement Form. The basic Cross Default provision under the ISDA Master Agreement catches contractual terms and payment defaults in relation to borrowed money in agreements between either of the parties to the Master Agreement with any other third party. Such default must exceed a defined threshold amount typically included in the Schedule to the Master Agreement. With a basic cross default provision, a non-defaulting party's awareness of the existence of a default under a third-party agreement by its counterparty, which is above the threshold amount, is enough to trigger a close-out under the Master Agreement.
16. See Harding (2004, p. 431). This provision is typically referred to as cross acceleration because a party's cross default close-out rights under the Master Agreement are no longer automatic but deferred and dependent on third party action. The non-defaulting party in the third party agreement must accelerate the indebtedness and take proceeding to terminate the third party agreement before the non-defaulting party to the Master Agreement can exercise cross default remedies.
17. Depending on the pricing mechanism agreed to by the parties, an investor may also wish to exclude from any optional early termination provision trades that the investor needs as part of its investment strategy or that the investor would have a hard time replacing if a dealer elects to terminate the trade early.
18. See generally *VCG Special Opportunities Master Fund Limited v. Citibank*, 2008 US Dist. Lexis 92709 (November 4, 2008). In this case, the VCG Special Opportunities Master Fund (VCG Fund), entered into a CDS with Citibank, with the fund acting as the seller of protection against a credit default by a collateralized debt obligation (CDO). In exchange, Citibank agreed to pay the VCG Fund an annual premium on the swaps' notional value of \$10 million. In addition to providing Citibank with an independent amount of collateral, the VCG Fund agreed to demands of additional collateral in the form of variation margin calls based upon a downward movement in the daily mark-to-market value of the underlying CDO. The VCG Fund eventually posted up to \$9.96 million over a five-month period to meet margin demands by Citigroup as a result of Citibank's adjustments to the variation margin. The VCG Fund made the payments because it feared Citibank might use its refusal as an excuse to declare a technical default under the ISDA Master Agreement and seize the fund's collateral, which ultimately Citibank did. In ruling against the VCG Fund, the court noted that "the instant case presents a circumstance where VCG, a sophisticated hedge fund, simply failed to review carefully the terms of the parties' agreement." See *VCG v. Citibank* at 21.

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