# Mechanics of Derivatives Clearing International, USA (National/Federal) Related Content

*This Note explains the mechanics of central counterparty clearing for swaps and derivatives transactions and discusses issues and consequences of the new global swap clearing environment for end users and funds.*

The 2008 collapse of Lehman Brothers and the ensuing financial crisis highlighted counterparty credit risk and lack of transparency in the **over-the-counter (OTC) derivatives** markets. Global reforms initiated by the **G-20** in September 2009 to push "standardized" OTC derivatives into clearinghouses are now being implemented under Title VII of the **Dodd-Frank Act** in the US and European Market Infrastructure Regulation (EMIR) in the EU (see Practice Notes, US Derivatives Regulation: Swap Clearing and Exchange Trading and EMIR: requirement to clear OTC derivative contracts through a CCP).

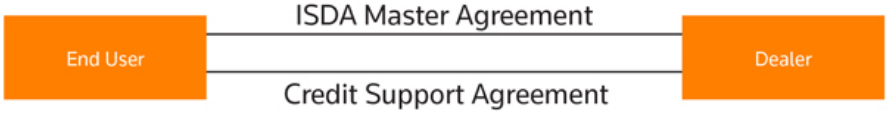
Both Title VII and EMIR aimed to fulfill G-20 commitments to clear OTC derivatives through **clearinghouses** (also referred to as central counterparties or CCPs) by no later than the end of 2012. While this deadline was not met, mandatory swap clearing has since begun in both jurisdictions. This Note explains the mechanics of central counterparty clearing for swaps and derivatives transactions and discusses issues and consequences of the new global swap clearing environment for end users and funds.

## Trading Under ISDA Master Agreements

Currently, and for the past several decades, a buy-side fund or commercial end user (collectively referred to as end users or customers) wishing to enter into a **bilateral** OTC derivatives contract (a derivatives contract not traded on an exchange) would:

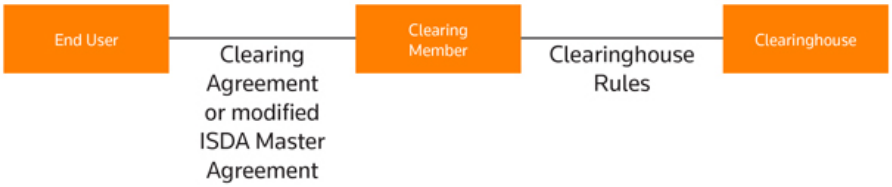
- Select a potential dealer counterparty and negotiate terms.
- Enter into an **ISDA Master Agreement** with that counterparty, including an **ISDA Credit Support Annex** (CSA), governing **margin** collateral matters, to provide for the collateralization of exposures under the transactions entered into under that ISDA Master Agreement. OTC derivatives (swap) transactions executed between the parties are then governed by those documents. (For more information on ISDA documentation, see Practice Note, ISDA Documents: Overview (US)).

The key proposition is that these transactions are private, bilateral contracts entered into between the two parties, as follows:

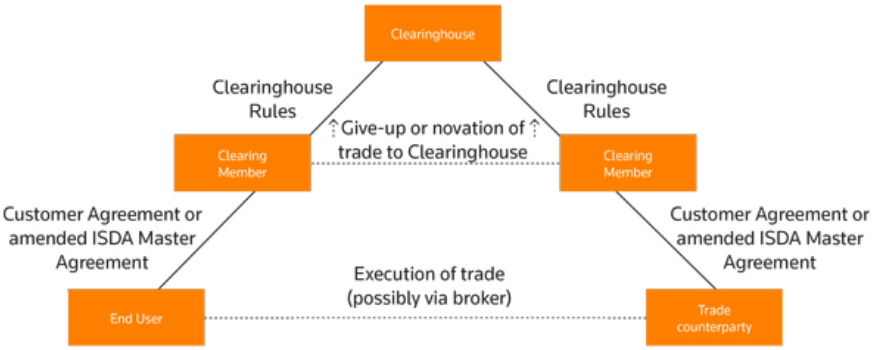



## How Clearing Changes the Relationship Between Swap Counterparties

In simple terms, the relationship between the end user and the dealer continues, but the dealer or **futures commission merchant** (FCM), in its capacity as a **clearing member** of the clearinghouse, also acts as a conduit, or clearing agent, for the end user, as illustrated below:




The clearing process places the clearinghouse in the middle of the trade. This occurs through a transfer or **novation**, commonly referred to as a "give-up," of each cleared transaction to the clearinghouse, as illustrated below:




The original trade is replaced by:

- A new transaction between the end user and the clearinghouse; and
- A new transaction between the dealer and the clearinghouse.

The result is that the clearinghouse stands between the parties to the transaction, essentially acting as a guarantor of each party's obligations under the transaction to its original counterparty.

## Two Models: Clearing Member as Agent or Principal

Under current models for derivatives clearing, the capacity in which the clearing member acts, either as agent or principal, determines the structure of the cleared trade.

- **Agent.** Where the clearing member acts as agent, the end user faces the clearinghouse directly because, although the clearing member may appear to be a party to the trade, it is not the true counterparty. Under the agency clearing model, there is just one transaction, which involves three parties: the parties to the swap and the clearinghouse.
- **Principal-to-principal**. Where the clearing member acts as principal, the end user will face the clearing member, and the clearing member will face the clearinghouse directly. Under the principal clearing model, there are two identical "back-to-back" transactions involving these three parties, with the clearing member a party to both.

Under the principal-to-principal clearing model, which is illustrated in the above diagram, the end user, acting as a trader for its own account or acting through a broker, enters into a transaction with another market participant, such as a dealer or another end user. That transaction is then submitted to a clearinghouse for clearing by both parties through their respective clearing members.

When the trade is accepted for clearing, a so-called "give-up" (a novation) of the original contract takes place in which the clearing member is substituted as the counterparty to each original counterparty to the transaction. Two transactions, one between each of the parties to the original transaction and the clearing member, replace the original trade. In this way, the clearinghouse is interposed on both sides of the trade. Therefore, clearing under the principal-to-principal model does not completely eliminate counterparty risk, as there is a certain amount of risk involved at the clearing member level.

Under the agency model, the clearing member, as agent, is generally required to guaranty the performance of the end user's obligations to the clearinghouse. The clearing member, however, does not guarantee the performance of the clearinghouse to the end user. Therefore, clearing under

the agency model does not completely eliminate counterparty risk, as there is a certain amount of risk involved at the clearinghouse level.

An end user may want to examine whether a clearinghouse operates on an agency basis or a principal-to-principal basis as part of its risk analysis before choosing a clearing platform. The basic proposition is that:

- In an agency clearing model, the end user takes greater exposure to the clearinghouse.
- In a principal-to-principal clearing model, the end user has greater exposure to the clearing member.

Clearinghouse rules and the underlying documentation between the clearing member and the end users add further complexity to the margin-collateral relationships among the parties. Certain clearinghouses convert OTC derivatives contracts into futures before clearing, as an operational matter.

Note that different banks and derivatives dealers are clearing members of different clearinghouses, each of which typically specializes in the clearing of one or more types of derivatives instruments. While most major dealers are often clearing members of multiple major clearinghouses, if a dealer is not a member of the clearinghouse that clears the derivatives instrument that their customer wants to enter into, it is common for that dealer to enter into a give-up with another dealer that is a member of the clearinghouse that clears that product.

## Clearing Documentation

The structure of the documentation the end user enters into for a cleared derivatives trade depends on a variety of factors, including:

- The extent to which the applicable clearing platform adopts a futures-clearing approach.
- Whether an OTC derivatives contract is exchanged for a futures trade before being submitted for clearing.
- Whether the contract remains an OTC derivatives contract during the clearing process.

Most clearinghouses and clearing members require that each end user enter into a futures account or futures and options account agreement with one of their clearing members covering margin collateral and other basic trading matters along with an addendum addressing cleared swaps:

- In the US this is typically the ISDA-FIA cleared derivatives addendum (see Legal Update, ISDA and FIA Publish Cleared Derivatives Addendum).
- In the EU, this is typically the ISDA-FOA client cleared OTC derivatives addendum (see Legal Update, ISDA-FOA Cleared Derivatives Addendum Published).

The documentation must accommodate and incorporate by reference clearinghouse rules. In some cases, the end user may be required to enter into an agreement directly with the clearinghouse. These ISDA clearing addenda may also be used to supplement an ISDA Master Agreement, to add terms covering cleared swaps to the OTC ISDA relationship.

Parties may continue to use their existing ISDA Master Agreements for uncleared swap transactions. Under the Dodd-Frank Act, many derivatives transactions are exempt or excepted from clearing requirements. These include foreign exchange (FX) swaps and forwards, and certain swaps used as hedges by non-financial commercial end users (see Practice Note, US Derivatives Regulation: Swap Clearing and Exchange-Trading: Swap Clearing and Exchange Trading Exemptions and Exceptions). Parties to these transactions may continue to use existing ISDA documentation to govern these transactions to the extent they are not cleared.

## Clearing and Margin Collateral

Generally, the **marked-to-market** positions of the parties under a cleared swap or other cleared derivatives contract is calculated daily (or sometimes intra-day). If a loss is incurred, the clearing member debits its client's margin account and makes a payment to the clearinghouse. If instead a gain is realized, the clearinghouse transfers the amount of the increase to the clearing member, which credits its client's margin account. If the customer is **out of the money** when the transaction is settled, the clearing member simply retains this posted **variation margin** collateral and/or makes a collateral call for any deficiency.

Clearing member dealers making a market in swaps typically enter into offsetting back-to-back swaps with customers and profit from the fees paid by their counterparties. Certain clearinghouses hold the parties' posted margin collateral at the clearinghouse itself, while others permit customer collateral to be held by the clearing member.

Under a clearing arrangement, a unilateral credit relationship often applies under which the clearinghouse requires that collateral is posted with it to cover its exposure, but not necessarily with a corresponding requirement to deliver collateral to the end user to cover the end user's exposure to it. In

practice, depending on the terms of the ISDA documentation and whether or not the parties have entered into a CSA that governs the transaction, a customer may or may not receive margin payments from its clearing member to cover its exposure under a cleared swap.

There are many CFTC rules governing the treatment of posted cleared swaps customer collateral and customer funds (margin collateral posted under **futures contracts**, which are by definition cleared) by registered clearinghouses (**derivatives clearing organizations** or DCOs).

The treatment of posted customer swap collateral at the clearing member level has been a key issue addressed by both US and EU regulators. Customers of Lehman and MF Global found that their collateral was not where they thought it was when these brokers collapsed. This has focused regulators and end users on where and how collateral is held, and the extent to which it is **ringfenced** and recoverable should its dealer counterparty or clearing bank fail.

Final Title VII Dodd-Frank rules require segregation of posted customer swap **initial margin** collateralizing cleared non-security-based swaps, which include most commodity and commodity-related swaps, as well as certain currency swaps and **interest rate swaps**. This improves portability of positions - that is, the transfer of positions to a new clearing member in the event of the failure of a clearing member. This is because the clearinghouse is more likely to find a willing transferee if the positions can be transferred with sufficient posted collateral to support them.

For more information on the treatment of cleared swap customer collateral and customer funds under Dodd-Frank Title VII swaps rules and other CFTC rules, see Practice Note, US Derivatives Regulation: Margin Collateral Rules.

### Gross and Net (Portfolio) Margining

In assessing its counterparty risk in a derivatives transaction, end users should examine whether:

- They are required to margin their trades with their clearing member/dealer counterparty on a gross or net basis. That is, do the parties aggregate and net their positions over all swaps between them in determining margin amounts, or is collateral posted separately to cover exposure under each swap?
- Their clearing member/dealer counterparty is required to post margin with its affiliated clearinghouse on a gross or net basis.

In general, gross margining improves the portability of positions between clearing members, although posting margin on a net (or portfolio) basis is a more efficient use of capital because it allows offsetting risks to decrease the margin required. Customers may be offered the ability to margin on a gross or net basis, or a combination of the two, with collateral being held in separate pools, one for gross margining customers and one for net margining customers.

A clearinghouse may hold collateral in different pools ("omnibus accounts") for different groups of customers. Collateral deposited by clearing members for their own proprietary positions must be held in a separate "house" account, or in the account at the clearinghouse for that clearing member, separate from cleared swaps customer collateral and customer funds.

### Ringfencing of Accounts

Buy-side participants pushed for a further level of collateral segregation, which would involve each buy-side participant’s collateral being ringfenced from collateral posted by other participants to avoid exposure to a default by those other participants. In this way, customers may require segregated accounts on a "per fund" basis or, perhaps, a "per manager" basis. In the latter case, a fund would accept default risk against other funds, but only those within its own affiliate group. US regulators declined to include per-fund margin segregation requirements in final Dodd-Frank swap collateral rules.

An increase in the use of segregated margin accounts, though, would provide added protection for end users. This would, however, increase the costs of derivatives trading for end users. If clearinghouses were not able to tap into omnibus accounts in a default scenario, the extra protection provided by these collateral accounts is removed. The result is that the clearinghouse’s default fund (that is, its reserve capital) must be increased. Such increased costs would be borne predominantly by the clearing members, and would therefore largely be passed on to end users.

## Development of Platforms

Existing clearinghouses, such as CME Group, IntercontinentalExchange (ICE), LCH.Clearnet, and others have all implemented platforms for clearing of various types of traditional OTC derivatives in response to the new regulatory environment.

There is a good argument for a small number of well-capitalized clearinghouses rather than a large number of smaller ones. The failure of a dealer that is a clearing member of multiple clearinghouses could result in greater systemic risk than if it were a member of just one large, well-capitalized

clearinghouse that could withstand such a failure. There are also concerns about insufficient liquidity if positions are dispersed across many clearinghouses.

The creditworthiness of, and therefore the level of systemic risk posed by, a clearinghouse depends on a number of factors including:

- How much margin collateral it collects per trade.
- How the collateral is held.
- The amount of capital reserves the clearinghouse holds.

To counter these arguments, it is important that there is adequate competition between clearinghouses to ensure pricing efficiency.

## Issues to Consider in the Swap Clearing Era

In theory, all OTC derivatives are capable of being cleared. In practice, only the most standardized derivatives contracts will be cleared until the industry has developed sufficiently to overcome the relevant operational and technological hurdles. Until then, ISDA documentation should still figure prominently in the documentation of derivatives transactions (see Practice Note, ISDA Documents: Overview (US): Box, Impact of Dodd-Frank on the Use of ISDA Documentation).

For end users of derivatives, some key consequences of clearing OTC derivatives transactions are that:

- The clearing member holds even greater negotiating leverage in the negotiation of derivatives margin collateral matters. Although subject to negotiation, customer clearing/ futures and options account agreements (or modified ISDA Master Agreements supplemented by a clearing addendum) between the end user and the clearing member/dealer counterparty favor the interests of the clearing member and are subject to limited negotiation because of clearinghouse margin and other requirements.
- The *quid pro quo* for end users is that much of their trading has moved to a more robust, rules-based framework with reduced dealer-counterparty credit risk, including the ability to transfer positions between clearing members (portability of positions).
- Margin requirements are higher for positions margined on a gross basis, as is often the case with cleared swaps. There are questions about the ability to cross-margin transactions at both the clearinghouse and clearing member levels under final US regulations (see Practice Note, US Derivatives Regulation: Margin Collateral Rules: Portfolio Margining Under Dodd-Frank).
- Introducing a clearinghouse into what is traditionally a bilateral relationship introduces a new structure and greater complexity to derivatives transactions.

### Considerations for End Users

End users should consider whether they should maintain:

- Multiple clearinghouse relationships (to diversify their central counterparty/clearinghouse risk).
- Multiple clearing member relationships (for credit risk and product reasons some dealers do not trade or offer certain derivatives products).

End users should consider conducting a thorough independent legal/contractual risk analysis of their swap arrangements and documentation through their legal counsel in order to perform their own overall risk analysis.

*This Practice Note is based on an article originally published in* The Hedge Fund Journal.

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