Advances in OTC trade processing

How over-the-counter clearing is changing derivatives trading

Energy derivatives markets have undergone a significant transformation in recent years. Derivatives trading volumes and the complexity of products have grown so rapidly that mid and back offices have had difficulty keeping pace. Much of the trading-related innovation has taken place in the front office as electronic trading systems have proliferated, creating a need for similar improvements in back-office trade processing scope and efficiency. However, it is only recently that the barriers to significant advances in this area have been removed.

By Pasi Miettinen

Four key changes have taken place in the U.S. derivatives markets in the last few years, and they are transforming how derivatives are traded and processed. Together, they form the key ingredients needed to create over-the-counter (OTC) derivatives clearing services. Such services will result in true straight-through processing of trades (Global Energy Business, May/June 2001, p. 27), multi-million dollar savings in OTC trade processing costs for trading firms, and improved risk control. These four changes are:

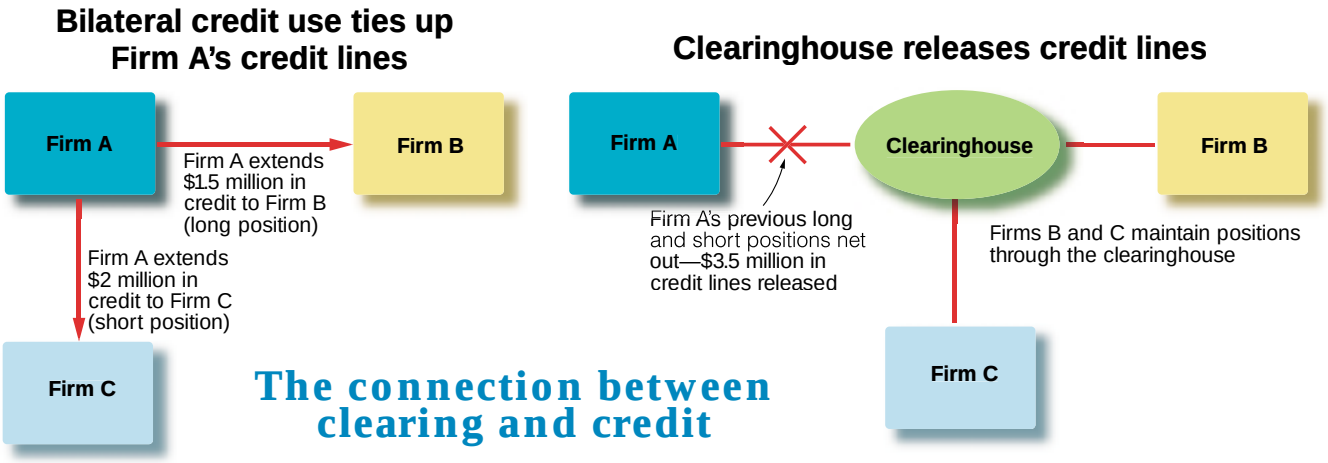
- The Commodities Futures Modernization Act of 2000 (CFMA), which allows formation of OTC derivatives clearinghouses.
- Technological innovation, which enables clearing of OTC derivatives.
- Internal costing of counter-party credit lines at trading firms.
- Innovation in financial guarantees, enabling formation of high-credit-quality clearinghouses.

It's the law: Lower costs and risks, higher revenues

Many in the energy markets have not heard of the CFMA or considered its implications. That will change. The year-old act legalizes the formation of independent clearinghouses that are not tied to a specific exchange. It further allows these clearinghouses to clear OTC derivatives and not just simple futures. In other words, swaps, strips, spreads, caps, collars, and many other familiar OTC instruments will soon be offered as clearable products at clearinghouses. The new rules also enable futures to be cross-margined with OTC products. For example, if you are long natural gas Henry Hub futures and short a Chicago city gate natural gas swap, you might only have to post a fraction of the collateral the swap and futures positions would require if they were not cleared together.

The benefits of clearing derivatives are significant and reach several key audiences. First, the ability to net an estimated 70-95% of outstanding bilateral trades can save a typical trading firm several million dollars in annual credit support, trade processing, and trade confirmation error costs. For example, onExchange Inc. recently studied a trading firm that does about 10,000 OTC trades a month. Its direct trade processing and credit line utilization costs were over $100 per trade. The firm's managers estimate that clearing would enable them to immediately realize a $50 cost saving per trade. They further estimate that about 7,000 of those monthly trades could be cleared, producing an estimated annual saving of more than $4 million.

Although the cost saving produced by clearing OTC derivatives is compelling to management, traders are looking forward to a different benefit: clearinghouses freeing up bilateral credit lines. Today, many energy traders cannot transact with a specific counter party because their credit lines are tapped out. Even though most International Swaps and Derivatives Association's (ISDAs) master agreements have had netting provisions for years, they do not enable netting of positions across multiple counterparties. However, processing these trades through a clearinghouse permits multilateral netting and frees up credit



lines across counter parties. More efficient netting enables traders to trade more, potentially increasing revenues for trading firms, exchanges, clearinghouses, and clearing members.

In addition, some technologically sophisticated clearinghouses can monitor trading activity, risk limits, trading permissions, and the value of pledged collateral in real time. This partly explains why global market regulators have been proponents of real-time derivatives clearing for years.

From a regulatory perspective, clearing reduces the operational and credit risks of bilateral trading, defines clear dispute and default procedures that can be executed quickly, and provides increased certainty to traders that their counterparties are trading within manageable risk limits. Furthermore, OTC derivatives clearing also reduces the risk of secondary and tertiary defaults that can result from one firm's default causing its trading partners to go under. Such benefits are now likely to be discussed far more broadly than in regulatory circles, thanks to recent high-profile defaults.

Technology 'cleared' for takeoff

Although the law governing OTC clearing changed a year ago, the technology at most clearinghouses has not. The good news is that integrated OTC and futures clearing technology is now available commercially. The bad news is that even though many sophisticated clearinghouses and clearing members see significant benefits from clearing OTC products, most have not yet had a chance to upgrade their existing systems. Consequently, most clearinghouses are still not capable of clearing even the simplest OTC products—a one-month, fixed-for-floating swap, for example—let alone commonly traded strips or spreads spanning hundreds of delivery points or customized delivery and settlement dates.

This has created a vacuum in OTC clearing services across all derivatives markets. These OTC market segments are now being pursued by several clearinghouses. Interestingly, it is the U.S. energy market—not the significantly larger, fixed-income derivatives market—that has taken a clear lead in developing OTC clearing services. The U.S. energy market alone has three clearinghouses seeking to clear the OTC market: EnergyClear; the London Clearing House in conjunction with the Intercontinental Exchange; and Nymex.

The OTC markets also have the opportunity to combine all trading styles—including electronic trading and voice-brokered and bilaterally negotiated transactions—with OTC clearing. The technology exists today to allow OTC traders to define new instruments instantly, and trade and clear them in real time. If the trades are executed electronically, the clearinghouse can perform all permission and limit checks in real time, eliminating the need for a separate confirmation. If a voice broker does the trade, the broker can submit the trade to the clearinghouse, which then verifies limits and permissions, and generates electronic confirmations in real-time. In addition, traders can submit bilateral trades directly into a clearinghouse and have them confirmed instantly.

Credit practices also benefit

The internal costing of bilateral credit line usage has grown in popularity over the last few years. At many firms, traders or their divisions are now seeing credit charges in their P&L reports. This change has profound implications on the clearing of transactions.

Many trading firms previously viewed futures trading as "expensive" because they had to post initial margin in cash, and the exchange could make daily margin calls to cover any losses. On the other hand, bilateral trades in the OTC markets often only require the parties to establish bilateral credit lines without out-of-pocket cash costs. However, the extension of a credit line has a cost associated with it and should be treated like the use of any other asset.

The figures illustrate the connection between clearing and credit. At left, Firm A might extend a $1.5-million credit line to Firm B when entering into a three-year swap, thus using up its credit asset. If Firm A wanted to hedge its position the following day with another trading firm, it could enter into an opposing three-year swap with Firm C and possibly establish a $2-million

bilateral credit line with it, further leveraging its own credit asset.

Although Firm A now has a net zero position across Firms B and C, it still has a credit exposure remaining with both firms until the swap settles. Had these trades been cleared (right), Firm A would have closed its positions through the clearinghouse and would not have to post further collateral or extend credit to Firms B and C, thus releasing $3.5 million in credit lines that it can then use to trade with others. Even though this example vastly simplifies the economics and complexities of clearing, it highlights the essential credit utilization inefficiencies present in bilateral trading, and how clearing can create significant economic value to trading firms.

The example also highlights how important internal credit costing is to deciding where trades are executed and if they are cleared. If the trader in Firm A is not charged for the use of the $3.5-million total credit line, the trader might choose to trade in the OTC markets. However, Firm A might have been able to earn a higher return by either clearing the trade through an OTC clearinghouse or transacting through a futures exchange.

High-credit-quality clearinghouses coming

Last but not least, the prospects for formation of new clearinghouses or new clearing services at existing clearinghouses depend partly on the credit quality of the clearinghouse and the availability of alternative default risk transfer vehicles for clearinghouses. These vehicles will likely be provided by insurance companies and credit derivatives traders.

However, such risk transfer vehicles are not yet widely available or have limited flexibility. Credit insurers are just now beginning to apply their risk models to insuring forward transactions, rather than just insuring payments for deliveries already made. Many insurance companies today can offer products only in the latter category. Those firms that can insure forward transactions often only do so in highly liquid futures markets, and with high-credit-quality clearing members covering the potential first loss position. This makes it difficult to list even the most liquid OTC products under an insurance policy, even though extensive historical data exist for such markets.

New insurance products for clearinghouses are emerging as more insurers are beginning to understand the risk/reward relationships in such policies

Although you can get an insurer to write a policy for an OTC market clearinghouse, it often is difficult to get a flexible policy that abstracts and generalizes the risk qualities of new products. Few insurance companies today are willing to write policies that would enable clearinghouses to list new products without an explicit prior risk committee review and written approval, no matter how familiar or well understood the products are. Considering that OTC markets define new products every day, such lengthy and inflexible insurance approval processes can make it difficult for OTC clearinghouses to respond to their members' rapidly changing needs.

Many insurers have similar challenges with another issue: counterparty risk assessment. A typical policy requires that each clearing member be named, and if you add or delete a clearing member, the policy has to be amended and maybe even repriced. An insurer would have difficulty writing a policy for a clearinghouse that, for example, restricts membership to "Single A" or higher-rated companies with minimum asset and liquidity requirements.

However, these constraints and limitations are being addressed. New insurance products for clearinghouses are emerging as more insurers are beginning to understand the risk/reward relationships in such policies.

The credit derivatives markets, while certainly innovative, also have their con-

OTC derivatives clearing defined

The word "clearing" has traditionally been used to describe the back-office process through which a futures exchange clearinghouse accepts standardized futures contracts and becomes the central counter party and guarantor of trades. However, the definition is expanding as clearinghouses accommodate an increasing range of products and trading styles.

The leading clearinghouses are no longer limited to clearing futures contracts only. They can accept swaps, forwards, strips, spread, caps, collars, repos, stock loans, and other instruments with the exact economic characteristics and sizes traded in the OTC markets. They can also accept new instruments for clearing in real time, without time-consuming system reprogramming.

Further, these clearinghouses can accept trades simultaneously from several different sources, including multiple OTC or futures exchanges, voice brokers, and directly from traders. If the trade is submitted by a broker or directly by the traders, separate electronic confirmations are sent by the clearinghouse, replacing the costly and error-prone, fax-based confirmation processes typical at many OTC trading firms.

The innovation in derivatives clearing is enabling the clearing of "one-off" instruments side by side with the most liquid futures contracts. These advances are helping to ensure that a larger portion of derivatives will be cleared in the future and that "OTC clearing" will become a standard part of trading vernacular.

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straints. Although the liquidity in such markets is improving, the immaturity of the credit derivatives market limits the types of instruments suitable for use at clearinghouse guarantee funds. Much of the market trades default swaps on limited numbers of individual names, thus restricting the number of firms that could be accepted into a clearinghouse backed by default swaps. Many credit trading firms also have difficulty pricing baskets of swaps, or providing options on swaps that would be needed to offer needed flexibility.

However, by working together, insurers and credit derivatives traders can complement each other and enable financial guarantee providers to lay off credit risks and offer more sophisticated default protection services to clearinghouses. Such advances may also result in the formation of credit derivatives clearinghouses.

Impact on energy trading

The emergence of OTC derivatives clearing will have relatively little impact on front-office processes; traders will continue to trade with whomever they want. However, clearing will radically change mid- and back-office processes. In energy trading, the four changes outlined above will result in better credit and operational risk management, improved liquidity, significant cost saving through straight-through-processing, lower credit costs, and better oversight that will ultimately make energy markets more efficient. ■

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