

PUTTING Counterparty Risk Back in its Cage

BY KEVIN MCPARTLAND

The failures of Bear Stearns and Lehman Brother illuminated the dangers of counterparty risk in the OTC derivatives market. While this risk remains problematic, regulators and financial institutions are taking steps to at least reduce it through central clearing and proactive trade monitoring.

The run on Bear Stearns and opening a savings account in the US share a common counterparty risk connection.

As we all know, money placed in a savings account is essentially a loan you provide to a bank. But what happens if that bank is unable to repay the loan when you attempt a withdrawal? Panic ensues.

While it's true that deposits in the US are insured by the Federal Deposit Insurance Corporation (FDIC), the American public tends to feel safer taking matters into their own hands.

At Bear Stearns, its collapse was in large part caused by a loss in confidence by its trading partners, which was essentially a run on the bank. With concerns growing that Bear would not be able to make payments on swap and debt transactions, counterparties to these trades ran for the hills. As with the FDIC, the Fed provided only some comfort to investors.

If it can happen once, why can't it happen again?

The fear of another Bear or Lehman-like collapse is what has brought counterparty risk to the forefront of the OTC derivatives market. OTC transactions are at the mercy of the balance sheets of the two parties involved.

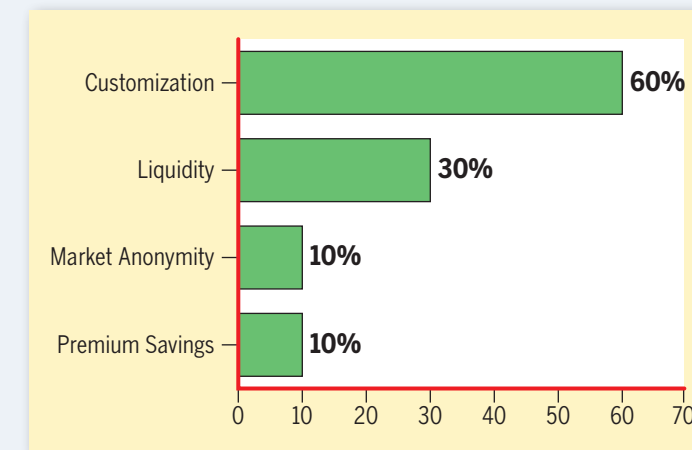
Until recently, this risk was considered negligible, as it was viewed to be impossible that a bulge-bracket investment bank would default on a payment, let alone dissolve completely. However, times have changed and limiting counterparty risk is a major factor in determining what to trade and with whom.

Those participating in the OTC derivatives market do not and cannot altogether avoid counterparty risk. While exchange-traded markets are nearly exempt from counterparty risk due to central clearing arrangements, OTC markets by their very nature require exposure to the person on the other side of the trade.

Although the credit crisis brought forth the flaws inherent in trading bilaterally, it also drove home the point that OTC

derivatives are needed and play a critical role in global financial markets.

Figure 1: Why Buy-Side Firms Use Over-the-Counter Products



Source: Tabb Group

TABB Group research shows that the customization and liquidity found in OTC derivatives remains a huge selling point for buy-side firms (see Figure 1, above). Therefore, the question that global regulators, Wall Street and the City of London are trying to answer is not how we remove counterparty risk, but how do we mitigate and manage it.

Center counterparty clearing, trade/position reporting and improved counterparty risk management technology are the tools needed to do just that, but it is unfortunately easier said than done. Individually, they provide a band-aid to only a few corners of the market; if implemented poorly, they will (at best) do nothing and (at worst) kill the market. However, if central clearing is used for the right products, if reporting done in such a way that the resulting data set can actually be used for oversight and if more than lip service is paid to improving internal risk management procedures, the OTC market will flourish and grow, reducing counterparty and, therefore, systemic risk.

Clearing: How do We Know it Works?

Although central clearing for OTC derivatives spans a wide array of swap products — interest rates, energy, etc. — credit default swaps (CDS) have been at the center of the debate. Now, after months of political pressure and industry commitments, open interest for cleared CDS is into the billions,

volumes into the trillions, multiple clearinghouses are officially live and industry estimates (including those from TABB Group) show CDS clearing will generate hundreds of millions in revenue. Sounds like a success to me. Or is it?

The last thing anyone wants is more negative news from the financial sector. However, the only way we will ascertain if CDS clearing removes (or at least reduces) counterparty risk is to have a counterparty default.

SwapClear handled the Lehman default successfully for its interest rate swap (IRS) portfolio, but rate swaps consist simply of cash flows and are relatively easy to price. CDSs are another story.

Tests were performed with sample data, no doubt simulating what would have occurred if CDS clearing had existed ahead of the Lehman default, and I have complete confidence in the men and women at the aforementioned CDS clearinghouses. That said, models are merely models and the last three years have proven that modeling events that have never happened is no easy task.

This brings us to the single most important issue when looking at central clearing: suitability. Which derivative contracts should be forced into clearinghouses and/or electronic trading platforms? Early attempts to answer this question declared that any product centrally cleared is de facto a “standard” contract, and that all “standard” contracts must be traded electronically and cleared centrally. This definition is not only circular, but backwards-looking as well.

It is sensible to think OTC derivative contracts can be considered standard if they currently utilize a central clearing model. However, we need to determine the definitions under which a contract will be required to centrally clear in the future, not only what should be centrally cleared today.

Standard derivatives contracts are more clearly classified as those with terms defined by industry bodies such as the International Swaps and Derivatives Association (ISDA) and agreed upon by the broader market, including CDS index products and vanilla interest rate swaps.

Standards are no doubt beneficial for many things. Standard contracts, communication protocols and office dress codes limit risk and allow business to operate more efficiently. The same is true for CDS trading and central clearing.

The more standard the contract terms, the easier it is to net positions, risk manage portfolios and operationally process trades. ISDA, Markit, the dealers, clients and several “Bang” protocols have worked tirelessly to bring the CDS market

closer to the utopian goal of standard contracts.

However, despite its importance, a contract's level of standardization alone is insufficient in deciding whether it should be centrally cleared. The true measure of central clearing suitability is the ability of clearinghouses to manage properly the default of a clearing member.

If a default occurs, as we all now know it can, the clearinghouse must be able to liquidate the open positions of the defaulting firm without putting themselves, their members, the market or the economy at risk. This requires a solid model for product valuations and margin levels, and not all "standard" products make this easy.

For example, CDS index tranche products based on the ABX index are quite standard. In fact, DTCC's Trade Information Warehouse (TIW) reports trade volumes and outstanding positions on these products weekly. If the contract terms were not standardized, this would not be possible.

Although standard, various tranches of these products remain highly illiquid, often not trading for a week or more. If centrally cleared, this would mean the clearinghouse would have to calculate a daily closing price (and margin requirements) for these products using a mark-to-model methodology.

The less liquid and more complex the security, the less certainty there is on how to value it. Even if a model was agreed upon and made transparent to clearinghouse members, a liquidity crunch or black swan event would exacerbate the inadequacies of the methodology, likely bring ruin to the clearinghouse and its members. In such scenarios, a bilateral agreement allows counterparties to be more flexible with how they manage collateral.

The recently passed Dodd-Frank Act took these concerns under consideration, and in doing so provided a framework for regulators to determine which products are "standard" and therefore must be cleared. According to the Act, regulators must take into account "the existence of significant outstanding notional exposures, trading liquidity and adequate pricing data," the availability of "operational expertise and resources," the impact on global "systemic risk" and "competition" and the "legal certainty" the clearinghouse will protect its members in the event of a default.

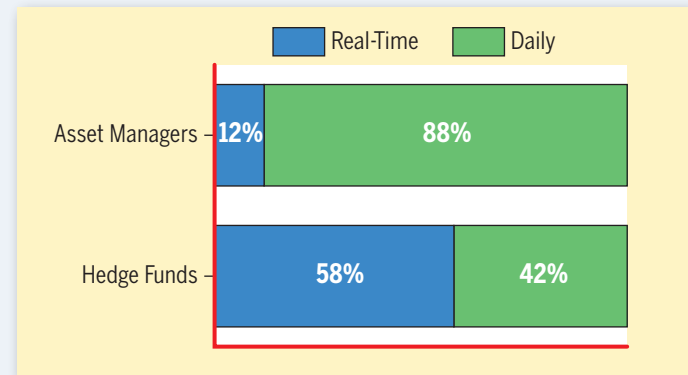
This framework doesn't make clearable swaps stand out in a crowd, but it does demonstrate that regulators are asking the right questions. A clearinghouse forced to clear a product it does not feel it can properly risk manage creates additional counterparty and systemic risk, not less, and no one wants that.

Reporting

As not all contracts are suitable for clearing, maintaining timely and accurate OTC derivative trade data is critical in ensuring that counterparty risk be managed closely. "Timely" does not mean five days, either, but five minutes.

It's somewhat disconcerting that only 12% of asset managers interviewed by TABB Group monitor their risk in real time. We know that investment banks can disappear in less than five days, so it is more critical than ever for OTC derivative trade data to be captured correctly and on the trade date.

Figure 2: Frequency of Risk Measurement



Source: Tabb Group

The Dodd-Frank Act states that "data relating to a swap transaction, including price and volume," must be reported in real time. From limited transparency to real-time reporting? Maybe.

The legislation goes on to define real time to be "as soon as technologically practicable after the time at which the swap transaction has been executed." The "technologically practicable" label is pretty straightforward in my eyes. Trades should be reported within milliseconds of completion, as technology clearly makes that feasible.

However, the question here is not about technology, but about when the trade is considered done. OTC derivative markets don't operate like equity markets where executions are finite and fast — e.g., where hitting an offer to sell 100 shares creates a completed order of 100 shares.

For many OTC derivative transactions, accepting an initial offer to sell a \$50 million IR swap does not necessarily mean the trade is over. Further negotiating can go on between the counterparties to increase the trade size, as well as to negotiate affiliated hedge pricing or notional amounts. Only after

this process is completed and the trade details are affirmed can the trade be considered done.

The CFTC should not focus on "technologically practicable," but instead better define "the time at which the swap transaction has been executed." When reporting requirements are finalized by regulators in the near future, a bigger question will arise: What will regulators do with the new information? A digital divide between regulators and financial services firms they monitor has always existed, but under the Dodd-Frank Act, the gap will now rival the Grand Canyon.

The technology required to monitor and maintain the new OTC derivatives market structure is beyond anything that the SEC or CFTC has in place, necessitating a budget orders-of-magnitude larger than what current appropriations allow.

The DTCC's TIW has been collecting OTC derivatives

The bridge that crosses the digital divide may be paved in money, but whose money?

trade data for years now, but even this comes up short of what regulators really must do to oversee counterparty and systemic risk. The TIW was useful during the Lehman bankruptcy by helping the public understand Lehman's true CDS exposure, but this role was reactive.

Proactive monitoring would ideally require daily reviews of all open OTC derivatives positions matched against the overall financials of the company holding the contract. It should also require personnel fluent in the underlying products to investigate any issues uncovered.

In our current, technology-crazed, real-time world, this may appear trivial — but with nearly \$600 trillion of OTC derivative notional to monitor, it is no small task.

TABB Group estimates that a year's worth of US-listed options market data requires 20 terabytes of storage. The outstanding notional of the OTC derivatives market is about 300 times greater than the US-listed options market.

Listed-options trade more frequently than most OTC derivative products, creating more market data. However, an options trade can be described with a dozen data points or less, while the most complex OTC derivatives require hundreds. Further, as more OTC derivatives begin trading electronically, volumes will quickly grow.

TABB Group estimates that storing position and trade data

for the entire OTC derivatives market would require more than one petabyte of storage — i.e., 1,000 terabytes. Storage today is less expensive than it once was, but the personnel and technology required to create an effective data model for this level of data, manage its collection and mine that data are not.

This raises another question: What might this new system look like? It is safe to assume that DTCC or another organization will manage the physical storage of the data, the connectivity required to gather the data and other common tasks associated with managing a large data store. The SEC and CFTC, hopefully in a joint effort, will be responsible for funding and developing an infrastructure to manage and analyze this data, creating a massive risk-management system.

The environment will require some form of complex-event processing (CEP) to manage multiple streams of incoming

data; a valuation platform that consists of both third-party and internally-developed models; a risk-analytics package to seek out systemic risk; and a mechanism to alert personnel of potential problems while not raising too many false alarms. None of these requirements are inexpensive at this scale.

The cost of data center space, servers, virtualization or grid technology, networking and other core infrastructure components can also be sizeable. Equally important, the cost of personnel to develop and maintain this environment can outpace the cost of the technology itself.

One might assume that government-sponsored regulators have a big budget to handle a project of this scale, but not in comparison to the firms that they monitor. At TABB Group, we estimate that sell-side global spend on risk management technology in 2009 was approximately \$4.7 billion. In comparison, the total budget of the SEC and the CFTC combined is \$1.3 billion. Even more shocking is the IT budget of the CFTC (per the 2008 CFTC Performance and Accountability report): only \$26 million. Bulge-bracket investment banks spend more than three times that amount each month on technology.

The bridge that crosses the digital divide may be paved in money, but whose money? The answer is not for Congress to allocate more money to regulators, as the U.S. federal budget

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deficit is big enough.

Instead, major market participants should contribute time and money to developing a cutting-edge system for oversight. This could be accomplished by adding a large transaction tax to OTC derivative trades, or by increasing the fines levied by the SEC and CFTC, but these approaches run the risk of reducing the effectiveness of the market by increasing barriers to entry for those firms that need these products the most.

Alternatively, contributions by the major dealers and buy-side firms should be mandatory based on their average yearly OTC derivative trading volume. Required up-front contributions would be higher (as the new infrastructure was built from scratch), and later lowered as the system becomes more mature.

Since dealer consortiums are the rage these days, this approach is not as far-fetched as it may seem. Think DTCC and Markit. Creating a utility overseen by the SEC and CFTC, but funded largely by market participants, would reach Congress's goal of oversight, help to reduce systemic risk and still give OTC derivatives market participants a voice in how the new system develops.

The digital divide created by a small technology budget for the regulatory agencies should not prevent reform in the derivatives market. Nor can it be ignored.

To ensure effective implementation of the proposed changes, the proposed solution's governance and cost must be resolved before the final rules are written. Although not often the case in financial services, in this instance a little cooperation will go a long way.

Risk Management

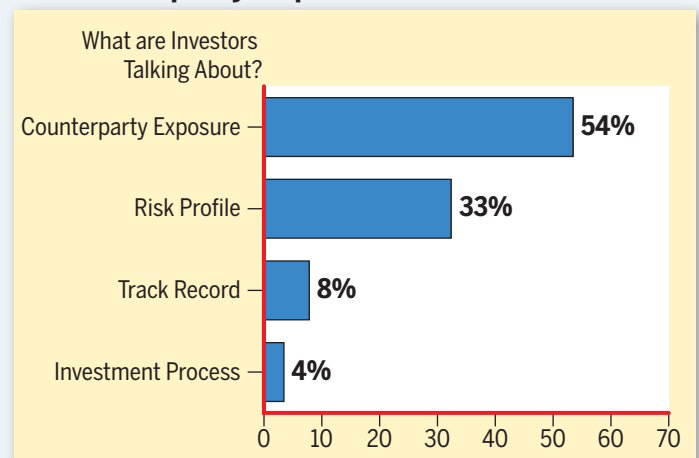
Regulatory mandates for central clearing and reporting will reduce marketwide counterparty risk, but the final answer lies closer to home. The best way to limit counterparty risk in the OTC derivatives market is for major financial firms to take a hard look at their risk management practices and deploy technology that will give them a closer handle on where potential

problems may lie.

This means not only having an accurate understanding of the counterparty's financial standings, but a real-time view into all trading with them. Of course, even 100% accurate trade data will not eliminate counterparty risk altogether: just because two entities agree on trade details does not mean one of them cannot go bankrupt. What it will do, however, is ensure that the level of counterparty risk is well understood, therefore, more manageable.

Today, investors will want nothing less. TABB Group research shows us that investors are questioning the counterparty exposure of the firms they invest with above all else — including the track record of the fund (see Figure 3, below). This shows that counterparty risk management is not only needed to protect your firm, but to ensure your clients stick with you for the long haul.

Figure 3: The Importance of Counterparty Exposure



Source: Tabb Group

It is not the job of any single entity, whether regulatory, technical or financial, to solve the counterparty risk problem. All players must create an automated and timely process to ensure that decisions are made based on accurate information.

Technology exists to raise accuracy levels above 99%, and with so much to gain for all involved, why not take that step?

Kevin McPartland, a senior analyst at TABB Group, has 10 years of capital markets industry experience, with deep expertise in OTC derivatives, market reform, IT and latency-sensitive infrastructures. He has presented at major conferences and been quoted frequently in The Economist, The Wall Street Journal, Financial Times, BusinessWeek, Bloomberg, Reuters and Dow Jones News.