

# Credit Derivatives: How will the market structure evolve?

**Andre Cappon, Stephan Mignot, Guy Manuel from The CBM Group, Inc. look back on ten-years development in credit derivatives, establish their status as of today, and dare a glance at what may come.**

Almost ten years ago, in an article titled “Credit Derivatives: Opportunities for Exchanges and Clearinghouses” (FOW, September 2001), we were advocating exchanges and clearinghouses could and should take a major role in the development of the then incipient credit derivatives market. We felt credit derivatives markets would thus gain the classic benefits of organized markets – standardization, liquidity, transparency, security. We saw synergies and arbitrage opportunities among credit derivatives and bonds, equities and the equity derivatives and argued they would benefit from being traded on organized markets.

We were prescient and enthusiastic but naïve: The credit derivative sell-side community supported over-the-counter (OTC) markets and resisted organized markets. OTC markets have been much more lucrative for dealers than organized markets. Exchanges and especially clearinghouses are now in the limelight. The credit crisis has amply demonstrated that the credit derivatives market structure must evolve in their direction.

Credit derivatives markets experienced sustained rapid growth, since their inception in the mid-to-late 1990’s. According to a British Bankers Association Survey of 1999–2000, notional CDS outstanding was USD 587 billion in 1999. According to the Depository Trust & Clearing Corporation (DTCC) Trade Information Warehouse, gross notional credit default swaps (CDS) outstanding as of January 22, 2010 is USD 25.6 trillion (down 9% from USD 28.1 trillion a year before). In spite of drops since early 2008 (primarily as a result of trade compression, clearing and portfolio reconciliation), the constant annual growth rate of notional outstanding since 1999 has been a staggering 46% per annum.

The tables below show a snapshot of the market as of today:

		Gross Notional (USD Billion)		
		SELLER		
		Dealer	Non-Dealer / Customer	TOTAL
BUYER	Dealer	20,368	2,462	22,830
	Non-Dealer / Customer	2,734	27	2,761
	TOTAL	23,102	2,489	25,591

**(Data as of 22.01.2010 – Source: DTCC Deriv/SERV Trade Information Warehouse Reports)**

Split by broad underlying categories of CDS (Single Names, Indices, Tranches):

	Gross Notional (USD Billion)	%
Single Names	15,150	59%
Indices	7,664	30%
Tranches	2,777	11%
<b>TOTAL</b>	<b>25,591</b>	<b>100%</b>

Single names: split by narrower categories of underlying:

	Gross Notional (USD Billion)	%
Corporate*	12,757	84.2%
Sovereign / State bodies	2,162	14.3%
RMBS	134	0.9%
CMBS	24	0.2%
CDS on loans	69	0.5%
Other	4	0.0%
<b>TOTAL</b>	<b>15,150</b>	<b>100.0%</b>
* of which Utility sector	800	5.3%

Throughout its history to date, the credit derivatives dealer community has remained very concentrated. The same dozen or so institutions control the market. The top players include J.P. Morgan, Deutsche Bank, Morgan Stanley, etc.

As a pure OTC market, in the beginning, credit derivatives were traded without much standardization or organization, beyond the ISDA framework. Trades were done on the phone, confirmed via fax or e-mail. As volumes were rapidly increasing, dealer back offices developed a chronic backlog of paperwork.

Around 2004 regulators started to worry about the back-office mess. They forced dealers to standardize documentation and to move to electronic confirmations. This led to the establishment of a trade information warehouse (TIW), under DTCC auspices.

In 2006/07, in order to manage counterparty credit risk, the dealer community started considering a credit derivatives Central Counterparty clearinghouse (CCP). A group of credit derivatives dealers took over the former Board of Trade Clearing Corporation (BOTCC), which had lost its biggest clearing client, the Chicago Board of Trade, to the CME, renamed it Clearing Corporation (CCorp), and started the process of retooling it for credit derivatives. Due to the long duration and relative lack of liquidity for CDS, this was a challenging process.

In parallel, several exchanges made attempts to start trading listed credit derivatives. CME and Eurex designed futures contracts based on the average spread of baskets or indices of credit default swaps. CBOE designed binary Credit Default Options based on credit events, such as the default of a company. None of these products managed to achieve liquidity, primarily due to lack of support by the credit derivative dealer community.

The status quo OTC market model continued with its inherent risk problems: counterparty credit risk and opacity. The credit crisis in 2007/08 was the wake-up call. The credit crisis revealed fully the major interrelated risks in the credit derivatives market:

#### *Counterparty credit risk*

The troubles of “highly-interconnected”

counterparties such as Lehman and major players such as AIG FP were “near-death” experiences for the credit derivatives markets. Should such a protection-seller fail, a chain reaction of systemic risk may be triggered with terrible consequences and systemic risk.

#### *Liquidity risk*

Fear in the markets, often triggered by a major credit event or the possible failure of a major counterparty generally “paralyzes” traders. They sit on the sidelines until the situation becomes clearer thus liquidity dries up. Consequently, the market price discovery process stops working, creating major uncertainties for investors.

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#### *Lack of product standardization and transparency*

Since they are often customized, certain OTC credit derivatives may be difficult to analyze and value. Rating agencies were supposed to provide some transparency, but their credibility was badly eroded by the credit crisis. Uncertainties regarding the value of positions tend to reduce liquidity. There is a vicious circle here ...

#### **Is clearing a nostrum?**

Regulators stepped up their pressure for a solution. CCP clearing for credit derivatives became the accepted solution: In 2009, Intercontinental Exchange (ICE) stepped in and bought CCorp from the dealers, brokers and exchanges who owned it. This was attractive to the regulators, since they had been reluctant to allow a “dealer club” to control an institution of systemic importance. CME also launched a credit derivatives CCP clearinghouse. European regulators insisted on a European solution, and LIFFE (subsequently dropped), Eurex and LCH.Clearnet proposed various credit derivatives clearinghouse solutions. ICE

established a separate European clearinghouse, ICE Clear Europe.

As of February 2010, several CDS CCP clearinghouses have been established: ICE and CME in the United States, ICE, Eurex and LCH.Clearnet in Europe. See table: Overview of Clearinghouses.

#### **Where are we headed as of 2010?**

The credit crisis has crystallized thinking on what is needed to strengthen the credit derivatives market and more broadly the derivatives markets in general. A white paper published by Eurex in September 2009 articulates an overall “blueprint for derivatives market safety and integrity”:

- Organized markets (i.e. listed derivatives traded on exchanges) are best. These will be slow to emerge owing to resistance by the dealer community.
- Central counterparty (CCP) clearing of OTC trades are “second best”. Under regulatory pressure, the dealer community is embracing this initiative.
- All credit derivative trades should be collateralized and collateral should be monitored by independent third parties.
- Mandatory registration of all derivatives transactions in databases maintained by institutions such as DTCC.

#### **How will the credit derivatives market structure evolve?**

The need to assure market integrity and safety is today’s top concern. Regulators are asking market players to clear all standard or “clearable” credit default swaps through clearinghouses. The industry has already committed to move 95% of new eligible trades to clearinghouses.

The proliferation of clearinghouses is not a great idea. From a risk reduction standpoint, clearinghouses are natural monopolies. In recent research, “Does a Central Clearing Counterparty Reduce Counterparty Risk?” (Stanford University, July 2009), Darrell Duffie and Haoxiang Zhu argue that

- “adding a central counterparty clearinghouse (CCP) for one class of derivatives, such as credit default swaps (CDS), can actually reduce netting efficiency and thereby lead to an increase in collateral demands and average exposure to counterparty default” and that

### Overview of credit derivatives clearinghouses

Clearinghouse	ICE <ul style="list-style-type: none"> <li>• USA: ICE Trust</li> <li>• Europe: ICE Clear Europe</li> </ul>	Eurex Credit Clear	CME Clearport Credit	LCH.Clearnet
Launch date	<ul style="list-style-type: none"> <li>• USA: March 2009</li> <li>• Europe: July 2009</li> </ul>	July 2009	December 2009	Expected March 29, 2010
Clearing members	Dealers <ul style="list-style-type: none"> <li>• USA: 13</li> <li>• Europe: 13</li> </ul>	2 Dealers (Nomura, Unicredit)	10 Dealers	Expected 4 + Dealers
Ownership/control/partnerships	ICE has control and dealers have an economic interest (former Clearing Corporation shareholders)	Eurex Clearing; standing offer for dealer majority-owned joint venture	CME, and dealers as well as buy-side founding members	Ownership by SA and governance bodies set up with Clearing members
Products cleared since inception	<ul style="list-style-type: none"> <li>• Indices USA: 31 CDX indices Europe: 22 iTraxx indices</li> <li>• 39 Single names (including selected utility and telecom sector names in the US and Europe)</li> </ul>	<ul style="list-style-type: none"> <li>• Indices (iTraxx)</li> <li>• Single names (selected utility sector names in Europe)</li> </ul>	<ul style="list-style-type: none"> <li>• CDX Indices</li> </ul>	Expected: <ul style="list-style-type: none"> <li>• Indices (iTraxx)</li> <li>• Single names (in case of restructuring of index component[s])</li> </ul>
Customer focus	Dealer-to-dealer market and Dealer-to-customer market	Dealer-to-dealer market and Dealer-to-customer market	Dealer-to-customer market	Dealer-to-dealer market
Clearing member admission criteria	<ul style="list-style-type: none"> <li>• Capital &gt; \$5 Billion</li> <li>• Regulated financial institution</li> <li>• Minimum credit rating A</li> </ul>	<ul style="list-style-type: none"> <li>• Capital &gt; €1 Billion</li> <li>• Regulated financial institution</li> </ul>	<ul style="list-style-type: none"> <li>• Capital &gt; \$300 million</li> <li>• Screening by Clearing Risk Committee -financial strength, track record, etc</li> </ul>	<ul style="list-style-type: none"> <li>• Capital &gt; €3 Billion</li> <li>• Regulated financial institution</li> <li>• Minimum credit rating A</li> </ul>
Guaranty fund	<ul style="list-style-type: none"> <li>• ICE committed initial capital (\$50 Million in US and \$50 Million in Europe)</li> <li>• Members contribute in proportion to their risk</li> <li>• 12/31/2009 clearing funds (cash) about \$2.4 Billion in US and \$725 Million in Europe</li> </ul>	<ul style="list-style-type: none"> <li>• Separate CDS Clearing Fund</li> <li>• Clearing Member contribution of the higher of €50 Million or 5% of margin requirement</li> </ul>	<ul style="list-style-type: none"> <li>• Overall CME clearing fund</li> </ul>	<ul style="list-style-type: none"> <li>• Separate Clearing Fund</li> <li>• Minimum clearing member contribution (under final determination)</li> </ul>
Volume cleared since inception	<ul style="list-style-type: none"> <li>• CDX: \$3.7 Trillion</li> <li>• Single Name (US): \$11 Billion</li> <li>• iTraxx: €1.1 Trillion</li> <li>• Single Name (Europe): €36 Billion</li> </ul>	Marginal	Marginal	N/A
Open Interest (Feb 01, 2010)	<ul style="list-style-type: none"> <li>• CDX: \$239 Billion</li> <li>• Single Name (US): \$7 Billion</li> <li>• iTraxx: €89 Billion</li> <li>• Single Name (Europe): €30 Billion</li> </ul>	<ul style="list-style-type: none"> <li>• iTraxx: €85 Million</li> <li>• Single Name: €10 Million</li> </ul>	<ul style="list-style-type: none"> <li>• CDX: \$47 Million</li> </ul>	N/A

- “whenever it is efficient to introduce a central clearing counterparty, it cannot be efficient to introduce more than one CCP for the same class of derivatives.”

Clearinghouses are natural monopolies for other capital and operational efficiency-related reasons:

- Back office rationalization argues against multiple interfaces with several clearinghouses.
- Once clearing members have contributed collateral to a CCP clearing fund, it does not make much sense to contribute capital to a few additional ones.

However, neither the regulators nor the market want a single, universal, “too big to fail” clearinghouse. Therefore the most logical “endgame” would seem to be 2–3 CDS clearinghouses at most. Since Europeans insist on a “European solution”, it is likely one of these will have European roots.

These clearinghouses should be compatible (and eventually “interoperable”) to preserve the possibility of healthy competition among them. In particular, regulators should ensure that their risk management processes are similar, in order to avoid the possibility of competition by reducing margin requirements or some other regulatory arbitrage.

The clearinghouses should also make sure client margin collateral is fully segregated from broker-dealer margin collateral: this is typically achieved by using subaccounts.

Of course, the clearinghouses should be well capitalized. It might also make sense to design a “safety net” to protect the markets against the failure of clearinghouses of systemic scope and importance. Such a safety net might take the form of a special purpose insurance scheme that would step in before governments have to.

### Competition for clearing CDS

In the immediate term, 4 major institutions are competing for the CDS CCP clearing revenue “pie” which was estimated by Morgan Stanley at over \$300 million/year. This is obviously an attractive business and the competition will be fierce. The exchanges are competing in multiple ways, such as by:

- Building impressive financial resources.
  - “ICE Trust’ CDS guarantee fund in the US at 12/31/2009 was USD 2.4

billion in cash, while ICE Clear Europe CDS guarantee fund is about USD 725 million”, emphasizes Dirk Pruis of ICE.

- “Eurex Clearing has set up a separate clearing fund for CDS. Margins demanded from clearing members are calculated to cover risk at a 99% confidence level. The CDS clearing fund is there to cover losses beyond those covered by margins to a 99.9% level of confidence. If the Clearing Fund proves insufficient, Eurex will contribute its own equity of around EUR 110 million.”
- CME’s CDS clearing is backed up by the entire CME clearing fund.
- Allying themselves closely with the CDS community – in what amounts to a “partial remutualization” of the clearing and settlement business.
  - “Eurex CDS clearinghouse offers a joint venture where clearing members have control over product scope and service development. The clearinghouse is operated by Eurex Clearing ensuring compliance with regulatory requirements”, according to Matthias Graulich of Eurex Clearing.
- Focusing on serving a market segment:
  - “CME has a compelling offer in the dealer to customer segment” according to Brian Oliver of the CME.
  - “LCH Clearnet SA is crafting a solution more in tune with the European regulatory context”, says François Cadario of LCH Clearnet SA.

- Offering opportunities for synergies and cross-margining with other asset classes.

For the time being, having had an early start and having cleared by far the largest volume of CDS, ICE is in the lead. By acquiring Creditex, a major CDS interdealer broker and its trade processing subsidiary, known as ICE Link, as well as CCorp, ICE thus has an enviable position in the CDS “OTC space”.

CME, Eurex and LCH.Clearnet are facing a major challenge in the credit derivatives OTC clearing arena. CME and Eurex may try to compete with ICE in the “OTC space” or perhaps, redefine the playing field and have another go at credit derivatives in the “organized markets” space. So might other exchanges, especially new ones, unencumbered by existing businesses or member communities. We anticipate a new generation of exchange-traded and cleared credit derivatives before another 10 years go by!



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The CBM Group, founded in 1992, is a New York-based management consulting firm specialized in capital markets. CBM has advised 17 exchanges and clearinghouses in the Americas, Europe and Asia. The firm also has worked extensively with credit derivatives sell-side and buy-side players in the US and Europe.

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