

# Credit derivatives:

opportunities for  
exchanges and  
clearinghouses



**André Cappon\*** investigates some of the hurdles that need to be overcome for the further development of the credit derivatives market

**C**redit derivatives promise to revolutionise finance by making credit risk measurable and truly manageable. However, unlike interest rate, currency and equity derivatives and despite rapid growth in recent years, credit derivatives remain, so far, a niche over-the-counter market, barely scratching the surface of their opportunity space.

To achieve their promise, credit derivative markets need to develop organised exchanges and clearinghouses comparable to those that support more mature financial contracts. Well-designed exchanges and clearinghouses can provide credit derivative markets with the liquidity, transparency and security of settlement they need to overcome the barriers to growth they are facing.

### Credit derivatives today

Credit derivatives emerged in the mid-1990s as bilateral OTC instruments. They are instruments that enable credit risk to be easily transferred from one party to another, for a price.

The simplest and most common product is the credit default swap (CDS).

■ A credit default swap is a contract between two firms, typically financial institutions: a “protection seller” and a “protection buyer”

■ The seller promises to protect the buyer against an economic loss in a “reference asset” (a credit asset such as a bond, a loan or equivalent) due to a “credit event” (eg bankruptcy)

■ The buyer pays the seller an annual

premium for the protection. In the case of a credit event (eg bankruptcy), the protection seller compensates the protection buyer for the economic loss experienced (eg drop in the value of the bond).

For example, a one-year credit default swap on a single A-rated corporate name is currently priced at around 40 basis points. A one-year credit default swap on a sovereign credit such as Brazil (rated BB-) currently trades at around 750 basis points.

Credit derivative markets have grown at a rapid pace. Since the mid-90s, the notional value of outstanding credit derivatives has grown at an annual compound growth rate of some 50%, reaching a total of some \$1,000 billion in the year 2000.

Growth will continue, as banks, institutional investors, and corporate treasurers become familiar with credit derivatives and their multiple applications.

Through credit derivatives, banks can offer valued clients as much credit as they need and simultaneously mitigate the impact of risk concentrations in the bank portfolio. Industrial firms may hedge the credit risk implicit in their receivables. Investors can gain synthetic exposure to the credit markets without buying bonds or extending loans. Arbitrageurs can arbitrage among credit derivatives and other markets.

In spite of a spectacular beginning, credit derivative markets have so far penetrated only an estimated 3% of the underlying credit markets. The market is being held back by a few deficiencies.

First of all, it lacks liquidity. Today, credit derivatives remain a relatively illiquid, imperfect OTC market. A small club of major dealers (perhaps a dozen large banks and investment banks in New York and London) serve the market, with a few inter-dealer brokers intermediating among the dealers. Trading volumes remain very low: only a few trades per day, at most, in the common, "liquid" names. As a consequence, bid-ask spreads are extremely wide, eg 10 basis points (or 25% of the price!) for an A-rated corporate name and 50 basis points (a more reasonable but still high 7% of the price) for an emerging markets sovereign such as Brazil.

Secondly, the market lacks transparency. In spite of laudable International Swaps & Derivatives Association (Isda) efforts, the market is still suffering from the insufficient standardisation of its products, with resulting ambiguities. Examples are:

■ The definition of the credit event: should it be just bankruptcy or should it include broader concepts of financial distress such as restructuring?

■ The measurement of the economic loss in case of a credit event: should it be measured through a poll of dealers or is some more objective, rigorous method needed?

Finally, the market lacks security of settlement due to the "two-name" character of OTC credit derivatives. Protection buyers seek protection against the default of the reference credit but simultaneously gain exposure to the counterparty credit of the protection seller. As a result, only highly rated institutions can be truly effective as protection sellers, which limits supply. Protection sellers, typically financial institutions with AAA or AA ratings, must carefully ration their credit derivative business in order to preserve their own credit standing.

## **Role for exchanges and clearinghouses**

Exchanges and clearinghouses can effectively provide the liquidity, transparency and settlement security that characterise successful financial markets. To create liquidity and transparency, relatively simple and homogeneous contracts must

be devised, as was the case in earlier successful derivative markets.

Since credit risk is highly idiosyncratic (and not systematic, as is the case with market risk), exchanges should list credit default swaps at a highly specific, "atomic" level, ie on major corporate names – probably the top few thousand global corporations – and on key sovereign credits.

The products should be carefully defined and standardised (ie a clear definition of a credit event and of the loss in case of a credit event should be supplied). This will make them liquid, easily associated with related markets such as bonds (to support arbitrage) and easily usable as "modular components" in more complex transactions (such as credit derivatives on baskets, indices or exchange-traded bond funds).

Listed credit derivatives should be electronically traded; there will be vast numbers of names, and activity levels in specific names will vary widely. There will probably be limited volume in most names at most times and occasional major "spikes" of activity in specific names related to news developments.

To achieve secure settlement, proven clearinghouse techniques can be applied.

Protection buyers and protection sellers trading on the exchange will have to post initial margins and variation margins similar to those required by derivatives clearinghouses today. Credit derivative payoff profiles resemble those of put options, and margin deposits are critical to protect the clearinghouse against default by the protection sellers.

Clearinghouses could also clear OTC credit derivatives using similar risk management processes. Quite conceivably, a clearinghouse may be offering its services to exchanges, netting and clearing standard listed contracts and, at the same time, to the OTC dealer community, clearing more complex, tailor-made credit derivative transactions in a multi-lateral or bilateral manner. This could be very attractive new business for clearing organisations.

Once established, credit exchanges will need to build liquidity in the new listed credit derivatives. The key ingredient for liquidity will be arbitrage. There are many conceivable arbitrage opportunities:

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■ Credit derivatives versus the underlying credit markets (eg a credit derivative on Argentina and the Argentine bonds)

■ Credit derivatives versus equity markets for firms. Equity markets are typically highly sensitive, “nervous” indicators of a firm’s condition, as illustrated by the well-known KMV approach to measuring credit risk. Equity derivatives can be expected to be even more sensitive and the development of single stock futures is encouraging in this respect

■ Credit derivatives and foreign exchange markets for sovereigns. The fx market is typically a sensitive early indicator of macroeconomic and credit developments at the level of a sovereign, especially for emerging markets

■ Credit derivatives versus stock indices and interest rates for sovereigns. Stock indices and interest rate derivatives, especially in emerging markets, tend to anticipate credit events.

The existence of these arbitrage opportunities should provide both exchanges and their members with highly lucrative new business opportunities. Clearinghouses can help by establishing appropriate cross margining arrangements that will enable arbitrages to be carried out efficiently.

Arbitrageurs, proprietary trading firms, exchange specialists and market-makers should find many attractive new business opportunities in listed credit derivatives and become enthusiastic supporters.

There will undoubtedly be early resistance from the OTC credit derivative dealers who will fear erosion in their business. In the long run, the credit derivative dealer community should welcome rather than fear the emergence of a listed market.

The history of interest rate derivative markets offers an eloquent model of “peaceful coexistence” and implicit cooperation among organised markets and OTC markets.

In their early days interest rate swaps were laborious transactions. Swap dealers had to take significant market risk or live with complex and expensive ways of hedging their swap books with government bonds.

The launch of the Eurodollar future contract by the Chicago Mercantile

Exchange in 1981 was the key factor that revolutionised swap markets. Strips of Eurodollar interest rate futures as hedges for the floating-rate leg of a swap allowed dealers to lay off risk in a liquid and efficient manner. This empowered them to offer complex, tailored OTC products that addressed client needs and generated superior profits.

**A** similar situation could evolve over time in credit derivatives. We may indeed imagine, for the corporate world, listed credit derivative contracts traded next to cash bonds, equities, equity options and single stock futures, creating a rich tapestry of financial products. All of these will be highly liquid thanks to intense arbitrage activities by high-tech trading firms. For the sovereign credit world, we could have listed credit derivatives next to derivatives on currencies, interest rates and equity indices, supporting active arbitrage and generating constant liquidity.

OTC dealers would use listed credit derivatives as building blocks to create customised hedges and synthetic investments for clients such as banks, institutional investors and corporate treasurers. They would use credit derivative clearinghouses to mitigate counterparty credit risks.

A global infrastructure of credit derivatives exchanges and clearinghouses will be needed. These could be built around existing markets – stock exchanges, options exchanges, futures exchanges – and existing clearing organisations for derivatives and cash products. It would make sense to concentrate liquidity, probably at the national or regional level and within time zones, in order to facilitate intermarket arbitrage. ❖

*\*André Cappon is president of The CBM Group, a management consulting firm specialising in capital markets. The author gratefully acknowledges the help and input of Guy Manuel, Markus Buri and Kevin Mellyn. Visit CBM’s Web-site at [www.thecbmgroup.com](http://www.thecbmgroup.com)*

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