

# Credit default swaps and financial stability: risks and regulatory issues

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*The credit default swap (CDS) market has grown much faster than other derivatives markets since its inception. Even though it is dwarfed by the interest rate derivatives market, which is eight times larger, its growth has affected the stability of the financial system. CDS were originally designed as a risk transfer tool to allow investors to hedge their position in the debt of a reference entity, but much of the activity in this market is also speculative (Olléon-Assouan, 2004).*

*Risk management in the CDS market has certainly improved significantly, reflected in the fact that gross notional volumes have fallen remarkably as a result of trade compression. Nevertheless there is still no accurate indication of how much risk has actually been transferred with these instruments, and this is a major concern for financial stability. Even a rough estimate of market size ranges from USD 29 trillion to USD 38 trillion at end-2008.*

*Clarifying and harmonising information is vitally important, particularly since the uncertainty surrounding market participants' risk exposure contains the seeds of systemic contagion. There is now a pressing need for better market supervision based on the active participation of regulators. The task has already been made easier by a number of public and private initiatives aimed at improving the functioning of the market and monitoring risks more effectively. The most tangible evidence of these combined efforts can be found in various plans for a clearinghouse that emerged in 2008 and 2009. Aside from its practical limitations, however, this solution cannot be extended to all CDS classes. And regulators still face the sizeable challenge of assessing overall counterparty risk on the CDS market and preventing concentration and formation of systemic exposures.*

## 1 | A NON-TRANSPARENT, COMPLEX MARKET

### 1|1 Estimating the size of the market

#### DATA SOURCES

There are three main data providers, each with its own collection process (see Table 1).

Comparing the data is not an easy process because its scope (products, number of reporting institutions, geographies, etc.) and used definitions vary from one institution to another. For comparison, the latest data from the International Swaps and Derivatives Association (ISDA), taken from the April 2009 market survey, estimated the CDS market at USD 38.6 trillion at end-2008, while the Depository Trust & Clearing Corporation (DTCC) gives a figure of USD 29 trillion (Table 1). Harmonising and clarifying this information are therefore key issues.

#### DEFINITIONS

One key issue for supervisors is to measure exposure. Several definitions are used when collecting data, each of which has its advantages and limitations. For example gross volume is an indicator of changes in market activity. But because the CDS market trades over-the-counter (OTC) and is therefore not standardised, contracts are not perfectly fungible and lack liquidity. Hence participants have to multiply their positions to increase or decrease their exposure. Accordingly, gross volume data result from a mass of trades and provide no information that can be used to assess position risk. However, the data concerning types of counterparties and reference entities are useful for analysing systemic risk.

The net amounts identified by DTCC are the sum of each counterparty's net long and short positions on a particular reference entity. They correspond to the maximum possible funds transfers between protection buyers and sellers if an issuer defaults, assuming a zero recovery rate and no collateral.

**Table 1**  
Main sources of global data on the CDS market

	BIS	ISDA	DTCC – TIW *
Start date for CDS reporting	December 2004	June 2001	October 2008
Frequency	Half-yearly	Half-yearly	Weekly
Scope	56 dealers	78 reporters, ISDA members (primary members)	All trades confirmed in DTCC Deriv/SERV (24 major dealers + buy side firms) Estimated coverage as % of trades' number: 95% (DTCC) - 75% (IMF)
Geography	G10	21 countries	World
Type of data	– Gross notional amounts of CDS bought and sold, before bilateral netting – Gross market value	Gross notional amounts	– Gross notional amounts of CDS bought and sold – Net notional positions per reference entity
Estimated market size (USD trn)			
June 2008	57	54.6	N/A
<b>December 2008</b>	<b>41</b>	<b>38.6</b>	<b>29</b>

N/A: Non available.

\* DTCC estimates that it covers 95% of all transactions on the CDS market (in number of contracts). The IMF has lowered that estimate to 75% because past transactions are not recorded; neither are bespoke trades, which are not confirmed electronically.

The only metric that allows a true assessment of counterparty risk in CDS is the market value of contracts. This is because risk exposure varies according to a contract's market value after bilateral netting (not just on CDS positions but across all OTC derivatives positions covered by the same Master Agreement with a counterparty), multilateral netting through trade compression cycle and collateralisation.

## 1|2 Recent developments

### A MORE SMOOTHLY FUNCTIONING MARKET

The measurement of risk actually transferred through CDS must be put into perspective. Market participants now benefit from a range of mechanisms that have helped improve the management of operational risk and make transactions more secure. Owing to a number of private, regulator-backed initiatives the CDS market place has become one of the most highly automated OTC markets.

Since 2005 the industry has been seeking to solve the problem of operational risk arising from confirmation backlogs. With the implementation of DTCC's electronic platform, Deriv/SERV, trades are now automated and confirmed electronically. These initiatives have reduced the volume of outstanding confirmations by 75% since 2005 and cut confirmation times from several weeks to a few days.

#### Trade confirmation facilitated by novation

Another factor contributing to the market improvements was the introduction in 2005 of the ISDA Novation protocol, which sets precise deadlines for getting counterparty consent for novation. In economics, novation is a process whereby a CDS counterparty transfers its obligations under the contract to another entity. If the novation is not confirmed, validation of the transaction is delayed. In such situations, both operational risk and counterparty risk increase because the investor cannot be informed that its CDS obligations have

been transferred to the new entity. Under the ISDA protocol the counterparty must give its consent via an electronic confirmation process before the contract is transferred to the new entity.

#### A standardised auction procedure has improved the efficiency of credit event settlement

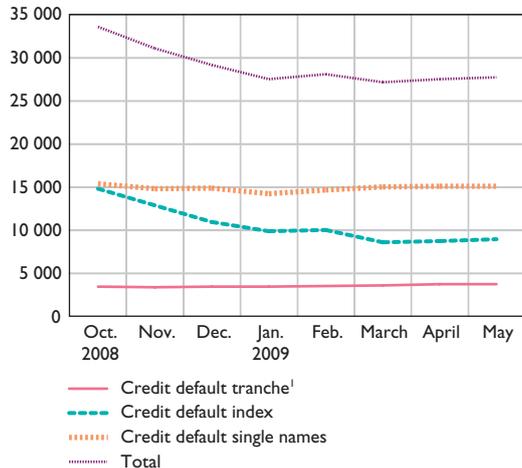
Following the collapse of several carmakers and airlines, market participants introduced in 2005 a standardised auction procedure under the umbrella of ISDA to deal with the default of reference entities with a volume of underlying debt smaller than the notional value of their CDS. The amount of protection on certain firms in these sectors was much larger than the deliverable assets needed in case of physical settlement. And because some of these CDS were index components, a single recovery rate was necessary to ensure that all investors with a position on an index would be treated equally. With the current auction process, all investors can take part and choose between physical and cash settlement. The process determines a single final price, which is then applied to all cash-settled investors. Since March 2009 the market has taken a step towards greater standardisation of settlement procedures by incorporating the auction method into the ISDA definitions. The method is retroactively applied to existing contracts ("Big Bang Protocol").

#### Eliminating redundant contracts through compression cycles

Used extensively by investors in 2008 the compression process consists in eliminating positions that can be multilaterally netted from the portfolios of several dealers, replacing them with a smaller number of contracts with the same net residual exposure. The current contraction in market size can be attributed to private initiatives to compress portfolios. TriOptima, the leading supplier of compression services, announced that it compressed USD 30.2 trillion of CDS contracts in 2008. Going forward, however, the potential effects of compression will be limited by the lack of standardisation in the CDS market.

**Chart 1**  
**Gross notional amounts**

(USD billions)



Source: DTCC, 5 May 2009.

1 Credit default tranche: tranche of standardised CDO linked to a CDS index. A CDT replicates the behaviour of unfunded synthetic CDO tranches with a reference portfolio composed of the reference entities in the index basket (Cousseran and Rahmouni, 2005).

## WITH HINDSIGHT, HOW HAS RISK MATERIALISED?

Market size must be reassessed and risk should be evaluated in light of net notional volumes

Recent trends suggest that the size of the market in gross volume terms should be assessed in broader perspective. Extensive use of portfolio compression by market participants, for instance, has sharply reduced total gross notional outstandings in CDS from USD 57 trillion in June 2008 (BIS) to USD 27.7 trillion in early May 2008 (DTCC).

Understandably, the reduction has been more significant for multi-name contracts (indices, baskets) than for single-name CDS. Since multi-name CDS include contracts linked to indices, which are standardised and therefore automatically permit more efficient netting, compression cycles are likely to have a greater effect in this segment.

In sum, the net overall exposure, i.e. the maximum amount payable by protection sellers, currently stands at USD 2.5 trillion, or 9% of the gross notional amount.

Credit event settlement has been smooth, and risk exposure in the CDS market should be reassessed in light of the amounts transferred

A number of lessons have been learned from a steady string of credit events since the onset of the crisis, with 10 credit events settled via auctions in 2008 and 21 in the first four months of 2009. These lessons apply both to the exposure of market participants and to the resilience and robustness – at least from a technical perspective – of the CDS market.

The Lehman Brothers default illustrated the problems caused by the lack of information available to individual participants before a credit event occurs. Initial media estimates suggested that total gross insurance claims would amount to USD 400 billion, much higher than Lehman's bond debt of USD 150 billion or less. But preliminary estimates from ISDA, based on the auction, give a net figure of USD 7 billion only. According to DTCC, USD 72 billion in CDS was settled normally through the automatic settlement procedure on 21 October 2008, without incident. This made it possible to calculate the funds transferred from net protection sellers to net protection buyers at just USD 5.2 billion, or 7% of the notional amount. As a result, fears of serial default among protection sellers unable to settle their claims proved baseless.

Broadly, looking at the auctions held since the crisis began, it can be seen that funds transfers arising from reference entity defaults have been fairly small. According to DTCC data, the ratio of gross notional CDS amounts to net funds transfers has rarely topped 10% (Table 2).

**Table 2**  
**Most recent CDS credit events**

*CDS/CDX/CDT Events*

Reference Entity	Affected transactions	Settlement date	Gross Notional (USD Equiv)	Net funds Transfers (USD Equiv)
Fannie Mae Freddie Mac Tembec	Single Name and index	15 October 2008	99 billion	0.43 billion
Lehman Bros. Inc.	Single Name	21 October 2008	72 billion	5.2 billion
Washington Mutual	Single Name	7 November 2008	41 billion	1.4 billion
Landsbanki, Glitnir, Kaupthing	Single Name	20 November 2008	71 billion	4.65 billion
Tribune Company	Single Name, Index	16 January 2009	24.9 billion	2.65 billion
Republic of Ecuador	Single Name, Index	23 January 2009	2.6 billion	0.3 billion
Lyndell Chemical Millennium America Equistar Chemicals	Single Name, Index	10 February 2009	7.8 billion	0.45 billion
Nortel Networks	Single Name, Index	18 February 2009	5.6 billion	0.52 billion
Smurfit	Single Name, Index	26 February 2009	4.3 billion	0.44 billion

Furthermore the credit events that occurred in 2008 and 2009 were handled smoothly, thus demonstrating the efficiency of the auction protocols, with a participation rate in excess of 95%.

The volatility of CDS premia during the crisis has affected risk assessment on other markets

The reason for the market's rapid expansion is that CDS, like all derivatives, are not used solely for hedging purposes; investors also use them as trading instruments and hold them in the trading book. Transactions aimed at generating a direct profit from trading strategies are partly responsible for the liquidity of this market and also its volatility. This is significant because movements in the CDS market are not without consequence: when CDS premia fluctuate, market participants revisit their default

probability expectations for reference entities. The recent sharp rise in sovereign CDS premia in Europe, the United States and Japan is likely to produce default probabilities that bear little relation to these countries' economic fundamentals (Box 1). Likewise, changes in CDS premia will probably impact a broader range of financial asset prices because of the relationship between the CDS market and other markets. Transfers of information between the CDS market and its underlying market can affect corporate financing conditions and, more broadly, the entire economy. And since CDS are seen as yardsticks for measuring companies' financial strength, they are used in some asset pricing models. For instance, market participants concur that CDS may have been purchased to get around the restrictions on short selling introduced by supervisors in some countries.

## Box 1

## Challenges for financial stability: the European sovereign CDS market

**Emergence of the market in the aftermath of Lehman Brothers**

Between early 2008 and end-September 2008 the CDS of the highest-rated and reputedly safest countries, including Germany and France, traded at a premium of several basis points. Premia for lower rated countries such as Greece, Spain and Italy amounted to some tens of basis points.

Following the collapse of Lehman Brothers most developed countries introduced plans to shore up their financial systems. As a result of these programmes, which consisted in taking stakes in the largest ailing banks or guaranteeing some of their liabilities, risk was transferred from the banking industry to governments. This prompted market participants to review their expectations for sovereign default probability. The premia on these countries' CDS soared, creating fresh opportunities in a market that had not been actively traded so far.

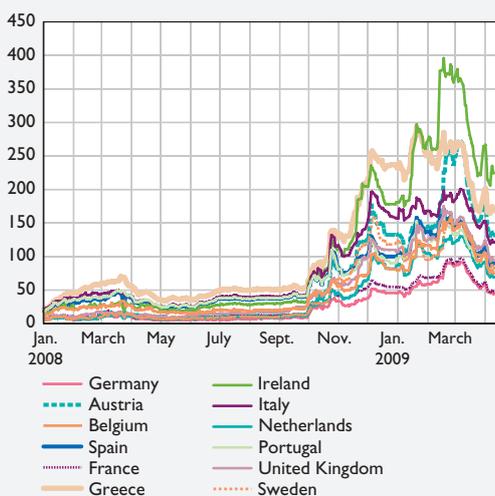
**How will sovereign CDS trading affect the credit market?**

To take advantage of the rise in sovereign CDS premia, the major banks that normally trade credit derivatives have devised directional or relative value strategies. Some have set up trading desks to deal specifically with this market segment. Although this activity has been responsible for most of the trading flows observed to date, sovereign CDS are also being used either to hedge some of the economic risk on debt portfolios on a specific country (i.e. macrohedging) or to build bespoke structured products incorporating developed country sovereign debt.

The emergence of the developed sovereign CDS market has implications for the economy as a whole. CDS are seen as a bellwether for risk pricing, and the correlation between sovereign CDS premia rose sharply post-Lehman to reach a level comparable to that between the premia on bank CDS. This reflects a disconnect between the market and the economic fundamentals of each developed country, which differ structurally. So although notional CDS volumes are small in relation to sovereign debt, the increase in sovereign risk – and hence systemic risk – evidenced in CDS premia affects the financing of the economy and sends out a negative signal for the future ratings of developed countries.

**Sovereign CDS premia for developed countries**

(in bps)

**Average correlation between CDS premia**

### 1|3 Special challenges for financial stability: potential systemic risk

Due to advances in the management of operational risk, the credit derivatives market is now better able to withstand a crisis-hit environment marked by frequent and regular credit events. But there are still several types of risk, closely linked to the occurrence and management of counterparty risk, that are a source of weakness with potential systemic repercussions.

#### COUNTERPARTY RISK AND THE LIMITS OF COLLATERALISATION

Counterparty risk – the risk that one of the two parties to a transaction will default – is the focal point of attention on the CDS market, as it is on all OTC markets. With a CDS, a protection seller is exposed to the risk that the protection buyer will not fulfil its commitment to pay the pre-agreed premium regularly until the contract matures. A protection buyer risks losing the protection it has purchased and being forced to replace it at a certain cost. Counterparty risk is therefore assessed on the replacement cost of a contract with a positive market value. It varies according to the market value of the premium and the maturity of the contract, and it declines with the number of outstanding payments.

Market participants actively manage counterparty risk by exchanging collateral. The purpose of these collateralisation practices is to cover one party's net residual exposure to the other party, thereby reducing the loss sustained in the event of default. More than 80% of the collateral received and delivered in the OTC derivatives market is cash<sup>1</sup>. The non-defaulting counterparty can use the collateral to replace its position. In practice, market participants manage the counterparty risk on their entire OTC derivatives portfolio according to their aggregate position on a specific counterparty. Collateralisation practices seem to function satisfactorily on the whole, as reflected in the reduction in funds transfers arising from the credit events occurring in 2008 and 2009 (Table 2). That said, efficient management of counterparty risk is undermined by three sources of risk.

<sup>1</sup> See ISDA Margin Survey 2009.

<sup>2</sup> *ibid.*

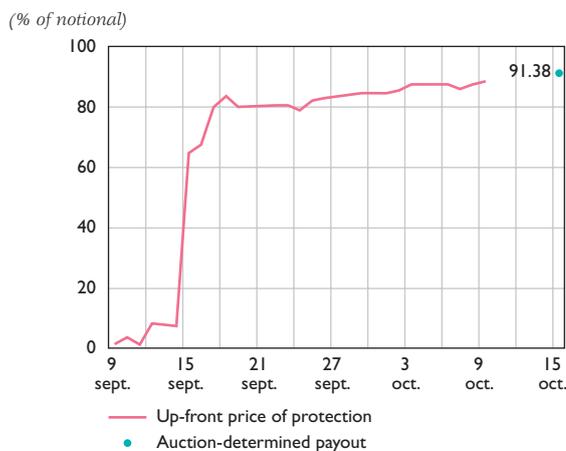
Collateralisation practices are still incomplete and uneven

While almost all inter-dealer trades are collateralised, this is not the case for transactions between dealers and non-dealers. According to ISDA<sup>2</sup>, 66% of credit derivatives exposures are covered by collateral. Although the percentage of collateralised exposures has risen significantly since 2004, when it stood at 39%, it did not increase in 2008 despite the crisis. Unsecured thresholds (the amount above which collateral has to be posted) cannot be the only reason why one-third of exposures are not covered. Some highly-rated entities still do not post collateral. This has been the case for monoline insurers, and is still the case for some of them despite a decline in their solvency and hence their ratings.

Margin calls cannot cover jumps to default

The process of managing and calibrating margin calls for CDS can be hindered by specific risks. It is extremely difficult to capture and mitigate counterparty risk effectively through CDS collateral calls in the run-up to default. A credit event is preceded by a so-called jump to default, that is to say a sudden spike in the CDS premium and thus the market value of the contract. Chart 2 illustrates this phenomenon, which is specific to the CDS market. In such cases, it is highly likely that the level of

**Chart 2**  
**Jump to default**  
**Lehman Brothers 5-Year CDS**



Source: Moody's CreditQuotes.

collateral will be too low to cushion the rise, and the protection buyer will not have time to adjust its margin call. Despite collateralisation, therefore, a protection buyer can still incur substantial losses if its selling counterparty defaults.

### Counterparty risk can turn into liquidity risk

The procyclical nature of margin calls based on rating triggers has highlighted the limitations of some of the practices used to manage counterparty risk. Increasing a collateral call on a downgraded counterparty can spark a liquidity crisis and weaken the struggling entity, possibly driving it to default. For example even though AIG, as a triple-A rated counterparty, was originally not required to collateralise its positions, it was called on significant margin calls after being downgraded. Between September and December 2008 AIG FP paid a total of USD 22.4 billion in margin to its 20 biggest counterparties. That said, rating triggers are not confined to CDS and are fairly infrequent in this market. They are generally used when arranging structured products, chiefly in the United States and only infrequently in Europe.

### FROM COUNTERPARTY RISK TO SYSTEMIC RISK: CONCENTRATION AND CORRELATION

The very high level of concentration that is characteristic of the CDS market, combined with a higher risk of correlation between the protection seller and the underlying entity, transform the shortcomings of counterparty risk management into a potential systemic risk.

### Concentration calls into question whether risk is actually transferred

Market concentration has increased following the default of financial entities active in CDS trading, such as Lehman Brothers, along with the near-bankruptcy of AIG, the disappearance of key players like

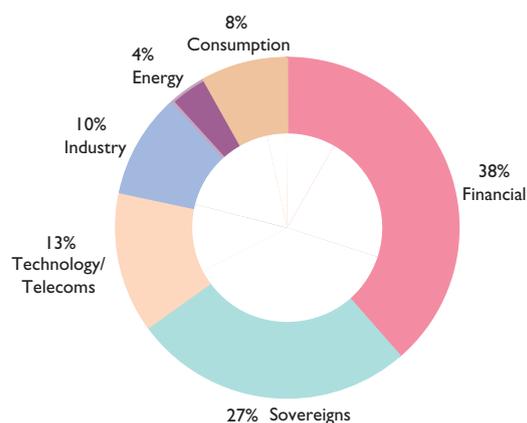
Bear Stearns and the exit of numerous hedge funds. In terms of systemic risk, two issues arise: the increase in counterparty risk and the extent to which credit risk has actually been transferred. The credit risk still haunts the financial system and therefore the banking system.

The 10 largest dealers now account for 90% of trading volume by gross notional amounts, compared with less than 75% in 2004. Concentration is even higher in the US market, where the five biggest commercial banks account for more than 97% of gross notionals (30% of global activity is generated by JPMorgan).<sup>3</sup>

Wrong way risk – i.e. risk arising from a dealer selling protection to a reference entity with which it is closely correlated – also increases the risk of serial default

Although risk remains within the financial sector, the protection sold by market participants relates to that very sector. At 1<sup>st</sup> May 2009 nearly 40% of gross outstandings in single-name CDS concerned reference entities in the financial sector (Chart 3).

**Chart 3**  
**Gross notional amounts**  
Sector analysis of the top 100 reference entities



Source: DTCC, 1<sup>st</sup> May 2009.

<sup>3</sup> Data at Q4 2008, Office of the Comptroller of the Currency – JPMorgan Chase, BoA, Citibank, Goldman Sachs, HSBC Bank USA.

**Table 3**  
**Top 10 reference entities by net protection amounts**

Net	USD billions
General Electric Capital Corporation	11.07
Deutsche Bank Aktiengesellschaft	7.16
Bank of America Corporation	6.80
Morgan Stanley	6.32
The Goldman Sachs Group, inc.	5.21
Merrill Lynch & Co., inc.	5.15
Berkshire Hathaway inc.	4.63
Barclays Bank PLC	4.36
UBS AG	4.31
The Royal Bank of Scotland Public Limited Company	4.27

Source: DTCC, 1<sup>st</sup> May 2009.

There is a significant risk of double default, that is, the default of an entity that is both an active counterparty on the market and a CDS underlier. In terms of net notional amounts, i.e. the maximum amount at risk,<sup>4</sup> seven dealers are among the top ten reference entities (Table 3).

Instead of redistributing credit risks, CDS have actually contributed to intensifying systemic risk by concentrating exposure on a handful of highly interconnected players that are simultaneously buyers, sellers and underliers. This has spawned a new type of risk, "too interconnected to fail", which has superseded "too big to fail" risk (Brunnermeier, 2008).

These observations underscore the need to upgrade the operational management of counterparty risk, which will be achieved partly by setting up clearinghouses for the credit derivatives market, and to increase market transparency. The aim is to improve the assessment of counterparty risk, in the interest not only of regulators but also of market participants.

## 2| MAKING CREDIT DERIVATIVES MARKETS MORE RESILIENT

### 2|1 Extending central counterparty clearing to credit derivatives

The debate over extending central counterparty clearing to OTC derivatives is not new.<sup>5</sup> But the problems encountered in CDS markets during the financial crisis have prompted US and European regulators, notably within the G20, to speed up the extension process. Clearing infrastructures have responded positively to these requests. In the course of 2008 the managers of five clearing infrastructures (two in the United States and three in Europe, including two in the euro area) unveiled plans to provide services for these products.<sup>6</sup>

#### EXPECTED BENEFITS

Central counterparty clearing is a mechanism for absorbing the credit risk and market risk generated by trades in capital markets.<sup>7</sup> The clearinghouse, acting as a central counterparty (CCP), guarantees the fulfilment of its members' transactions. Its action can be critical if a member defaults, because it will stand in for the defaulter and ensure that the firm's obligations to other counterparties are honoured. In this case the CCP continues to pay premiums to the protection seller and to protect the protection buyer against the underlying credit risk of the contract until it can liquidate the position. The surviving counterparties are not therefore required to bear the cost of replacing their position – which would expose them to market risk – since that risk is absorbed by the CCP.

The CCP reduces the aggregate level of risk associated with all the positions in the market by systematically

<sup>4</sup> Maximum possible funds transfers if the reference entity defaults, assuming a zero recovery rate and no collateral.

<sup>5</sup> See Committee on Payment and Settlement Systems (2007).

<sup>6</sup> See Appendix: summary of CDS clearing projects.

<sup>7</sup> It should be noted that setting up central counterparty clearing for credit derivatives does not involve bringing these products onto organised markets (or "exchanges"). Clearing through central counterparties has traditionally been associated with organised markets, and in particular with derivatives markets, this being one of the criteria distinguishing them from OTC markets. Since the 1990s, however, central counterparty services have been developed for OTC trades, including derivatives such as interest rate swaps and products traded in the cash market, such as government bond repos. In contrast with organised markets, trading in such products remains decentralised and is carried out on a bilateral basis between market intermediaries. But once a trade is complete, the counterparties elect to go through a central counterparty, enabling them to manage their mutual default risks more effectively.

netting positions<sup>8</sup> in fungible contracts. Compared with maintaining the bilateral relationships between the initial counterparties, the CCP facilitates novation by providing a single, predictable legal framework that is accepted in advance by all users.

Setting up a CCP involves extending collateralisation practices to all the positions it covers. A core condition for the efficiency of a CCP is to receive adequate guarantees, whose amount is adjusted frequently to reflect changes in its exposure to members. In practice, CCPs accomplish this by performing margin calls at least once a day, possibly supplemented by intraday variation margin calls if their exposure to a member deteriorates.<sup>9</sup> Moreover, CCPs benefit from additional sources of collateral provided by a risks mutualisation mechanism set up among the members. This takes the form of a clearing fund, which is activated if the individual collateral posted by the defaulting member proves insufficient.<sup>10</sup>

### CENTRAL COUNTERPARTY CLEARING FOR CREDIT DERIVATIVES: CONDITIONS AND LIMITATIONS

The capacity of a CCP to absorb the shock generated by a member's failure hinges on the quality of its risk management systems. The current lack of standardisation among credit derivatives is hampering the extension of central counterparty clearing to all categories of CDS. Moreover CCPs will have to adapt their risk management frameworks in order to accommodate the particular risk profile of these contracts.

#### Extending central counterparty clearing to CDS is hampered by a lack of contract standardisation

The varying level of standardisation in credit derivatives limits the range of CCP-eligible products. The only credit derivatives covered by ongoing CCP projects are those that are sufficiently standardised. They include CDS index products, and potentially the most liquid single-name CDS, basically contracts on the reference entities making up the index. Standardisation is key to coping effectively with legal risk. The CCP must be able to measure the nature and scope of the obligations it guarantees. The degree to which products are standardised will

determine their fungibility and hence the CCP's capacity to reduce its exposure to members by netting their positions. Standardisation also increases the liquidity of the products cleared, making it simpler for a CCP to manage a default because positions can be hedged or unwound more easily.

#### Accommodating the special risk profile of CDS

The special risk profile of CDS calls for significant adaptations in the usual methods used by CCPs to manage risk. The methods for calculating margin calls, as well as the stress tests used to calculate the size of the clearing funds set up by clearinghouse members, need to factor in jump to default risk (see above), which is not present in the other types of derivatives usually cleared by CCPs.

Another difficult challenge is to incorporate wrong way risk. For this the clearinghouse has to determine the amount of collateral needed to cover not only its own counterparty risk on members but also the underlying credit risk in the contracts on which a failed member has sold protection. If a member's credit risk is closely correlated with that of the reference entities on which it has sold protection, the CCP may have to deal simultaneously with the failure of the member and a credit event triggered by contracts on the same member as well as on a reference entity with risk correlated to that of the defaulting member. Given the special nature of the risks involved in clearing credit derivatives, it would seem that the risk management systems used for these products should be kept separate from the systems that handle other market segments cleared by the same CCP. In this respect, a separate clearing fund for credit derivatives is essential for limiting the risk of contagion between the failure of a member active in credit derivatives markets and other members of the CCP that do not necessarily deal in these markets.

#### The access of CCPs to liquidity: a crucial issue

A CCP's access to liquidity is an essential part of its default management system. The clearinghouse must have sufficient resources to cope with a sudden increase in its needs so that it can carry the defaulting member's positions until they can be liquidated.

<sup>8</sup> See Duffie (2008).

<sup>9</sup> See Wendt (2006).

<sup>10</sup> Note that when Lehman Brothers failed, none of the G10 CCPs involved in its positions needed to draw on their clearing funds.

Access to central bank money and intraday and overnight credit with the central bank greatly reduces the CCP's dependence on bank refinancing lines, which are likely to dry up when money markets are under strain. Indeed the constant policy of the Eurosystem, which requires clearinghouses dealing in the euro to be located in the euro area, is based on the need to ensure that CCPs have direct access to central bank credit operations and that central banks can effectively supervise CCPs.

## 2|2 Challenges for regulators

### HARMONISING CCP SUPERVISION

The specific risks posed by clearing credit derivatives are not entirely addressed by existing international standards for managing clearinghouse risk. The G10 recommendations on CCPs, published jointly in 2004 by the Committee on Payment and Settlement Systems and the International Organisation of Securities Commissions make no distinctions based on the type of product cleared. Consequently the risks specific to OTC derivatives – in particular the special risks associated with credit derivatives, as described above – are not taken into account.

The standards applicable to CCPs that clear CDS need to be adapted and harmonised to ensure that the solutions now being developed are robust and that competing CCPs benefit from a level-playing field. Work in this area is currently under way at European level<sup>11</sup> and in the G10, and is due to be completed by end of 2009.

CCPs that clear CDS are likely to become highly interdependent, not only because they all use common infrastructures such as the DTCC's Trade Information Warehouse but also because a given participant can potentially participate in several clearinghouses. In view of this interdependency, a cooperation framework needs to be put in place for the authorities responsible for overseeing CCPs, as well as for those that supervise clearinghouse members. Such cooperation is also necessary so that these authorities can access DTCC data.

### SUPPORTING INITIATIVES FOR MORE EFFECTIVE REGULATION OF CREDIT DERIVATIVES MARKETS

Since the CDS market is not regulated it is important for regulators to foster private initiatives aimed at improving transparency. It is also necessary to support such initiatives and make sure they contribute to the ultimate objective of financial stability.

European regulators currently face three major challenges:

Establishing adequate incentives to promote the use of CCPs

Competent authorities should adopt policies that encourage market participants to clear CDS via a CCP. The alternative – imposing prudential penalties on CDS that do not pass through a CCP – does not seem feasible given that a large number of contracts are not currently eligible for central clearing due to a lack of standardisation and liquidity. The only products eligible for clearing in the projects launched so far are indices, because they trade on the basis of fixed coupons. Discussions under way at the European Commission should generate proposals for incentives by the end of 2009.

Assessing counterparty risk in the CDS market: the need for greater transparency

The AIG and Lehman Brothers affairs have highlighted the need for greater transparency to help market participants assess counterparty risk in the CDS market. The type of information needed depends on the end user. The needs of regulators are dictated by the imperative of preventing systemic risk, while the needs of market participants reflect a tradeoff between gaining a finer-grained assessment of counterparty risk and protecting the confidentiality of their strategies and thus their transactions.

Since counterparty risk cannot be assessed at aggregate level, regulators need to know the individual bilateral commitments of the various dealers so that they can detect and prevent systemic exposures. It is less easy to determine the extent to which this type of information should be disclosed to market participants.

<sup>11</sup> The ESCB and the Committee of European Securities Regulators are working together to adapt CPSS-IOSCO recommendations on CCPs and settlement systems at EU level. They have amended their draft report to incorporate the specific aspects of clearing OTC credit derivatives.

**Box 2**

### Standardisation of North American contracts: consequences for the market and issues for European regulators

*The new contract for CDS on North American reference entities, developed by ISDA at the behest of the major US dealers, entered into force in April 2009. It involves two major changes in market practices:*

- *Like CDS indices, single name CDS under the new contract trade at fixed coupons of 100 bps (for investment grade) and 500 bps (for speculative grade) instead of running spread equal to the market value of the spread on the contract origination date. An up-front fee is paid to compensate for the present value of the difference between the fixed coupon and the market spread.*
- *Debt restructuring is no longer recognised as a credit event.*

#### *Consequences for the market*

- *The new contract is better suited to trading needs. Standard coupons make the contracts more fungible and facilitate the netting of positions between contracts signed on different dates. As a result, market liquidity should improve.*
- *These are basically the standardised contracts that will be cleared by CCPs.*

#### *Issues for European regulators*

- *In Europe, the new contract is less well suited to the use of CDS as hedging instruments, because of the prudential treatment of CDS that do not include a restructuring clause. Without that clause, only 60% of the amount of a purchased CDS is recognised as a risk mitigant under Basel II, compared with 100% with the restructuring clause.*
- *European banks have to choose between the capital relief associated with the old contract and the advantages of CCP clearing if they adopt the new contract. The key issue for European regulators, therefore, is to decide on the prudential treatment of CDS.*

Aside from knowledge of the actual amounts exposed, better information about collateralisation practices can provide a more accurate framework for assessing the magnitude of counterparty risk. Other useful information includes the identity of uncollateralised counterparties, unsecured threshold amounts, and the number of transactions covered by collateral agreements.

#### Supporting standardisation efforts undertaken by private parties under the purview of ISDA

Until now the impetus for formalising and harmonising the procedures and definitions used by market participants has come from ISDA, whose legal documentation has become the industry standard.

Recent efforts to standardise contracts should be encouraged, since standardisation is necessary for

netting purposes. However, in its new standard contract for North American reference entities, ISDA has chosen not to include restructuring as a credit event. This raises a prudential issue (Box 2). Furthermore, the restructuring clause makes protection more comprehensive in countries where bankruptcy law does not offer the same possibilities as the Chapter 11 procedure in the United States. While the clause is complicated to trigger and has rarely been activated in the past, its usefulness in a credit cycle characterised by an unprecedented rise in bankruptcies should not be underestimated. As market standards evolve, one issue that arises is the tradeoff between standardising a contract and ensuring that it is exhaustive – an issue that should not be neglected by the regulator. Regulators should certainly ensure that the interests of dealers are represented, a task amply discharged by ISDA, but they should also consider the interests of participants on the buy side.

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## APPENDIX

## Current projects for CCPs clearing of credit derivatives

Reference Entity	ICE/TCC	CME – Citadel	LCH.Clearnet Ltd/ NYSE Euronext (Liffe)	EUREX	LCH.Clearnet SA
	United States 	United States 	United Kingdom 	Germany 	France 
	ICE TRUST went live on 9 March	CMDX went live on 16 March	went live on 22 December 2008	Due to launch in H2 2009	Due to launch at end H2 2009
<b>Promoters</b>	– Intercontinental Exchange (ICE): Atlanta-based derivatives exchange – The Clearing Corporation (TCC): Chicago-based clearinghouse	– Chicago Mercantile Exchange (CME): derivatives exchange and clearinghouse – Citadel (US hedge fund)	NYSE Euronext in partnership with LCH. Clearnet Ltd (London) based on the BClear derivatives trading platform operated by Liffe (London).	– EUREX Clearing: joint subsidiary of Deutsche Börse and SWX Swiss Exchange	LCH.Clearnet SA
<b>Products</b>	– US indices (CDX) at inception	– US indices (CDX) at inception	– European indices (iTraxx) at inception	– European indices (iTraxx) at inception	– European indices (iTraxx) at inception
<b>New developments</b>	Cleared 613 trades with a face value of USD 71 billion in the first month Plans to launch ICE Clear Europe	Plans to launch FX clearing	No transactions		