

Box 3

COUNTERPARTY CREDIT RISK IN THE CREDIT DEFAULT SWAP MARKET

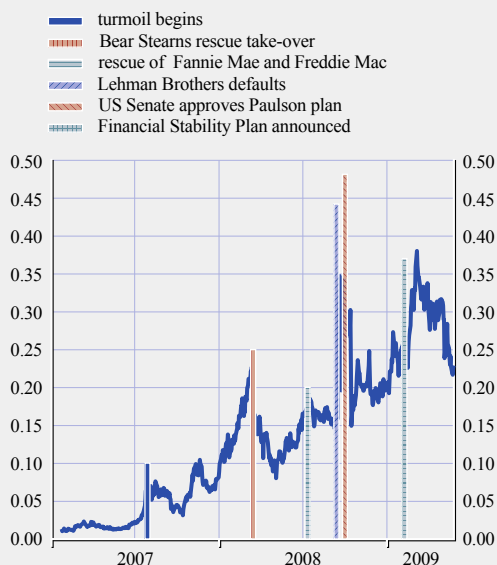
The failure of Lehman Brothers revealed that counterparty credit risk – the risk of default by a major credit protection issuer or dealer in the credit default swap (CDS) market – is non-negligible. This risk comprises the potential replacement costs of CDS contracts if troubled CDS market primary dealers were to default. From a financial stability perspective, such a default would not pose a systemic risk for the financial system if the resulting losses were low or widely distributed across dealers. If the default of one dealer, however, caused another to default or precipitated a cascade of defaults owing to a disorderly unwinding and settlement of CDS contracts, this would generate severe systemic consequences, not only for the CDS market, but also for the financial system as a whole. Against this background, this box introduces an indicator of counterparty credit risk in the CDS market and discusses some specific issues related to that risk.

To assess the risk that one dealer's default creates a cascade of defaults, the probability of at least two major CDS contract dealers defaulting simultaneously can be used. The n^{th} -to-default pricing model framework is useful in this regard.¹ Probabilities of default of major dealers were derived from CDS spreads and the pair-wise equity returns correlation matrix between dealers was used as a proxy for the default correlation matrix. The 19 largest dealers in the CDS market (mostly global LCBGs) were included, and the probability that two or more dealers default simultaneously over the next two years was calculated (see the chart).

¹ For further details, see Box 14 in ECB, *Financial Stability Review*, December 2007. The methodology used follows R. G. Avesani, "FIRST: A Market-Based Approach to Evaluate Financial System Risk and Stability," *IMF Working Paper*, No 05/232, December 2005, and R. G. Avesani, A. Garcia Pascual, J. Li, "A New Risk Indicator and Stress Testing Tool: A Multifactor N^{th} -to-Default CDS Basket". *IMF Working Paper*, No. 06/105, April 2006.

Indicator of counterparty credit risk in the CDS market

(Jan. 2007 – May 2009; probability)



Sources: Bloomberg and ECB calculations.

netting or “tear-ups” of CDS contracts, whereby CDS contracts from one dealer were offset in transactions with others. These transactions decreased notional gross exposures, operational risks and administrative costs, thereby reducing counterparty credit risk. In the course of 2008, dealers decreased their notional exposures to CDS contracts via “tear-ups” by USD 30 trillion of gross notional or half of the value of the CDS market and this continued into 2009 (a reduction of USD 2.5 trillion).² In spite of these efforts, the risks related to the CDS market appear to remain high, and may result from the ongoing stresses experienced by major CDS dealers.

² TriOptima and DTCC data.

The indicator shows that counterparty credit risk was highest during two episodes of market turmoil (the rescue of Bear Stearns and the default of Lehman Brothers). In the early months of 2009, the indicator increased again to levels last seen in mid-September 2008. This reflected the negative impact of the crisis on all major dealers in the CDS market via write-downs and heightened default correlations. Market intelligence also indicates that it resulted in wider bid-ask spreads and smaller individual transaction values in the CDS market. Following the implementation of various government support measures across mature economies, however, and the announcement of the results of stress tests on major US banks, market participants’ risk perceptions regarding major global banks decreased somewhat, and this was reflected in the indicator in April and May.

In response to increased counterparty risk, several measures were taken: first, CDS market dealers entered multilateral terminations/