



Liquidity is key for the central clearing of derivatives

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Author
Orçun Kaya
+49 69 910-31732
orcun.kaya@db.com

Editor
Jan Schildbach

Deutsche Bank AG
Deutsche Bank Research
Frankfurt am Main
Germany
E-mail: marketing.dbr@db.com
Fax: +49 69 910-31877

www.dbresearch.com

DB Research Management
Ralf Hoffmann

- With more and more OTC derivative contracts shifting towards central clearing, the existing risk management and collateralisation practices are changing tremendously. Consequently, market participants' attention has turned towards the determinants of central clearing.
- Our empirical analysis reveals that liquidity is the most important precondition for the central clearing of CDSs. By contrast, higher volatility reduces the likelihood of derivatives being centrally cleared. CCPs also seem to prefer reference entities with relatively robust financial characteristics.

Among the derivatives market reforms agreed in Pittsburgh in 2009, the central clearing of over-the-counter (OTC) derivative contracts – a market of huge size – plays a crucial role. Indeed, central clearing will change the existing risk management and collateralisation practices tremendously. To date and in line with the agreements of the G-20, remarkable progress towards central clearing has been achieved. In this sea change in derivatives trading, market participants have focused their attention on the determinants of central clearing.

In recent years there has been remarkable progress in derivatives rule making and implementation of the central clearing rules. Rule making and implementation are largely completed in the US. In the EU, rule making is completed but mandatory clearing is only likely to start this year. In line with these developments, there is a notable shift from inter-dealer to central counterparty (CCP) clearing trades. The FSB (2014)¹ estimates that globally around 50% of interest rate swaps (IRSs) are centrally cleared, up from 30% in 2011. For single-name credit default swaps (CDSs) the share of centrally cleared products stands at around 20%, up from 5% in 2010. On the other hand, the non-cleared segment of the derivatives market mainly includes illiquid or bespoke products for which it is difficult to appropriately implement margin practices. Against this background, CCPs may shy away from clearing these products. For market participants, though, knowing which spectrum of products is suitable for central clearing is hugely important for future risk management and hedging practices.

To shed light on which derivatives are cleared by CCPs, we take a sample of non-financial single-name corporate CDS contracts from DTCC's top single-name list. Our final sample consists of 371 CDSs of which 88 were centrally

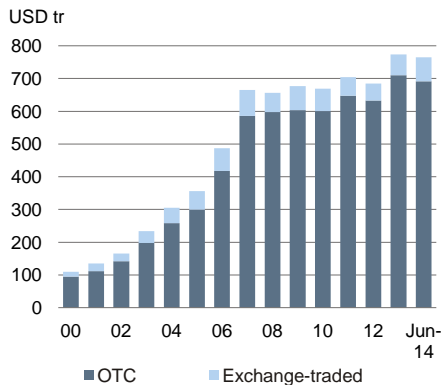
¹ See FSB (2014). OTC Derivatives Market Reforms. Seventh Progress Report on Implementation.



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Outstanding gross national volume of derivatives

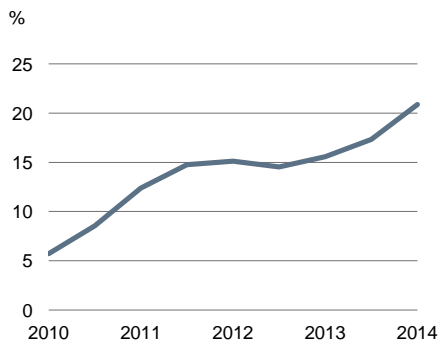
1



Source: BIS

Share of single name CDSs that are centrally cleared by CCPs

2

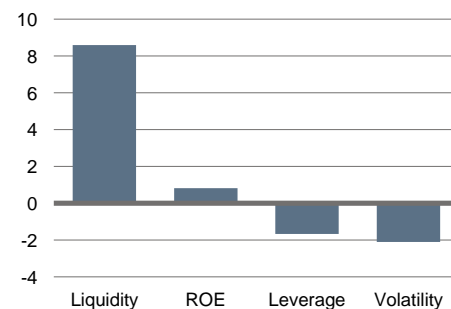


Sources: BIS, Deutsche Bank Research

Determinants of central clearing of CDSs

3

Increase in probability of central clearing in percentage points



This chart presents the marginal effects of the pooled logit analysis. Presented values are the 10 percentile deviations from median.

Sources: Deutsche Bank Research, DTCC, Bloomberg Finance LP

cleared sometime between 2010 and 2013. In explaining the central clearing decision, we run an empirical probability model that controls for

- liquidity of the CDS (proxied by weekly net trading volumes)
- volatility of the CDS (proxied by 90-day moving CDS price volatility)
- indebtedness of the underlying firm (proxied by total assets divided by equity)
- profitability of the underlying firm (proxied by adjusted net income divided by equity)
- time-specific and sector-specific effects.

The results of our analysis are statistically significant and worth highlighting:

- Among the controlled factors, the most important determinant of central clearing is the liquidity of the CDS: a moderate increase² in liquidity increases the likelihood of a product to be centrally cleared by around 9 pp.³ The large impact of liquidity is consistent with the risk management practices of CCPs: in case of a counterparty default, strong liquidity characteristics of the CDS are crucial for enabling the portfolio of the defaulting clearing member to be managed in a timely and efficient manner.
- In contrast to liquidity, the volatility of the CDS has a negative impact on the central clearing decision: a moderate increase in the daily price volatility of the CDS lowers the probability of a product being centrally cleared by around 2 pp. The collateralisation practices of CCPs may help to explain this. In fact, volatility is a widely accepted proxy for risk and usually used to determine the initial margin (collateral posted at the initiation of the derivative trade) and to update variation margin requirements (maintenance collateral over time). Volatile products increase the risk of the portfolio to be cleared and thus the frequency of collateral adjustments. What is more, they imply higher uncertainty at the inception which in the end reduces the incentive for central clearing by CCPs.
- Among the company-specific factors, the indebtedness (profitability) of the underlying firm has a negative (positive) impact on CCPs' clearing decision. More specifically, a moderate increase in leverage decreases the probability of central clearing by around 2 pp whereas higher profitability has the opposite impact (by around 1 pp). It is important to note that a single-name corporate CDS contract is tied to a certain reference obligation: a corporate bond whose value is linked to the fundamentals of the issuing company. As a result, the odds that a steep value change occurs between variation margins (jump-to-default risk) are larger for CDSs referenced to corporate bonds of heavily leveraged or unprofitable firms. Moreover, it is more difficult to determine the appropriate level of initial margin for these products, too. These perils pose challenges for the risk management practices of CCPs, thereby lowering the probability of central clearing.

All in all, to protect their own financial viability, CCPs seem to accept primarily liquid and less volatile derivatives for central clearing. Moreover, they also require that the reference entity be in robust financial condition. Considering the fact that after the full implementation of the recent derivatives market reforms, margin requirements for non-centrally cleared products will be prohibitively high,

² See footnote of the chart for a detailed description.

³ For more information see Slive, J., Witmer, J., and Woodman, E. (2012). Liquidity and central clearing: Evidence from the CDS market. Bank of Canada working paper.



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the pricing of some (OTC) derivatives may not be attractive anymore and those will probably vanish from the market. In this respect, market participants using these instruments for hedging purposes may need to revise their practices and seek alternatives.

Orçun Kaya (+49 69 910-31732, orcun.kaya@db.com)

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