UBS Investment Bank

2009 Credit Markets Symposium

Practical Counterparty Risk Management

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SPEAKER BIOGRAPHY

Michael Clarke is currently at UBS Investment Bank, where he holds the position of Global Head of Collateral Management and Client Valuations. He leads a team of over 200 professionals in 9 locations globally who are responsible for margin management and valuations spanning all investment banking products for over 5,000 investor and institutional clients. The unit also provides margin calculations for over 14,000 clients of UBS Wealth Management. Previously at UBS, Mr. Clarke led the business development and strategy functions for Exchange Traded Derivatives and Collateral Management.

Prior to joining UBS, Mr. Clarke has held similar positions at Deutsche Bank and J.P. Morgan. During a 14 year career at the latter, he also held a variety of positions in counterparty credit risk management, operations management, and derivatives technology.

In the technology arena, Mr. Clarke was Senior Vice President at SunGard Trading and Risk Systems. He was also formerly the President of Cygnifi Derivatives Services, a spin-off from J.P. Morgan to commercialize the firm's derivatives technology.

Mr. Clarke was one of the founders of the ISDA Collateral Committee, which he co-chaired in London and New York between 1995 and 2002 and again since 2007. He remains actively involved with ISDA and has been a principal contributor to many ISDA publications in the field of collateral management. He writes, speaks, and teaches extensively on collateral and credit risk management.

Mr. Clarke holds a B.Sc. (Eng.) degree from the Imperial College of Science, Technology and Medicine in London. He is an Associate of the Royal School of Mines.

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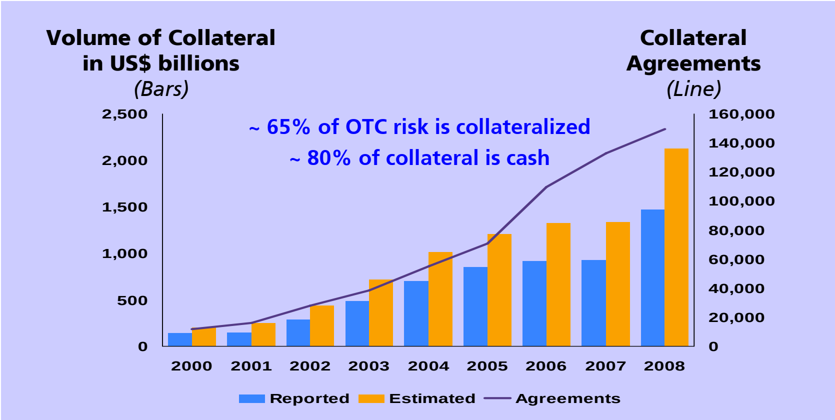
Some Myths… and Some Truths from Recent Events



Data Source : 2008 ISDA Margin Survey

- Myth : Credit derivatives were not collateralized
- Truth : Most of them were, like any other OTC derivatives

- Myth : Collateralization did not work
- Truth : Collateralization did not eliminate all counterparty risk
- Truth : It was never intended to

- Myth : In the OTC derivatives market everything has an agreed price at all times
- Myth : Most margin calls were disputed due to pricing disagreements
- Truth : There were a small number of large and intractable margin disputes
- Truth : In some cases there was no effective mechanism to resolve disputes

- Myth : Different types of risk (credit, market, operational, etc) can be managed independently
- Truth : At the instant of default, credit risk, market risk, settlement risk and operational risk collapse to be the same thing - a loss.

- Truth : Posting of initial margin (IM) mitigates risk for the receiver but creates risk for the giver
- Truth : Some firms' only loss due to default arose because they had posted IM
- Myth : The IM problem can be solved by a tri-party model

Necessary Preparation to Manage Credit Events Effectively

Before Doing Business with a Counterparty

- Know your client - suitability for a collateralized trading relationship

In The Ordinary Course of Business

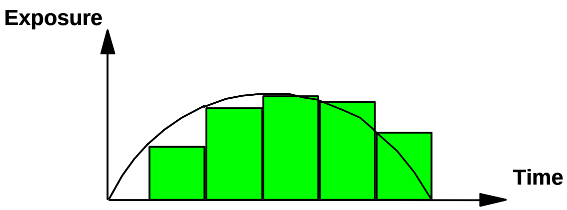
- Ensure the three key aspects of data quality are high:
  - -Correct legal entity - yours and theirs
  - -Correct trade population booked timely
  - -Correct mark-to-market valuation
- Make margin calls timely
- Resolve disputed margin calls
- Take all actions permitted under the agreement to preserve your rights - e.g. dealer polls, re-use collateral where permitted
- Understand the location and custody chain of collateral, and the risks thereof
- Ensure haircuts are adequate given actual market conditions
- Control collateral closely to perfect security interest and to ensure no unauthorized return
- Understand future settlement ladders, sources of Herstatt risk and how to control them in a crisis

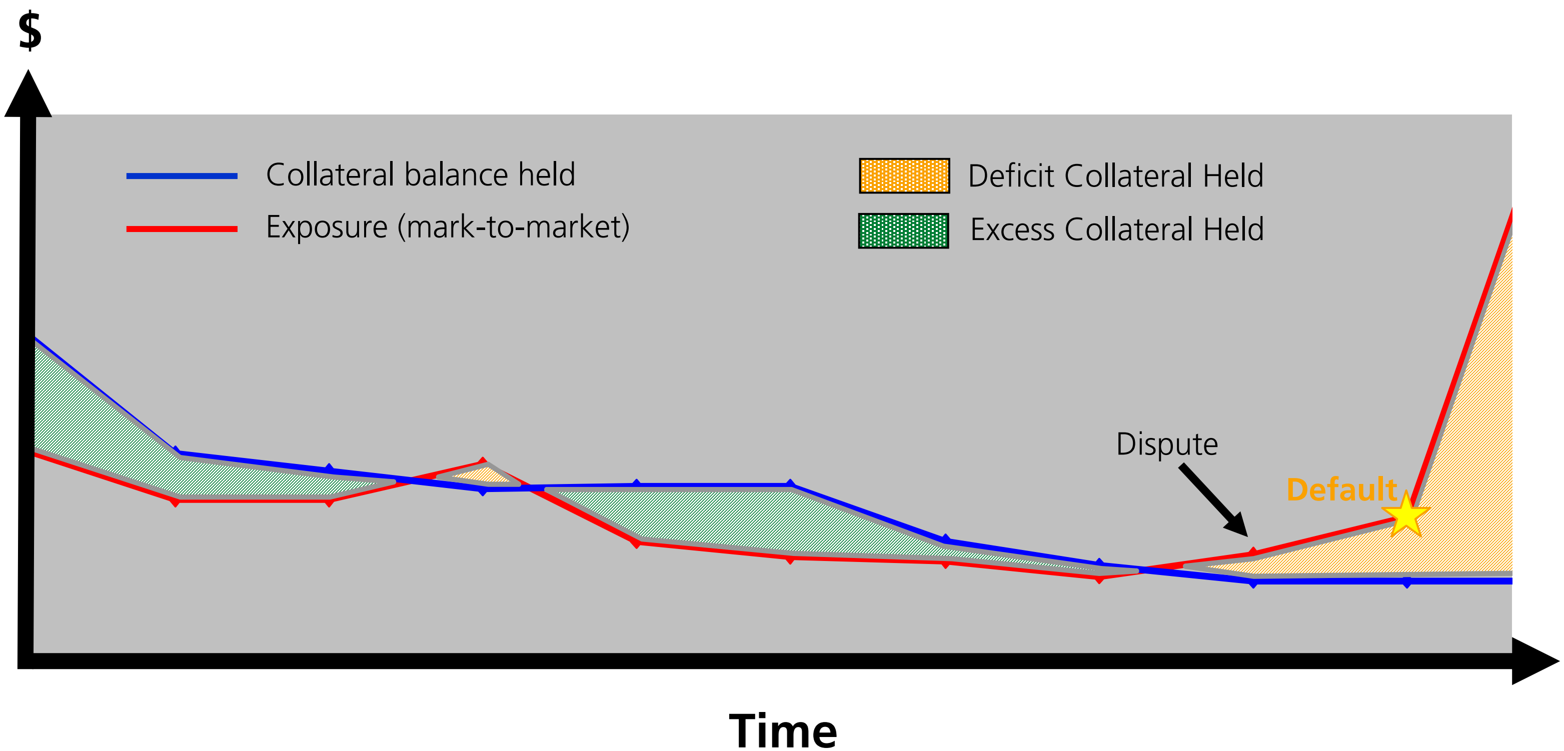
At The Point of Default

- Freeze payments but only where contractually permitted
- Analyze Herstatt risk situations and crossing payments of different types (offset opportunities)
- Read the legal documentation (the actual documents, not the boilerplate)
- Check the exact legal entities, the trade population and that all positions are accurately marked to market
- Check the location of the collateral - immobilize it
- Know the essential numbers : MTM, Collateral, Loss Given Default

How Disputed Margin Calls Can Hurt

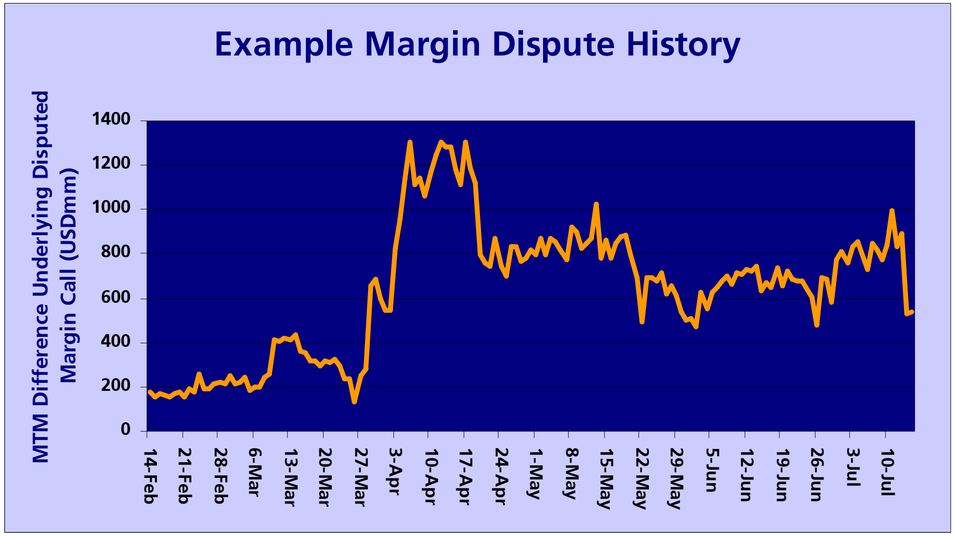
- When exposure is rising we tend to be under-collateralized; when exposure falls, we tend to be over-collateralized.
- The effect is accentuated by a dispute immediately prior to default.
- This de-couples collateral balance changes from exposure levels which continue to change…





Improving the Management of Disputed Margin Calls

- Margin calls are routinely disputed for genuine reasons:
  - Late trade bookings
  - Mis-booked trades
  - Valuation methodology differences
- Day 1 disputes are a very noisy data set... but some disputes are intractable and large…



- Unresolved disputes of large size are inimical to effective collateral protection
- Solution :
  - Massive investment by the market to achieve higher initial quality of trade capture / confirmation
  - Early detection of disputes - portfolio reconciliation is key
  - Aggressive investigation and follow up to resolve differences between firms
  - New dispute resolution procedures for the market