

# Discussion on Modelling Counterparty Exposure and CVA by Giovanni Cesari

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Lausanne, October 2010

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# Summary

- Counterparty credit exposure highly relevant subject (defaults do happen . . . )
- A very nice survey on theoretical and computational challenges in pricing and risk management of counterparty exposure from an industry point of view.
  - ★ Basic concepts
  - ★ Requirements on models used
  - ★ CVA computation via simulation and AMC
  - ★ Contingent CDS approach and discussion of wrong-way risk (correlation between default event and value of deal at default time)

# Comments and Questions

Most of my comments circulate around the topic of *wrong-way risk* in various forms and its inclusion in the approach.

Crucial for certain asset classes:

- Credit products: Think of increase in credit spreads around the Lehman default and implications for protection-buyer position in CDS (contagion effects)
- Equities: defaults more likely in economic downturn (where share prices typically come down) than in a boom period
- Interest rate products: think of established negative correlation between default rates and interest rates

Wrong-way risk particularly important for credit products.

# Implications for credit modelling

If we want to study 'wrong-way risk' we need a truly dynamic (portfolio) credit risk model for the counterparty (copula models not enough)

- default intensities should depend on economic factors to bring in correlations
- CVA has an option component, as

$$CVA = E^Q([P_\tau]^+ 1_{\{\tau \leq T\}}).$$

Hence we need a model that gives dynamics of prices/value of credit instruments and not just the correlation of the distribution of default times.

Such models exist but are infrequently used in practice. Which type should be used?

# Questions

- How relevant is wrong-way risk from a practitioners point of view?
- Are there any case studies that quantify the size/relevance of wrong-way risk for special situations/products?
- Any further research topics for academia?