

Credit risk

Caroline Hillairet (ENSAE Paris)

Course : 18 hours - TP : 0 hours

Objectives

This course deals with credit risk modeling, as well as the valuation methods of credit derivatives and financial products exposed to this risk. It will first focus on an empirical analysis of default probabilities, recovery rates and rating transitions. Then, the main credit derivatives will be described: financial characteristics, risk factors and market conditions. We will then study their valuation models. The objective is to enable students to have a global vision of credit risk and the different models used for the valuation of products exposed to this risk.

Outline

- Default risk and historical approach: intensity models, rating.
- Credit derivatives: product description, structural models.
- Valuation of 'simple' credit derivatives: CDS, index CDS, Option on CDS.
- CDOs - Description. The different types of CDOs. Synthetic CDOs. The standard valuation model.
- Correlation smile - The Correlation Basis. Templates to explain the smile. Dynamic models.

Bibliography

- SCHONBUCHER P. (2002) : Credit derivatives pricing models, Wiley.
- DUFFIE D. et SINGLETON K.J. (2003) Credit Risk: Pricing, Measurement, and Management, Princeton University Press
- BRUYERE R., CONT R., FERY L., JAECK C. et SPITZ T. (2005) : Credit derivatives, Wiley.
- GOURIEROUX, C. et A. TIOMO (2007) Risque de crédit, Economica
- www.defaultrisk.com : permet l'accès à un grand nombre d'articles consacrés aux dérivés de crédit.