Risk Management

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Course: 18 hours - TP: 0 hours

Objectives

This course will provide an overview of the theory and practice of risk management in financial institutions. The latter are now at the heart of the concerns of the various players. The course will approach these topics from various complementary angles: the various types of risks, the regulatory framework, positioning within the company and relations with the business lines, the usual risk models and indicators, implementation and estimation problems, etc. The objective is to provide a significant risk culture to students, future finance professionals, whether they then work in specific "Risk" departments or not.

Outline

- Taxonomy of financial risks – Market/credit/operational risk, model risk, etc.
- The regulatory framework. National and international regulators Historical and current reference texts of banking regulation : Cooke and Mc Donough ratios, Basel 2 and 3, CAD.
- Risk measures – Exposure curves. VaR and Expected shortfall. Coherent risk measures. Marginal risk measures. Some extreme-value elements. Internal versus regulatory models.
- Methodology of market risk models – parametric/historical/Monte-Carlo VAR and ES
- Estimation problems. Backtesting and stress-testing.
- Cedit risk measurement – Counterparty ratings, rating agencies. Structural approaches and reduced-form models. Reference models : KMV, CreditMetrics, CreditRisk+. Recovery rates.
- Towards and integrated risk measure. Dependence between market and/or credit risk factors. The particular case of Credit derivatives and CDOs. Operational constraints.

Bibliography

- Alexander, C. ed. (1998) Risk management and analysis. Wiley.
- Crouhy, M., Galai, D. and Mark, R (2000). Risk Management. McGraw-Hill.
- Embrechts, P., McNeil, A. and R. Frey (2005). Quantitative Risk Management : concepts, techniques and tools. Pinceton.
- Jorion, P. (1997) Value at risk : the new benchmark for controlling market risk. McGraw Hill.