



Integrating Market and Credit Risks

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Fundamentals

Bottom-Up
Integration

Copula Approach

Comparison

Fundamentals

Market Risk

Interest Rates

Implied Volatilities

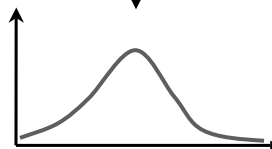
Equity (& Index) Values

Exchange Rates

Terms & Conditions

Pricing / Valuation Model

Simulation



Credit Risk

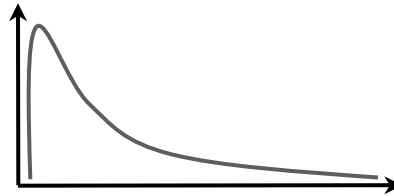
Exposure

Transition / PD

LGD

Correlation

Simulation



Credit Risk

Exposure

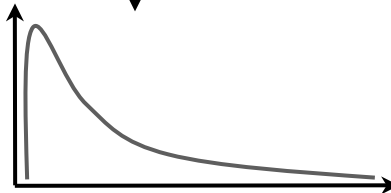
Rating

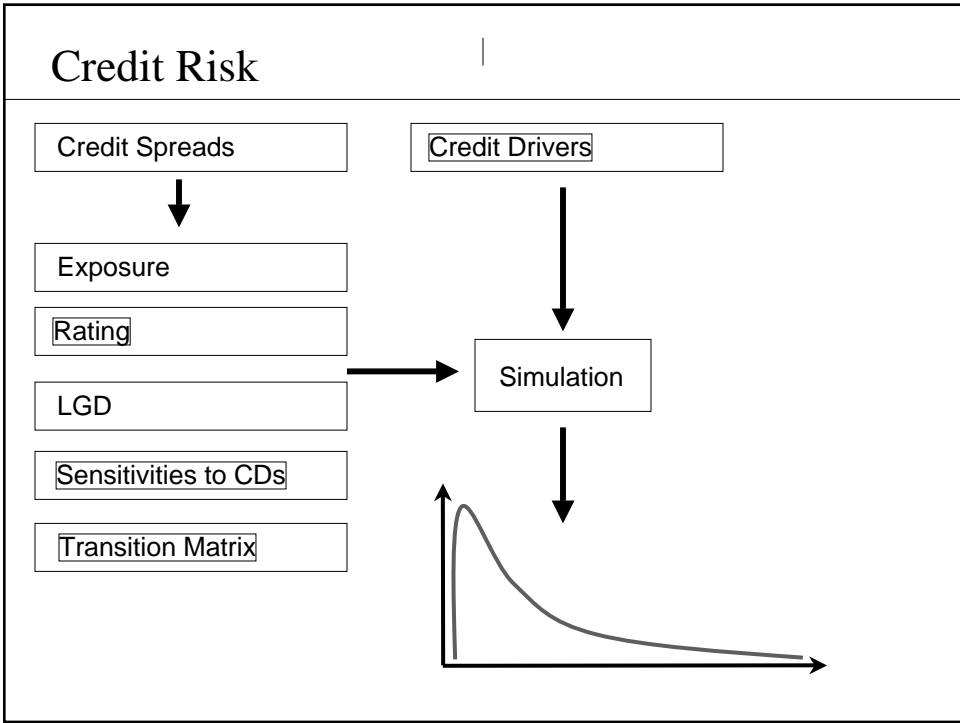
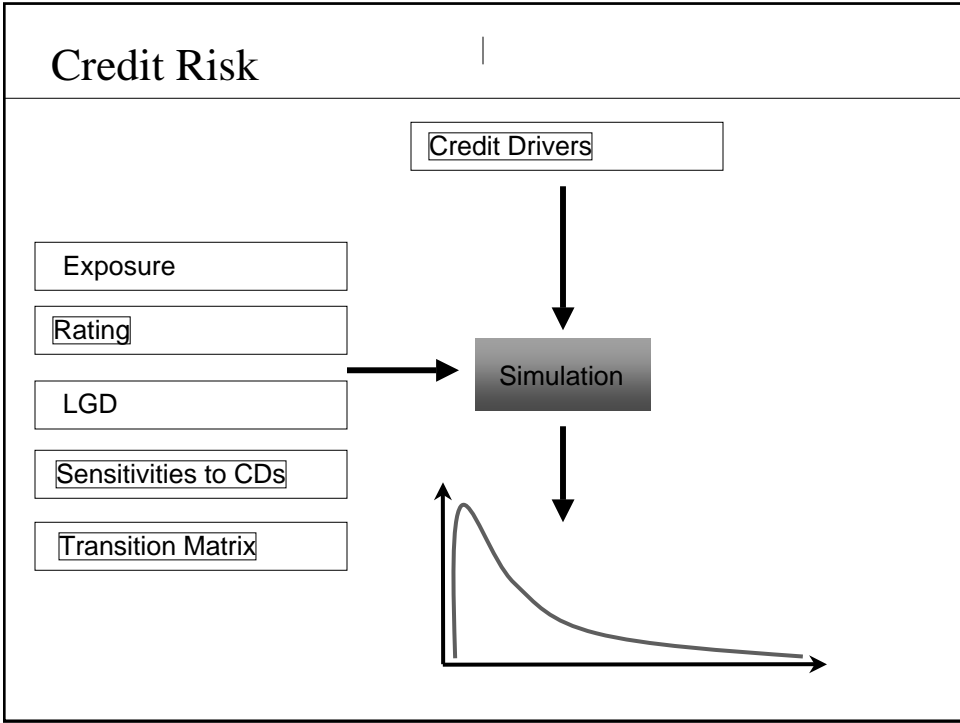
LGD

Correlation

Transition Matrix

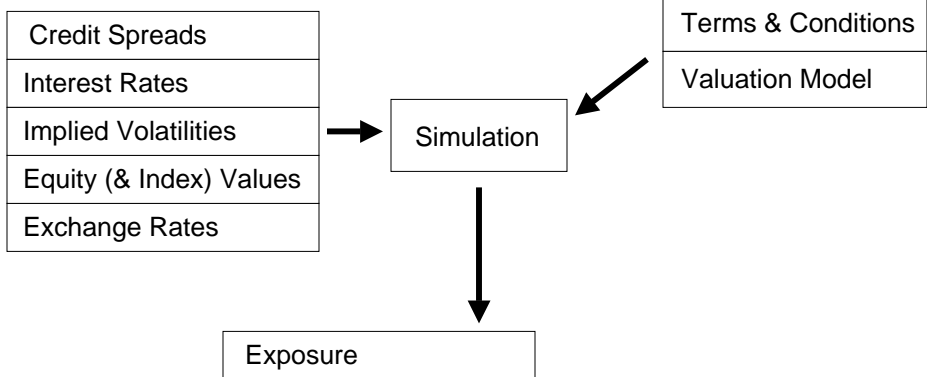
Simulation



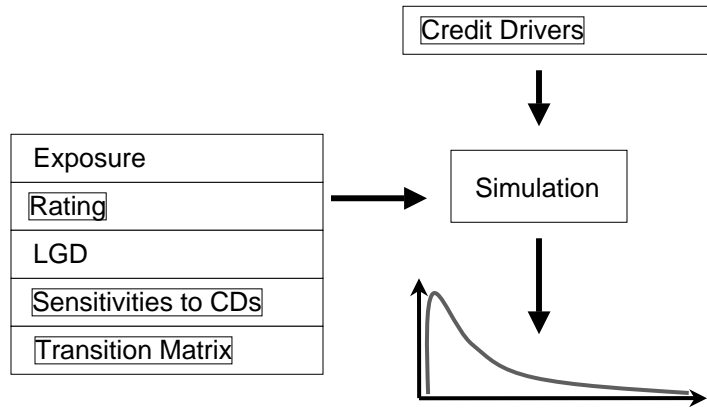


Bottom-Up Integration

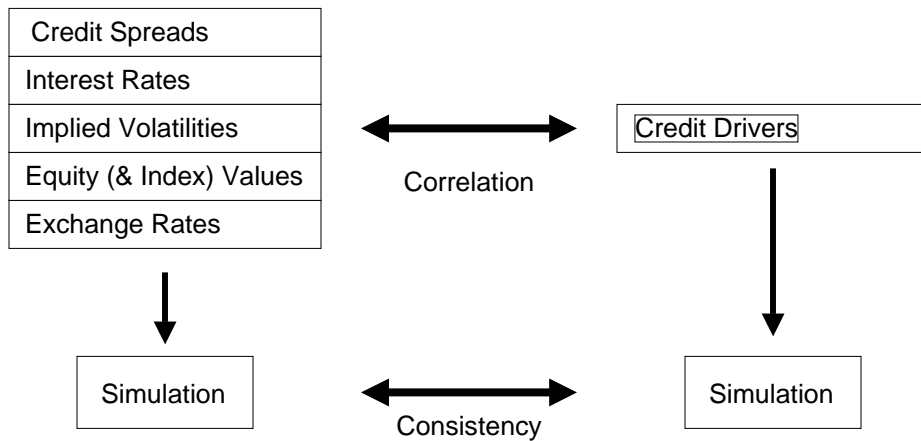
Integrated Risk: Market+

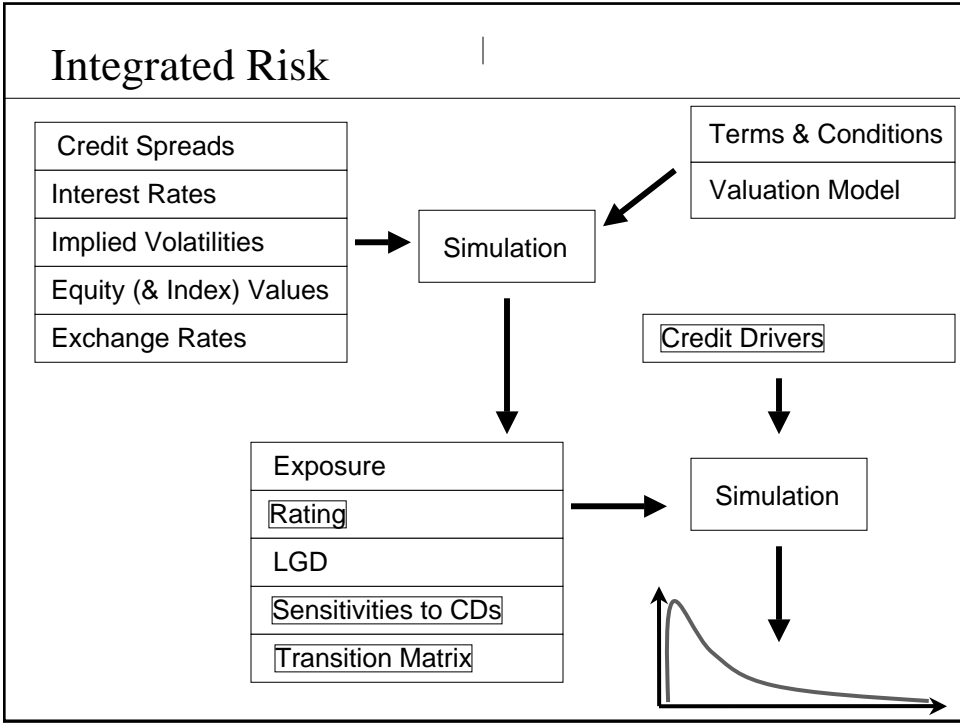


Integrated Risk: Credit



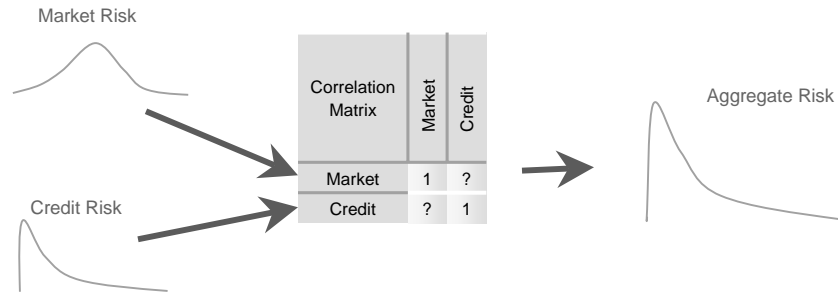
Integrated Risk: Correlation



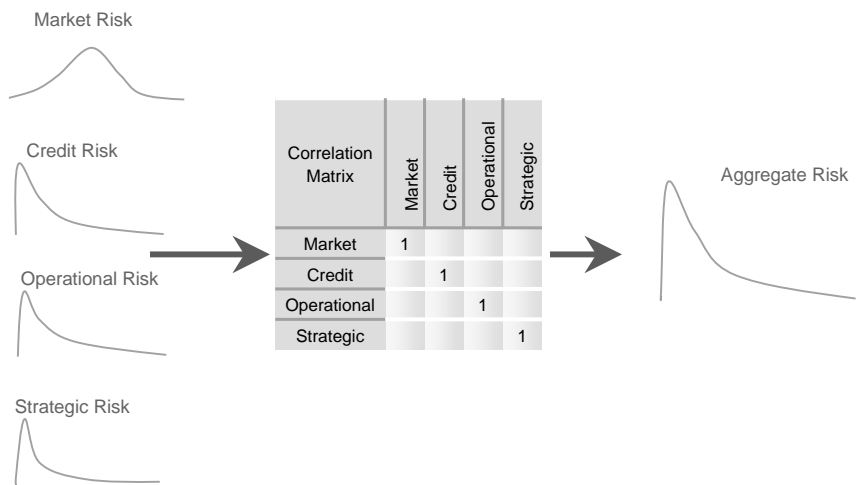


Copula Approach

Copula Approach



Including Additional Risk Types



Comparison

Comparison

Bottom-Up

Focus on certain risks
Correlations are straightforward
Results are objective
Computationally Intensive
Leverages existing methods,
may require new, integrated
system

Copula

Easy to extend to varied risk
types
Correlations are hard to obtain
Results can be seen as biased
Little additional computation
Leverages existing systems



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