Credit Derivatives

Risks and benefits of diversification

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The search for diversification

- 1850: Bonds
- 1900: Stocks
- 1400-1970: Futures
- 1950: Real estate
- 1990: Energy
- 2000: Credit (CDO's, CBO's, CMO's, CFO's)

Credit markets

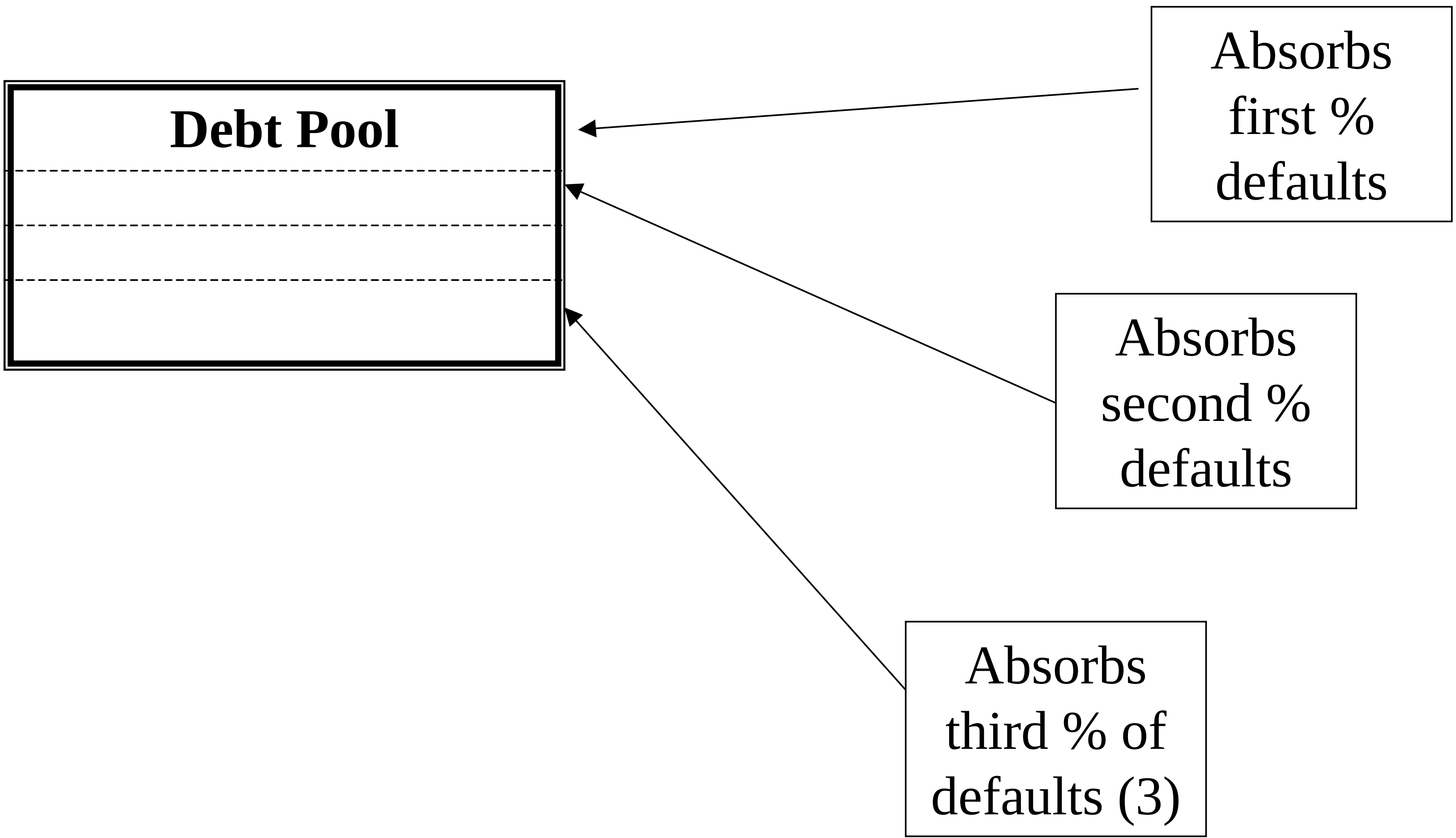
- Countries: Russia, Argentina, etc.
- Corporations: Enron, Worldcom, etc.
- Retail: car loans, mortgages, credit cards, etc.

Up until recently, credit exposures could only be managed through diversification.

Today, they can be managed through derivatives.

Credit is changing into an insurance concept.

Collateralized Debt Obligation （CDO）



CDO's

Advantages

- They offer uncorrelated sources of returns to other fixed income instruments.
- Different fund pools can give rise to further uncorrelated returns
- You can take sides: buy or sell risks.
- They can be used to diversify geographical exposures, for example.

Disadvantages.

- Highly dependent on correlation amongst the funds.
- Hard to determine market risk exposures.
- Large counterparty baskets lead to valuation difficulties
- Mezzanine tranches are highly dependent on default intensity

CDO's

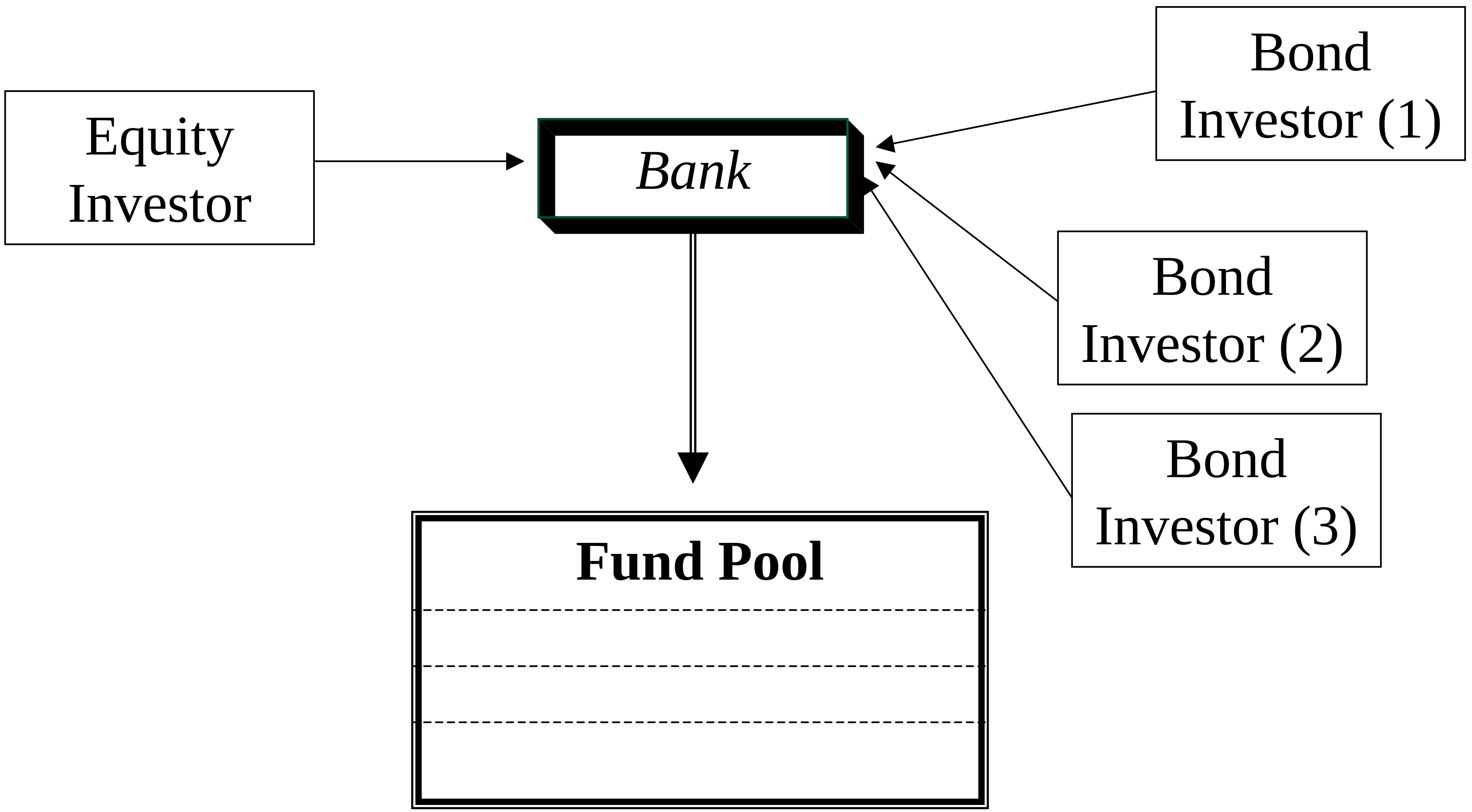
A typical corporate loan CDO offers senior notes, mezzanine debt and equity

Classes		% of Capital Structure	Securities
A	Moody's/S&P rating: Aaa/AAA Coupon: 3-month Libor + 55 bp	81%	Senior notes
B	Moody's/S&P rating: Aa3/AA- Coupon: 3-month Libor + 115 bp	3%	Mezzanine debt
C	Moody's/S&P rating: Baa2/BBB Coupon: 3-month Libor + 300 bp	10%	Mezzanine debt
D	Not rated Not stated	4%	Equity

CEO's and CFO's

- CFO = Collateralized Fund Obligation, much like a CDO, but the underlying pool are hedge fund shares or one or more funds of hedge funds.
- CEO = Collateralized Equity Obligation, the underlying pool consists of a portfolio of individual stocks, preferred stock, stock ETFs, indexes, or equity derivatives.

Collateralized Fund Obligation （CFO）

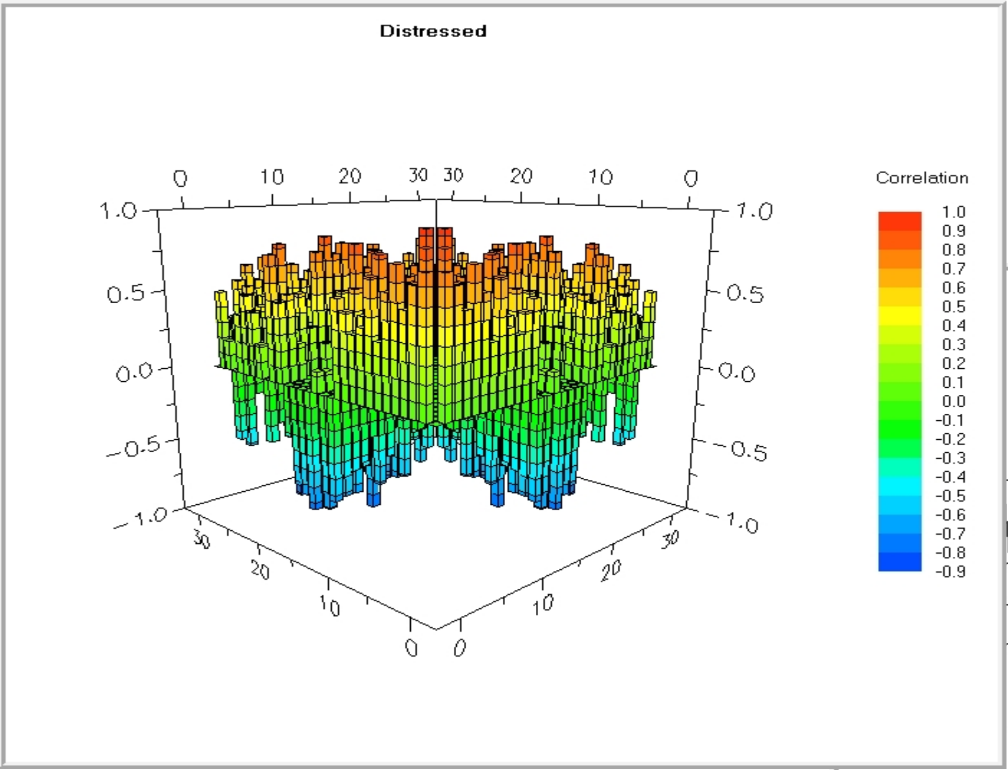


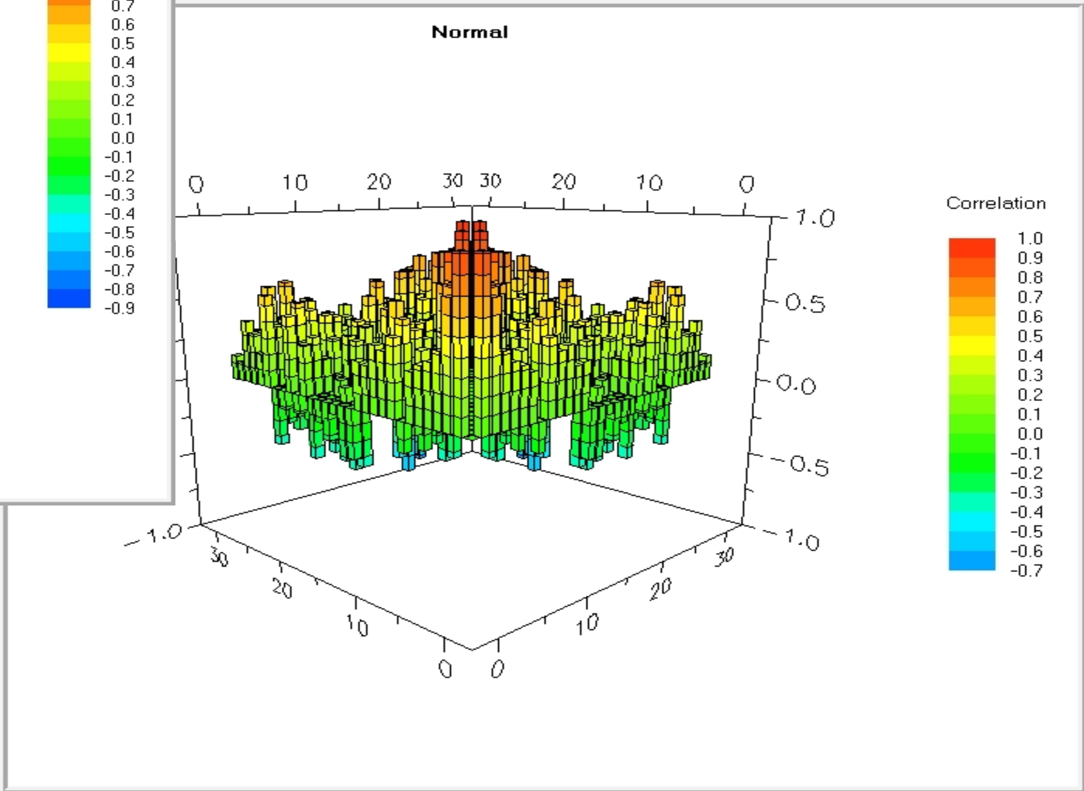
CFO’s

- Advantages
- Equity investors find a way to obtain leverage.
- Debt holders find an uncorrelated asset class to invest in.
- Tranches can be packaged to by volume and credit rating.

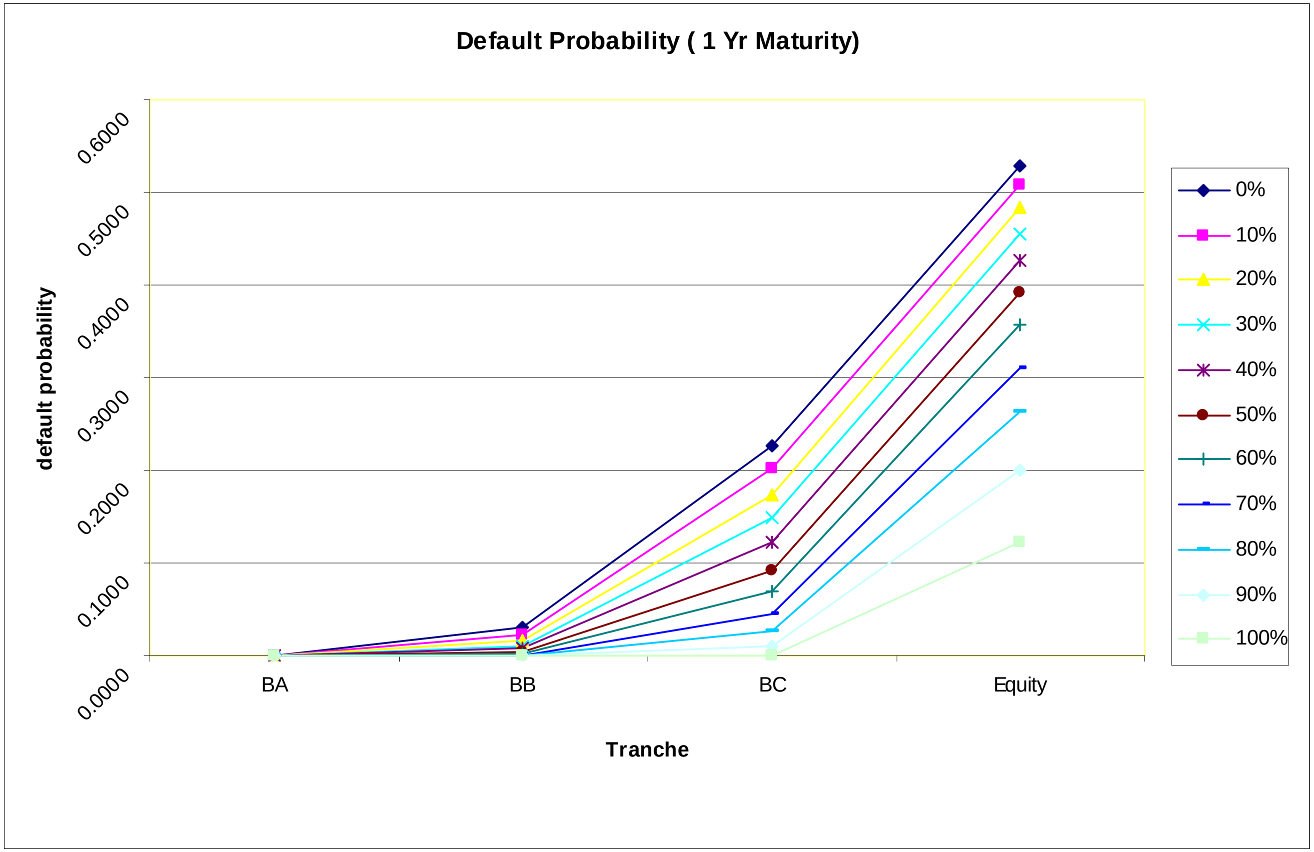
- Disadvantages
- Hard to value
- Very dependent on correlations amongst the funds constituents
- Expensive structuring fees makes it difficult to find the equity investor sometimes.

Risk focus: Correlation breakdown





Correlation breakdown & CXO's



Conclusions

- Credit markets offer both investing opportunities and hedging potential
- Credit structures exist which are very versatile
- Risks exist in two main areas:
  - Price sensitivity to default frequencies
  - Sensitivity to market events
  - Correlation breakdown