Hedge Funds

Some reflections on the Spanish Market

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Hedge Funds and Spain

- Spain is home to one of the world’s largest hedge funds （Vega）
- Hedge Funds have recently been allowed “for-sale”.
- If Spain follows the path of similar countries:
  - Institutional investors will become the primary consumers. They may
    - Custom-design their hedge fund portfolios
    - Buy into existing fund-of-funds （domestic or, most likely, foreign）
    - They may buy into the indexed approach.
  - High-net worth individuals probably have been in them for a long time.
  - The retail market will offer hedge fund products through guaranteed products.
    - Options
    - CPPI
    - CFO

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RiskLab conference 2003

RiskLab conference 2006

RiskLab conference 2004

Guaranteed vs. non-guarantees

- There are two main reasons for a guarantee:
  - Regulatory environments
  - Risk perceptions (not to confuse with risk appetite)

- Guarantees are obtainable by setting aside an interest-earning portion of the assets, and investing the remainder at higher levels of leverage, through a variety of different instruments.

Guarantees, ... and guarantees

- Some guarantees are provided by well-rated banks.
- Others are not (Portus).

We will be assuming a AAA-rated guarantee.

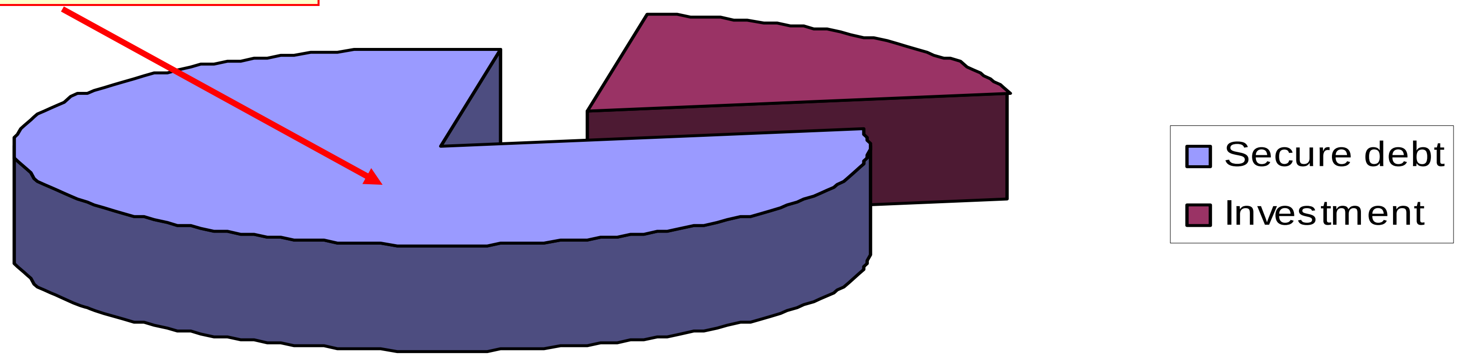
Anatomy of a guarantee

Guarantees principal in the future:

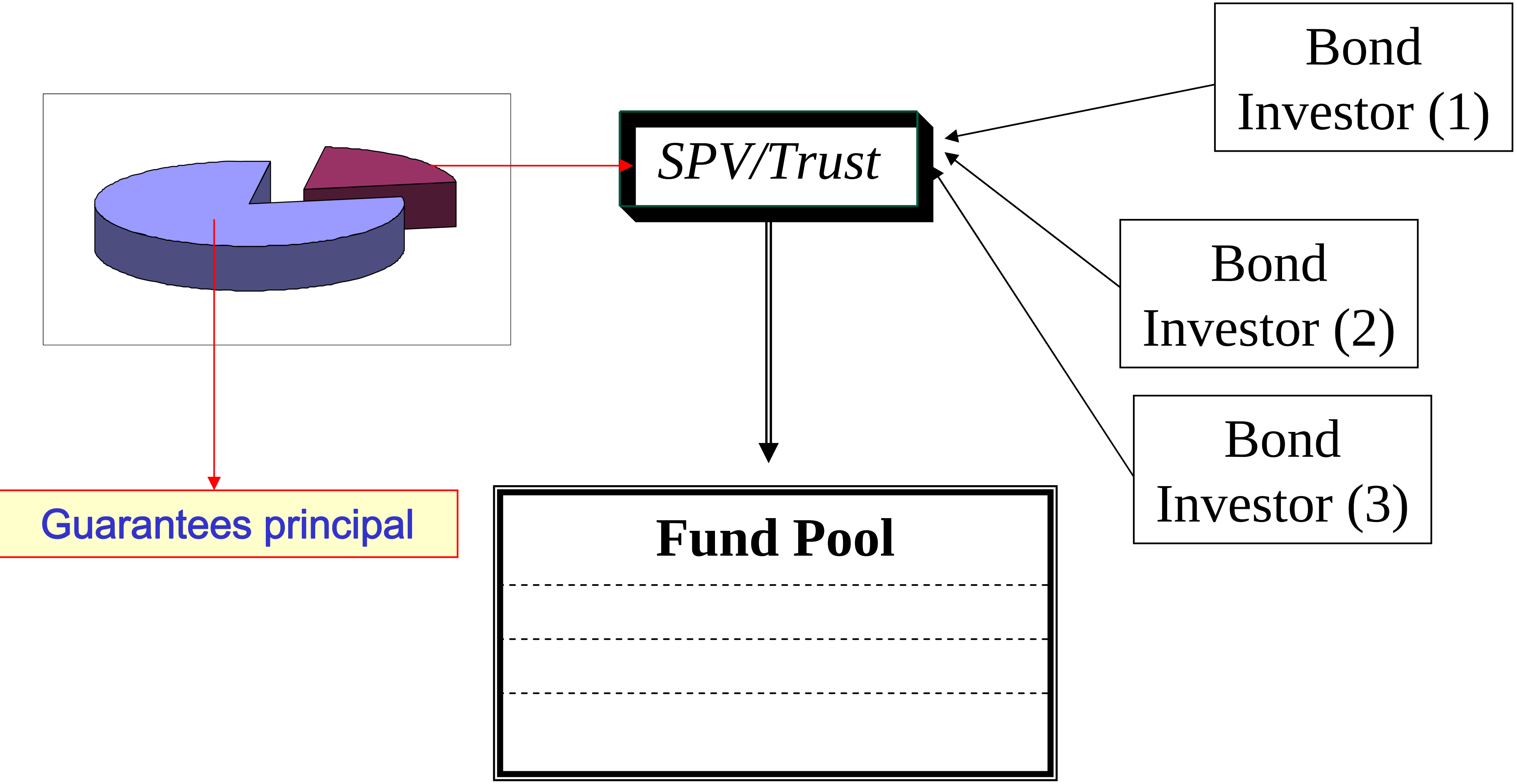
How much is needed is determined by

- Interest rates
- Maturity date of the note

Obtains exposure to the Hedge Funds



CFO's as principal protection



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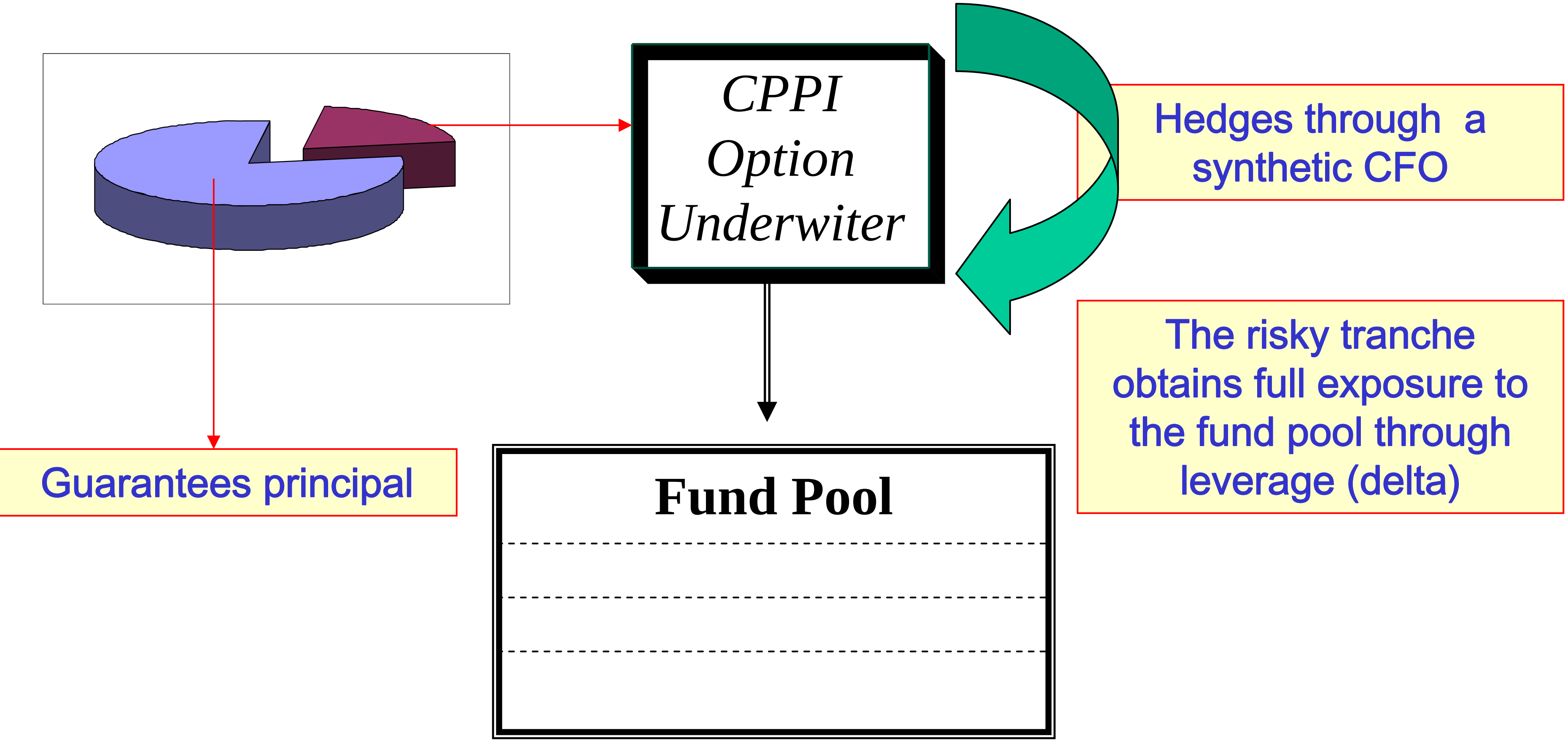


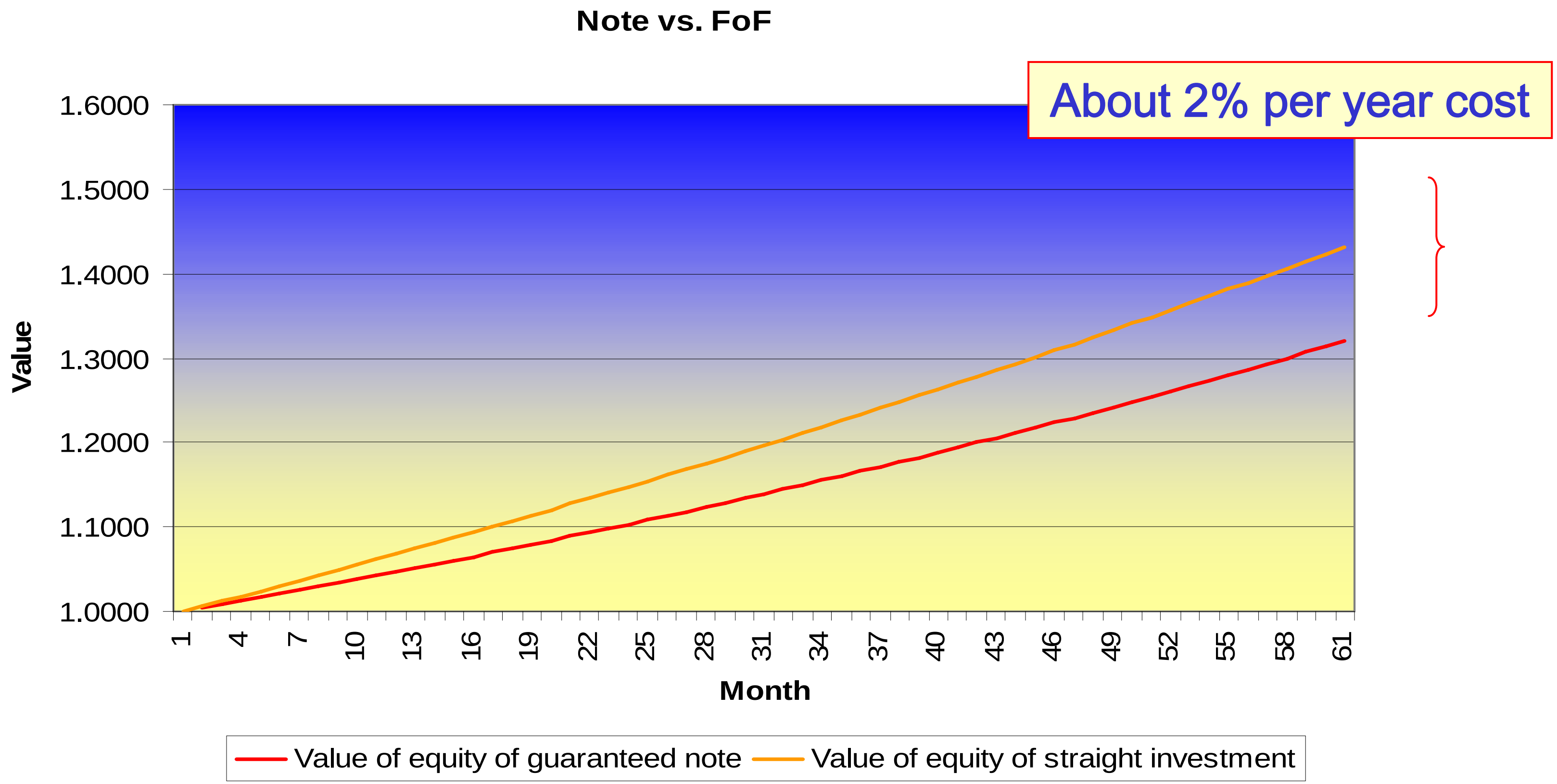
Call Option

- The payoff is not path dependent, or dependent on interest rate evolution.
- They provide a better alternative to the investor, but can be hard to structure for the underwriter: liquidity or a hefty liquidity spread is a must.
- Price is driven by volatility: observed or assumed.

CPPI structures

- The issuer （bank） will change the strike price upward （if the returns of the fund are low, or interest rates increase）, or will change the strike price downward （if returns are high or interest rates decrease）, in such a way to keep the leverage constant.
- Resets of the strike price occur typically on a monthly basis.
- Underlying asset liquidity is key: typical liquidity is monthly or quarterly, but some funds have annual liquidity or worse.

The cost of the guarantee



An underlying hedge fund portfolio that produces 6bps/month

Interest rates at 25bps per month

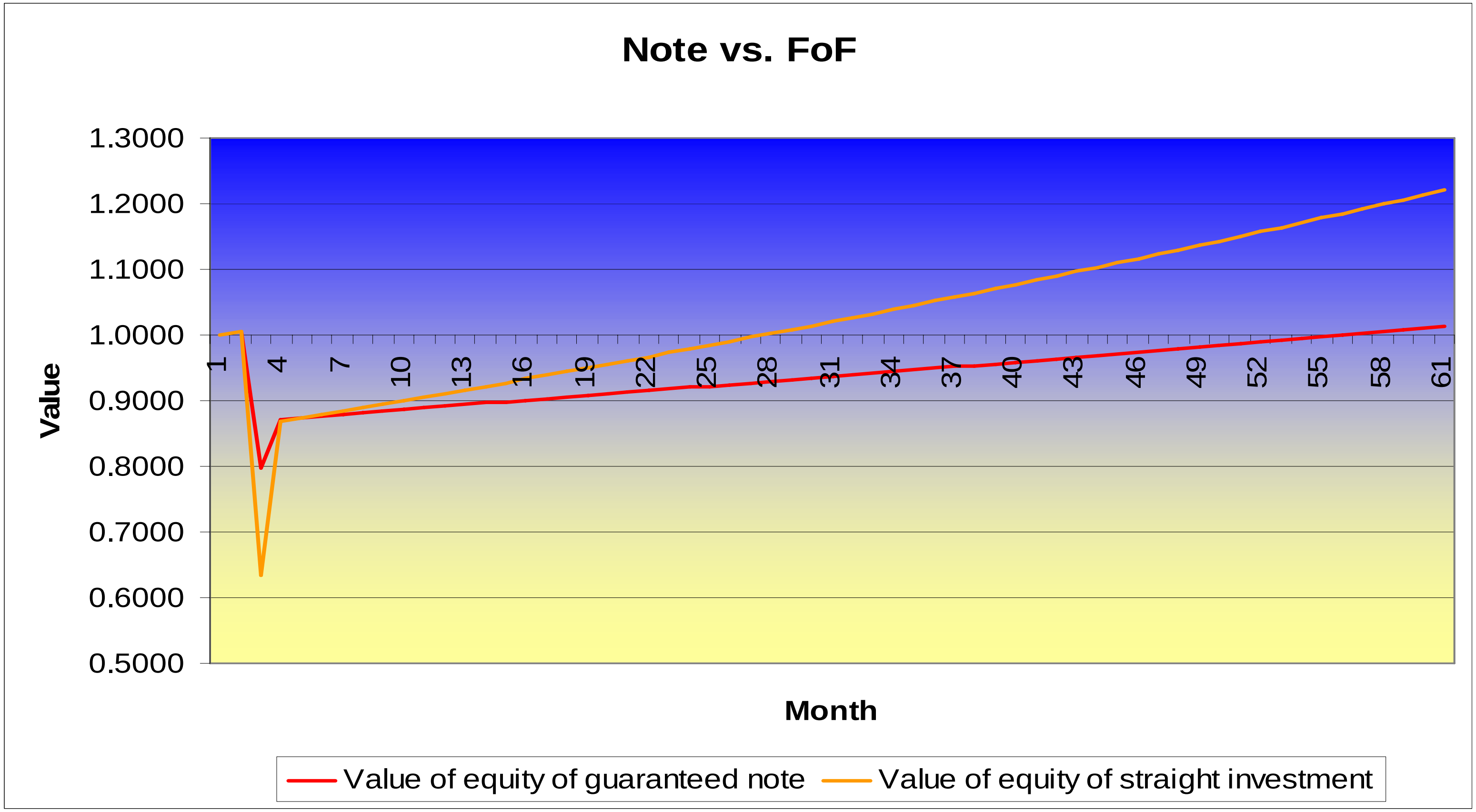
A 5 year note that guarantees principal

No management or performance fees

CPPI: sensitivities

- CPPI improve long terms sustained performance
- CPPI offers very adverse effects when the underlying portfolio exhibits large sudden losses.
- CPPI are designed to sell off assets when losses exceed a certain level （about 5%） making recovery from favorable performance more difficult.

CPPI: vega sensitivity



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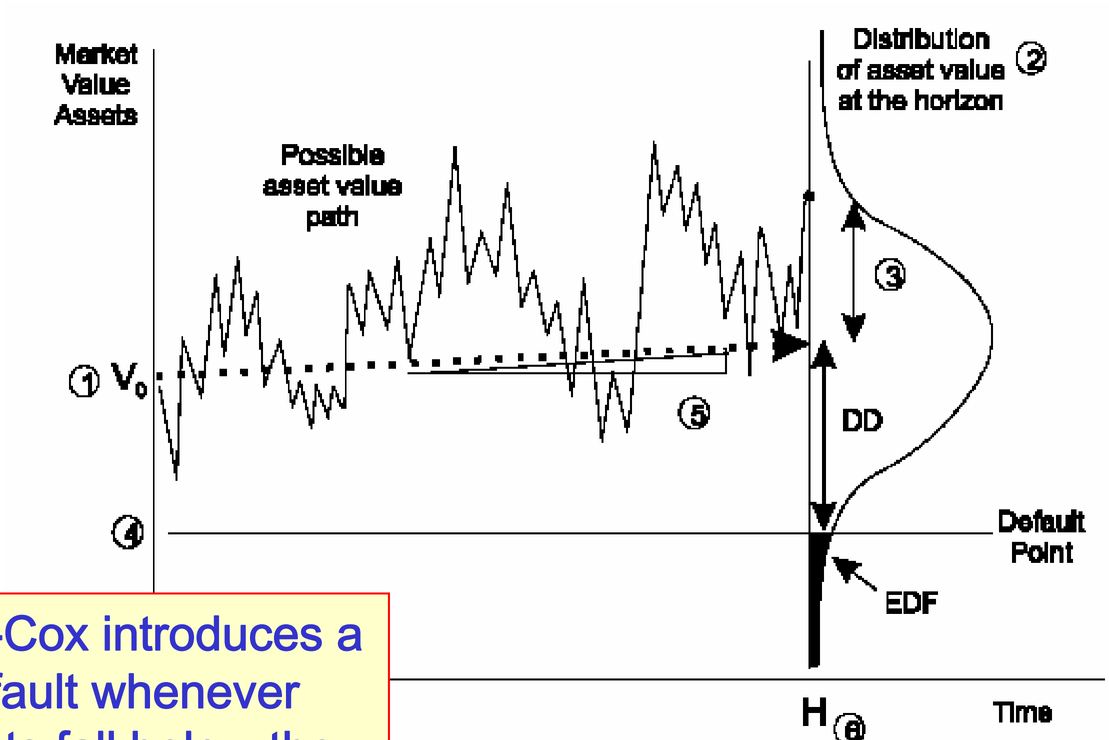
Hedge fund defaults

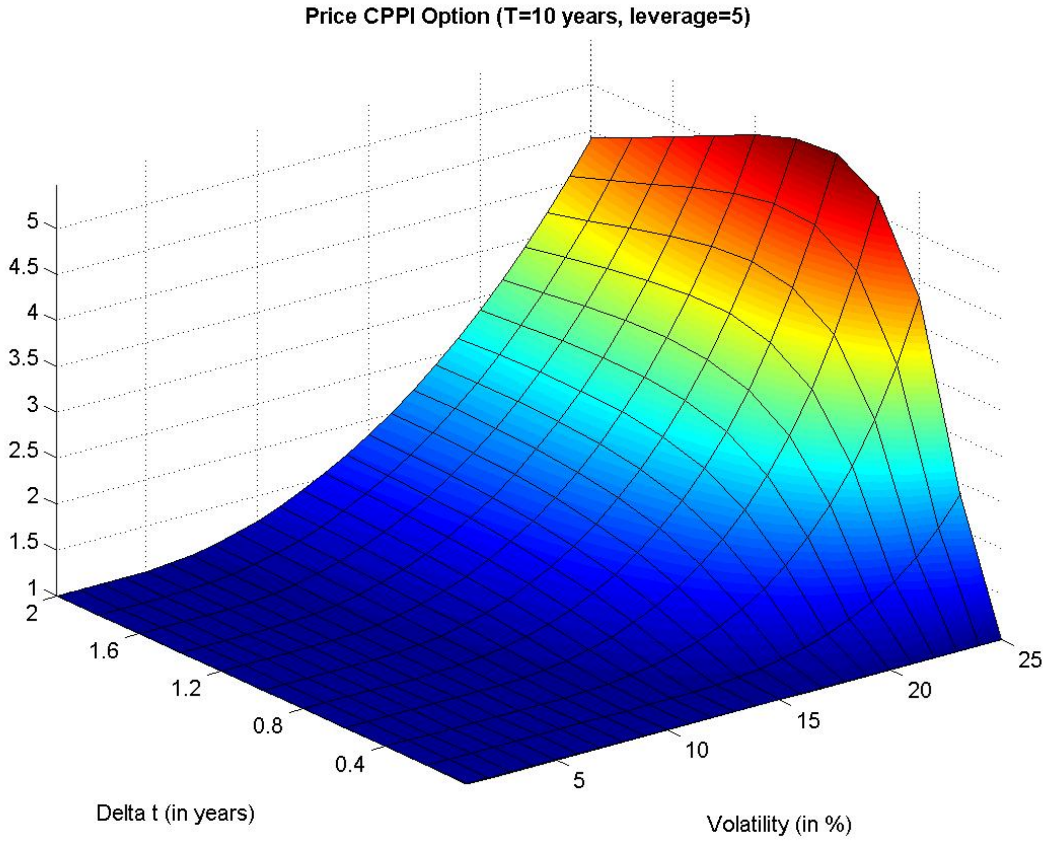
- CPPI structures are also very sensitive to hedge fund defaults.
- HF defaults involve long, complex liquidation proceedings, which can arise because:
  - Fraud （Beacon Hill, CSA Absolut）
  - Legal issues （Market timing: Appalachian fund）
  - Suspension of Redemptions （Norshield, 2005）
  - Large losses （Amaranth 2006）
- Recovery rates are often around 50% of the fund's assets.

The Merton model of default



Black-Cox introduces a default whenever Assets fall below the point of default.

Liquidity premium for CPPI options



Joint work with

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- Buckley, Saunders (Fund of funds).
- Escobar, Kiechle, Zagst (CPPI).