DERIVATIVES
CREDIT PRODUCTS
COMPLEX FINANCIAL INSTRUMENTS

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Run up - bubble

- Originate and distribute banking model
- “Credit products” CDO, CDS, repo, swaps,...
  - CDS volume doubled every year (from 2002 onwards)
  - Spreads narrowed – “searching for yield”
  - Properties
    - Implicit leverage and maturity mismatch
    - “De-facto” seniority due to close-out provisions

Credit bubble ➔ house price bubble

  - Ride the bubble - “dance as long as the music plays”
    - due to synchronization risk – risky to go against it “alone”

Risk builds up and materializes late when crisis erupts
CDS from 2002 - 2007

Credit Default Swap Market Size (Notional Value)

Source: ISDA Market Survey
Overview

- Risk build-up phase
- Crisis phase

Credit bubble
Amplification

hubris
externalities

“endogenous risk”

1. Liquidity spirals + fire-sale externality
2. Network externalities
3. Runs
1. Liquidity spirals & fire-sale externality

- Loss spiral
  - Mark-to-market

- Margin/haircut spiral
  - Rollover risk
  - Reduce leverage

- Fire-sale externality
  - Financial stability is a public good
    - Selling hurts others since it also depresses their price

**Lesson:** Leverage + maturity mismatch is excessive
2. Network externalities

- Domino effect

- **Aim:** reduce counterparty credit risk
2. Network externalities

- Domino effect

- **Aim:** reduce counterparty credit risk
- Simplify network with
  - Clearing house

I-Bank A

P-Equity Fund

Hedge Fund

C

fixed floating

everything nets
2. Network externalities

- Domino effect

- **Aim:** reduce counterparty credit risk

- Simplify network with
  - Clearing house
  - OTC: novation/close-out netting/compression trades
2. Network externalities

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- **Aim:** reduce counterparty credit risk

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  - OTC: novation/close-out netting/compression trades
  
  credit products: no “automatic stay” in bankruptcy
3. Run externalities

- Special privileges for credit products
  - Reduces domino (knock-on) effects, *but*
  - undermines bankruptcy code

- Runs - get funds/collateral out before others
  - “collateral run” by hiking margins/haircuts
    - Not worried about survival, since secured by collateral
      “destruction of franchise value”
    - Seize and sell collateral before others *depress price*
      (QFCs only apply to commercial banks)
  - Collateral requirements were one-sided!
    - I-banks received (from HF) but did not put up collateral
Two extra questions

1. Did emergence of CDS burst the bubble?
   - No direct channel
     - Investors sell derivatives – others buy (net = 0, adding up constraint)
     - Drives derivatives price down = spreads up
     - As long as underlying (house, Greek bond) is not shorted ⇒ no impact
   - Indirect channel  - requires adverse feedback loop
     1. CDS spread increase leads to rating downgrade, investors require higher return
     2. CDS aggregates info and raises concerns of naïve buyers

2. Did CDS amplify the fallout?
   - Yes, because of uncertainty (endogenous risk) due to market structure
Privileges for “credit securities” played crucial role in
- Run up and credit bubble correction occurs too late
- Amplification in downturn

Liquidity spirals
- margins/haircuts → delevering → large price movements

Network
- Privileges: implicit priority, short-maturity
- Aim: isolate players to reduce domino effects ... but

Run on individual institutions is more likely since
- privileges undermine bankruptcy code
- collateral requirements are one-sided (except for tri-party)
- amplified by liquidity spirals