From OTCs to Exchanges

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Regulation post Crisis

- OTC derivatives blamed for increasing systemic risk
- Regulation towards more transparency, higher capital requirements for uncleared trades, better risk management (CCP).
- "Self-regulation": e.g., commitment by dealers to increase central clearing (eg, ISDA)

Antitrust: Recent Cases

- Merger (Deutsche Börse/Eurex & NYSE Euronext/LIFFE)
- Refusal to supply (Markit)
- Cartel (Dealers CDS)

Emphasis today

- Competition and innovation:
  - Ambiguous relationship; case of clearing and CCPs
- OTC vs exchanges
  - Static vs dynamic efficiency: innovation may require slow transition to exchanges, even for mature products.

Competition in Finance: Some Lessons from Banking

(1) Investing in Relationships

- Peterson & Rajan QJE 1995
  - Young firms obtain substantially lower loan rates in more concentrated markets (+150 basis points if HHI +0.10)
  - Access to credit easier (but small effect) with more concentration.

(2) Information Quality

- Panetta, Schivardi & Shum, 2004
  - Ratio (bank credit rating)/(interest rate) steeper after bank mergers
  - High risk get higher rate, low risk get lower rate (merged firms have better evaluation of risk)
  - Effect stronger for out-of-market (better informational benefit)

OTCs and Exchanges

Is more competition always better?

OTC: bilateral

Contract =
{premium B->S, payments S->B if "events"; collateral}

Counterparty risk: seller cannot pay if event arises?

OTC Derivatives

- Bilateral trade; inter-dealer agreements
- Counterparty risk (default) and importance of clearing via CCP
- Tailored contracts for specific risks that cannot be actively traded.
- Fosters innovation (new derivatives) and hedging.

Exchanges

- "Vanilla" CDS (standardized)
- Counterparty risk borne by "market makers"
- Transparency
- Liquidity (low search costs)

Conditions for a Successful Exchange

- Governance: who owns the exchange? Profit making or user organized?
- Clearing: owned by exchange ("silo") or licensed ?
- Guaranteed fund: joint liability of members
- Ability to calculate in a transparent way the margins and prices.
- Liquidity (membership, users).

Competition

Exchange vs Exchange

- Network effects; membership (vs usage) important. Liquidity tends to stay where it is (switching costs)
- Plenty of failures (eg, EUREX, LIFFE)
- Rare instances of tipping (DTB vs LIFFE)
- Some evidence that heterogeneity among traders matter for membership and market dynamics.

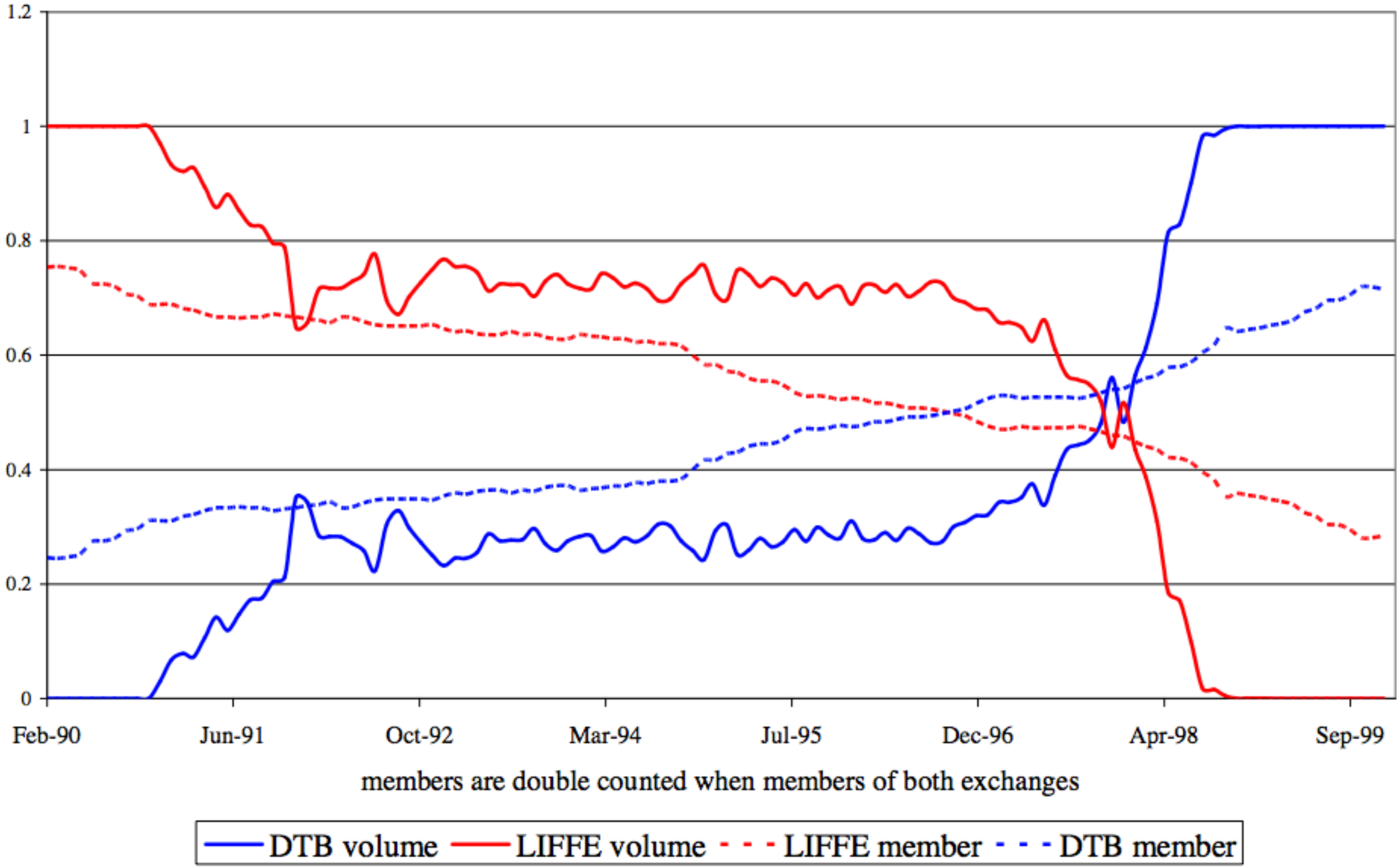
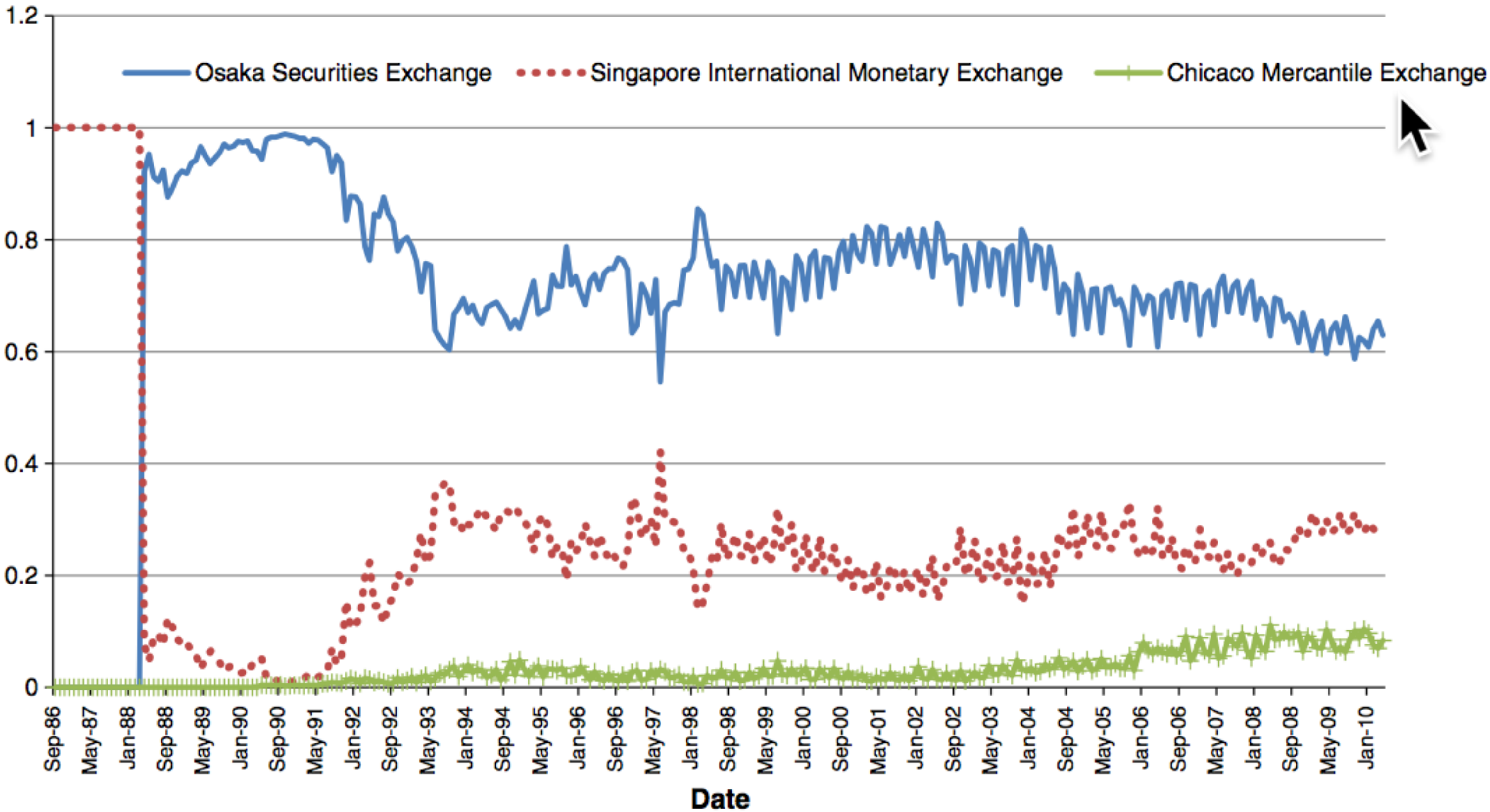


Figure 1: Market share of members and of Bund trading volume

An example of tipping (graph from Cantillon & Yin 2008)



Source: Thomson Reuters Datastream. In order to match units, SIMEX volumes were halved to reflect the smaller size of SIMEX Nikkei 225 futures contracts (500 yen * index) relative to OSE (1000 yen * index). The CME contracts were the same size as SIMEX contracts and were adjusted accordingly. The US-denominated Nikkei 225 futures contracts (US$5 * index) were converted to yen based on monthly average exchange rates from Datastream and then converted accordingly to OSE equivalents. On July 18, 2006, OSE introduced the Mini Nikkei 225 future (100yen * index), so these volumes were divided by 10 and then added to the standard OSE Nikkei 225 futures volume to determine OSE Nikkei 225 futures volumes. In November, 2006, SGX added a US dollar -denominated Nikkei 225 future equivalent to the CME version. In January 1, 2008, SGX added a Mini Nikkei 225 future of the same size as the OSE Mini Nikkei 225 future. These contract volumes were adjusted and added accordingly to exchange volumes for Nikkei 225 futures trading.

Succesful entry and long term coexistence (graph from Cantillon & Yin 2011)

Exchange vs OTC

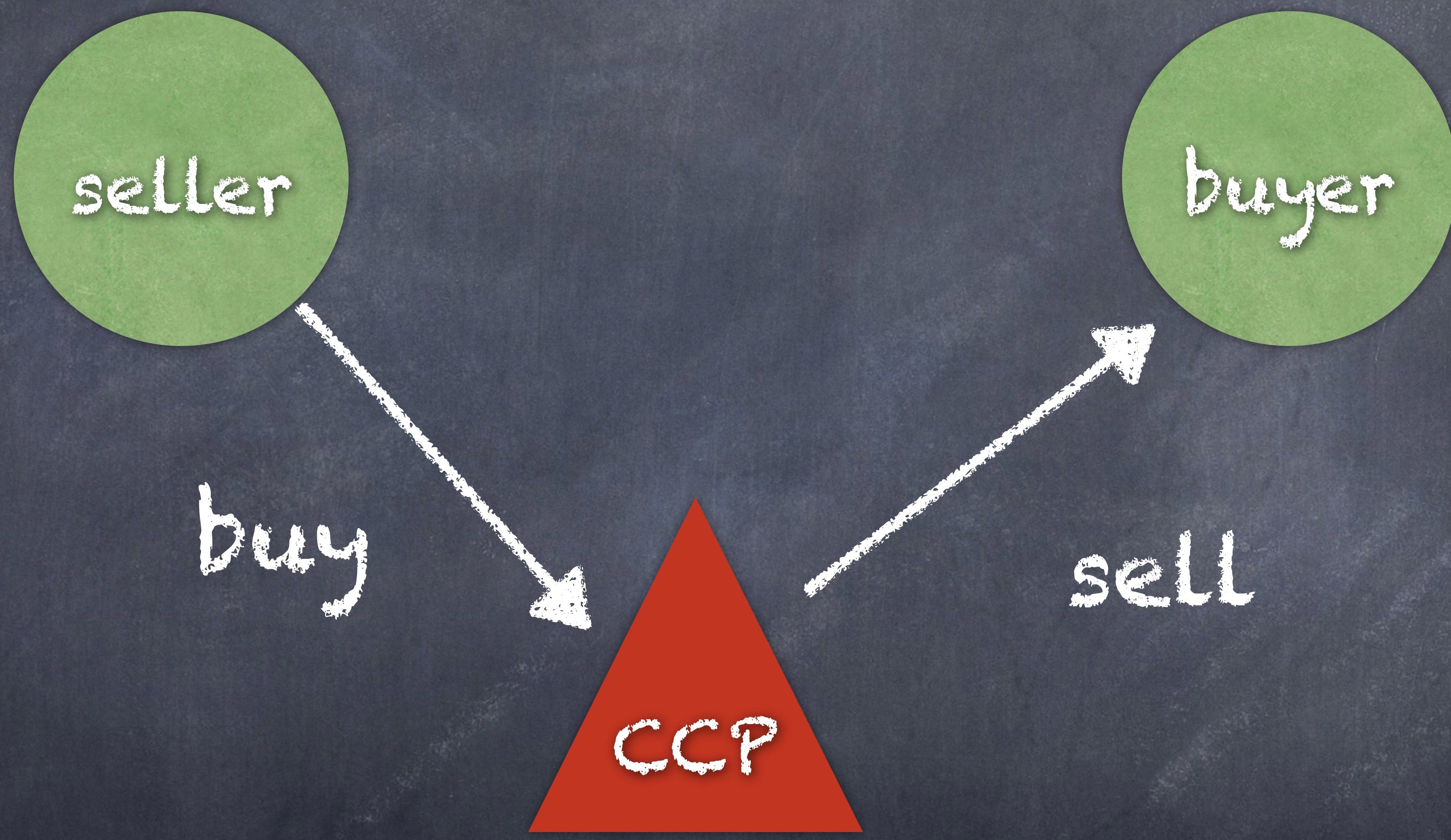
- Profit rationale for OTC dealers to be reluctant to move to exchange for "vanilla" CDS.
- Antitrust: how much can be inferred from unsuccessful exchanges?
- If displacing existing exchanges is difficult, why would displacing OTC be easy, even with unilateral conduct?

History: Design and Environment matter

- Caskey (2004)
  - Philadelphia Stock Exchange able to survive despite larger NYSE and attract discount brockers (innovation: automated routing in 75, & membership restrictions at NYSE).
- Biais & Green (2007)
  - Municipal and corporate bonds left (40s) NYSE for OTCs following the raise in institutional (funds) trading for these securities.

Clearing and Competition

Derivatives: clearing



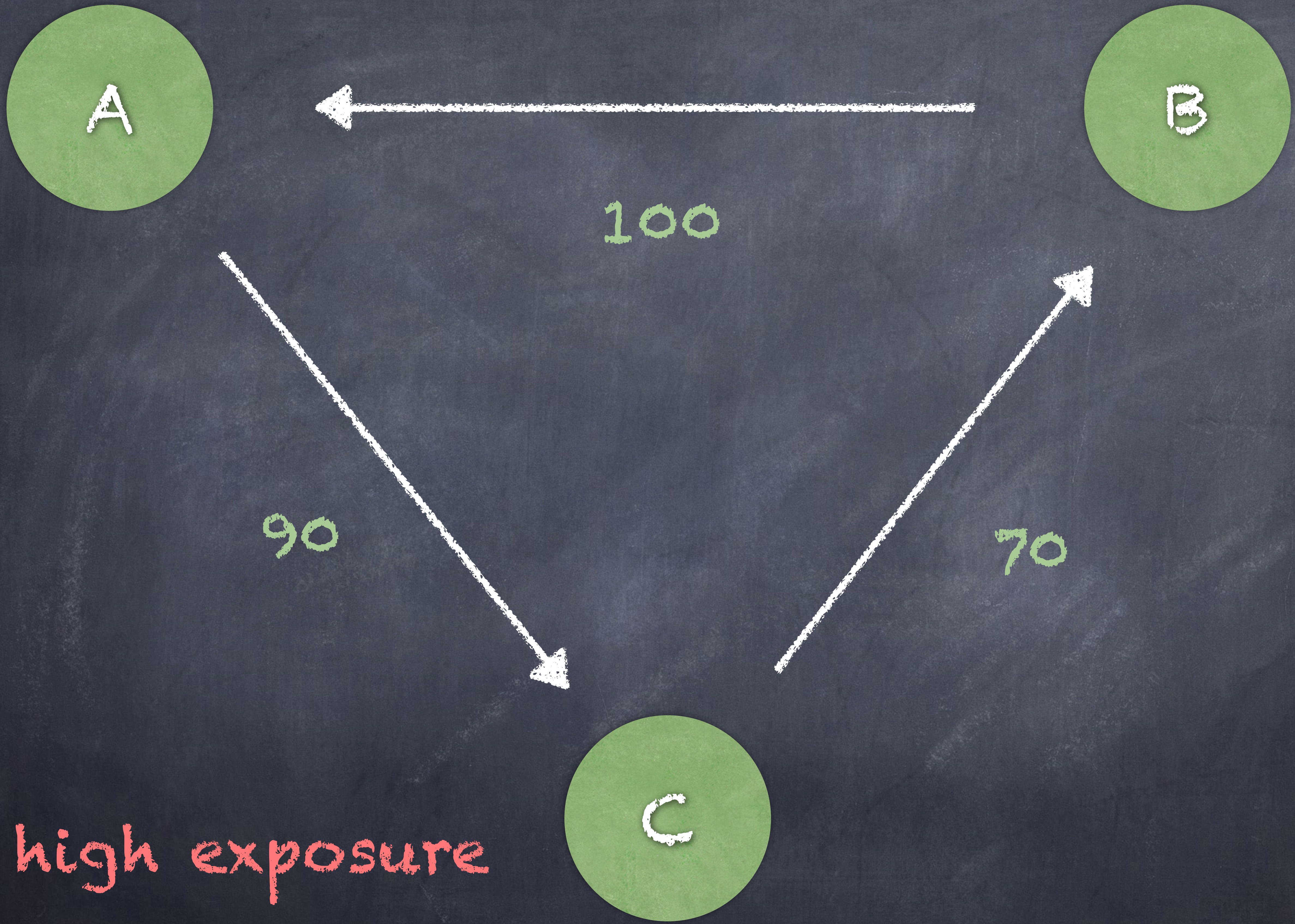
CCP bears the counterpart risk

Successful CCPs

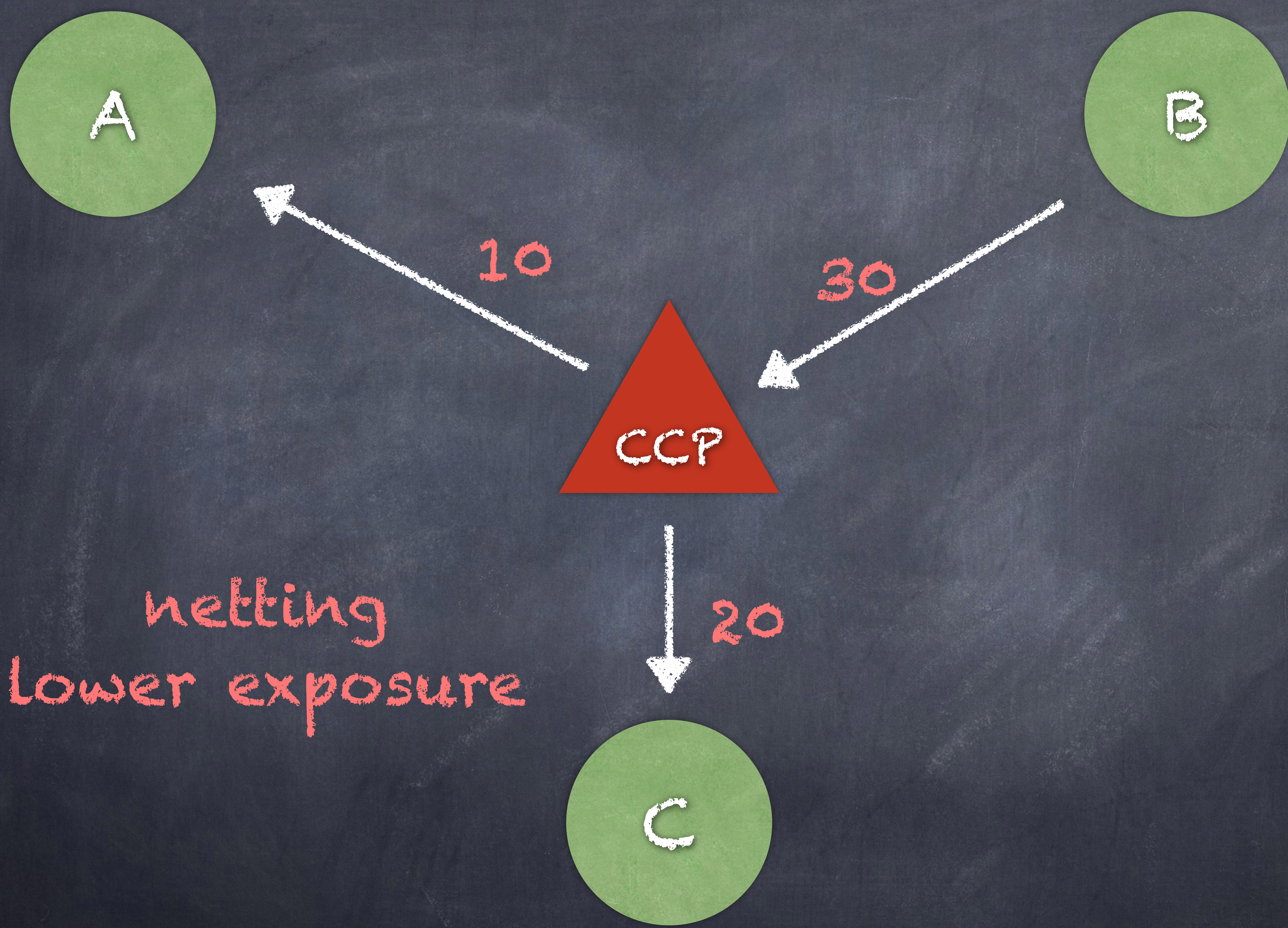
- Membership ("direct" vs "indirect" clearing participants)
- Risk management and margining (initial, following events); regulation
- Large financial resources
  - contributions of members, guarantee fund
- ... Very much like a partnership ...

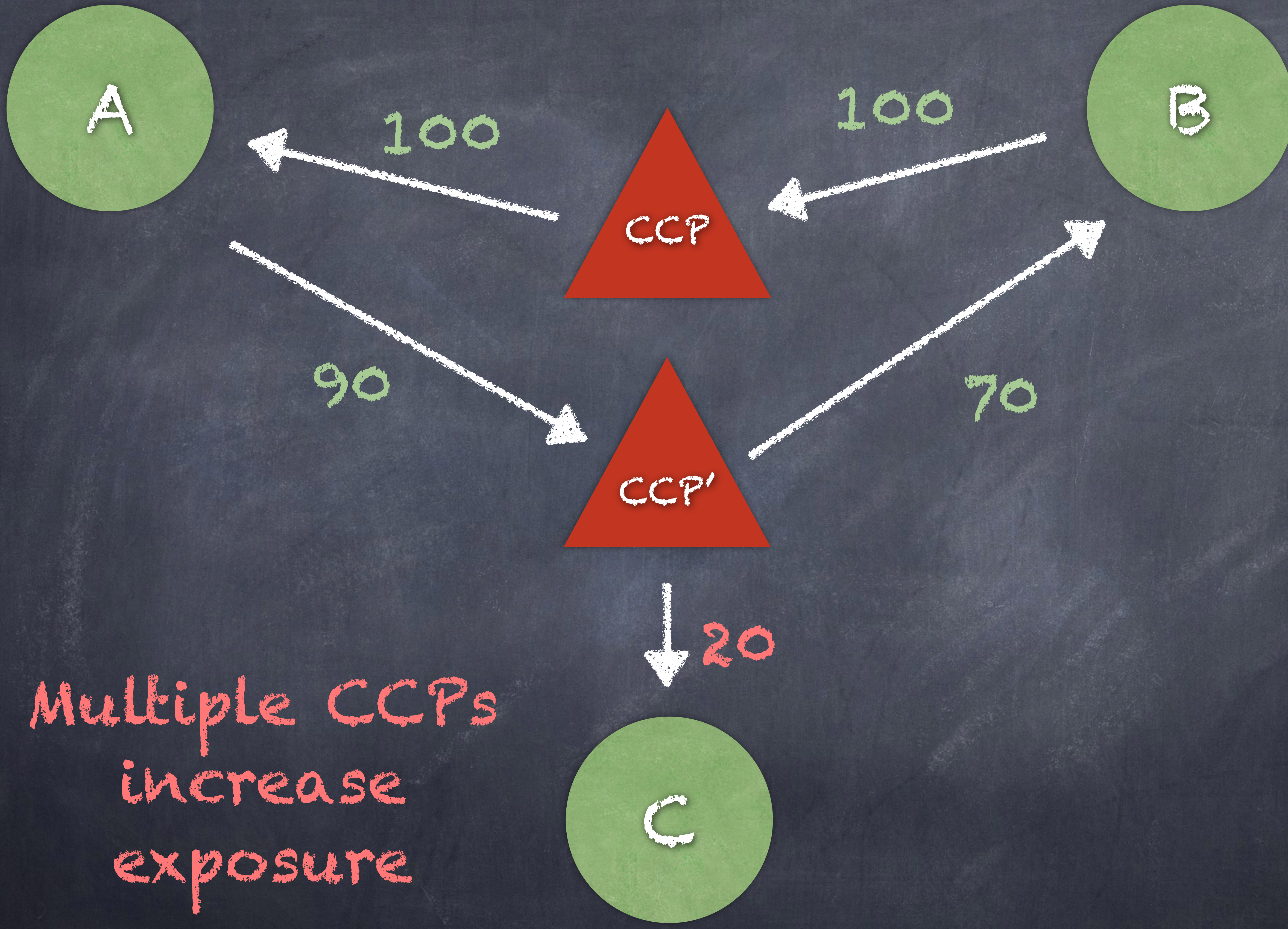
Competing CCPs

- May increase counterpart risk exposure
- Too much specialization (different CCPs for different derivatives) increases counterparty exposure
- cf Duffie & Zhu (R. Asset Pricing Issues, 2011)

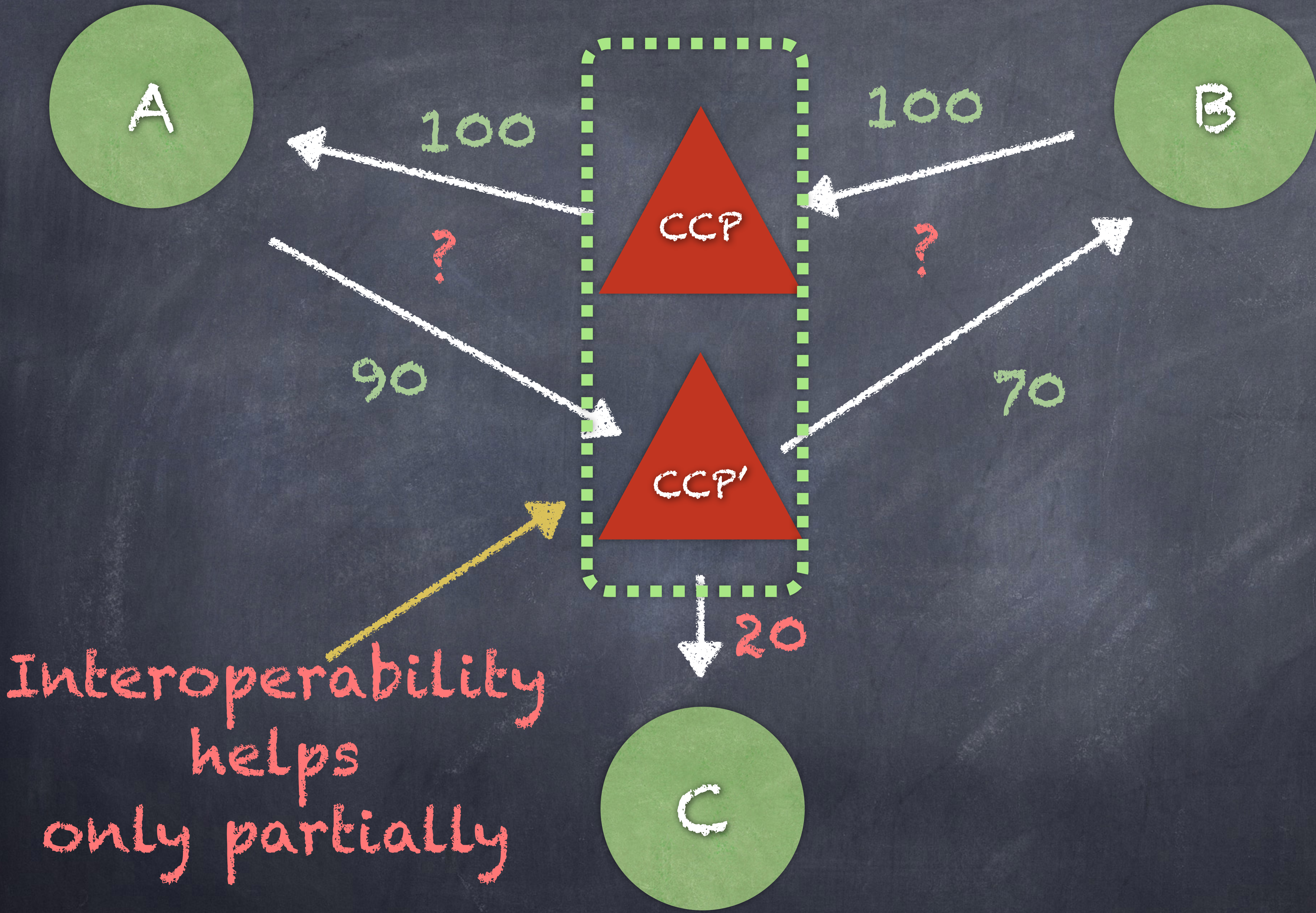


high exposure


A
B
10
30
CCP
20
netting
lower exposure
C



Multiple CCPs increase exposure


A
B
C
CCP
CCP'
100
100
?
?
90
70
20
Interoperability
helps
only partially

Conclusion

- Relationship competition/static/dynamic efficiencies complex.
- Market design (microstructure) affects tradeoffs information quality/reputation/liquidity/hedging.
- Lack of (out of the box) theoretical model.
- Antitrust effects complex to identify. E.g., what can be inferred (in terms of conduct) from the lack of success of competing alternatives to OTCs ?