

THE FAILURE OF A CLEARINGHOUSE: EMPIRICAL EVIDENCE

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FIRS. June 6, 2017

Motivation: Aftermath of GFC

- Bilateral clearing is undesirable due to lack of transparency and adequate risk management
- CCPs are more transparent and makes systemic risk assessment easier
- Consensus around mandating CCP clearing for large classes of derivatives (2009 G20 meeting)
- This paper: What is the CCP fails?

Main contributions

- First empirical study of a CCP failure (CLAM in Paris, 1974). Great data effort (archives, broker individual positions,...)
- Clever and clean identification of the role of risk management distortion incentives

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ANALYTICAL FRAMEWORK

1– Due to novation, a CCP operates a matched book (e.g., Duffie 2015).

- *Absent members' defaults*, the CCP is indifferent about (i) execution prices and (ii) distribution of margin calls across investors

2– *Absent moral hazard*, the CCP mutualizes more idiosyncratic default risk and can lead to efficient risk management through margins (e.g., Biais et al. 2016)

3– Near default, the CCP *may favor members in distress* due to convexity in the equity value function (similar to risk-shifting, e.g., Jensen and Meckling, 1976)

4– With moral hazard, the CCP may lower standards *even far from distress* (Biais et al 2012)

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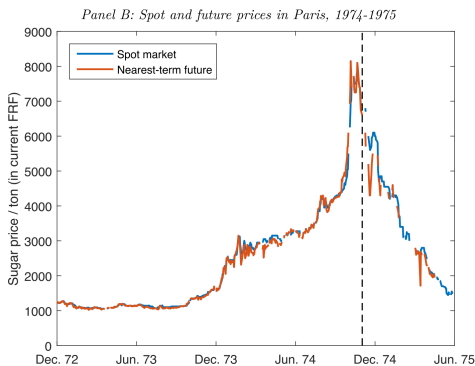
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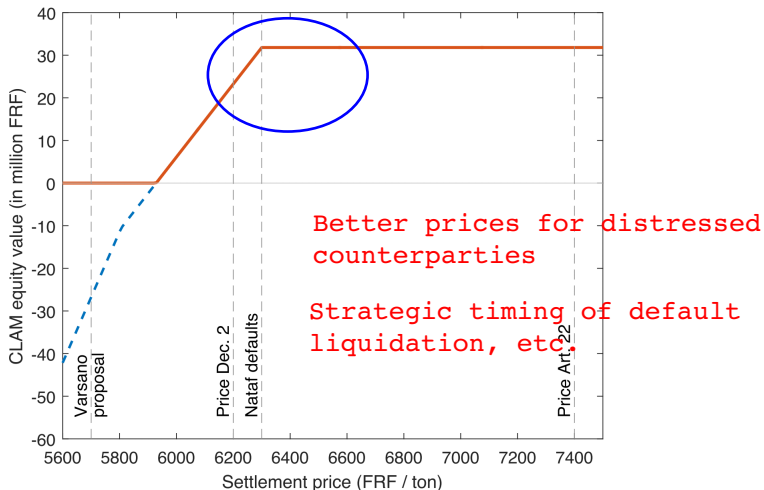
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OVERVIEW OF MAIN RESULTS

- 1 No evidence of moral-hazard induced distortions (“boom phase”)
- 2 Evidence of risk-shifting near distress (“doom phase”)



COMMENTS: RISK MANAGEMENT NEAR DEFAULT



RISK MANAGEMENT AWAY FROM DISTRESS

- Initial margin (IM)/ Nearest-term Price \approx 10% until failure. More challenging to interpret these as “appropriate risk management.”
- **Relative terms:** Same price reactions in London and New York did not lead to important defaults or CCP failure (even with lower IM)
- **CLAM specific risk-management**
 - Main difference was role of retail investors (tax incentives)
 - IM were not reflecting member-specific risks. Same abroad? Intuitively: want to set higher IM for retail than hedgers
 - Role of brokers? Useful to elaborate on French brokers' relation with clients. Appropriate monitoring incentives?
 - Portfolio margining? (e.g., CME's SPAN 1988)
 - IM relies on empirical distribution of asset prices \Rightarrow Issues with tail risk (prices increased 6X rapidly)
- Better system was infeasible? or moral hazard prevented more effort?

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EXTRAPOLATING THE RESULT...

Moral hazard is arguably higher now. Agree!

- Bigger CCPs (mandatory central clearing)
- CCPs are likely “too big to fail” or Systemically Important Financial Institutions)
- Recent history: large bailouts since LTCM

But additional systems in place to avoid CCP default (default waterfalls, mutualization of losses, efficient renegotiation, arguably tighter monitoring from regulators...)

COMMENTS: ROLE OF COMPETITION

- CLAM was a monopolist
- Trade-offs one vs. multiple clearinghouses: risk mutualisation vs. risk management standards
- Useful intuition from Santos Scheinkman (2001)
 - Competition leads to better standards when credit quality is observable
 - Monopolist's fees induce traders to take smaller positions \Rightarrow The ex post incentives to default are lower, allows the monopolist to economize collateral
 - Competition may lead to better standards than monopoly even under private information
- Additional benefit of competition: experimenting with innovative risk management schemes

FINAL THOUGHTS AND BEYOND

- **Important contribution** on timely issues
 - Clear identification of perverse CCP incentives near distress
 - Highlights the unintended consequences of regulations
- **Additional open questions for research**
 - Optimal CCP governance. Default waterfalls.
 - Does failure affect volatility/volume of commodity producer stocks? (Menkveld Pagnotta Zoican 2015)
 - Blockchains: Exciting to observe how clearing and settlements integrate around new developments
 - Decentralized ledgers more robust to external attacks
 - Shorter settlement times for some assets
 - Interaction with more sophisticated settlement contracts?
 - Cross-border regulations?
- How much systemic risk? Still lot to learn about the socially optimal scheme