Impact of Regulations on Derivatives Markets

Good and Bad Unintended Consequences

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Based on joint work with Leif Andersen, Arvind Krishnamurthy, and Yang Song

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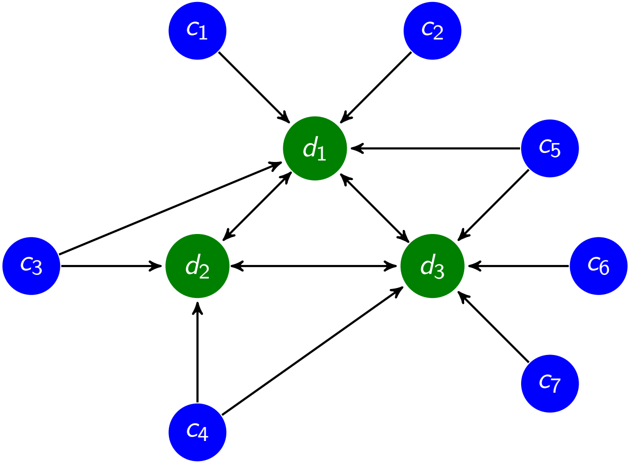
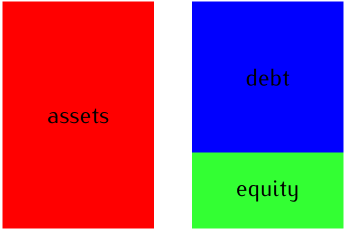
Dealer capital structure matters for OTC market liquidity and pricing



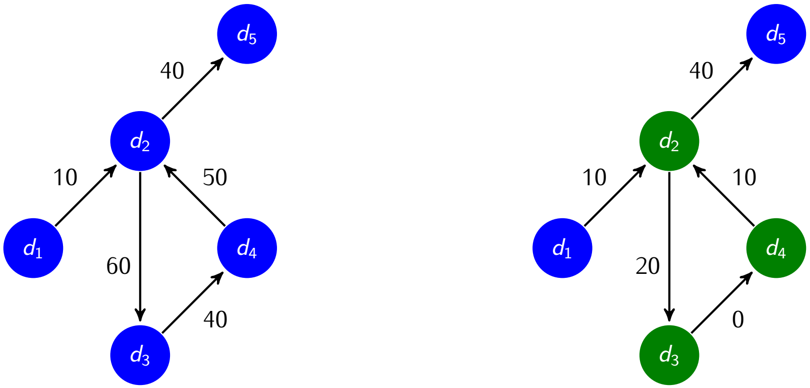
Space on dealer balance sheets is more expensive



Example regulatory consequences

- More agency-based intermediation, lower turnover, and fewer block trades.
- New trade protocols and market infrastructure.
- Shifting intermediation franchises to better capitalized dealers.
- Some pricing and allocative distortions, especially under the leverage-ratio rule.

Approaching One Quadrillion in Swap Compression

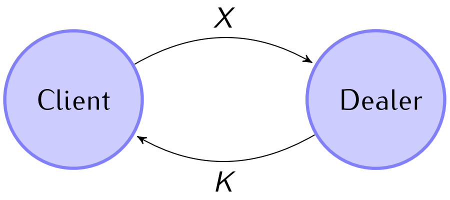


Funding value adjustments of swap dealers

	Amount (millions)	Date Disclosed
Bank of America Merrill Lynch	$497	Q4 2014
Morgan Stanley	$468	Q4 2014
Citi	$474	Q4 2014
HSBC	$263	Q4 2014
Royal Bank of Canada	C$105	Q4 2014
UBS	Fr267	Q3 2014
Crédit Suisse	Fr279	Q3 2014
BNP Paribas	€166	Q2 2014
Crédit Agricole	€167	Q2 2014
J.P. Morgan Chase	$1,000	Q4 2013
Deutsche Bank	€364	Q4 2012
Royal Bank of Scotland	$475	Q4 2012
Barclays	$101	Q4 2012
Lloyds Banking Group	€143	Q4 2012
Goldman Sachs	Unknown	Q4 2011

Sources: Supplementary notes of quarterly or annual financial disclosures.

Swap Financing Costs



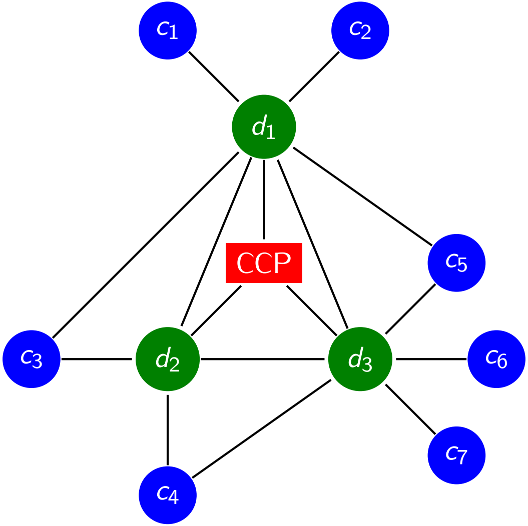
Cash financing needs:

- Upfronts.
- Initial margin, under Dodd-Frank and MiFID.
- Variation margin payments.

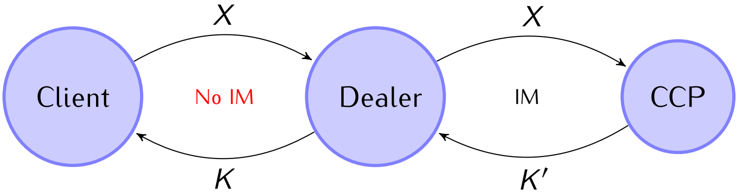
Back-to-Back Swap Trades

Dealers hedge the market risk of client swaps in the inter-dealer market.

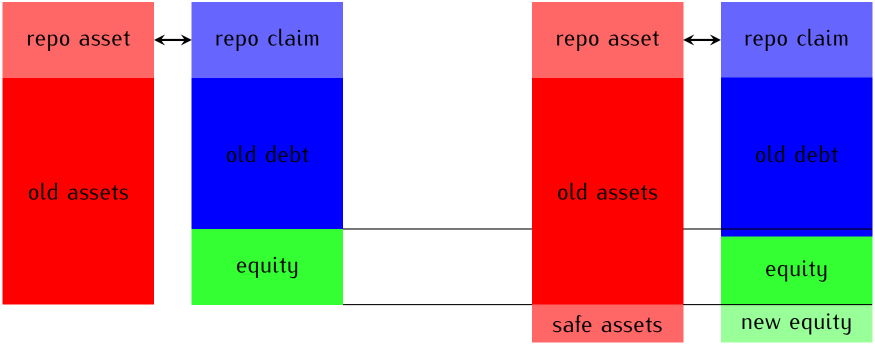
Dealers are required to post margin



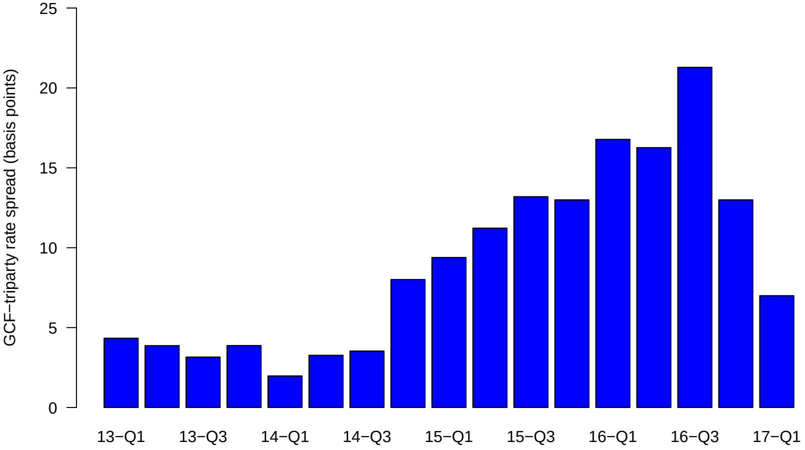
Collateralization



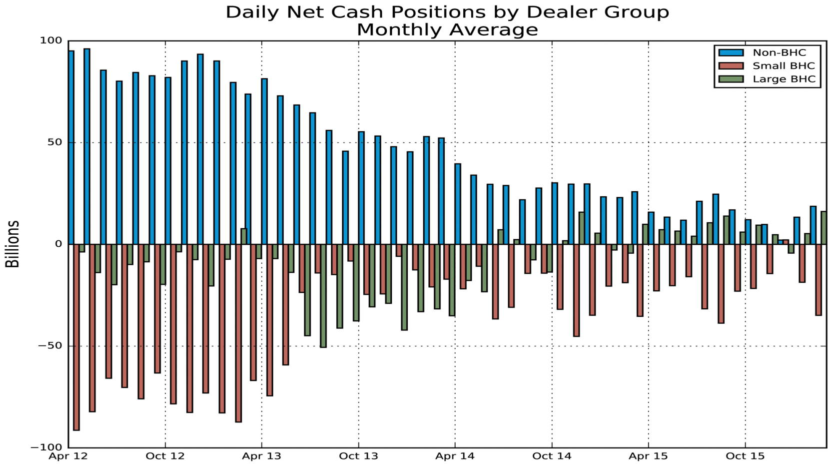
Impact of the leverage-ratio regulation on repo intermediation costs to legacy shareholders



Average overnight repo rate difference
Non-bank dealers versus bank-affiliated dealers

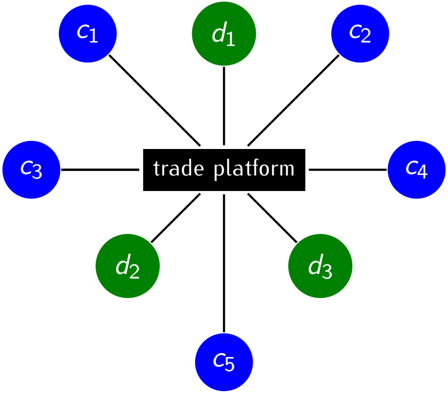


Decline in GCF net lending volume



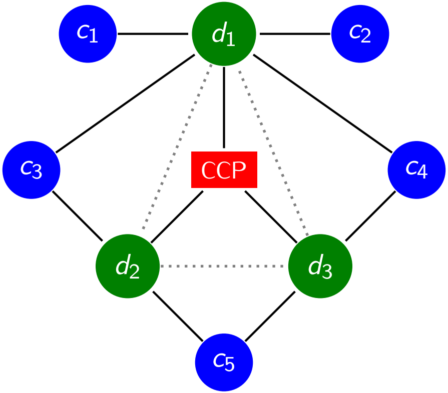
Source: Martin (2016).

Economize on dealer balance-sheet space with all-to-all platforms

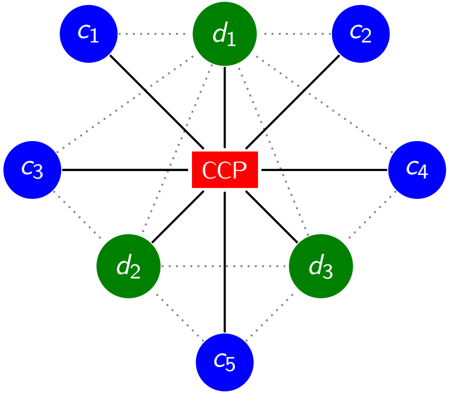


Non-dealers are more able to trade directly with each other. Intermediation of the market requires lighter use of dealer balance sheets.

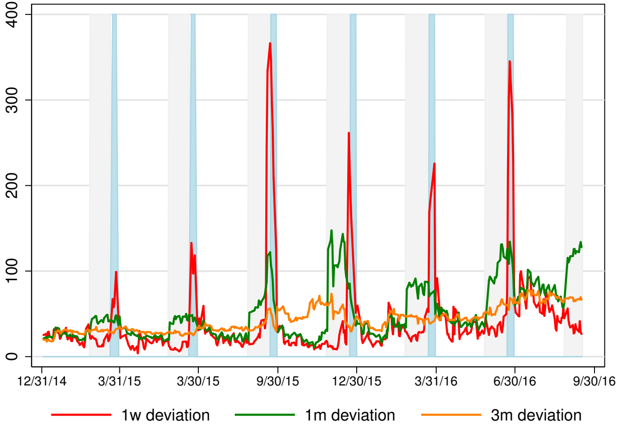
FICC's repo central counterparty is currently restricted to dealers



Buy-side CCP access would economize on dealer balance-sheet space



Covered interest parity violations are even bigger at quarter ends
The USD-JPY CIP basis



Source: Du, Tepper, Verdelhan (2016).