Failure Resolution of Central Counterparties

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a. Reminder of what a CCP does
Central clearing
Central clearing netting benefit
When B Fails, the CCP is short 10
The CCP buys 10 from C to regain balance
b. Background changes in market structure
Daily average volume of interest rate derivatives

![Graph showing daily average volume of interest rate derivatives from 1995 to 2013. The y-axis represents volume in USD billions, ranging from 0 to 1600. The x-axis represents years from 1995 to 2013. The graph compares data from US-OTC, US-EXCH, and UK-OTC sources.]

Data sources. BIS: OTC Triennial (April), U.S. exchanges Table 23A (March).
Number of CDS trades per quarter

Data source: DTCC
Growth of FX Platform Trading Market

Source: Rime and Schrimpf (2014) (BIS data)
c. Recovery and resolution of CCPs.
CCP Default Management Waterfall

Failed member margin and default fund contribution.

CCP capital.

Surviving members default fund contributions.

More CCP capital.

Replenishment contributions to default fund.

Payment to surviving members to accept failed swaps.
Distribution of clearing member ratings

Source: Armakola and Laurent (2015)
<table>
<thead>
<tr>
<th></th>
<th>Initial Margin</th>
<th>Operator Capital</th>
<th>Default Fund</th>
</tr>
</thead>
<tbody>
<tr>
<td>CME Clearing U.S.</td>
<td>133 USD</td>
<td>0.150 USD</td>
<td>2.37 USD</td>
</tr>
<tr>
<td>LCH.Clearnet Ltd.</td>
<td>89 EUR</td>
<td>0.046 EUR</td>
<td>3.62 EUR</td>
</tr>
</tbody>
</table>

Source: Armakola and Laurent (2015)
## CCP skin in the game

<table>
<thead>
<tr>
<th>CCP</th>
<th>Guarantee Fund</th>
<th>Operator Capital</th>
<th>Skin-in-the-game</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCH Swapclear</td>
<td>2487 (EUR)</td>
<td>45 (EUR)</td>
<td>1.27%</td>
</tr>
<tr>
<td>ICE Clear Credit</td>
<td>1834 (USD)</td>
<td>50 (USD)</td>
<td>2.73%</td>
</tr>
<tr>
<td>CME futures</td>
<td>3338 (USD)</td>
<td>100 (USD)</td>
<td>3.00%</td>
</tr>
<tr>
<td>CME (IRS)</td>
<td>2473 (USD)</td>
<td>150 (USD)</td>
<td>6.07%</td>
</tr>
<tr>
<td>Eurex (OTC)</td>
<td>3310 (EUR)</td>
<td>50 (EUR)</td>
<td>1.51%</td>
</tr>
</tbody>
</table>

Source: Albuquerque, Perkins, Rafi (Citibank, RISK, 2015)

Note 1: The authors’ recommended SIGs are 8.1% for IRS, 11.4% for CDS.
Note 2: SGX SIG is now 25%.
In case of insufficient CCP funds

• Possible contractual haircut of variation margin payments.
• Possible contractual tear up of some or all swaps.

END OF CONTRACTUAL DEFAULT MANAGEMENT PROCESS

• Enter CCP failure resolution process.
• Stay contractual termination of swaps.
• Allocate losses.
• Liquidate or recapitalize the CCP.
A partial tear-Up

Failed swaps

Parially torn up long swaps

Shorts

Longs
Key CCP failure risks

• Large default-management losses to clearing members, resulting in contagion.

• Disorderly unwind of CCPs, fire sales.

• Loss of continuity of system-critical clearing services.
Failure resolution plan - Stage 1

• Verify the conditions for a failure resolution process.
• Consult with relevant foreign authorities.
• Stay the termination of clearing agreements (except interoperability agreements).
• If appropriate, replace senior CCP governance. Retain key personnel.
• Assess the liquidity needs of the CCP and obtain the necessary cash.
• In the event of insufficient cash, interrupt payments to clearing members.
• Enter claims on the estates of failed clearing members.
Resolution Plan: In case of continuity

1. Clearing members and CCP replenish the guarantee fund to the extent that is systemically safe. Add new or “stored” capital.
2. Rebalance CCP positions by trade or tear-ups.
3. Re-allocate CCP equity and debt claims.
4. Resume clearing.
5. Update the CCP’s rules, clearing agreements, and risk management procedures.
6. Permit clearing member resignations after a cooling-off period.
Resolution Plan: In case of liquidation

1. Wave regulatory clearing rules as needed.
2. Plan alternatives to the CCP in resolution.
3. Transfer needed technology to successor CCPs.
4. Tear up or novate remaining positions.
5. Evaluate claims against the assets of the CCP held by clearing members and other creditors.
6. Liquidate the CCP’s remaining assets.
7. Assign the liquidated assets of the CCP to claimants.
Policy Suggestions

• Mandate disclosure of clearer default-management plans.
• Ensure clear regulatory authority and regulatory resolution planning, including cross-CCP failure drills.
• Conduct research on contractual (voluntary) access to initial margin at the end of the waterfall.
• Cap default guarantee fund contributions.
• Regulate CCP resignation notice periods.
• Tailor exemptions from contractual and resolution stays.
• Encourage consolidation of CCPs.
• Design better failure management auctions.
• Mandate CCPs for some FX derivatives.
d. Supplementary issues: CCP interoperability, FX derivatives margining, CPMI FMI Principle 9, automatic stays and resolution protocols.
Without CCP Interoperability

A

1

No trade

B

2
CCP Interoperability

Diagram showing relationships between different components labeled 1 and 2, with arrows indicating interop margin and connections.
Uncleared Foreign Exchange Derivatives

A

EUR-USD

CLS

USD-EUR

B
Margining of FX Derivatives

Source: Duffie (2011)
CPMI FMI Principle 9

“An FMI should conduct its money settlements in central-bank money where practical and available.

If central bank money is not used, an FMI should minimize and strictly control the credit and liquidity risk arising from the use of commercial bank money.”

“One way an FMI could minimize these risks is to limit its activities and operations to clearing and settlement and closely related processes.” (CHIPS)
Single Point of Entry Failure Resolution

Bridge NewCo

Old FHC

U.K. Broker Dealer

U.S. Broker Dealer

U.S. Bank

Repo and OTC derivatives counterparties
US GSIFI FHC

Zone of stay on swaps

U.K. Broker Dealer

U.S. Broker Dealer

U.S. Bank

Counterparty
ISDA Protocol for Resolution Stay

“We believe it is essential for … ISDA documentation to provide for a short-term suspension of early termination rights on the basis of the commencement of an insolvency or resolution proceeding …. Such a provision would allow … the exercise of all applicable types of resolution powers.”

Letter from FSB, FDIC, BaFin, and Swiss FMSA to ISDA’s Chairman. November, 2013.
debtor

counterparties

creditors

swaps

loans
Would a change in contractual termination rights that increases aggregate benefits actually be negotiated?

other market participants subject to spillover costs such as fire-sale risk
At The Failure Resolution of A Systemic Firm
e. Additional reading and sources
Additional reading and sources


Additional sources, continued


Additional sources, continued


Additional sources, continued


Additional sources, continued


