

# OTC DERIVATIVES CLEARING AND REGULATION

EFMLG Meeting Frankfurt

28 October 2010

**CLIFFORD  
CHANCE**

**ISDA<sup>®</sup>**

International Swaps and Derivatives Association, Inc.

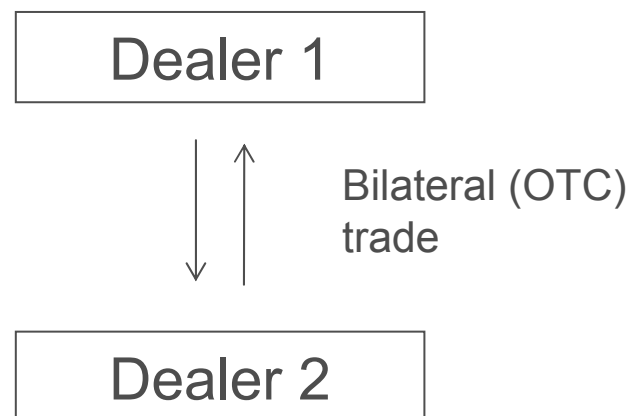


# BASIC MECHANICS OF OTC CLEARING

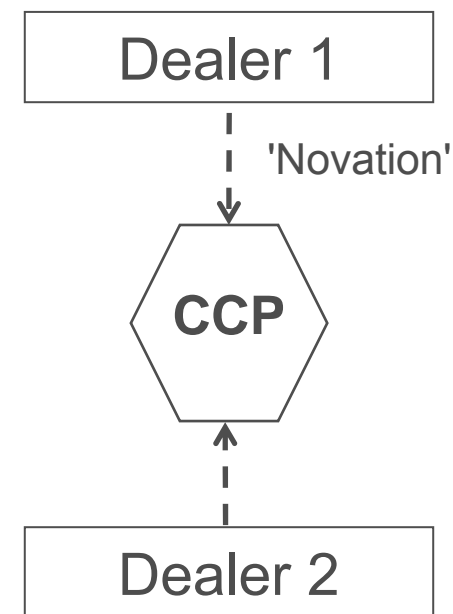
Caroline Meinertz

# How central clearing works: simple view

## Bilateral Market



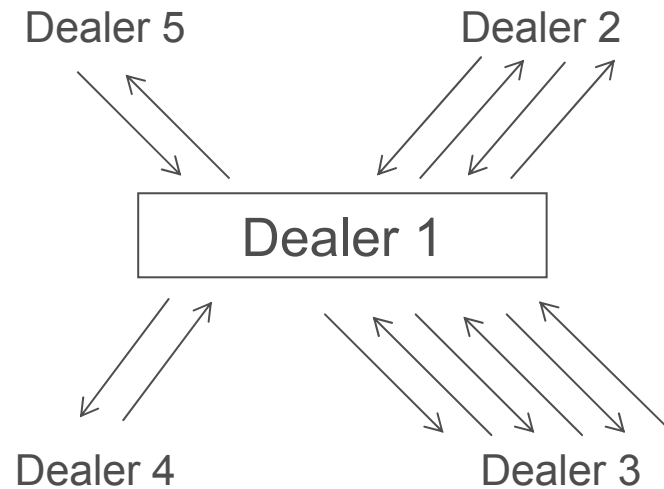
## Centrally Cleared Market



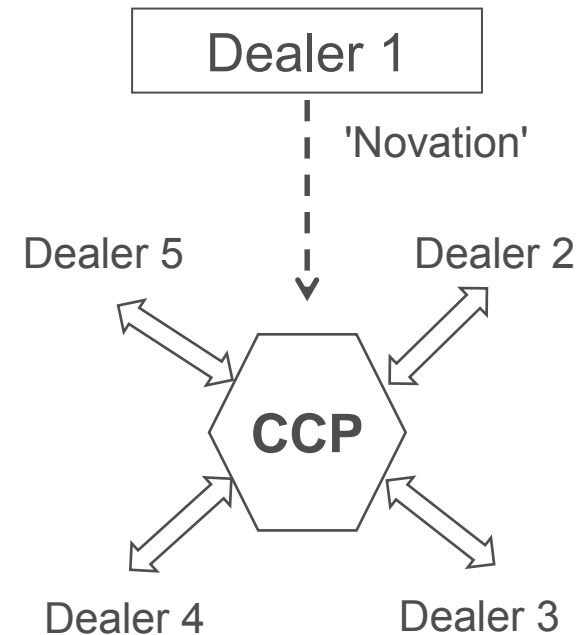
In central clearing, each dealer 'gives up' / 'novates' their half of the trade to the CCP. The CCP has credit exposure to each party against which it takes margin: the dealers have none to each other.

# How central clearing works: simple view

## Bilateral Market



## Centrally Cleared Market

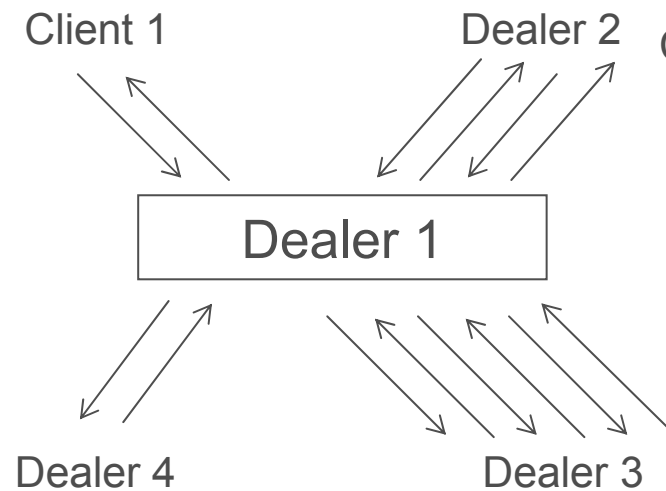


†The CCP faces each market participant.

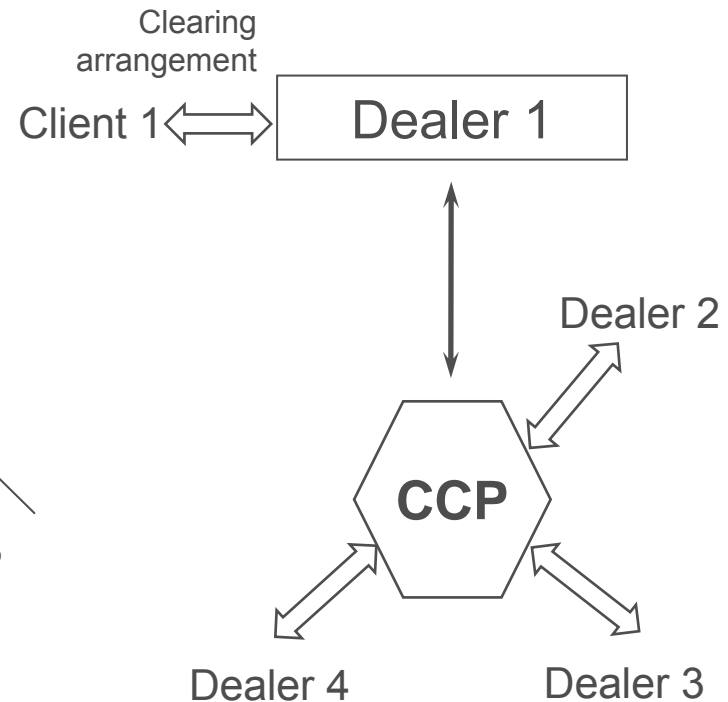
†Participants have credit exposure to the CCP, not to each other.

# How central clearing works: more complex view

## Bilateral Market

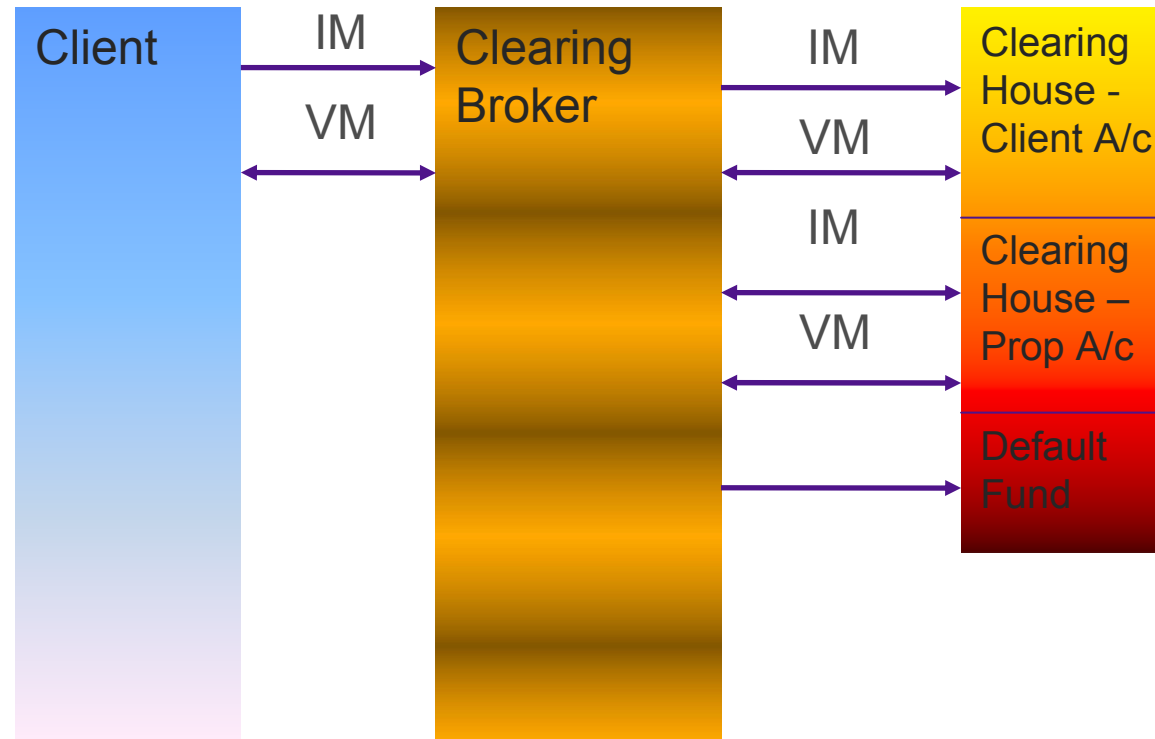


## Centrally Cleared Market

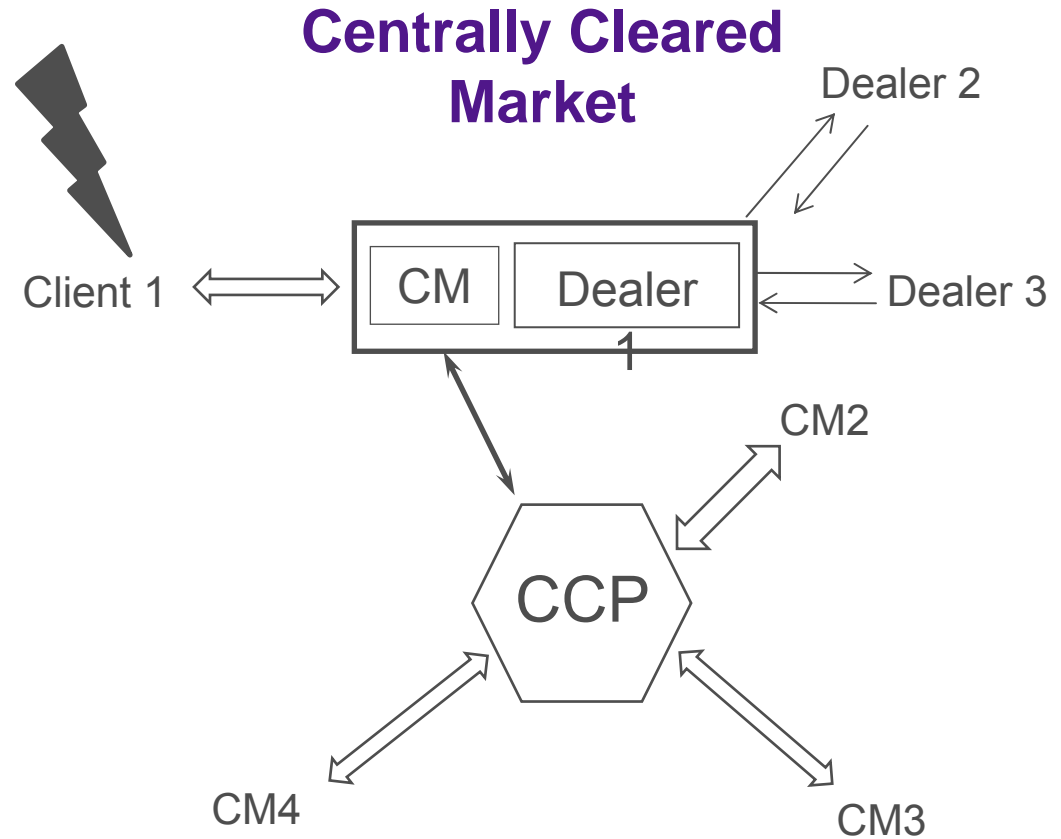


†Most clients who are not large dealers cannot (or will not want to) face the CCP as a **clearing member**, so they will use a clearing member to clear for them

# Margin – Cleared contracts



# Default 1 : client of CM



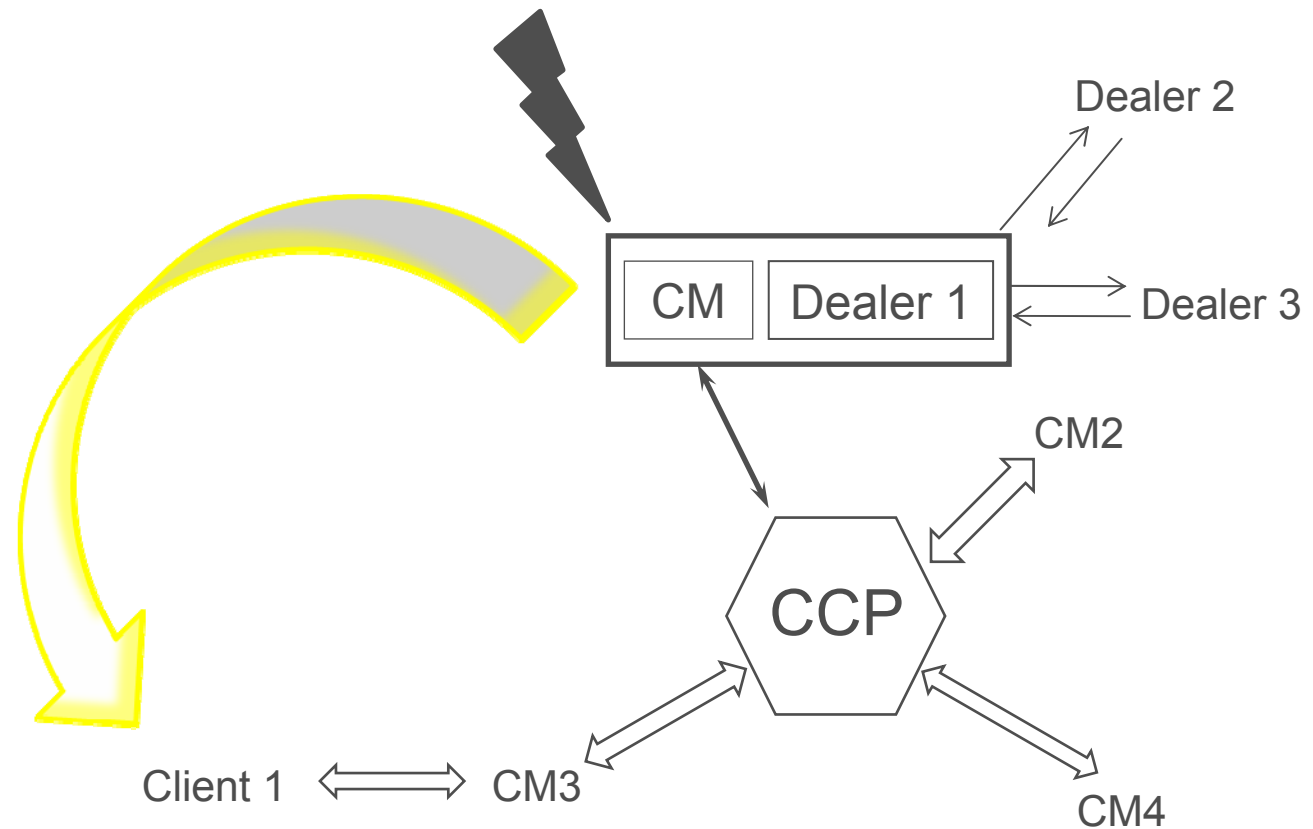
↑ If Client 1 defaults, this is the CM's problem

# Portability

- Protection in the event of clearing member default
  - Portability – transfer of positions to a substitute clearing member, with associated margin
  - If no "porting", prompt return of surplus margin to the client (even where the clearing member is bankrupt)

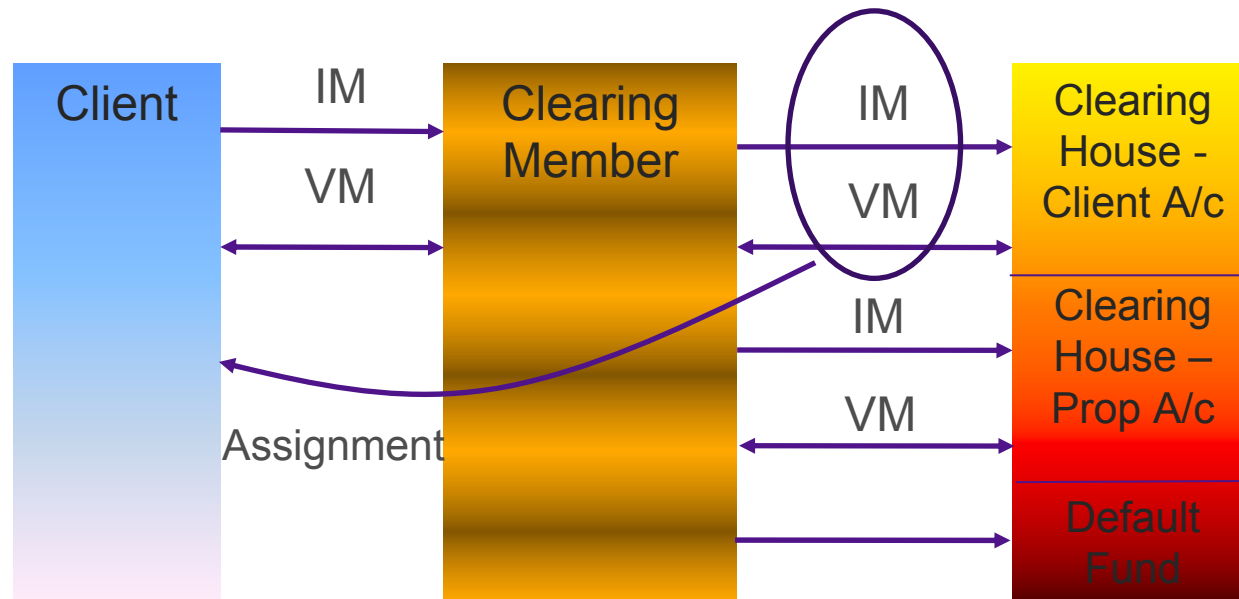


## Default 2 : CM



- If Client 1's CM defaults, then they will typically try to **port** to another CM, taking their margin with them
- CCP will close out CM's portfolio after porting, using the CM's margin to absorb (hopefully all of) the costs
- Other CMs participate in the **default management process**

# Contract Portability - Margin



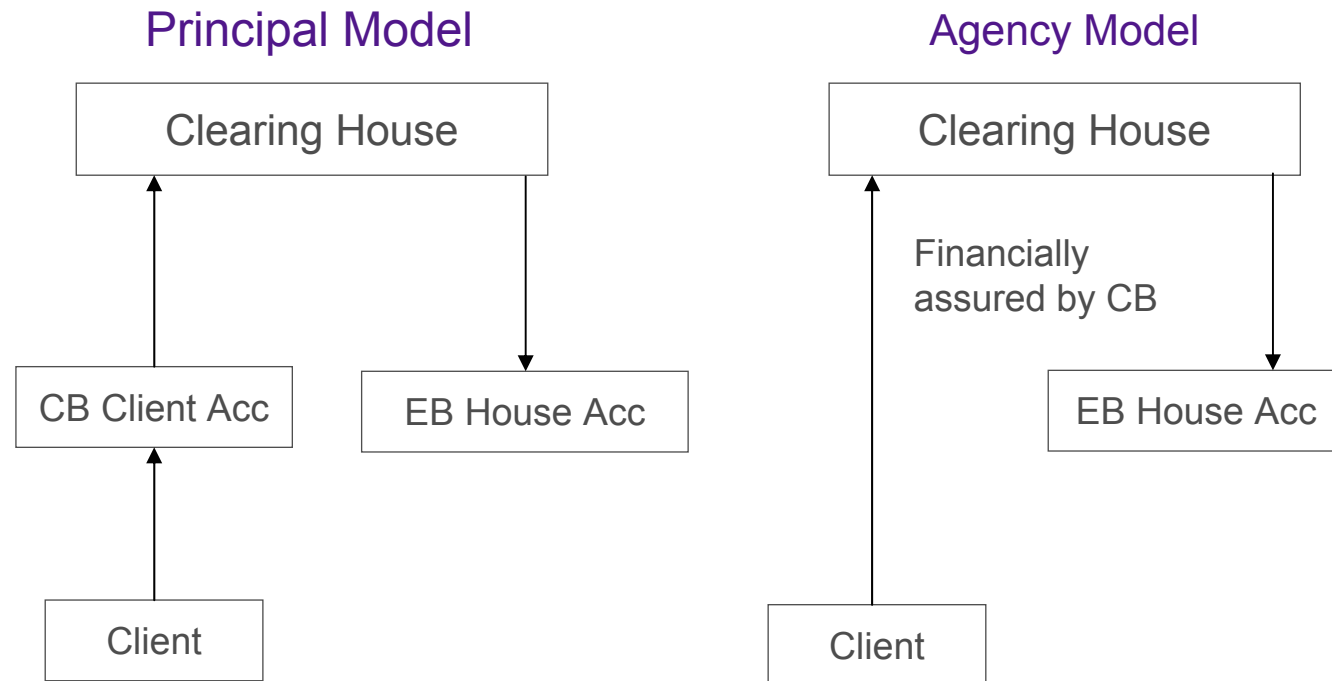
# CLEARING STRUCTURES

Jeremy Walter

## Current and potential CCP buying offering in OTC

	Rates	Credit	FX	Status today	Status July
LCH SwapClear	✓			US FCM under development	Live [Dec 09]
CME US	✓			Targeting Oct launch	Under discussion
SGX	✓			Membership for dealer clearing announced	Under discussion
IDCG	✓			Live [July 10]	Live [July 10]
NYPC	✓	✓		Under discussion	Under discussion
ICE Trust		✓		Under review in light of US Bill	Live [Dec 09]
ICE Clear		✓		Under discussion	Due Sep 2010
CME US		✓		Live Dec 09	Prelaunch [Dec 09]
CME Europe		✓		Energy contract launch Q4 2010	Under discussion
Eurex		✓		Under discussion	Under discussion
LCH SA		✓		Targeting Q1 2011	Under discussion
Euronext		✓		Under discussion	Under discussion
LCH FXClear			✓	LCH targeting Q3 2011	Under discussion
SGX			✓	SGX targeting March 2011	Under discussion
CME US			✓	CME targeting Q4 2010	Under discussion

# Different Models of Client Clearing



# Different Models of Client Clearing

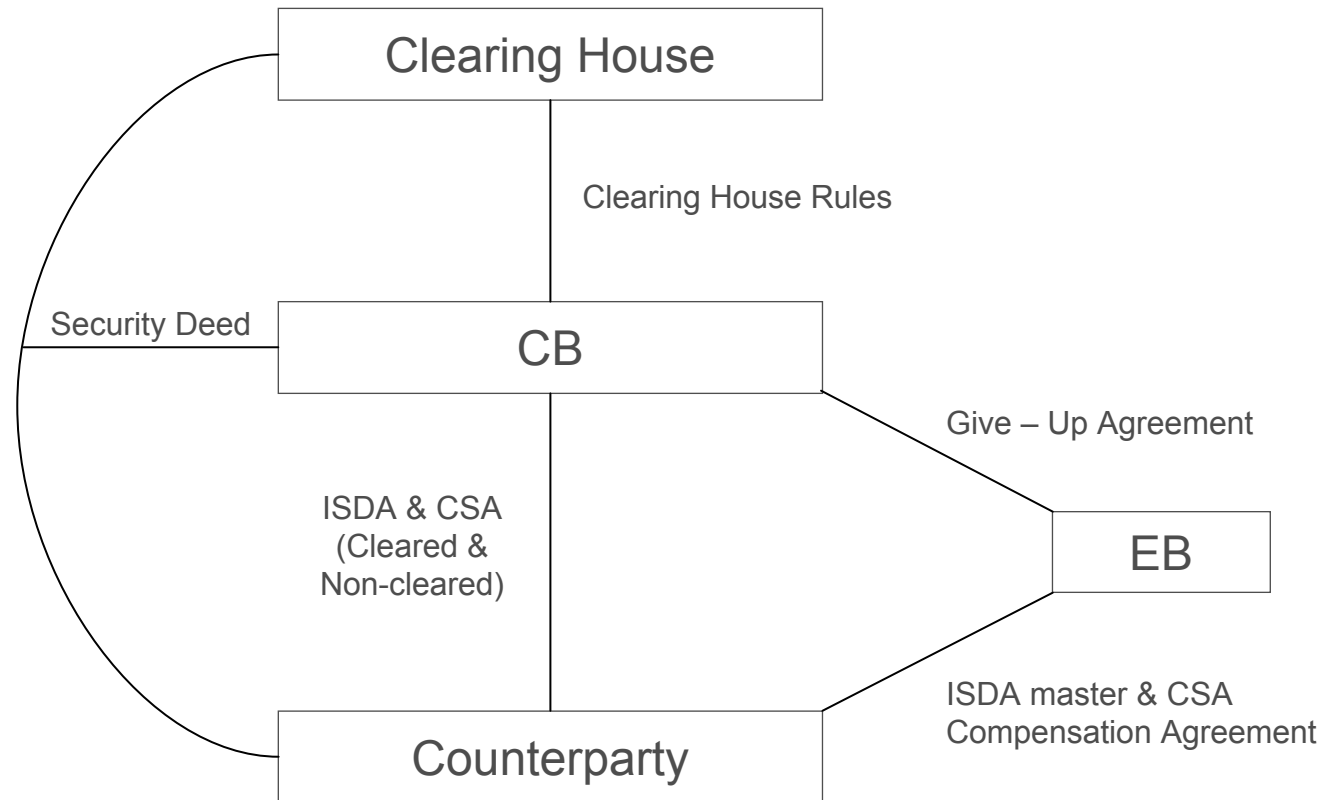
## Principal Model

- Collateral posted at the clearinghouse, gross or net.
- Client monies segregated in custodial account at clearinghouse
- Collateral documents may use security interest or title transfer.
- In the event of a DCM insolvency or bankruptcy client has the right to request portability and if portability is not accepted, then the client trade will be closed out at Clearinghouse price

## Agency Model

- Collateral posted at DCM (Derivatives Clearing Member) in segregated account
- Client monies are segregated from the DCM's own funds in segregated pooled client accounts Segregation via CFTC rule 4(d) or a 30.7 secured acct.
- In the event of a DCM bankruptcy, a DCM must act to separate and transfer all customers accounts to another DCM with the same or better level of creditworthiness. If transfer is not achieved, client trade closed out.
- Customer accounts are not considered a part of the asset of the DCM for purposes of a bankruptcy distribution

# Overview of Documentation – Principal Models



\* Opinions to support Clearing House arrangements

# Legal Documentation Requirements - Principal

## ICE

### 1. ISDA Standard Terms Annex

- Client and DCM execution required
- The Annex creates a separate ISDA Master Agreement and Credit Support Annex for all trades between Client and DCM which are cleared on ICE Trust

### 2. Designation Notice

- DCM execution
- DCM to send to EB with a copy to Client pursuant to the DCM Standard Terms.
- This notice identifies to the EB (a) the Client on whose behalf the DCM will clear trades, (b) the type of trades the DCM will accept for clearing and (c) the grounds on which the DCM can reject trades

### 3. Commercial Agreement

- DCM and Client execution required
- This agreement will cover the fees to be charged to Client from DCM for clearing. This is not an ICE standard document but rather one that the DCM prepares.

### 4. Give Up Agreement

- Give Up terms are set out in the ICE Trust DCM Standard Terms.
- Client agrees to such terms when it executes the ISDA Standard Terms Annex
- EB and DCM agree to such terms when they become clearing members of ICE Trust

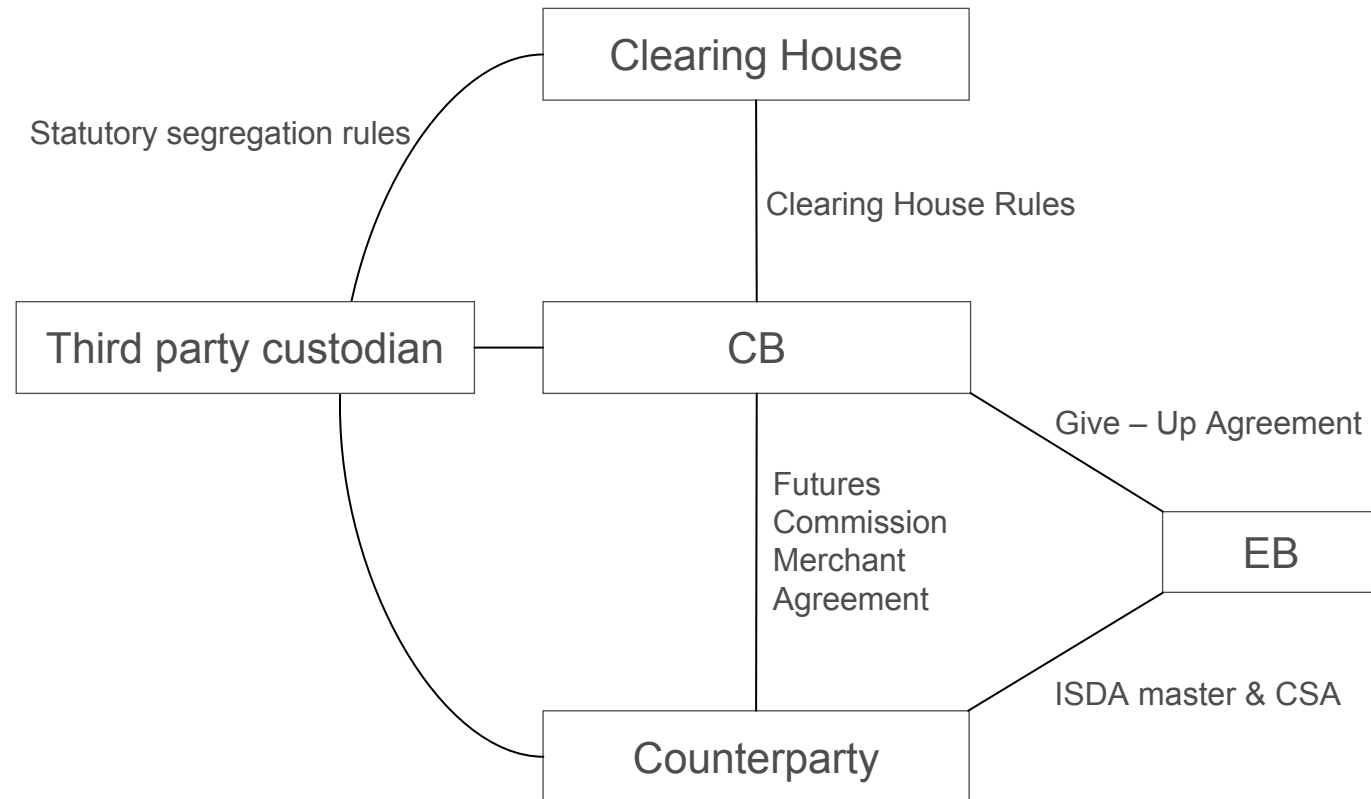


# Legal Documentation Requirements – Principal (cont'd)

## ↑ LCH

- 1. New Clearing Annex to ISDA Master Agreement**
  - This agreement creates a separate ISDA Master Agreement between the DCM and Client which mirrors the (non-clearing) ISDA Master between the DCM and the Client but with modifications to reflect clearing structure
- 2. Modified Credit Support Annex to ISDA Master Agreement**
  - This agreement provides for initial and variation margin to be called from the Client on terms no less than those imposed on the DCM by LCH
- 3. Deed of Assignment**
  - Agreement by which the DCM grants to its Client a security interest in respect of the relevant Client account at LCH
- 4. Compensation Agreement**
  - Fall-back to the Give-Up Agreement, which covers the compensation arrangements between an EB and the Client in the event that a transaction is not accepted by the DCM for clearing
- 5. Static Data Form**
  - This form filed at LCH by each of the DCMs with whom the Client has a clearing relationship, records the name of the Client within SCCS, contact details, eligible currencies, the account used by the Client with that DCM and the back-up DCM for that DCM

# Overview of Documentation – Agency Models



# Legal Documentation Requirements - Agency

## CME

- 1. A Futures Agreement In place with Clearing Member**
- 2. Addendum for OTC Cleared Transactions**

With a Futures Agreement in place, then an OTC Addendum to the Futures Agreement also needs to be signed by Clearing Member and the Client.

- 3. Exchange User License Agreement**

This is entered into between Client and the CME for use of their Clearport system.

- 4. Give Up Agreements**

Give Up agreements must be entered into between Clearing Broker, Client and Client's Executing Broker(s)

## IDCG

- 1. Terms of use agreement**

All users of the clearing service are required to sign this standard form document Includes access method and terms of business, data redistribution rights, anonymity, confidentiality of authorised participants.

- 2. Registration form**

Completed by the DCM, who authorises specific users at the client. Trading limits are also set by the DCM in this document.

# The Clearing House Rules

- Govern relationship between CB and Clearing House in respect of cleared trades
  - general rules covering membership requirements and ongoing obligations
  - treatment of cleared trades (e.g. how novated, process of margining)
  - deal with default procedures
  - specific rules govern particular service offerings (e.g. separate swapclear regs)
  - additional regulations included to deal with client clearing
- Generally governed by law applicable to jurisdiction in which Clearing House is regulated
- In the UK, the arrangements of the Clearing House are supported by statute, in particular in relation to the application of insolvency rules in the event of a clearing member default

# The Clearing House Rules (cont'd)

With respect to default rules:

- principal aim is to ensure Clearing House has sufficient funds to meet all its obligations in the event a CB defaults
- each CB required to contribute to a default fund
- on the default of a CB, Clearing House will first undertake risk neutralisation of the clearing member's portfolio (Clearing House will still have liabilities to perform the other side of the contracts):
  - undertake trades in the market to neutralise portfolio
  - other clearing members will be asked to "bid" for portfolios
- Clearing House losses will be met in accordance with the default fund procedures through:
  - defaulting clearing member's margin and then remaining default fund contributions
  - guarantees, insurance and other monies

# The Clearing House Rules (cont'd)

With respect to client clearing:

- specific requirements imposed on the application of the rules in relation to the client cleared trades, including the types of available accounts, treatment of margin
- specific terms of trade are required to be put in place between the relevant CB and its Customers, e.g.
  - form of documentation to be entered into with Customer
  - minimum margin to be collected from Customer (if relevant under rules of relevant CH)
  - imposes requirements for segregation of client assets and positions
- set out mechanism for customer positions to be terminated and customer margins to be returned to CB if customer defaults (but CB has not)

# ISDA Agreement between Customer and CB

- Sets out relationship between the CB and Customer in respect of cleared trades
  - assumes and requires that the CB and Customer have existing ISDA in place
  - entered into through a Standard Terms Annex (e.g. ICE) or a customer agreement that "clones" the existing ISDA (e.g. SwapClear)
- ISDA Agreement is subject to, and is amended to ensure consistency with, the relevant Clearing House Rules
- Cleared trades become subject to the terms of the clearing specific ISDA Agreement and uncleared trades subject to terms of existing ISDA between CN and Customer remain
- Restrictions on parties' scope for negotiation due to Clearing House imposed requirements and associated legal requirements.
- Netting between cleared and uncleared trades
  - Pre-default offsetting may be possible (subject to bilateral agreement) AND possible to accept net exposures for regulatory capital purposes
  - On default of CB:
    - no initial netting between cleared and uncleared trades (i.e. if net sum due to CB, no netting against amounts owed by CB in respect of uncleared trades)
    - no netting between different clearing houses (e.g. ICE Trust and ICE Clear)
  - Post-default of Customer: netting can be applied by CB
  - Cross netting arrangements may be problematic

# ISDA Agreement between Customer and CB (cont'd)

## Margin

- Clearing Houses generally require the following collateral
  - initial margin (to cover the cost of default) and
  - variation margin (to cover the cost of mark-to market on each cleared trade)
- Clearing House will retain all initial margin, but will be flat vis-à-vis variation margin (as what Clearing House receives on one cleared trade it needs to post on another cleared trade)
- Clearing Houses will specify the types of eligible collateral that they are willing to accept
- The CB will have obligations to post collateral to the Clearing House in respect of its proprietary positions and, separately, its Customer positions
- Clearing Houses have been attempting to provide increased flexibility to customers by allowing CB to transform collateral from Customer into eligible collateral
- CB wants to receive margin from Customer in respect of Customer positions



# ISDA Agreement between Customer and CB (cont'd)

## Margin

- Provisions relating to posting of margin by Customer set out in ISDA Master and CSA between customer and CB:
  - Collateral posted by Customer to CB consists of:
    - 1) Collateral to cover Initial Margin being (i) minimum Clearing House prescribed initial margin and (ii) buffer margin (as set by the CB)
    - 2) Any variation margin
  - CSA needs to reflect requirement for two-way margining process (i.e. for both IM and VM)
  - Minimum amounts largely prescribed by Clearing House - Customer has limited power to negotiate down its margining requirement
  - Standard CSA elections to be made (e.g. any haircuts, rate of return)
  - CSA also stipulates minimum time periods for Customer posting collateral and any haircuts applicable to the collateral posted
  - CB will be Valuation Agent (subject to using Clearing House marks)
- Margin posted by CB to cover proprietary trades segregated from margin posted to cover Customer trades

# ISDA Agreement between Customer and CB (cont'd)

## Margin

- On CB default, legal documentation sets out that any such margin would not be viewed by insolvency practitioners as being an asset of the CB, but rather be held by Clearing House on behalf of Customers:
  - security interest granted by CB over right to recover margin from Clearing House
  - trust account structure
  - statutory protection
  - Customer protected by having right to return of originally posted collateral or, in a default of the CB, right to value of margin posted by CB at Clearing House in respect of its cleared positions
- Limits to protection:
  - excess collateral held by CB not subject to same segregation
  - collateral not posted to Clearing House
  - differences in value at Clearing House due to collateral substitution
  - treatment of "pre-funded" margin payments

# Type of Accounts/Loss Mutualisation between Clients

- At Clearing House, CB will have a house account (for proprietary trades) and client accounts (for Customer trades)
- In respect of the client accounts, there may be two types of accounts:
  - Omnibus Account: an account for one or more customers
  - Segregated Account: an account solely for that particular Customer
- Customer can elect what type of account the CB will use
- Account type influences extent of Customer exposure in the event of a CB default:
  - with a segregated account, no mutualisation of risk with CB or with other customers of CB
  - with an omnibus account, some mutualisation of risk between Customers for losses incurred on collateral

# Portability

- Key objective of clearing houses is to ensure portability, particularly on a default of the CB
- Customers may specify Back-up Members at Clearing House. Otherwise, Customer can elect for positions to terminate on CB default
- Porting works by having any "net sum" transferred to Back-up Member on CB default - once ported, transactions will be between Customer and Back-up Member, and Back-up member and Clearing House
- Due to bankruptcy law issues, on any default of the CB, Clearing House has limited time to effect porting
- Procedure for porting may depend in part on type of account (i.e. whether omnibus or segregated)
- Porting is wholly dependent upon Incoming CB accepting the portfolio - no guarantee of porting in all Clearing Houses

# EUROPEAN REGULATIONS

Marc Benzler

# Outline of Proposed EU Legislation on Market Infrastructure

- "Pack" of legislation to include
  - Markets Infrastructure Measure
    - EMIR – draft regulation of 15 September 2010
    - Various ESMA guidance to be published
    - Implementation by end 2012
  - CRD IV
    - Closely following Basel III proposals
    - Consultation paper of 26 February 2010
    - Draft proposal in I / 2011
  - Market Abuse Amending Directive
    - Extension of anti-manipulation requirements to all derivative markets, electricity and gas spot markets and [possibly] emission allowances and agricultural commodities markets
    - Extension of MAD transaction reporting requirements
    - Timing not yet clear
  - MiFID Amending Directive
    - Formal review by European Commission Areas under scrutiny:
      - Trading of derivatives on trading platforms
      - Pre- and post-trade transparency issues
      - Position limits
    - Exchange trading requirements for standardised derivatives?
    - Timing:
      - Technical advice by CESR
      - Consultation by EU Commission to be launched
      - Final proposals expected in first quarter of 2011
      - No firm implementation date of present

# Standardisation of Derivatives

- G20:

*All standardised OTC derivative contracts should be traded on exchanges or electronic trading platforms, where appropriate, and cleared through central counterparties by end-2012 at the latest. OTC derivative contracts should be reported to trade repositories. Non-centrally cleared contracts should be subject to higher capital requirements.*

- EU:

- Recommendations of 3 July 2009, 20 October 2009 and consultation of 14 June 2010
- CESR Consultation of 19 July 2010

- EMIR:

- Clearing requirement
- Order confirmation / processing
- Exchange trading requirement?
- Bottom-up / top-down approach
- Standardisation by
  - Product
  - Process
  - Documentation

# EMIR

- **Clearing obligation**
  - **Eligible OTC derivative contracts**
    - Technical standards to be developed by Level 2/3 measures
    - Bottom-up / top-down approach
    - Register of eligible contracts to be maintained by ESMA
  - **For financial counterparties**
  - **Non-financial counterparties if clearing threshold is exceeded**
    - Clearing obligation applies to all transactions
    - Transactions “measurable linked to the commercial activity” will not be taken into account
  - **Contracts entered into with third country entities are covered**
- **Reporting obligation**
  - **To trade repository**
    - Delegation of reporting
    - Details and type of reports as well as format and frequency to be determined by Level 2/3 measures
    - Fallback to competent MiFID authority
  - **Any OTC derivative contract**
    - Including modification or termination
  - **Non-financial counterparties if information threshold is exceeded**
    - Justification vis-à-vis MiFID authority
    - All transactions need to be reported
  - **Contracts entered into with third country entities are covered**
  - **Confidentiality and liability issues**
  - **Registration and organisational requirements for trade repositories**



# EMIR (cont'd)

- Risk mitigation
  - With respect to OTC derivative contracts which are not cleared by a CCP
  - Credit and operational risk
    - Electronic transaction confirmation
    - Daily mark-to-market of outstanding contracts
    - Collateral or capital
  - For financial counterparties and non-financial counterparties exceeding the clearing threshold
- Regulation of CCPs
  - Authorisation and capital requirements
    - Involvement of colleges and ESMA
    - Ongoing supervision and oversight
    - Recognition of third country CCPs by ESMA
  - Organisational requirements
    - Robust governance, clear structure, compliance policies, conflict of interest policy, remuneration policy, IT standards, business continuity, frequent audits
    - Qualification of senior management (including independent board members)
    - Risk committee
  - Ownership control
  - Conduct of business rules
    - Membership criteria
    - Price transparency
  - Access to clearing on non-discriminatory basis

# EMIR (cont'd)

- Segregation and Portability
  - Identification and segregation of assets and positions between clearing members and between clearing members and the CCP
  - Clearing member to segregate assets and positions between itself and clients
  - “More detailed segregation” to be allowed
  - Mechanism for porting
  - Requirements shall prevail over any conflicting laws of member states
- Prudential requirements for CCPs
  - Management of liquidity and credit exposure
  - Margin requirements
    - Intraday
    - Highly liquid collateral (including application of haircuts)
  - Default fund
  - Other risk mitigation
    - Loss sharing, insurance, own funds, guarantees, etc.
    - Credit lines
  - Default procedures and waterfall
  - Testing
- Other issues
  - Settlement through central bank money
  - Interoperability
  - Penalties and fines
  - Relationship with third countries

# EMIR (cont'd)

- Some German legal issues
  - Automatic early termination upon the opening of insolvency proceedings - sec. 104 (2) of the German Insolvency Code (*Insolvenzordnung*)
  - Insolvency governed by the rules of the system – sec. 340 (3) of the Insolvency Code
    - System within the meaning of § 1 (16) of the German Banking Act (*Kreditwesengesetz*)
  - Transfer of Collateral
    - Right to segregation of assets (*Aussonderungsrecht*) – sec. 47 of the Insolvency Code
    - Which law governs the collateral?
  - Draft sec. 104a of the Insolvency Code (as proposed by the Discussion Draft of 1 September 2010)
    - Central counterparty clearing system within the meaning of sec. 1 (31) of the Banking Act
    - Porting under sec. 104a (1) of transactions covered by sec. 104 (1) and (2) of the Insolvency Code and comparable transactions (including financial collateral) in accordance with the clearing rules
    - Close-out of transactions covered by sec. 104a (1) in accordance with the clearing rules – sec. 104a (2) of the Discussion Draft
    - “No worse-off” provision under sec. 104a (5) of the Discussion Draft
    - Clearing rules take only precedence if agreed before the opening of insolvency proceedings and until the expiry of the clearing business day (sec. 1 (16b) of the (draft) Banking Act) following the opening of insolvency proceedings

# Impact of Dodd-Frank

## ■ Critical Highlights of the Dodd-Frank Wall Street Reform and Consumer Protection Act:

- Capital and Systemic Risk Regulation
- Volcker Rule: No Proprietary Trading
- Swap Dealer Registration and "Push-Out"
- Swap Clearing
- Swap Reporting and Collateral
- No current EU proposals equivalent to Volcker rule / push out
- Other pressures e.g.

“whereas a clear separation or firewalling between retail and investment banking must be strived for to make sure that insured deposits are not used as collateral for trading activities”

European Parliament, ECON, Karas report on CRD4 (Sept 2010)

- Swap Dealer Registration
- EU already requires authorisation for derivatives dealers under ISD/MiFID
- EU firms doing business into the US
- Practicality of registration as US Swap Dealers
- US/non-EU firms doing business into EU
- Existing cross-border booking models
- Possible impact of MiFID review
- Impact of US rules on EU end-users contracting with US counterparties
- Mutual recognition agenda

# Basel III

## ■ Overview

- Changes to capital definition & levels
- Increased capital charge for derivatives and securities financing transactions
- Increase risk charge for financial institution exposures
- Leverage ratio
- Liquidity requirements
  - Liquidity Coverage Ratio
  - Net Stable Funding Ratio

## ■ Risk weighting of exposures vis-à-vis central counterparty

- Art. 37(4) EMIR: zero-risk weighting can be achieved (if client is not exposed to default of clearing member)
- BCBS press release of 26 July 2010:

“Banks’ mark-to-market and collateral exposures to a central counterparty (CCP) should be subject to a modest risk weight, for example in the 1-3% range, so that banks remain cognisant that CCP exposures are not risk free.”

- CRD IV: only central counterparties meeting enhanced standards will attend a zero-risk weight

# SOME ISSUES TO CONSIDER

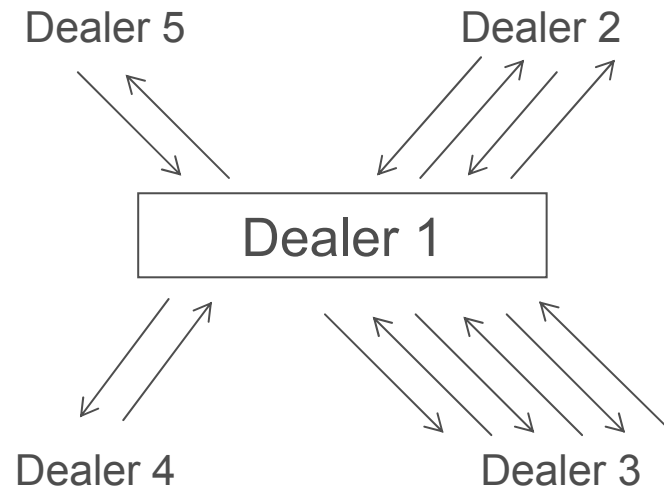
David Murphy – Risk Issues  
Whole panel for other aspects

# Risk Issues

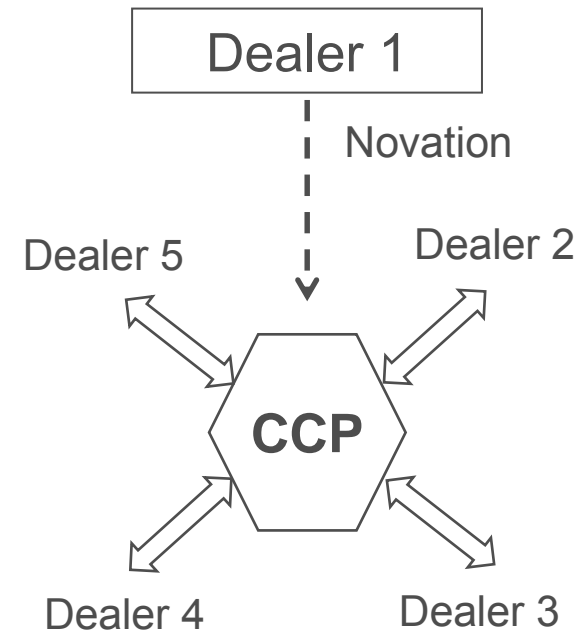
- The use of central clearing should be supported...
- ... where it reduces systemic and counterparty risk...
- ... given the constraints
- In order to understand those constraints, we will build up the picture gradually

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## Bilateral Market



## Centrally Cleared Market

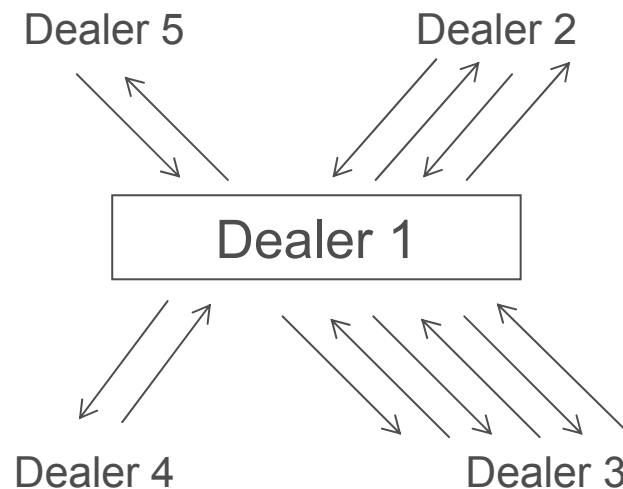


Clearly dealers have multiple clients. In the idealised view of central clearing, they all face the CCP, and thus the CCP has a fully netted counterparty risk position

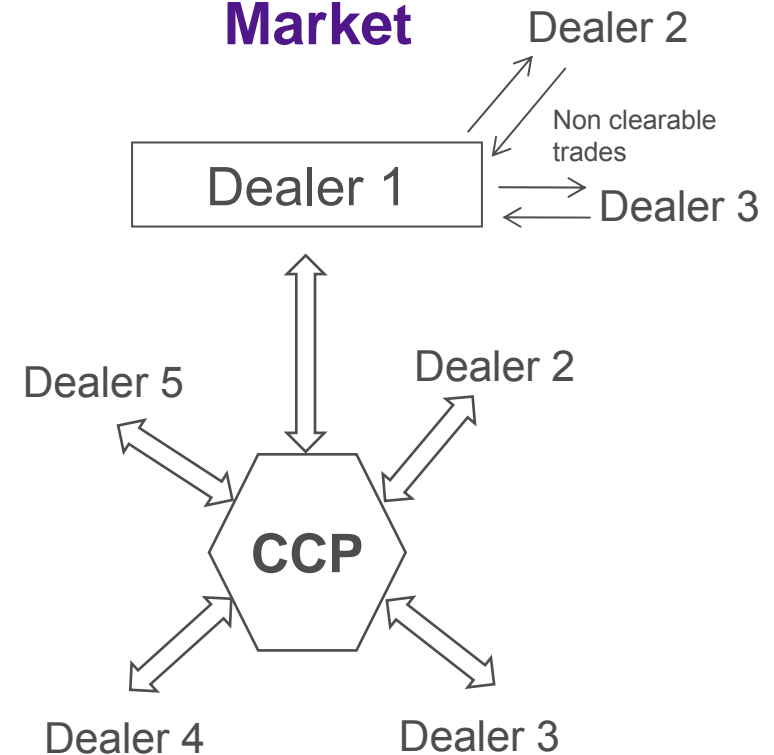


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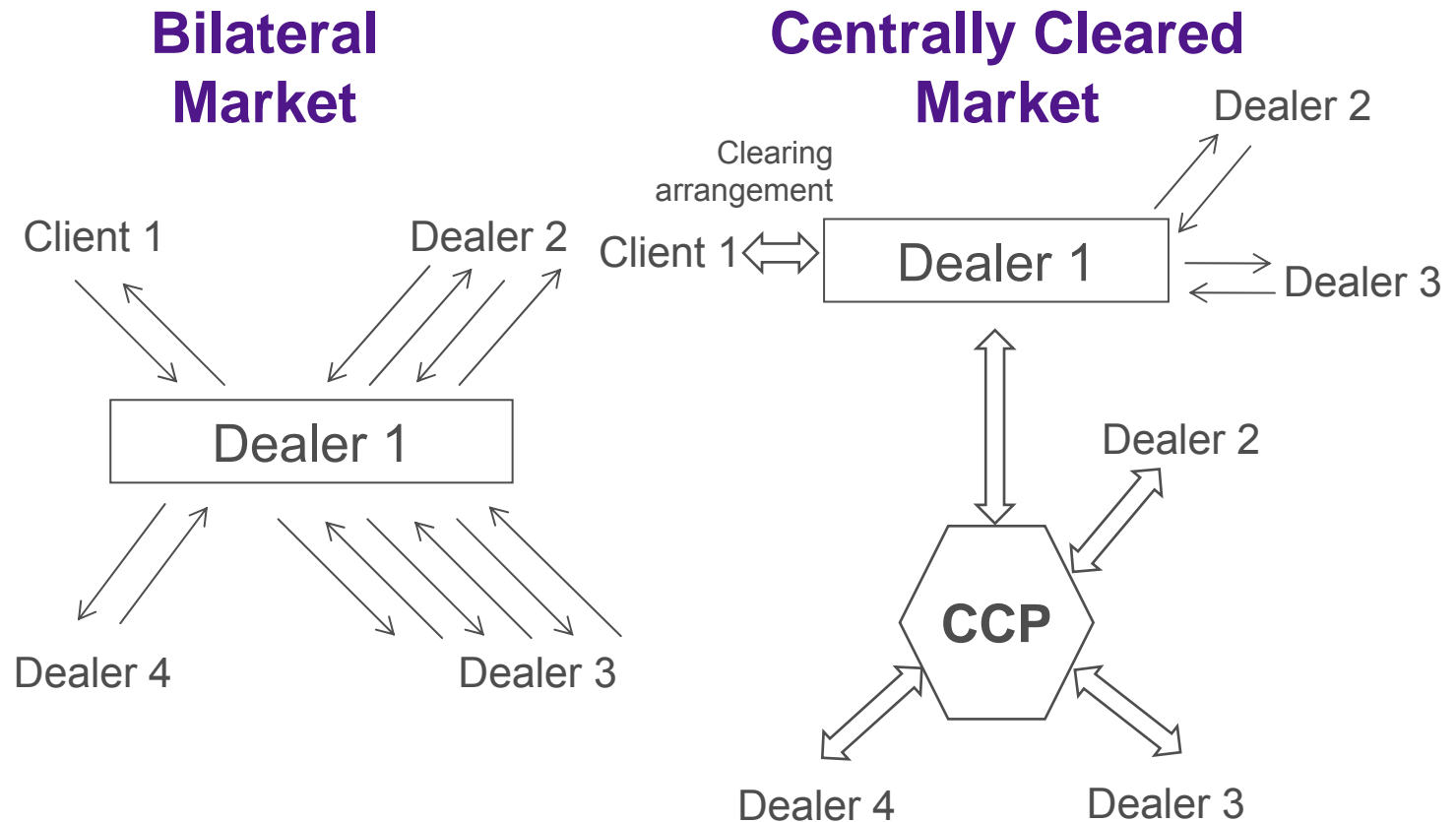


**Some trades are not clearable**, so some counterparty risk remains with the dealer. As these non-clearable trades often offset clearable trades, counterparty risk may increase.

# Eligibility

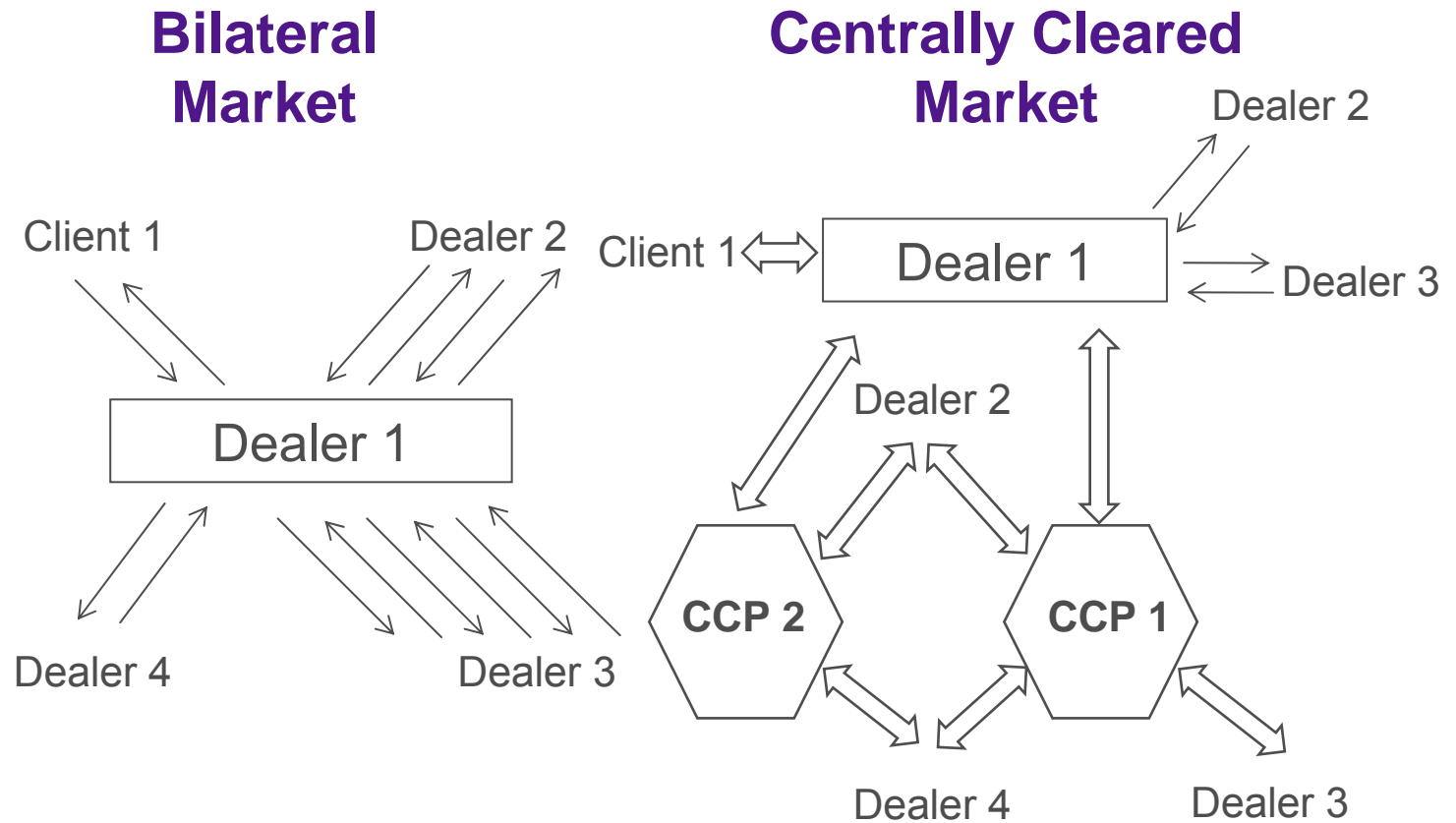
- Criteria for clearability
  - Price visibility
    - Current
    - Continuing
  - Market depth/number of dealers
  - Risk management
    - Need to calculate margin & DF contribution to a uniform soundness standard for the whole portfolio
  - Default management
    - Ability to make bids in a stressed market
    - Ability to hedge in a stressed market

# How central clearing works: more complex view



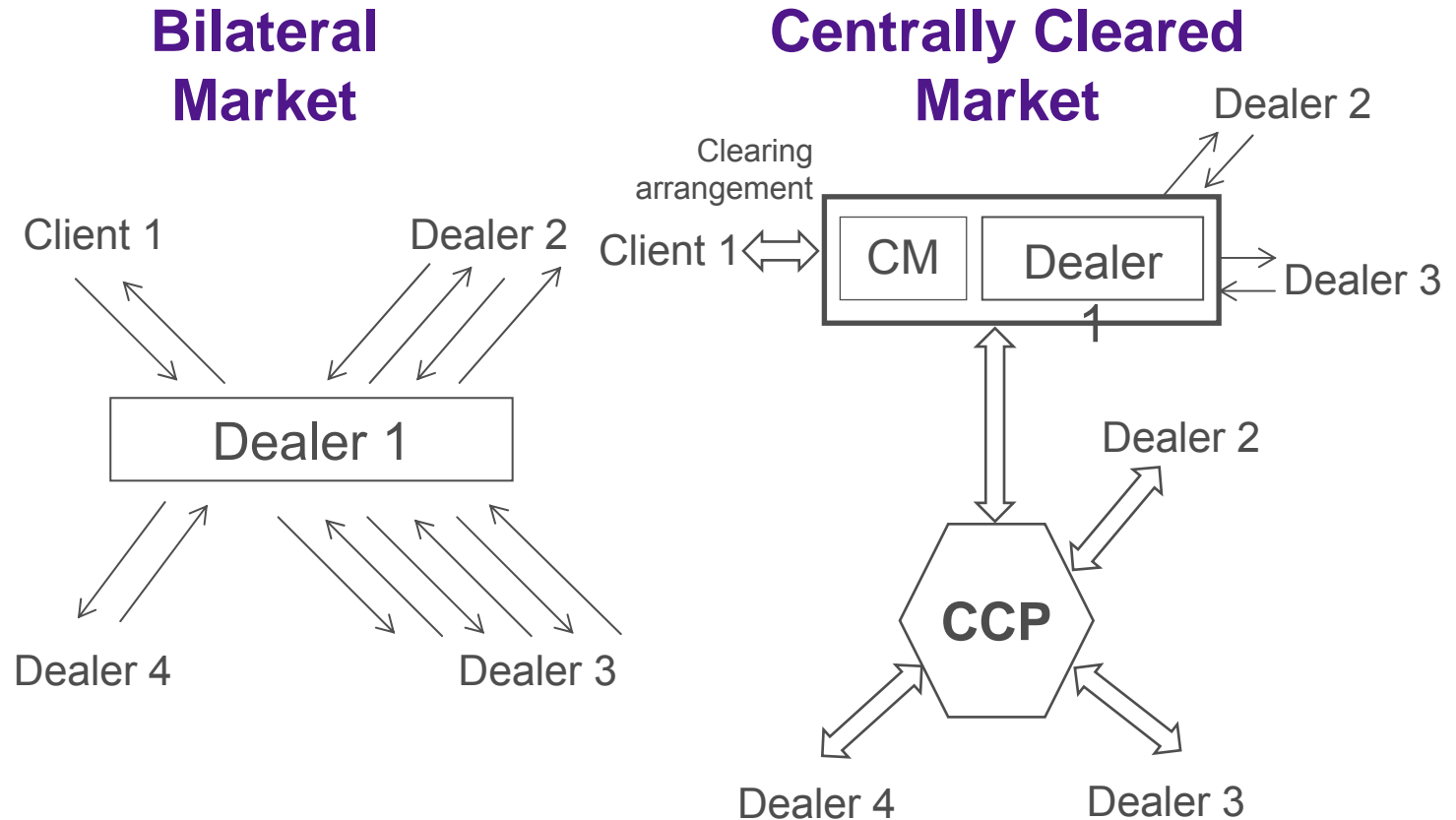
†Most clients who are not large dealers cannot (or will not want to) face the CCP as a **clearing member**, so they will use a clearing member to clear for them

# How central clearing works: more complex view (cont'd)



†There are multiple CCPs across asset classes and geographically too

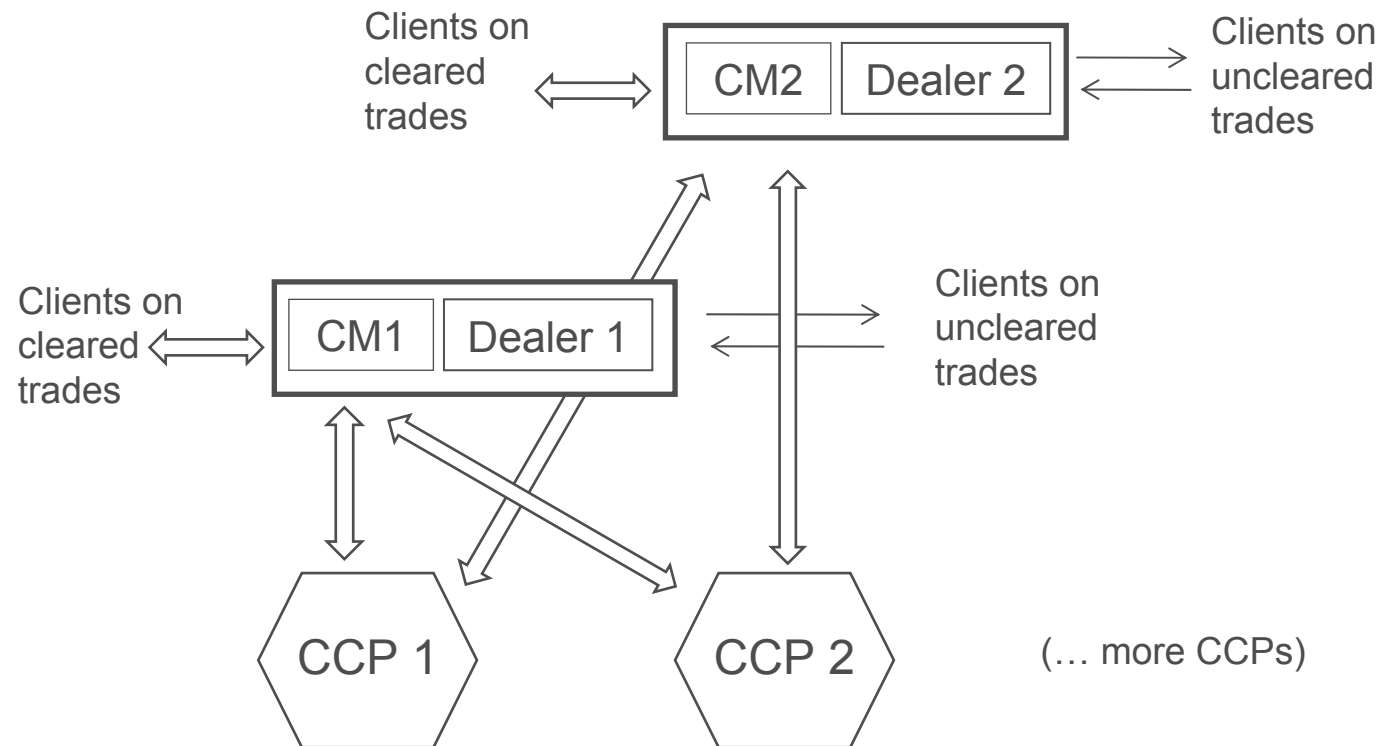
# How central clearing works: more complex view (cont'd)



Moreover in some cases the clearing member will not be the same legal entity as the dealer, resulting in **cross-affiliate netting issues**

# So finally...

(... more dealers)



This is looking from the perspective of the whole system rather than just Dealer 1: we have assumed that the CM for each CCP is the same, which will probably not be true thanks to different regulatory frameworks

# Business model changes due to clearing

## ■ Key issue

- CCPs will set **margin** levels
  - Initial and variation
- How to **fund** margin?
  - Clearing members fund their own
  - Clients of CM can be pre-funded in some regulatory frameworks
- Is margin **segregated**, and if so, under what model?
  - Clients may wish that their initial margin is not exposed to the default of their clearing member
  - In the past, some firms took funding benefit from some client collateral



OTC derivatives will be more expensive for many, perhaps most, market participants under central clearing

# Legal issues in clearing – A brief and partial summary

- **Default** of various parties
  - Basis risk between default of a CM on bilateral trades and centrally cleared trades?
  - Interaction between bankruptcy/intervention regimes
    - For CMs; for clients; for CCP
  - Basis risk between bilateral trades and centrally cleared trades on CDS credit events?
    - Hopefully not if shared determination mechanism, but the possibility exists
- Effectiveness of **Close out Netting** with the CCP on CM default

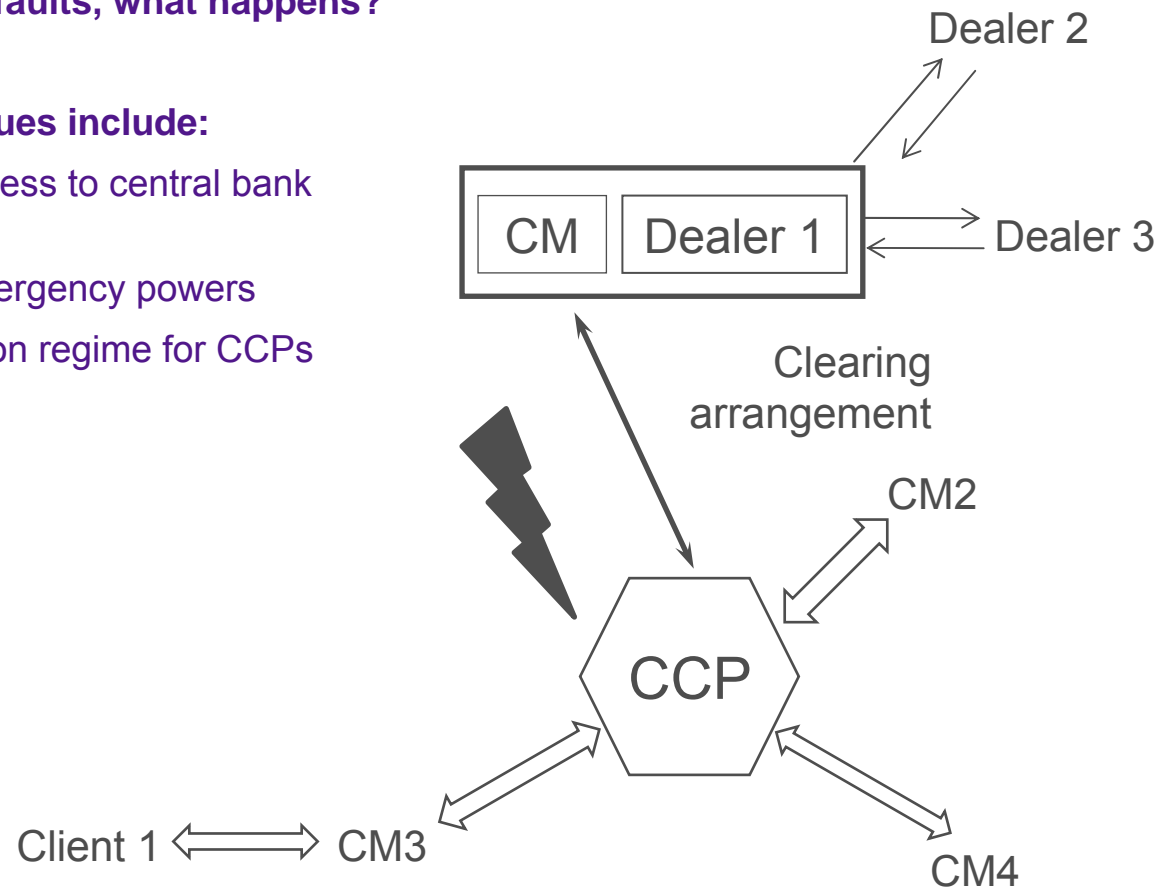


# Default of a CCP

¶ If a CCP defaults, what happens?

¶ Current issues include:

- CCP access to central bank liquidity
- CCP emergency powers
- Resolution regime for CCPs



# Other issues

- **Regulation – direct legal effect**

- Process
- Drafting
- Regulatory flexibility

- **Territoriality of regimes**

- US vs. EU vs. ...
- Scope of clearing obligations
- Venue for mandatory clearing decided by underlying, one client, the other or ?

- **Product types**

- Economics?
- Form?
- Other aspects?

- **Incentives for use of CCPs**

- Clients should be able to look through to the CCP to the extent that their margin is segregated

- **Membership criteria for CCPs**

- Capital
- Ability to participate in default management
  - Risk management, pricing capability, staffing, ...

## Other issues (cont'd)

- **Backloading** of transactions
- **Margin** requirements
  - Eligible collateral, haircuts
  - Funding of collateral
    - In particular initial margin
- **Exemptions**
  - Smaller and medium sized banks - small banks may also become systemically relevant
  - All private funds?
  - Central clearing through head organisations/affiliate issues?

# Other issues: How many CCPs?

## ↑ More CCPs

- Fewer monopoly concerns
- More danger of competition on margin?
- Interoperability harder
- **Less netting benefit**
- Failure of one less systemic?
- Promotes local concerns

## ↓ Fewer CCPs

- More monopoly concerns
- Less danger of competition on margin?
- Interoperability easier
- **More netting benefit**
- Failure of one more systemic?
- Harder to assuage local concerns

## Other issues: How much to clear?

### ↑ **More is compulsory**

- More netting
- **Valuation is harder**
- Risk management is harder
- Mandatory collateral needs are higher
- The step function between CCP CM and not CM is higher

### ↓ **Less is compulsory**

- Less netting
- **Valuation is easier**
- Risk management is easier
- Mandatory collateral needs are lower
- The step function between CCP CM and not CM is less high

# Other issues: What are we worried about?

- Interdealer risk will be greatly mitigated by a small number of CCPs clearing highly liquid products only
- Risk with uncollateralised cpty is best mitigated by getting government and supranationals to post collateral
- Pre-trade transparency is best dealt with by SEF regulations
- Post-trade transparency is best dealt with via trade repositories
- The availability of risk management to corporates is an issue
  - Cannot qualify as CMs
  - Do not have easy and cheap access to collateral
  - Do not want to pay (a lot) more for structured products which hedge their risk
- If we want CCPs to be very robust, the natural consequence is likely to be
  - High levels of margin?
    - Given how scarce and expensive liquidity is, especially for corporates, the right balance here is not clear
  - High levels of default fund?
    - This increases loss mutualisation
  - CCP access to central bank liquidity?
    - Difficult issue
  - Considerable clearing member liability under CCP emergency powers
    - Unlimited liability?

# OTC DERIVATIVES CLEARING AND REGULATION