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# Tranquillizer Solutions Part I: A CCP Idea

## Central Counter Parties: What's the idea and how do they work?

**T**he key element of derivative market reform is a central clearinghouse, the central counter party (CCP). Under the proposal, standardized derivative transactions must be cleared through the CCP, which will guarantee performance.

The CCP is designed to reduce and help manage credit risk in derivative transactions – the risk that each participant takes on the other side to perform their obligations (known as “counterparty risk”). The CCP also simplifies and reduces the complex chains of risk that link market participants in derivative markets.

In the Renaissance, popes often annulled the marriages of Catholic monarchs. The annulment preserved, theoretically, both the authority of the Papacy and the sanctity of marriage. The CCP proposal is similar. It gives the impression that regulators and legislators are reasserting control over the wild beasts of finance. In reality, the proposal may not work or may not materially reduce the risks it is intended to address.

### Popular mechanics...

The concept of clearing is not new or novel. It has been an integral part of futures and exchange-traded derivative markets. Clearing for over-the-counter (OTC) derivatives has been discussed at various times since the mid-1980s.

In traditional exchange-traded derivative markets, the contract is standardized, listed, and only tradable on the exchange through member firms. Trading is subject to the rules of



the exchange as well as general law. The framework facilitates trading, provides liquidity and transparent price information. Security of contractual performance is ensured by interposing the Clearing House (the equivalent of the CCP) between traders.

Under the current proposal, traders enter into OTC derivative transactions, then novate or assign the contract to the CCP, which assumes the performance risk.

The effect of the CCP is set out in Diagram 1. The credit risk of the CCP is substituted for the risk of individual derivative counterparties. It simplifies the chains of risk in derivative transactions. For example, if there are 100 counterparties, then there are potentially 4,950 bilateral contracts. The CCP reduces this to only 100 bilateral contracts. The impact on the quantum of credit risk is set out in Diagram 2. The interposition of the CCP reduces the counterparty risk significantly.

### To SEF or not to SEF...

The CCP proposals do not encompass full standardization or listing of derivative contracts, due to significant resistance from the industry.

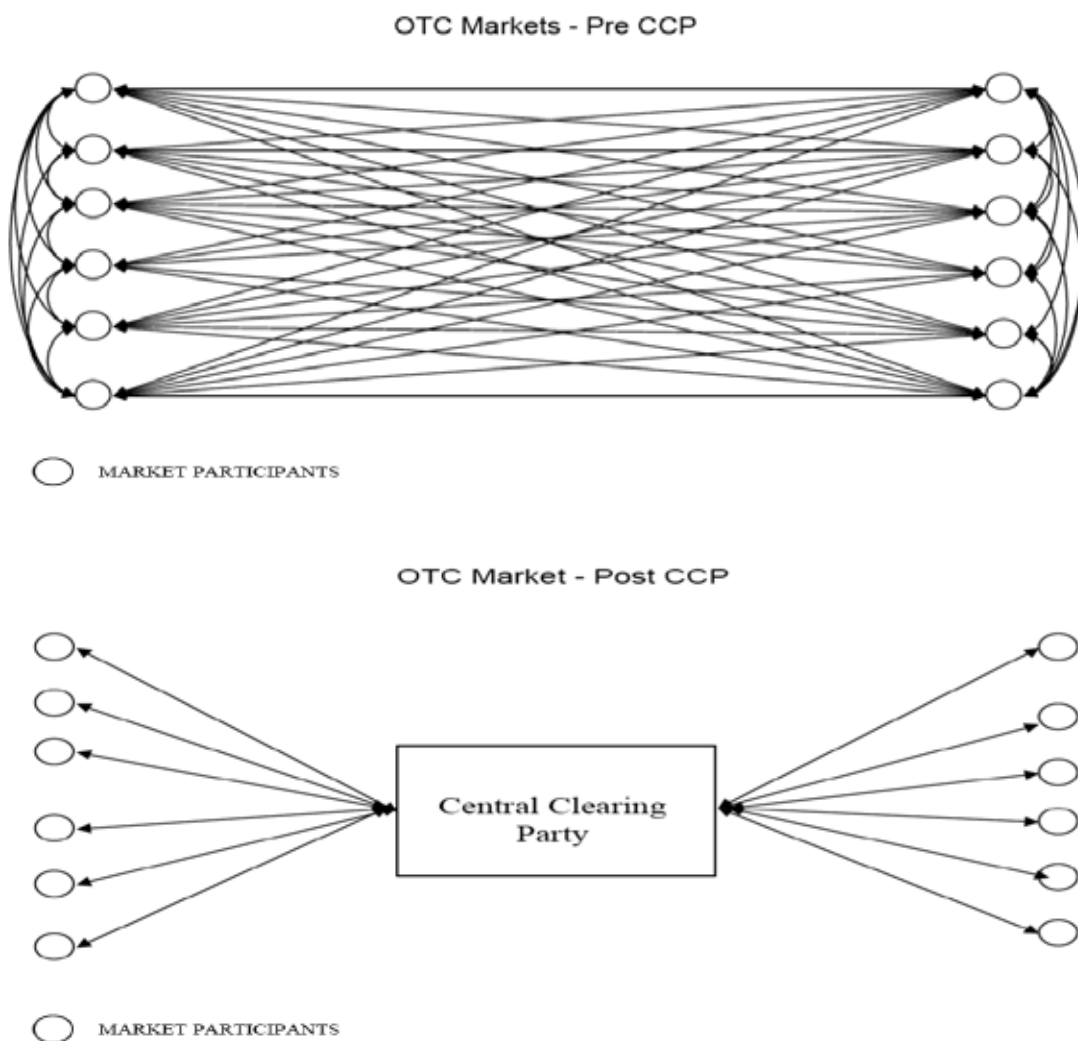
Proponents argue that the OTC format is essential to enable users to customize solutions to match underlying financial risks. They also argue that the flexibility of the OTC market is essential to financial innovation. On July 10, 2009, Timothy Geithner, the US Treasury Secretary, testified to the US Congress that: “To force clearing of all derivatives would ban customized products and we don’t believe that’s necessary... [They] provide an important economic function in helping companies and businesses across the country better hedge against their risk. I think our responsibility is to make sure those benefits come with protections.”

Critics argue that without full standardization, markets will remain opaque and lack transparency. They allege that the lack of formalized trading and poor price discovery allows dealers to earn substantial economic rents from trading. The debate reflects Walter Bagehot’s observation about the English monarchy: “We must not let daylight in upon the magic.”

Regulatory proposals require that derivatives eligible for clearing must be traded on a regulated exchange or through an alternative swap execution facility. There are exceptions where no designated contract markets, national securities exchange, or alternative swap execution facility makes the derivative available to trade.

To try to make the derivatives market more transparent, regulators have recommended new exchange-type trading systems for derivatives – swap execution facilities (SEFs). The aim is the familiar one, beloved of theoreticians – increasing transparency to improve the functioning of

Diagram 1: CCP



financial markets, narrowly measured in terms of liquidity, competition, and lower transaction costs.

The US Financial Reform legislation defines an SEF as “a facility trading system or platform in which multiple participants have the ability to execute or trade swaps by accepting bids and offers made by other participants that are open to multiple participants in the facility or system.” It is not clear what type of trading systems will qualify as SEFs, since regulators are still developing the applicable rules. One clear area of interest is the interpreta-

tion of “multiple participants.”

US regulators originally envisaged a system similar to that used in futures markets for eligible trades, with “material transaction volume” based on a centralized limit order book model. Trades that do not have material transaction volume would be trade on a centralized limit order book system or a transparent platform that makes requests for quotes visible to all participants. Request-for-quote or other trading systems utilizing limited liquidity providers would only be permitted for block trades, illiquid or bespoke transactions, or

those non-standard contracts not required to be cleared. Fierce criticism from industry forced a change, with a SEF required to provide basic functionality to allow market participants to make executable bids or offers, provide indicative quotes, and display them on a centralized screen that can be seen by multiple parties.

Existing exchanges, electronic trading platforms, and inter-dealer brokers are already seeking to establish accredited SEFs. In the oligopolistic world of OTC derivatives trading, less than 10 dealers probably control at least 95 percent of trading activity (nicknamed the “*Derivatives Dealers Club*” by Robert Litan of the Brookings Institute). As they provide the bulk of trading volume that will dictate the success or failure of individual ventures, these dealers are positioning to control trading through ownership or influence over platforms. As a result, a few SEFs, directly or indirectly controlled or heavily influenced by existing OTC derivatives dealers, are likely to dominate. This will mirror the experience of markets in other financial products.

Regulators have generally tolerated concentrated ownership and oligopolies in market infrastructure, such as SEFs, citing economies of scale and scope as well as limited anti-competitive effects. While true in standard, simple debt and equity securities, it is not clear that this is the case with OTC derivatives. In particular, OTC derivative markets are already exhibiting high concentration, more complex instruments (frequently with non-transparent values), and greater information disparities between participants and the nature of trading.

**The likely outcome of a few dominant SEFs will concentrate market power under the de facto control of the Derivative Dealers Club.**

This is inconsistent with the regulatory objective of greater competition, low barrier to entry, and minimizing potential conflicts of interest.

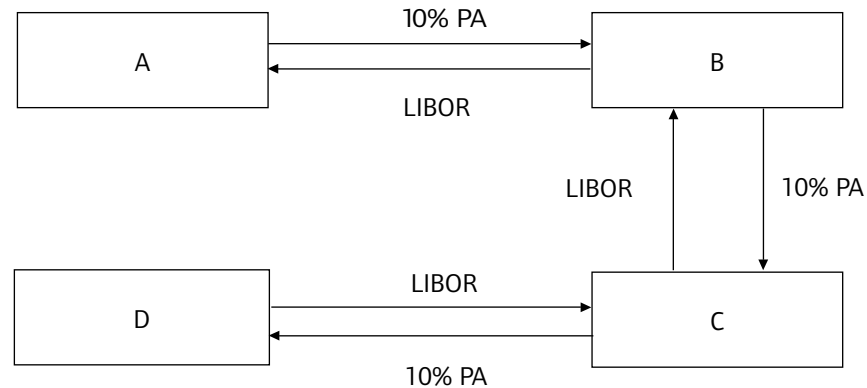
### What's on first...

The CCP is intended for “standardized” derivatives. On Capital Hill in 2009, when asked what was to be included, Timothy Geithner said that he would have to get back to his interlocutor on that point.

In a curious circularity, standardized now

**Diagram 2: Impact of CCP Credit Exposures**

Assume the following 5-year US\$ interest rate swap, where A pays fixed rates of 10 percent p.a. against receipt of floating rate US\$ LIBOR and D undertakes the exact reverse transaction. In this case, A enters into the swap with B while D enters into a swap with C. Banks C and D then move to square their respective positions with each other. On the basis that each swap was for a notional principal of US\$100 million, the total market position is as follows:

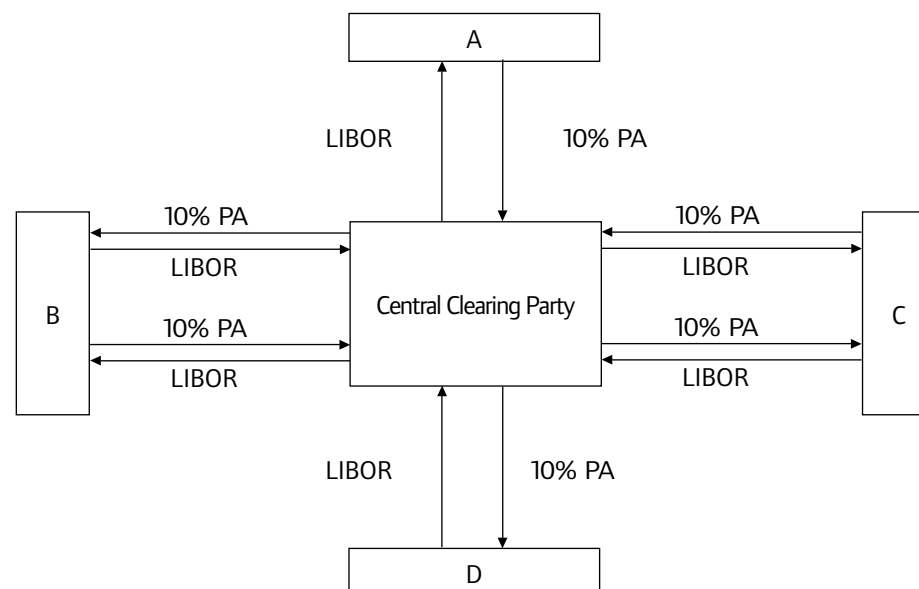


There is now a total of US\$400 million of swaps outstanding. A and D have open positions, while B and C have matched swaps on their books.

If the swap fixed rate rises by 1 percent p.a. to 11 percent p.a., then the gross risk on the US\$100 million swap is US\$3.7 million (equivalent to 1.00 percent p.a. present valued over 5 years). The risk in the market is as follows:  
 A has risk of US\$3.7 million on B.

B has risk of US\$3.7 million on C.  
 C has risk of US\$3.7 million on D.  
 Market aggregate risk totals US\$11.1 million.

Assume that instead of transacting directly with each other, the parties all enter into their respective transactions with the CCP. The position is then as follows:



The market risk position is as follows:

- D has no risk to the *clearing house*.
- B and C have no risks as their payment streams cancel.
- A has risk of US\$3.7 million to the *clearing house*.
- The total market risk falls dramatically with the interposition of the CCP.

means anything that is eligible for and can be “cleared.” Interesting inclusions and exclusions – both in terms of products and parties that must trade through the CCP – are evident.

In the Orwellian framework, swaps accepted for clearing are presumed to be “standard.” Big Brother, the Commodity Futures Trading Commission (CFTC) and the Securities Exchange Commission (SEC), can designate specific derivatives for clearing. European legislative proposals on OTC derivatives published by the European Commission (EC) establish a bottom-up and top-down approach to establishing contract types to be cleared through CCPs. The new European Securities and Markets Authority (ESMA) is tasked to establish instruments to be subject to mandatory clearing.

Foreign exchange (FX) swaps and forwards were originally mysteriously excluded from the definition of “swap” and exempted from clearing. Then, the exemption was removed. Now, there is renewed debate as to whether FX should once again be exempted.

In late 2010, US Treasury Secretary Geithner, with the backing of the New York Federal Reserve, indicated that they were considering an exemption. In November 2010, the US Treasury completed an industry consultation on the possible exemption of FX swaps and forwards from the mandatory clearing requirement under the Dodd-Frank Act. Other legislators globally, especially Europe, are likely to adopt the US position.

Under US legislation, the Treasury Secretary must consider the following in deciding whether to grant the exemption for FX:

- The impact of FX swaps and foreign exchange forwards on systemic risk, transparency, or US financial stability.
- The presence of an existing regulatory scheme for FX, materially comparable to that required for swaps.
- The existence of existing adequate supervision, including capital and margin requirements, adequate payment and settlement systems for FX contracts.
- The potential for use of an exemption for FX to allow evasion of otherwise applicable regulatory requirements.

Where an exemption is granted, the Treasury Secretary is required to submit specific information to Congress on the following:

- Explanation why FX contracts are qualitatively different from swaps, making them unsuited for regulation.
- Identification of objective differences that warrant exempt status.

The well-rehearsed and well-financed banking lobby’s case in favor of exemption focuses on the following:

- FX contracts predominantly have short duration, with low risk. Industry-sponsored studies argue that only 16 percent of FX contracts have maturities longer than 2 years, much shorter than interest rates and equities where the proportion is 55 percent and 40 percent, respectively.
- Dealers draw a distinction between the risk of FX and other asset classes. In OTC derivatives generally, the primary exposure is the credit risk on the current mark-to-market value of the swap, which the CCP is specifically designed to address. The primary risk of FX contracts, dealers argue, is settlement risk; that is, the cross-border funds transfer risk on payments. The dealers believe that settlement risk is already mitigated by CLS Bank, an industry initiative, which since 2002 has provided central settlement in 17 major currencies across six instruments, including FX swaps and forwards.
- Dealers argue that the FX market functioned well during the financial crisis, with no obvious problems, and does not need mandatory clearing.

While the above may be true, there are substantial reasons for FX contracts not to be exempted:

- The FX market globally is very large. It is growing rapidly, with current daily turnover of \$4 trillion (7 percent of global GDP), expected to rise to \$10 trillion by 2020.
- The level of speculative activity is significant, with only around 3 percent of trading related to underlying trade flows.
- The FX market is highly significant economically and commercially. Financial institutions from almost every country are active

in it, and any problem could pose systemic risks.

- It is difficult to differentiate an FX derivative contract from derivatives in other asset classes.
- All derivatives have similar risks, both credit risk and settlement. The credit risk on derivatives is a function of a number of variables – notional amount, maturity, structure, settlement mechanics, and (most importantly) the volatility of the underlying asset. Credit risk on FX contracts, despite their short maturities, can be larger than longer-dated interest rate contracts, primarily due to the volatility of currencies and also the settlement mechanics. FX contracts also generally have embedded interest rate risk in the relevant currency and exposure to the correlation between currency and interest rates. During episodes of market volatility (the collapse of the European Currency Unit in 1992, various Sterling crises, and the 1997/1998 Asian monetary crisis), the credit risk on FX contracts increased sharply, well beyond model projections.
- Settlement risk is present not only in FX contracts but also in all physically settled (rather than net settled) derivative contracts. For example, physically settled commodity derivatives, where parties must deliver and accept delivery of the underlying asset, entail significant settlement risk. There has been no consideration of exemption for such transactions. In any case, management of settlement risk (through CLS Bank) and credit risk (through the CCP) is not mutually exclusive.
- There is no obvious impediment for clearing FX contracts through a CCP. The Chicago Mercantile Exchange has a significant FX futures operation. Most FX contracts are also relatively standardized, facilitating clearing.

It is far from clear why an exemption for FX was entertained. But in late April 2011, the US Treasury opted to exempt foreign exchange swaps.

In effect, debates about standard derivatives and asset classes mean that the type and range of derivative contracts to be cleared through the CCP remains uncertain.



## Who's on second...

If you know “*what*” is to be cleared, then you can move on to the question of “*who*.” The CFTC and SEC are developing elaborate rules that specify included and excluded entities.

Derivative or swap dealers are required to deal through the CCP. US legislation defines a “*swap dealer*” as a person that (i) holds oneself out as a dealer in swaps or security-based swaps; (ii) makes markets in swaps or security-based swaps; (iii) regularly enters into swaps as an ordinary course of business for one’s own account, or (iv) engages in activity causing oneself to be commonly known as a dealer or market maker in swaps.

The unhelpful vagueness of the definition is clarified by the rules exempting entities engaged in *de minimus trading* on behalf of clients. It seems that a “*swap dealer*” is anybody dealing swaps with (i) gross notional amount exceeding \$100 million; (ii) dealing with more than 15 counterparties; and (iii) entering into more than 20 swap deals in the course of a year. There are also provisions to deem entities to be swap dealers when they interact with “*special entities*” such as some governmental entities, where the threshold notional amount is reduced to \$25 million.

Major market participants who are not dealers must also clear standardized derivatives through the CCP. The term “*major participant*” is defined as any person not a swap dealer who (i) maintains a substantial position excluding positions held for hedging, mitigating commercial risk, or employee benefit plans; (ii) where there is substantial counterparty exposure that could have serious adverse effects on the financial stability of the US banking system or financial markets; or (iii) is a financial entity that is highly leveraged and maintains substantial swap positions.

“Substantial position” is defined as a daily average current uncollateralized exposure of \$3 billion for interest rate or foreign exchange swaps and \$6 billion for other swap positions, with specific limits (between \$1 billion and \$2 billion) for swaps in different asset classes. Aggregate uncollateralized exposure means the sum of the current exposure, obtained by marking-to-market using industry standard practices, adjusted for the value of the collateral the person has posted

in connection with those positions. “Highly leveraged” is defined as a ratio of total liabilities to equity in excess of 8:1 or 15:1.

The definitional framework is far from clear. The concept of “*hedge*” is unhelpful. Accountants have billed vast fees advising on the meaning of a “*hedge*” for accounting standards. Lawyers and lobbyists will delight in the repeated use of “*substantial*.”

The use of counterparty credit risk is puzzling. Exposure in derivatives is dynamic in nature, not easily quantified *ex ante*, and prone to change sharply and quickly. AIG didn’t have a problem, until it did. The combination of rising mark-to-market losses on its derivative positions and its own deteriorating credit ratings was crucial in its financial problems. It is not clear who will monitor the counterparty risk and how often it will be tested. The concept of net exposure also places unquestioning and unwarranted reliance on enforceability of netting and set-off agreements.

The use of counterparty risk is also inconsistent. A counterparty that poses systemic risk because of its ability to cause large potential loss is included in the CCP proposal. However, a non-standardized product that may pose an equal systemic risk does not need to be cleared.

## Fellow travelers...

The debate on clearing has created interesting fellow travelers. Banks have been joined by their clients in fighting the proposals. Rolls-Royce, Lufthansa, Delta Air Lines, Cargill, Ford, Procter & Gamble, Boeing, Walt Disney, and various utilities have expressed opposition to clearing derivatives through the CCP. Only those who believe that JFK and Marilyn Monroe are living happily in Cuba with Fidel Castro in a *trois de menage* suspect conspiracy rather than coincidence.

Companies argue that OTC products are needed to hedge their risks. They also argue that the CCP is complex and would place uncertain liquidity demands on their cash flows. Companies want the CCP to be applicable only to derivative dealers. Companies trading with dealers would be exempted from the clearing proposal.

It is not clear how excluding companies will affect the level of market coverage. Dealers claim that excluding companies may reduce coverage

by as much as 60 percent of total volume, which is somewhat at odds with estimates (from the same dealers) that corporate volumes constitute only around 10 to 20 percent of activity.

Exemption of instruments, asset classes (such as foreign exchange), and participants reduces the effectiveness of the CCP. Exemption of non-standardized instruments may prove problematic. A large loss on even a small portfolio of these instruments may imperil large entities, creating counterparty risk problems within the system.

In the early 1990s, a German energy company Metallgesellschaft collapsed and had to be restructured as a result of losses from derivative contracts used in hedging. A mismatch between OTC contracts hedged with exchange-traded derivatives was a contributor to its problems. Enron, another energy company, was active in derivative hedging and trading. It is not clear whether, under current proposals, such firms would be treated as “*major participants*” and required to clear trades.

The system of exclusions and exemptions sets up complex loopholes, begging to be exploited. Standardized contracts may be restructured into non-standard instruments that do not require clearing. Dealers may be able to restructure organizationally to avoid clearing requirements for parts of their business. Large derivative users, not classed as swap dealers, but systemically significant, may be excluded.

To the extent that products are not routed or counterparties are not obligated to trade through the CCP, existing problems remain and new unanticipated risks may emerge. But as American radio and television commentator Charles Osgood observed: “There are no exceptions to the rule that everybody likes to be an exception to the rule.”

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## About the Author

Satyajit Das is author of *Extreme Money: The Masters of the Universe and the Cult of Risk* (forthcoming in Q3 2011) and *Traders, Guns & Money: Knowns and Unknowns in the Dazzling World of Derivatives – Revised Edition* (2006 and 2010).

