

# What is To Be Done With Credit Default Swaps?

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One of the least understood but potentially among the more damaging factors contributing to the crisis in global financial markets is an asset class known as over-the-counter (“OTC”) derivatives and one OTC product in particular known as credit default swaps or “CDS.” Indeed, even were there not multiple financial market crises underway, reforming the CDS market would still be an urgent problem.

What is the problem with CDS? In my view, CDS and the entire OTC derivatives market represents a form of regulatory arbitrage – a retrograde and deliberate evasion of established prudential norms masquerading under the innocent guise of innovation. As in the case for the OTC market for unregistered securitizations, OTC derivatives are essentially designed to generate supernormal returns for a relatively small group of global banks which traffic in these officially sanctioned, but private gaming contracts.

The established norms of which I speak, which were meant to ensure the stability and solidity of our financial markets, have been eviscerated over several decades by the Sell Side dealer community. These banks have bought their way through Washington, using the democratic process of money politics to subvert the Congress, academic researchers and the regulators into at least passive complicity into what could be described as a grand criminal enterprise. But more than mere money, I believe that the world of OTC derivatives and structured finance has brought the global system to its knees because of intellectual capture. But hold that thought.

The basic tension over CDS starts with the fact that these instruments actually increase overall systemic risk. Consider a real world example:

When the auto parts maker for General Motors, Delphi, filed bankruptcy in October 2005, there were between \$20 and \$30 billion in CDS outstanding and deliverable against the \$2 billion in debt outstanding and another \$2 billion in bank loans that were also deliverable against the CDS. Whereas the maximum cash loss to investors in the Delphi default might have been limited to the \$4 billion of extant debt without CDS, the existence of CDS actually multiplied the potential opportunities for gain and loss on the Delphi default nearly 10 fold.<sup>i</sup>

While proponents of the CDS market will and do argue that the “net” exposure from the Delphi default was quite small, the fact remains that the “innovation” of CDS actually created a multiplicity of new risks around the existing cash default of Delphi, risks whose sole benefits seem to be a) providing speculative opportunities for a certain class of market participants – I won’t call them investors, because often they are not -- and b) generating commission for CDS dealer banks.<sup>ii</sup>

In a commentary that we published this morning in *The Institutional Risk Analyst* along with a copy of my comments and an interview with our friend Nouriel Roubini, Martin Mayer said to me: “Credit-default swaps were always a bad idea, because they rest on the false premise that statistical sampling from historical evidence can replace knowledge of the borrowers in the creation of bank loan portfolios. Among the lessons taught but not yet learned in the ongoing horror story at the banks is that the insurance of financial instruments is an activity that can be safely conducted only by governments.”<sup>iii</sup>

Apart from the fact that CDS seems to increase the overall risk in the financial system by multiplying the actual legs of risk and, of course, the opportunities for gain and loss associated with a given cash basis – bonds, collateralized debt obligations, or any reference asset – the practical problems with CDS contracts come from several basic flaws in the regulatory, legal and business model for these instruments, deliberate flaws that include:

- An archaic, bilateral clearing scheme that has only recently begun to be reformed,
- A deliberate lack of standardization and price transparency that advantages the CDS dealer,
- No common central counterparty to guarantee all trades and to hold collateral, and thus no effective limit on dealer leverage, and
- A schizophrenic pricing methodology that has little connection to the several different types of underlying market and credit risk contained in CDS contracts

Let me address each of these issues briefly, in ascending order of my concern, and then I look forward to our discussion.

### **Centralized Clearing**

Many of you who are interested in CDS and OTC derivatives more generally no doubt know about the issue of clearing CDS. In the early days of CDS, parties would attempt to trade contracts in the secondary market. But because these partially standardized private contracts had to pass through the hands of a lawyer before the contract could be assigned or “novated,” secondary market trading began to run ahead of the clearing process and a huge backlog of trades accumulated. Sometimes contracts would be assigned multiple times before the first trade was even cleared.

My former boss Gerry Corrigan convened a panel of bankers, CDS dealers and their minions in the risk community to opine about how to address the horrible, horrible problems of OTC clearing of CDS contracts, a problem keep in mind that the dealers had themselves caused – with the full blessing and encouragement of their clients in the Congress and the regulatory community.

The pontifications of The Counterparty Risk Management Policy Group, inspired by Corrigan from his post as risk honcho at Goldman Sachs, illuminated the issues very nicely, but the dealers moved ever so slowly – at least until the wheels started to fall off the proverbial tricycle in 2008 with the collapse of Bear Stearns.

The good news is that the issue of clearing these private contracts known as CDS has basically been solved by the hard work of the dealer community, ISDA, the DTCC and the FRBNY. The bad news is that the work done to address the issue of clearing was essentially recreating the proverbial wheel. More, the policy hullabaloo in and around the issue of clearing, so magnificently orchestrated by the CRMPG II-III, etc., was essentially a canard, albeit a necessary one. The operational risk revealed by the discussion about reforming the bilateral clearing heretofore used in the OTC CDS markets obscured for years the more significant issues of collateral and pricing.

Just as the mortgage industry gamed the regulatory system for lending, the CDS dealer banks led by Goldman Sachs, Citigroup, JPMorgan Chase have gamed the political equation in Washington with great skill, delaying the inevitable process of reform in OTC markets so as to extract every last dollar of regulatory arbitrage rent before change is compelled. For those of us who've played the Washington game as advocates for clients, such achievements demand recognition.

### **Lack of Standardization & Price Transparency**

Despite what you read in news reports, there are no reliable, public prices available on CDS contracts, at least when compared in qualitative terms with the prices available from the multilateral exchanges such as the NYSE or CME and aggregated prices from the myriad of independent trading systems. Until about 2006 it was difficult for even the large data vendors such as Bloomberg, Reuters and others to obtain reliable access to CDS prices. The CDS community fought them every inch of the way because the dealers wanted to maintain maximum market opacity and thus maximum rents.

The indicative CDS prices available today via vendors such as Bloomberg and others show roughly where the markets have been trading, based on surveys of dealers, but there is no public, continuous record of CDS trades that is comparable to the data available to investors and regulators from the major cash and derivatives exchanges.

While the available pricing for other OTC derivatives is extremely good and tracks the highly visible cash basis that underlie many other derivatives markets, OTC and exchange-based. Whether you are talking about currency swaps or a straight fixed-floating cash flow exchange, the world of OTC derivatives ex-CDS is largely commoditized in line with the exchange-traded products.

The trouble with CDS, both single name and the more customized CDS written against CDOs and other credit exposures, is that the cash basis is often illiquid and thus obscured from view, making the pricing a subjective exercise even were it to occur in a visible, multilateral market context. Now my colleagues in the CDS markets say that price

transparency of single names is not *really* an issue per se because of price testing and the fact that dealers must show clients marks where they have trades on their own books. People do have the same value on their respective books for plain vanilla CDS. The issue of whether one can really unload a large position at this price is a different matter, but the same could be said today for the equity of troubled financial firms traded on exchanges.

But note that few if any CDS traders would say that the current price is a good predictor of default, just that the market agrees on a number. Witness the fact that CDS for Citigroup closed Friday below 5% premium per year. And keep in mind that there is little to no secondary market trading in CDS – known as novation – especially now that the DTCC and FRBNY have forced the CDS dealers to use a centralized clearing system. The prices you see are where dealers will write new CDS, new “barrier options” as one CDS trader at a top corporate pension fund likes to call them.

To square off an extant position in single name CDS, counterparties now write new contracts and match them against existing exposures using the facilities of the DTCC, thus creating more operational legs of risk albeit under the aegis of the clearinghouse. I have no doubt that Don Donahue and his colleagues at DTCC will handle the task, but you cannot look at the current operational risk profile of the CDS market and see anything other than a retrograde mess that was encouraged and allowed by the Congress and federal regulators.

When pricing occurs within the context of a bilateral relationship between the client and the dealer, without the benefit of public reference pricing of the basis available in a liquid cash market for say US Treasury bonds or dollar/yen swaps, the result is an inefficient market by design. Remember, the practical object of CDS is to synthesize a short hedge for an illiquid cash instrument, a corporate bond in the case of a single-name contract or the tranche of a CDO or a corporate loan – really any credit risk exposure – that does not exist in the cash market and is thus speculative. Add the deliberate inefficiency in this market that I will discuss below and it seems reasonable to ask members of Congress and the Fed’s Board of Governors, why such a market structure outcome as OTC CDS is in the public interest?

### **No Central Counterparty**

While much of the public policy community’s focus when it comes to CDS is on the back office issue of clearing and settlement, it is the more basic issue of the lack of a central counterparty that has been crucial in making the financial crisis worse than it should have been, specifically in the case of both Bear Stearns and Lehman Brothers. Because many other dealers and end users “faced” these firms with bilateral CDS contracts and could not be sure that the trades would be good if these firms defaulted on their CDS positions, the fact of the bilateral nature of the OTC derivatives markets arguably increased risk spreads and made these liquidity crises worse than might have been the case a decade before.

In the bilateral world of CDS, the two counterparties face each other and issues such as collateral and margin are governed by a private treaty between the two parties, usually governed by the templates established by ISDA. Even when the two parties use the facilities of the DTCC, the clearinghouse does not guarantee the trades as does a central counterparty at the NYSE or the CME. Instead, whether the trade is “good” depends entirely on whether the paying party performs.

So great is the risk due to the lack of a central counterparty that the CDS dealers banks, ISDA and federal regulators have taken great pains over many years to give these gaming instruments a senior, privileged position before the law. CDS contracts and other qualified investment contracts in the OTC world have been made exempt to the automatic stay in bankruptcy and are even senior to the other creditors in a bankruptcy estate, should the receiving party need to file a claim as was the case in the Lehman Brothers default.

These after-the-fact attempts to fix the purposefully designed imperfections in the CDS model are hideous in Constitutional terms and, again, show that in “fixing” the CDS model we are again recreating the wheel. In a multilateral exchange, the issues that ISDA and the dealer banks have spent millions and millions of dollars in legal and lobbying fees to fix should have never existed in the first place.

This basic difference between the bilateral OTC model and the multilateral exchange model is made more compelling when you consider the issue of collateral. Whereas in the exchange model an impartial third party, the exchange, holds the collateral for all counterparties, in the bilateral OTC world of CDS contracts, the margin is agreed between the parties and not subject to the collective oversight of an independent exchange credit or operating committee.

Whereas in a multilateral exchange model the several clearing members govern and police the credit parties of all market participants, in no small part because of their joint and several liability for all trades, in the bilateral OTC world of CDS the level of collateral and thus effective leverage is entirely opaque.

Thus not only is the crucial issue of customer collateral and initial margin left entirely to the discretion of the dealer, but the dealers themselves and amongst themselves have tended to have little or no collateral behind CDS and other OTC derivatives trades. This fact led the FRBNY and DTCC to lead a concerted effort to pare back total CDS positions from more than \$50 trillion in 2007 to less than \$30 trillion at the end of 2008.

The irony of this effort to reduce gross CDS positions is that this is precisely the same role that an exchange operating committee routinely plays to maintain balance between longs and shorts on many standardized contracts. But in the case of CDS, we had to once again recreate the wheel via an extraordinary effort by ISDA, the DTCC and the FRBNY to fix a problem that we ourselves created.

It is very telling that a year into the crisis, the Fed still refuses to enforce any type of credit margin discipline over the dealers in the CDS markets, this by raising collateral requirements on dealer positions to realistic levels. Thus the short-selling pressure on C and other wounded money centers is magnified many times above the true pool of investors with hedging needs, including the much maligned ranks of the hedge funds.

Think about it: If you as a dealer are writing default protection on C to hedge fund clients, how do you hedge the position? You short C's common, preferred, debt, options – anything you can find. Once the again, the risk-multiplication properties of CDS allow more and more players to join the game, long and short. But only half of them will be winners and the downward pressure on cash equities and debt is reflected in the price of C this morning. And unfortunately many of the losers in CDS are commercial banks around the globe.

While I have been critical of those few hedge funds that do or at least did write naked CDS positions without adequate capital, an issue that almost led the New York State Insurance Department to unilaterally begin the regulation of CDS counterparties who were writing risk for regulated insurance companies last year, it now seems that it's the large bank dealers themselves which are the weakest link the chain in terms of systemic risk both directly and through their leveraged clients.

Consider an example. One of the benefits of CDS is something called “differential leverage – which is when a broker dealer lends a hedge fund money to pay for CDS contracts, but then pretends to be covered on the credit exposure. In a multilateral, exchange traded model for CDS, both the dealer and the end user hedge fund would be required to show the risk position. After all, most hedge funds – the ones that don't have significant insider money – aka capital – are merely extensions of the dealer's own inventory.

### **Pricing of CDS: Jekyll & Hyde**

During a trip to Reykjavik last year, when I gave a talk entitled “Credit Default Swaps and Other Acts of Satan” to several hundred cheering Icelanders, some of the discussion I had the previous week with several senior actuaries from several large insurers came into focus.

Specifically, I was troubled by the dichotomy of several clients of mine who use CDS for volatility trading, often against completely unrelated assets – for example, long cash exposure on Brazilian banks but short via CDS against sovereign Brazil -- while the people in the insurance industry were pricing the same contract against what they believed was a long-term, through-the-cycle default risk.

In other words, the former group was pricing the CDS off short-run volatility (i.e bond yields) while the latter were at least trying to formulate an opinion between the probability of default of the underlying reference obligation. The valuation and VaR numbers generated for the same contracts by these two groups of users were very

different and, as we can see in the marketplace, this difference is not trivial. For my client, the long cash Brazil banks/short Brazil sovereign via CDS, worked perfectly, but not all players are so lucky.

Losses caused by mispriced CDS contracts nearly caused the bankruptcy of several bond insurers during 2008, including MBIA (NYSE:MBI). In the wake of its near-death experience, MBI has split itself into two new companies and has publicly foresworn the use of CDS in hedging its credit exposures in future. Indeed, it seems likely that once MBI collapses the “bad bank” of legacy CDS exposure, it will return to the higher margin world of public bond insurance – assuming that public sector issuers wish to use insurance.

The experience with MBI initially caused the State of New York to propose a draconian regulation of CDS that would have compelled entities writing protection to regulated insurers to demonstrate the ability to pay on the contract – a funding requirement that would drive most dealers out of the default insurance market and leave what remained to the chronically overcapitalized, hold-to-maturity world of insurers.

Then we have American International Group, which was the recipient of a vast public bailout last year financed by the Federal Reserve Bank of New York, apparently for the benefit of Goldman Sachs and AIG’s other CDs counterparties, come in large part from the writing of CDS contracts on complex structured assets that AIG did not understand. AIG’s sin was thinking it could buy low-risk growth through CDS, but even veteran CEO Hank Greenberg failed to understand the true risk of insuring high beta credit losses.

The sad part is that in chasing growth by taking risks with CDS, Greenberg and AIG were entering a relatively low-margin business compared with the mid-double digit risk adjusted returns found in traditional, low-beta insurance. The trouble is that the real economy does not grow very fast compared to the open-ended growth of derivatives. And it is to create the illusory, notional “growth” via derivatives that is the real point of the OTC model. But that said, not all of the losses at AIG came from CDS and I suspect we shall hear more about that this week.

Likewise, the solvency and liquidity problems of some of the largest banks have been exacerbated by CDS, both due to exposures taken by the banks as a result of their underwriting activities in areas such as structured finance and related hedging by counterparties. In the case of C, the structured exposures include obligations which remain on the bank’s books from creating CDOs and “simulations” of these deals created with minimal cash collateral. As in the case of AIG, there is a growing group of credit and risk analysts on Wall Street who believe that C’s structured exposures could be the largest source of loss to that organization through the credit cycle.

“When CDS first began to appear in the markets, traders did try to do some work on the probability of default of a given name,” a senior risk manager in New York told me last year “Unfortunately, all of these efforts have been dropped in favor of a more efficient if less sound methodology based upon short-term volatility.” The risk manager, who is

responsible for the credit portfolio of one of the largest universal banks in the world, goes on to say that while he expects to see CDS evolve into a different product configuration, he doubts that an exchange model will work because "it implies a huge decrease in leverage" for the dealer banks.<sup>iv</sup>

The fact of the matter is that, in many financial institutions, single name CDS has become a tool for supporting equity prop trading, not insuring against obligor default. Most traders of CDS have no idea about the probability of default or P(D) of the underlying credit. Nor can they demonstrate why the spreads on a given CDS contract has any relationship with the underlying P(D) credit basis, the cost of funds for that name, or anything else.

And where do CDS traders get their P(D) for their tactical trading desk "models," if we can dignify these methods with that label? Well from the Bloomberg terminal of course! Bloomberg and other global data vendors calculate what is called P(D) based on - you guessed it - volatility! Equity volatility, bond volatility or just the VIX, depending on the trader and CDS contract. It is just market prices and efficient market theory all over again.

As long as the players of this version of Liar's Poker agree that the P(D) on the Bloomberg is right, the market appears to function. But the basic relationship between spread/price in no way adequately quantifies the actual risk of default or the cash flow requirements for a provider of protection. CDS spreads are all just about trading short-term equity volatility, thus our long standing position that using CDS spreads as an indication of credit worthiness is a truly ridiculous position, especially when CDS spreads are used in contracts and securities indentures!

Given the description above, we must ask: is the dealing of CDS within large global banks "safe and sound?" Does allowing large banks and their institutional clients to trade CDS vs. ephemeral benchmarks such as equity volatility not put the entire global financial system in peril? Well, we may find out the answer to that question sooner rather than later.

### **What is to be Done?**

When the political classes of the industrial nations reckon the final cost of managing down the CDS bubble, the only sane alternative, I believe, will be to divide the current CDS product into a liquid, exchange traded bond option to help traders track short-term volatility and an OTC insurance product for actually hedging corporate bond defaults with substantially higher collateral requirements than the nonexistent initial margin levels that prevail inside the major dealer banks.

My discussions with end users of derivatives suggests that a reasonable minimum margin requirement for all parties writing OTC CDS would be something like 3% of gross exposure for contracts quoted between 0 and 100 bp of spread or in very crude terms reflecting a probability of default of less than 1%. Contracts trading 100-200bp would

require 5% margin, 200-300 7% and so on. These margin levels, which are far higher than the effective margins enforced upon CDS dealer banks today, should be universal and enforced on dealers and end users alike.

You will notice that I am not explicitly endorsing the position initially taken by the House Agriculture Committee earlier this year, also initially taken by the State of New York insurance commissioner and in my earlier writings, that the buyers of protection need to deliver the underlying cash collateral to collect the protection. Instead, I believe that by bifurcating the current CDS model into an exchange traded bond contract to serve as a volatility hedge and an OTC default insurance contract to hedge the economic risk of default, we can achieve the same effective goal as a draconian delivery requirement without killing the true innovation that OTC instruments represent.

Are you surprised to hear my call OTC contracts innovative? Don't be. When I left the Fed of New York in the mid-1980s to go to join the London branch of Bear Stearns & Co.'s fixed income sales unit, I was fortunate to work with people like David Setchim, Joe Calvo, Paul Murphy, Gregory Stupnitzky, and Peter Drittel – all trading pros who knew and loved illiquid markets. While trading cash markets was our primary business, we also began to work on very rudimentary interest rate and currency swaps.

Later, a group of Citibankers arrived, including Vicki Black, with HP-12 and yellow pad in hand. Vicki began to teach us how to do odd-period calculations for currency swaps on our brand new toys. Soon Joe had the first IBM AT PC complete with a Lotus spreadsheet to calculate bond convexity and we were off to the races. And not long after that, the New York desk of Bear was looking to us to swap their unsold Yankee bonds into floating rate so we could put it away forever with our clients in Japan and elsewhere.

The OTC model for derivatives owes its origins to these early days, when money market and currency traders took the lightly regulated market for institutional trading and catapulted around all of the existing regulatory and management norms. Since those early efforts with plain vanilla swaps, the OTC market has expanded to gigantic size, although it now seems to be shrinking at an accelerating rate. The uses for these contracts are as varied as the types of contracts and thus essentially open ended, but what is lacking area reasonable limits on leverage, reasonable requirements for transparency and the will to enforce same.

My hope is that as we move forward with the solution to the financial crisis affecting our banks and the attendant impact on the global economy, we are going to have a discussion about the best model for the OTC markets and particularly things like CDS. In terms of issues like collateral and a central counterparty, a case can be made that most OTC contracts which are largely homogenous can and should be shifted to an exchange model.

While I expect that the OTC dealers and ISDA will react negatively to such a proposal since, in the case of single name CDS contracts written again corporate issuers, something like 80% of the volume would migrate to an exchange traded model, I believe that the public interest argument here for embracing the traditional, multilateral exchange

model that has been the norm in this country since the Great Depression is overwhelming.

Look at the fact that once Blue Chip names such as General Electric and Berkshire Hathaway are under severe pressure in the market due to the investor uncertainty regarding derivatives, structured finance and other exposures, and you will begin to appreciate the true economic and societal cost of an unregulated and undisciplined OTC market. We need to give investors better information about the risks taken and how these risks are underwritten and offset with respect to all instruments and exposures, regardless of where and how they trade.

It is no small thing for a conservative libertarian to sit her an tell you that we need better regulation, but we need to remember that while efficiency and innovation are wonderful things, our Founders often embraced deliberate inefficiency and conflict in order to protect our nation from the short-term whim and caprice of a political majority, including wealthy interests that buy their way through Washington.

The prudential rules that are necessary to govern the safety and soundness of financial institutions or the clearing members of a multilateral exchange have the same origins as the checks and balances and transparency that is meant to support and protect our democratic process. All that I am suggesting today is that we bring the CDS market fully into the light of transparency by listing most of these contracts on exchanges, that we require adequate capital and collateral for all players in both exchange and OTC markets, for end users and dealers alike; and that we force parties writing default protection to show that they understand the risk implications of same. Thank you.

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<sup>i</sup> See Boberski, David, [CDS Delivery Option: Better Pricing of Credit Default Swaps](#), Bloomberg Books (2009), Pages 101-104.

<sup>ii</sup> The classical definition of an “investment” is the deployment of principal with the reasonable expectation of repayment plus a return. Buying CDS contracts in the hope that the issuer will default does not fit within this definition. Rather, such activity could be described as buying “insurance” or less generously, as gaming.

<sup>iii</sup> See also the interview I did with Mr. Mayer last year: ['The Vigorish of OTC: Interview with Martin Mayer', June 12, 2008](#), *The Institutional Risk Analyst*.

<sup>iv</sup> “Bank Stress Index Up in Q3; Will the Final Solution for CDS Start in EU?,” *The Institutional Risk Analyst*, Dceember 1, 2008.