

Sense and Nonsense in the Current Debate about Credit Derivatives

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In 2007 credit derivatives moved out of the shadows of esoteric finance when the whole financial community realised that credit derivatives were the likely proximate cause of the seizing up of the money markets. As events unfolded we found that credit derivatives had insinuated themselves into the inner workings of capital markets generally. Newly discovered doubts about how to value these assets led to very big mark-downs that ultimately felled a number of major banks and clogged up the functioning of credit markets generally.

Time has moved on, the crisis has deepened and spread, and great minds are concocting grand schemes for reforming our financial system. In these schemes the sorting out of problems with credit derivative markets has become a minor subplot in the broader theme of increasing transparency.

Indeed for many the issue is settled. Credit derivatives are judged guilty as charged and should be hauled off to jail with no further ado. George Soros would shut down the market for credit default swaps (CDS), the simplest of all credit derivatives because they make the short-selling of corporate debt too easy.² This would be the inevitable result of banning CDS for all but hedging purposes. Joe Stiglitz would require the use of credit derivatives by regulated institutions be restricted to hedging purposes certified by a financial products safety commission and would force them all into standardized straight-jackets traded on exchanges.³

Other, less draconian proposals would bring the credit derivative markets firmly under regulatory supervision with information about positions by all counterparties, both banks and non-banks, being collected and consolidated so that their contribution to systemic risk can be measured and assessed. The alternative initiatives to create Centralized Counterparty Clearing for all credit derivatives are central to these efforts.

The underlying objective of all this is to allow transparency on exposures and the timely adjustment of collateral values as conditions of the underlying credit and/or credit protection seller change.

In short there is a general move to place world of credit derivatives on a universal mark to market basis.

The need for such reforms is so widely accepted that it appears mysterious to some that these were not put into place long ago. For example a group of prominent academic economists has called for requiring “without further delay a centralized

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² G.Soros, “The Game Changer,” *Financial Times*. January 28, 2009.

³ J. Stiglitz testimony before the Congressional Oversight Panel on Regulatory Reform, January 14, 2009.

clearing counterparty for all CDS trades.”⁴ The suspicion is that lack of transparency has been achieved by design so that bankers thereby can engage in their nefarious practices of regulatory capital arbitrage and selling bad assets as good to unsuspecting buyers with the connivance of credit ratings agencies.

No doubt in some, perhaps many, cases these suspicions are justified. Structurers, lawyers, quants, and credit raters all can benefit from a bit of time on the couch deconstructing their world views and asking what justified their salary over the last few years.

However, it is important to realise that there are good reasons why bringing transparency to credit derivatives may not prove to be easy. Before rushing headlong into diverse efforts reform or possibly kill off credit derivatives it is important to try to understand the reasons why credit derivatives trading has developed largely on an OTC basis and what might be lost as well as gained by alternative reform proposals.

As I have noted already many of the current calls for regulatory intervention focus on credit default swaps. This is somewhat paradoxical because the CDS is the simplest of credit derivatives, has proved very popular with a variety of users, and during most of the period of this market’s growth through 2007 achieved the effective risk spreading benefits that credit derivatives hope to achieve.

During this period of exponential growth there were regulatory concerns, voiced most loudly by the FED, about the potential operational risks associated with clearing and settlement. These worries were proved justified by the Lehman bankruptcy which has set off an enormously complicated process of reconciling conflicting claims of counterparties on collateral held by a large number of sub-custodians falling under the bankruptcy rules of their respective jurisdictions which are large in number. This cannot be described as anything other than a colossal mess. It has given strong impetus to the efforts by the industry and the regulators to channel the CDS market through one or more central counterparty clearing institutions (CCPCs).

The move toward CCPCs is surely sensible, and, to the extent that regulators can help in keeping momentum in the process and guiding industry toward an efficient standard for CDS clearing, this public sector involvement is very welcome. Currently there are a number of initiatives that are in operation or are close to being operational either in Europe or the US. These include those of the CME, NYSE Euronext, ICE, Bclear, Eurex, and LCH.Clearnet. Among specialists there is some range of opinions as to the relative merits of these alternatives and also of role of national or international regulators in their approval. It seems likely that these issues will be resolved reasonably soon and that central counterparty clearing of CDS’s will be the norm by the end of this year.

This is good news in that it should eliminate many of the operational problems in the CDS market. However, will it result in a much higher level of transparency as has

⁴ M. Dewatripont, X. Freixas, R. Portes (eds.) *Macroeconomic Stability and Financial Regulation: Key Issues for the G20*. CEPR, February 2009, p.4. The editors of the volume also recommend G-20 leaders “Consider going further to require that CDS be exchange-traded and consider prohibiting CDS that do not insure a holder of underlying asset (naked CDS).”

been hoped? Here the gains will be somewhat limited. To understand why we need to recall that in a single name CDS a credit protection buyer (e.g., Barclays) agrees to pay a credit protection seller (e.g., SwissRe) a regular payment called the CDS spread in return for the promise that in case of default by an underlying name (e.g., Siemens) the credit protection seller will pay the protection buyer the full face value in exchange for a bond on that name. As a result, the market value of a CDS contract will involve pricing at least three risks: (a) the *risk of an ultimate default* as reflected in the current probability of default (PD) and loss given default (LGD), (b) the *mark-to-market risk* associated with future fluctuations in PD and LGD even though an actual default has not occurred, and (c) the *counter-party risk* that the credit protection seller may not honour its promise in the case of default.⁵

Now the introduction of CCPCs combined with a smooth functioning of margining holds the promise of eliminating or at least greatly reducing counterparty risk. This is no small thing. Indeed a major problem with OTC derivatives is that over time as positions are adjusted in the face of changing circumstances the outstanding contracts tend to accumulate. It may be that in these contracts the risks on the underlying name are largely cancelled out, but the counterparty risks simply accumulate. CCPCs should net those positions out.

This means that with trading channelled through CCPCs the value of the CDS contract in the market should be a clearer reflection of the market's view on the PD and LGD of the underlying name. Assuming that this price is determined in a well-functioning liquid market and is reported publicly this should promote the usual benefits of information sharing that we hope for in any financial market. However, given the huge number of underlying names that have been the object of CDS contracting, the caveat on market liquidity is an important one. We will return to this issue below when we consider proposals for trading CDS on centralized exchanges.

The second way that CCPCs can aid greater market transparency is in pooling information about total counterparty positions. This potentially can be of use in identifying concentration risks and helping to avoid a system threatening failure comparable to the AIG Financial Products collapse. The regulators clearly need to take the lead in assuring that pooled information on counterparty exposures is directed in a usable form to the appropriate authority. Here the initiatives need to be well coordinated with current efforts create systemic risk regulators in each jurisdiction and in the pooling of information internationally.

Turning now to the more radical proposals for reforming CDS trading, what are we to make of the proposal to require their trading on centralized derivatives exchanges? I find this proposal decidedly unhelpful because it immediately sends the debate into the quicksand of jurisdictional issues between the SEC and the CFTC at least in so far as it concerns firms regulated in the United States. This is not to deny that some trading of CDS's could usefully be carried out on centralized exchanges, but there is no strong reason for compelling all CDS trading onto such exchanges.

⁵ This omits at least two additional risks, namely liquidity risk and the risk associated with fact that upon default more than one of the notes or bonds issued by the defaulting party will be deliverable under the terms of the swap.

From long experience with derivatives on commodities, interest rates and equity indices, it is clear that trading on centralized exchanges thrives when a standardized product can be devised which provides an adequate cross hedge and decent benchmark to be used in relative pricing of other contracts traded in OTC markets. Designing such standardized products can prove tricky; however, there is no reason to suggest that product design should be put in the hands of public regulators. Their role, if any, would seem to be in bringing the major market participants to the table for discussions in the hopes that a consensus on an industry standard might emerge. However, even here it is not clear there is much to be gained by strong intervention by regulators. The CDS OTC market for credit indices already exists, and channelling this trading through CCPC's will bestow the same benefits of reducing counterparty risk and information pooling on counterparty concentrations as for single name CDS. The question of whether a given participant should trade using single named products or index products involves the familiar trade-off between basis risk and liquidity. It is best to leave industry participants to decide for themselves how they come down on this trade-off.

What about proposals that the use of CDS contracts be restricted to be for "hedging purposes" only. Again this echoes an old debate familiar in commodity derivatives markets. Indeed the distinction between hedging and speculation was central to the 1936 Commodity Exchange Act which attempted to curb "excessive speculation" and is still reflected in the regulatory approach employed by the CFTC. In that sphere the difficulty of distinguishing hedging and speculation in practice has meant that this aspect of the CEA has relatively little real effect.

A "hedging only" restriction would be difficult to implement in the CDS market, without killing off the market entirely. Taken literally it would mean that both the credit protection buyer and the credit protection seller should be able to demonstrate a hedging motive. This would mean that the protection buyer would need to tie the CDS trade to a long position in the underlying name and the protection seller would need to have a short position in the same name. The chances that two parties would possess such complementary positions would be so low as to make the likelihood of finding a matched trade virtually nil. Thus it would be natural to allow the hedging demand for credit protection to be met by "investors" (to avoid the S-word) who sell the protection hoping that the default risk can be diversified away in a large portfolio of short CDS where the correlation of defaults would be low.

What then of a modified proposal that regulated entities be restricted to using CDS for hedging only? There are several reasons why this also is a bad idea. First this ignores the fact that there are very good and natural reasons why banks who often seek credit protection through CDS purchases may also want to sell CDS. First, a CDS sale may be meant to cancel the effect of a previous CDS purchase on the same or closely related name. More importantly, like any insurance type of operation, purchases of credit protection with CDS can be very costly. It is a common and legitimate practice by banks to finance their purchases of CDS on some names by sales of CDS on other names. In this way they can reduce their concentrated exposures and increase their exposures in sectors where they have no concentration.

A third reason why restricting regulated firms to hedging only strategies in CDS is bad is that this would effectively kill off cross hedging with indices and also

effectively undermine the push for trading on centralized exchanges which the exponents of “hedging only” also are promoting. For it is not practical to construct a test of a hedging motive based on a purely statistical measure such as historical correlation. As will be discussed when we turn to portfolio credit products, the estimation of such correlations is not easy and it is subject to change in different market conditions. Beyond this it would be very difficult for a regulator to set and defend a reasonable standard for the degree of correlation required to demonstrate a hedging motive.

For these reasons a “hedging only” rule would effectively give strong encouragement to use single name CDS only. Existing hedge accounting rules as well as Basel II rules on credit risk mitigation already give powerful incentives to prefer single name CDS over indices, and there are other reasons to think that giving further incentives could have adverse side-effects. In particular, one of the arguments that has been made against hedging and credit risk transfer by banks is that it decreases the banks’ incentive monitor their borrowers or, put otherwise, it waters down underwriting standards.⁶ Recent studies of this question have made the point that, while bank hedging *may* reduce the incentive to monitor borrowers, to the extent that the hedge simply protects against business cycle or sector specific shocks it can actually encourage banks to increase their monitoring of their customers and to mitigate their risk taking.⁷ Hedging against general business conditions or sector specific shocks is precisely what index cross-hedges can do well. Thus discouraging their use by a “hedging only” rule for regulated firms is not very intelligent.

I will not discuss the proposals to entirely ban CDS trading, not because these proposals are without merit (which they are), but rather on the grounds that anybody who takes such a proposal seriously almost surely has not had the patience to follow our argument to this point. Instead I will now turn to proposed remedies of problems that the crisis has revealed in the trading of credit products such as CDO’s, CLO’s and other structured products based on portfolios of credits. Here I will argue that the reform proposals currently on the table are sensible in part but that they are also in part miss-directed and too timid.

The structuring business has been for the last ten years and still is today a ratings-based business. The promise of structured credit products is to reduce the cost of debt capital by diversifying specific risks associated with particular borrowers across a large population of investors. The crisis has shown that structured products have not always delivered on this promise because the conditions for effective diversification were not present in many products. For example, despite all the slicing and dicing the positions held by IKB or investors in CDO-squared products basically boiled down to long positions in the US sub-prime market.

This realisation that structured products were not delivering effective diversification has given rise to the vigorous pointing of fingers to attribute blame, and not surprisingly a consensus has now emerged that the main culpable parties are the credit

⁶ See, e.g., A Morrison, “Credit Derivatives, Disintermediation, and Investment Decisions,” *Journal of Business*. 2005, (78) 621-647.

⁷ G. Chiesa, “Optimal credit risk transfer, monitored finance and banks,” *Journal of Financial Intermediation*. 2008 (17) 464-477.

ratings agencies (CRAs). There are now calls for a variety of proposed reforms affecting CRAs including that they should be placed under tight surveillance by public regulators, that they should be prevented from both rating credit products and also giving advice on the design of those same products, that they should disclose the data and methods used in making decisions on ratings, that they should differentiate the ratings they make on structured products from their ratings of conventional bonds and notes, and, most radically, that they be forced to abandon their business model of charging their service to the issuers and instead charge the investors.

While this is an agenda for dramatically changing the role of CRAs, the heart of the issue as far as structured credit products is concerned is their role in transmitting information about the risk of structured products to investors. When investors realised in 2007 that the highly rated tranches CLO's had been backed by sub-prime mortgages, it seemed obvious that CRA's had failed to communicate information that was relevant to assessing the risks in these investments. This has led to calls to force ratings agencies to modify their practices on structured credit products to explain their methodologies and divulge greater amounts of information on asset pools being securitized.⁸

It should be stressed that the failure to communicate risk relevant information to investors is a problem for the sector as a whole and not just CRAs. It also involves the banks and other firms that originate the loans, those that structure the loans, and those that service the securitised products once they have been sold. All of these play a role in collecting and aggregating information that can be relevant to understanding the risks in structured credit products. By themselves, regulatory efforts for greater transparency of CRAs are not likely to do much to improve the quality of information transmitted to investors. The whole information chain needs to be reconsidered and improved.

This has led for a call by some academics to make public the "entire set of data available to the arrangers and servicers."⁹ While this may seem like an overly ambitious proposal that has no chance of ever being implemented, in fact the reasoning behind it is sound and deserves serious consideration. The proposal is based on the observation that, in the process of rating structured credit products, CRAs discard a lot of risk relevant information. Since the information exists why not simply make it public (after taking proper steps to assure anonymity) so that it can be used to confirm or supplement the summary information contained in the rating? This full information would not be contaminated by any biases introduced by inadequate modelling by CRAs or, worse, ratings inflation caused by ratings shopping. What is especially attractive about the proposal is that it puts the emphasis on information collected by the originators of the underlying loans. Consequently, any weaknesses in underwriting standards could be revealed either by the data collected on the loans or by the omission of important information.

⁸ Committee on the Global Financial System "Ratings in Structured Finance: What Went Wrong and What Can be Done to Address Shortcomings?" BIS, CGFS Paper No. 32 (July 2008).

⁹ M.Pagano and P. Volpin "Credit Ratings Failures: Causes and Policy Options" in M. Dewatripont, X. Freixas, R. Portes (eds.) *Macroeconomic Stability and Financial Regulation: Key Issues for the G20*. CEPR e-book, February 2009, p. 144.

There are problems with this proposal however. First, it calls for the disclosure of “available” data only. What if originator does not possess the risk relevant information? Would this be an invitation for originators to be “ignorant by design” and censure the kind and amount of information they keep, thus maintaining the same degree of opacity that has prevailed in the past? Second, is it really helpful for investors to have all the information available to originators in undigested form? If the costs of extracting the risk relevant information are excessively high, no investor would find it worthwhile to do so.

For these reasons and because such a broad proposal is likely to make no headway against solid opposition from the industry, it is hard to escape the conclusion that a more focussed reform in which public regulators lead the way stands a better chance of delivering effective improvements. Why does this need the intervention by public regulators? They have the advantage of being able to overcome collective the action problem that industry participants may have no private interest to divulge their information for fear of giving away a commercial advantage. However, collectively the industry stands to benefit if greater effective information communication to investors can restore investor confidence and stimulate renewed structuring activity on a sounder basis. Also, there are likely to be important economies of scale and scope to be realised with information collection and compilation following clear, agreed upon standards.

In thinking about improving the information communicated to investors in structured credit products it is important to understand what information is most relevant. As with any credit product this include information needed to estimate the probability of default (PD) and loss given default (LGD). However, unlike ordinary loans and bonds, for assessing structured products what matter at least as much at PD and LGD is information about correlation of defaults. This is the really important lesson to be retained from the sub-prime mess. Of course it was a problem that underwriting standards had declined in these mortgage originations (i.e., that PD was higher than on properly underwritten mortgages). However, what really led to the panic in the market was the fact that the defaults in the loans underlying the structured products were occurring at the same time and that the highly rated senior tranches could conceivably end up under water. Thus accurately assessing correlation is the key to putting the structured credit products on a proper basis.

Here the standards employed not only by CRAs but throughout the industry have been lamentable. While CRAs have not been entirely forthcoming, it seems to be common knowledge that a fixed correlation assumption was applied across the board for a given asset class. For example, two corporate loans or bonds from the same sector would be assumed to have a correlation of 15% independently of the specific loans, the specific sector, or the prevailing macroeconomic environment. Furthermore, in the face of the emerging financial crisis in 2007 it appears that the CRAs increased their assumed correlations to be more in line with traders’ views as to market valuations. That is, instead of collecting solid information that could be used to make unbiased estimates of actual default correlations, the CRAs were borrowing market implied correlations that simply rationalised deeply discounted valuations the market adopted when traders had lost confidence they knew what risks really were contained in the structured credit products!

In this blindness to the importance of accurate correlation measures, regulators deserve their share of the blame as well. Under Basel II, regulatory capital relief (credit risk mitigation) is based on information obtained on specific asset classes including PD and EDF. Nowhere is there any requirement to ask what the correlation of assets was. Instead, correlation is hard-wired into the formula for calculating regulatory capital charges.

This is all terribly wrong minded. There needs to be real efforts by banks, regulators and ratings agencies for collecting data that would allow more accurate estimates of default correlations of assets that go into structured credit products. Without good information on how underlying assets move together investors will have little basis for assessing the risks in structured credit products. When such data is not available, then they should not be rated and should be traded, if at all, only by sophisticated investors on that basis.

Incidentally, this call for greater information on the co-movements of securitised assets should help in debunking the incorrect belief that there is any safety provided to investors of highly rated tranches by having originators retain the junior, “first-loss” tranche. In fact, if the CRAs and investors adopt a conventional assumption about correlation of underlying assets and if originators retain the first-loss tranche, then originators have the incentive to put assets into the securitised portfolio that are more highly correlated than CRAs and investors assume. In that way the senior tranches will be too large and overpriced and the first-loss tranches will be underpriced. For the originators each deal might be fairly risky, but averaged over a large number of deals with low correlation across separate deals, they should make a large and relatively safe profit.

Finally, what about CDS written on senior tranches of structured credit products? These are the deals that most famously brought down AIG. While there is probably no great interest currently in resuscitating this market, reforms along the lines that we have suggested could make these products safe to trade. In particular, genuinely better information on underlying asset correlation would allow more accurate valuations of such credit enhancements. If such information is not available then these CDS should be priced on a prudent (i.e., biased) basis which in this case means assuming a high correlation of underlying assets. This combined with CCPCs described above would mean that any firm engaging in large amounts of this business would soon be accumulating a large net position that would be noticeable to regulators. Had this system been in place it would have caught AIG long before it became a problem for the market.