

Statement of
E. Gerald Corrigan
Managing Director
Goldman, Sachs & Co.

Before the
Committee on Agriculture
United States House of Representatives

December 8, 2008
Washington, DC

Chairman Peterson, Ranking Minority Member Goodlatte, and members of the Committee, I appreciate the opportunity to appear before you this afternoon in order to share with you my observations on the workings of the marketplace for credit default swaps (CDS). My remarks emphasize the further steps which I believe should be taken to enhance the efficiency, resiliency and the stability of that marketplace.

Needless to say, the CDS market is widely cited as a significant contributing factor to the volatility and uncertainty that has been at the center of the financial market crisis that has gripped the U.S. and the global financial system for the last 16 months. Having said that, I want to emphasize at the outset that despite the events of the recent past, a great deal of effort has, over the past three years, been devoted to enhancing market practices in the CDS space on the part of both the public and private sectors. Accordingly, I have attached to this statement two appendices drawn from the July 27, 2005 and the August 6, 2008 Reports of the Counterparty Risk Management Policy Group (CRMPG) which contain valuable information on the subject of this hearing including an imposing list of Recommendations from the 2008 Report for further strengthening the CDS and related markets.

A number of these Recommendations have been, or are in the process of being, implemented. Indeed, I would respectfully suggest that had it not been for the improvements in market practices over the past three years, the events of recent months probably would have been even more damaging as difficult as it is to imagine such an outcome. But, we should make no mistake about the future reform agenda which remains formidable.

My written statement covers four subjects that are relevant to the purpose of the hearing as follows:

- Section I: The Nature of the Credit Default Swap Instrument
- Section II: The Structure of the Credit Default Swap Market
- Section III Risk Monitoring and Risk Management for CDS Users
- Section IV Enhanced Official Oversight

Section I: The Nature of the Credit Default Swap Instrument¹

In essence, the CDS is a deceptively simple financial instrument in which counterparty A (the seller of credit protection) receives a fee from counterparty B (the buyer of credit protection) in exchange for protecting counterparty B against a decline in credit worthiness or a “credit event” of a so-called “reference entity.” The reference entity may be a credit claim (a loan or a bond) against a particular company or country (a single name CDS) or it may be a basket of single names (an index CDS). The reference entity may also be a specific asset-backed security or a structured credit product such as a collateralized debt obligation (CDO).

If the creditworthiness of the reference entity declines – the buyer of protection (counterparty B in the above example) – gains and the seller of protection (counterparty A above) – loses. In the extreme case in which the reference entity experiences a “credit event” (such as a default), the buyer of protection (counterparty B) delivers the defaulted instrument to the seller of protection (counterparty A) and receives the par amount of the CDS contract. Needless to say, in a volatile financial market environment in which credit quality is falling and the risk of default is rising, the counterparty risk management process in the CDS market becomes very challenging – to put it mildly (see Section III below).

Section II: The Structure of the Credit Default Swap Market

The CDS market is comprised largely of sophisticated financial institutions. There are about 16 so-called “dealers” at the center of the CDS market. These dealers – all of which are owned and controlled by major U.S. and foreign banking institutions – play the vital role of market makers in a wide array of financial instruments including CDS. They also take proprietary positions in these instruments, in part, as a natural extension of their market making activities. While precise estimates of activity levels in the CDS market are not easy to compile, most observers would suggest that something approximating 90 percent of overall activity in the CDS market can be attributed to the dealer community. Whatever the precise number, it necessarily follows that the bilateral and multilateral counterparty risk exposures among the dealers to each other are very large.

¹ For a detailed description of the CDS see Appendix A

The balance of the CDS market is comprised of several other classes of institutions including corporates, insurers (including mono-lines) and, in particular, hedge funds. As described in Appendix A, the rationale as to why individual institutions and classes of institutions choose to participate in the CDS market varies considerably across classes of institutions and over the credit cycle. At the risk of considerable oversimplification, however, the motivation for participation centers around a few key factors including (1) satisfying the needs of clients; (2) an explicit decision to be either long or short credit risk; and (3) an explicit decision to hedge credit risk.

Reflecting in part the huge structural changes in financial markets over the past decade or so and the even larger changes in the macro-economic and the macro-financial environment over the past five years, the growth of the CDS market has been explosive – and then some. Over roughly the last decade, the CDS market also experienced a radical transformation from a market that was, in large part, designed to mitigate relatively infrequent events (defaults) to a market that is dominated by trading activity in which very large trades with short durations are commonplace.

It is these patterns of trading activity that produce the headline news items about the \$60 trillion plus notional size of the CDS market even as we all know that notional amounts tell us very little about risk factors for the marketplace and its participants.

Unfortunately, the industry itself contributed to the focus on the gross notional sizes of the CDS market. That is, until recently when new trades were put in place to offset existing trades the existing trades typically were not closed out, thus swelling the gross notional size of the market. In recent weeks, and months, joint public/private efforts aimed at “trade compression” have resulted in dramatic declines in the gross notional amounts of CDS outstanding. For example, information released recently indicates that trade compression efforts have eliminated the notional value of CDS outstanding by \$27 trillion. Further reductions are expected in the period ahead such that even with new transactions growing rapidly, the notional amount of CDS will soon fall below \$30 trillion and will trend still lower over time.

There is one other feature of the CDS market that should be highlighted; namely, while in trade count terms a significant fraction of CDS trades are straight-forward in design and structure, a relatively small number of high value trades are highly structured and highly complex. These

so-called “bespoke” trades are often initiated by clients of financial intermediaries and require quite complex and unique documentation. These bespoke trades are a very important source of the value added provided by the CDS market. Thus, efforts aimed at reform must not be so rigid and mechanical so as to undercut the ability of the market to forge unique solutions to unique problems.

Section III. Risk Monitoring and Risk Management for CDS Users

With the benefit of hindsight it is quite obvious that a number of large and sophisticated financial institutions experienced shortcomings in their risk monitoring and risk management activities before and during the crisis and that some such shortcomings occurred in the CDS space. The mere presence of a small number of highly concentrated CDS risk exposures across the financial landscape tells us in unmistakable terms that some market participants were quite slow in recognizing that these exposures risked material write-downs and very sizeable collateral calls. It is also true that the more complex the reference entity (e.g., CDO's), the more difficult it is to anticipate credit problems and the more likely it is that collateral disputes between counterparties will arise. Having said that, failures in risk monitoring and risk management were by no means limited to the CDS space in a context in which hedging opportunities made possible by the CDS surely did help many institutions to mitigate credit exposures.

All of this raises the very difficult analytical question of whether, on balance, the CDS tempered or amplified the credit crisis. While I believe that we will gravitate toward an informed answer to that question only with the passage of time, based on what we now know I see the CDS as a net plus. In saying that, I must acknowledge that the CDS and other segments of the financial markets have benefited greatly from large scale central bank and governmental interventions. It is also true that the CDS market has benefited from a handful of recently implemented critical reforms as follows:

- (1) The prohibition against novation of trades without the consent of the initial counterparty;
- (2) huge reductions in unsigned trade confirmations;
- (3) major advances in automation covering all steps in the trade processing cycles;

(4) the building of a consensus approach to cash settlement in the event of a reference entity default which proved extremely valuable in the credit events at the housing GSE's and Lehman;

(5) the agreement among the dealers on the use of a common close out methodology which, fortunately, was put in place only weeks before the Lehman bankruptcy. Had this agreement not been in place the very challenging aftermath of the Lehman bankruptcy would have been an even greater blow to market confidence; and

(6) important strides have been made in increasing the transparency of the CDS market.

Turning to the subject of risk management more generally, Appendix A explains, in straightforward terms, the nature of the risks associated with the CDS instrument. In examining the events leading up to and including the crisis it is quite clear that the very large write-downs and losses witnessed in the CDS space were importantly driven by either or both "basis" risk and "counterparty" risk.

To a considerable degree the basis risk problem arose because efforts to hedge risks did not always perform as expected due to sometimes very large disparities in the absolute and relative movements in the prices of position being hedged and the CDS designed to provide the hedge. In a few cases even the algebraic sign of the hedge was wrong; that is the price of the underlying asset and the hedging instrument actually moved in the same direction!

With regard to counterparty risk, it has been widely recognized in the press and elsewhere that highly concentrated positions at a relatively small number of institutions – particularly sellers of protection involving complex reference entities – resulted in massive collateral calls which caused large write-downs and impaired the liquidity position of the institutions in question. Even worse, there were situations in which basis risk, counterparty risk, and the embedded leverage in certain classes of structured credit products interacted with each other in ways that amplified contagion and volatility, and multiplied the size of margin calls and write-downs.

The legacy of these events in the CDS space will be with us for a long time. However, as we seek to draw lessons from these events we must proceed with care. Indeed, as discussed in

the next section of this statement, I believe that the agenda for further reform in the CDS space is reasonably clear even if full implementation of the agenda will be challenging and time consuming.

Section IV: Enhanced Official Oversight

Given all that has occurred on the financial front over the past 16 months, it is only natural that this Committee, the Congress as a whole and the public at large are focused on enhanced official oversight of financial markets and institutions. Fortunately, the Memorandum of Understanding entered into by the FED, the SEC and the CFTC on November 14, 2008 regarding “Central Counterparties for Credit Default Swaps” provides something of an anchor for such focus as it applies to CDS and OTC derivatives more generally.

As I see it, the approach to enhance official oversight should be based on five guiding principles and five suggestions, all of which are focused on financial stability, as follows:

Guiding Principles

First; the financial industry, broadly defined, must recognize at the highest levels of management that a substantial further commitment of leadership and resources must be devoted to necessary enhancements in the efficiency, resiliency, stability and integrity of the OTC markets with specific emphasis on the CDS.

Second; in shaping the reform agenda, the regulators, legislators and market participants should exercise great care so as not to fall victim to the laws of unintended consequences. As an example, even the hint of an approach that would raise questions about the legal standing of existing contracts could materially worsen the already badly shaken confidence in financial markets and institutions.

Third; even in the face of substantial write-downs experienced by some institutions in the CDS space, we must recognize that such losses probably reflect flaws in risk management much more than they reflect flaws in the instrument.

Fourth; from the viewpoint of financial stability, whether or to what extent CDS trades occur on organized exchanges is not a matter of overriding concern so long as the details of all such trades are made available on trade date to the DTCC warehouse.

Finally; the prompt implementation of a CCP for credit default swaps will constitute a necessary, but not sufficient, condition to facilitate the orderly wind-down of seriously troubled and highly inter-connected financial institutions.

With those guiding principles in mind, I would offer the following specific suggestions as to official initiatives that would further strengthen the CDS and related OTC derivatives markets. These suggestions are all focused on measures to further mitigate systemic risk. As such they complement the CCP and bring us closer to the goals of achieving the necessary and sufficient conditions of containing systemic risk arising from these markets.

Suggestions to Mitigate Systemic Risk

First; regardless of which CCP emerges as the industry standard, the authorities must satisfy themselves that the risk mitigation features of the CCP have virtually failsafe operational and financial integrity including the capacity to absorb the default of two of its largest members. Consistent with this philosophy, I also believe that there should be a single dedicated global CCP for CDS and that any approach that co-mingles CDS settlement funds with settlement funds for other financial instruments is unwise.

Second; building on the highly effective leadership of the New York Fed and the community of domestic and international supervisors, we must sustain and strengthen the public/private cooperative efforts to ensure that the necessary steps to strengthen the industry wide infrastructure surrounding the OTC markets are implemented in a timely fashion. These necessary initiatives are outlined in Appendix B.

Third; prudential supervisors should, as a part of their regular inspections and examinations, insure that individual institutions are doing their part to insure that such institutions' policies, practices, procedures and operating systems regarding the needed infrastructure improvements are in line with industry best practices.

Fourth; prudential supervisors should, on a case by case basis, make inquiries regarding highly concentrated positions and crowded trades and, where necessary, encourage or require individual institution to moderate the risks of such positions. On a voluntary basis, hedge funds and other unregulated financial institutions should be willing to respond to similar inquiries or face the prospects of greater direct regulation.

Finally; major market participants and their supervisors must ensure that risk monitoring, risk management and, of special importance, corporate governance practices are in line with best practices with particular emphasis on monitoring exposures and the application of rigorous valuation and price verification practices to complex transactions. Among other things, such best practices will play a constructive role in quickly resolving collateral disputes.

These five guiding principles and five suggestions to enhance official oversight of the OTC derivatives markets are, I believe, very much consistent with the spirit of the FED, SEC and CFTC Memorandum of Understanding. More importantly, they are also consistent with the broader objective of enhancing our shared vision of greater financial stability while striking a constructive and modest re-balancing of the role of marketplace and the role of public policy in fostering a more disciplined approach to financial intermediation, which of course, is essential to economic growth and rising standards of living.

* * * * *

Appendix A

The following is an extract from the July 27, 2005 Report of the Counterparty Risk Management Policy Group II entitled “Toward Greater Financial Stability: A Private Sector Perspective.”

The credit default swap (CDS) is the cornerstone of the credit derivatives market. A credit default swap is an agreement between two parties to exchange the credit risk of an issuer (reference entity). The buyer of the credit default swap is said to buy protection. The buyer usually pays a periodic fee and profits if the reference entity has a credit event, or if the credit worsens while the swap is outstanding. A credit event includes bankruptcy, failing to pay outstanding debt obligations or, in some CDS contracts, a restructuring of a bond or loan. Buying protection has a similar credit risk position to selling a bond short, or “going short risk.”

The seller of the credit default swap is said to sell protection. The seller collects the periodic fee and profits if the credit of the reference entity remains stable or improves while the swap is outstanding. Selling protection has a similar credit risk position to owning a bond or loan, or “going long risk.”

Other noteworthy aspects of the credit default swap market include:

- The most commonly traded and therefore the most liquid tenors for credit default swap contracts are five and ten years. Historically, volumes are concentrated in the five-year maturity. One large financial intermediary estimates that 70% of the CDS volume is in this tenor, with 20% in longer maturities and 10% in shorter maturities. Liquidity across the maturity curve continues to develop, however, demonstrated by CDX indices, which are quoted in the 1, 2, 3, 4, 5, 7, and 10 year tenors.
- Standard trading sizes vary depending on the reference entity. For example, in the US, \$10 million – \$20 million notional is typical for investment grade credits, and \$2 million – \$5 million notional is typical for high yield credits. In Europe, €10 million notional is typical for investment grade credits, and €2 million – €5 million notional is typical for high yield credits.

Credit default swap indices provide investors with a single, liquid vehicle through which to take diversified long or short exposure to a specific credit market or market segment. The first index product was the High Yield Debt Index (HYDI), created by JPMorgan in 2001. Like the S&P 500 and other market benchmarks, the credit default indices reflect the performance of a basket of credits, namely a basket of single-name credit default swaps (credit default swaps on individual credits). CDS indices exist for the US investment-grade and high-yield markets, the European investment-grade and high-yield markets, the Asian markets and global emerging markets.

Unlike a perpetual index like the S&P 500, CDS indices have a fixed composition and fixed maturities. New indices with an updated basket of underlying credits are launched periodically, at least twice a year. New indices are launched in order to reflect changes in the credit market and to give the index more consistent duration and liquidity. When a new index is launched (dubbed the “on-the-run index”), the existing indices continue to trade (as “off-the-run”) and will continue to trade until maturity. The on-the-run indices tend to be more liquid than the off-the-run indices.

Probably the most important event in the CDS market in 2004 was the establishment of one credit derivative index family. The establishment of the Dow Jones CDX index family in the US and the Dow Jones iTraxx index family in Europe and Asia in the second quarter has led to increased liquidity in index products and the growth of other products (volatility, correlation) that require a standard, liquid underlying market. In DJ CDX Investment Grade and High Yield, bid/offer spreads have halved due to the liquidity benefit of having one single index family, and transaction volumes have increased.

1. Forces Driving Market Activity

Credit derivatives have been widely adopted by credit market participants as a tool for managing exposure to, or investing in, credit. The rapid growth of this market is largely attributable to the following features of credit derivatives:

1.1. Credit derivatives allow the disaggregation of credit risk from other risks inherent in traditional credit instruments

A corporate bond represents a bundle of risks including interest rate, currency (potentially) and credit risk (constituting both the risk of default and the risk of volatility in credit spreads). Before the advent of credit default swaps, the primary

way for a bond investor to adjust his credit risk position was to buy or sell that bond, consequently affecting his positions across the entire bundle of risks. Credit derivatives provide the ability to independently manage default risk.

1.2. Credit derivatives provide an efficient way to short a credit

While it can be difficult to borrow corporate bonds on a term basis or enter into a short sale of a bank loan, a short position can be easily achieved by purchasing credit protection. Consequently, risk managers can short specific credits or a broad index of credits, either as a hedge of existing exposures or to profit from a negative credit view.

1.3. Credit derivatives create a market for “pure” credit risk that allows the market to transfer credit risk to the most efficient holder of risk

Credit default swaps represent the cost to assume “pure” credit risk. Bond, loan, equity and equity-linked market participants may transact in the credit default swap market. Because of this central position, the credit default swap market will often react faster than the bond or loan markets to news affecting credit prices. For example, investors buying newly issued convertible debt are exposed to the credit risk in the bond component of the convertible instrument, and may seek to hedge this risk using credit default swaps. As buyers of the convertible bond purchase protection, spreads in the CDS market widen. This spread change may occur before the pricing implications of the convertible debt are reflected in bond market spreads. However, the change in CDS spreads may cause bond spreads to widen as investors seek to maintain the value relationship between bonds and CDS. Thus, the CDS market can serve as a link between structurally separate markets. This has led to more awareness of and participation from different types of investors.

1.4. Credit derivatives can provide additional liquidity in times of turbulence in the credit markets

The credit derivative market can provide additional liquidity during periods of market distress (high default rates). Before the credit default swap market, a holder of a distressed or defaulted bond often had difficulty selling the bond, even at reduced prices. This is because cash bond desks are typically long risk as they own an inventory of bonds. As a result, they are often unwilling to purchase bonds and assume more risk in times of market stress. In contrast, credit derivative desks

typically hold an inventory of protection (short risk), having bought protection through credit default swaps. In distressed markets, investors may be able to reduce long risk positions by purchasing protection from credit derivative desks, which may be better positioned to sell protection (long risk) and change their inventory position from short risk to neutral. Furthermore, the CDS market creates natural buyers of defaulted bonds, as protection holders (short risk) buy bonds to deliver to the protection sellers (long risk). CDS markets, therefore, have tended to increase liquidity across many credit market segments.

As the chart below illustrates, CDS volumes as a percentage of cash volumes increased steadily during the distressed spring and summer of 2002 in the face of credit-spread volatility and corporate defaults.

Credit derivatives provide ways to tailor credit investments and hedges

Credit derivatives provide users with various options to customize their risk profiles. Through the CDS market, investors may assume exposure to credits that do not actively trade in the cash market, customize tenor or currency exposure or benefit from relative value transactions between credit derivatives and other asset classes. With credit derivatives, investors have access to a variety of structures, such as baskets and tranches, that can be used to tailor investments to suit the investor's desired risk/return profile. As an example, investors who purchase risk through synthetic baskets of credits may attempt to hedge this risk by purchasing single-name credit default swaps. This can be a significant driver of single-name CDS volumes.

1.5. Credit derivative transactions are confidential

As with the trading of a bond in the secondary market, the reference entity whose credit risk is being transferred is neither a party to a credit derivative transaction nor is even aware of it. This confidentiality enables risk managers to isolate and transfer credit risk discreetly, without affecting business relationships. In contrast, a loan assignment through the secondary loan market may require borrower notification and may require the participating bank to assume as much credit risk to the selling bank as to the borrower itself. Because the reference entity is not a party to the negotiation, the terms of the credit derivative transaction (tenor, seniority and

compensation structure) can be customized to meet the needs of the buyer and seller, rather than the particular liquidity or term needs of a borrower.

2. Long and Short Users

The following is a brief summary of strategies employed by the key players in the credit derivatives market:

2.1. Banks and loan portfolio managers

Banks were once the primary players in the credit derivatives market. They developed the CDS market in order to reduce their risk exposure to companies to whom they lent money, thereby reducing the amount of capital needed to satisfy regulatory requirements. Banks continue to use credit derivatives for hedging both single-name and broad market credit exposure.

2.2. Market makers

In the past, market makers in the credit markets were constrained in their ability to provide liquidity because of limits on the amount of credit exposure they could have on one company or sector. The use of more efficient hedging strategies, including credit derivatives, has helped market makers trade more efficiently while employing less capital. Credit derivatives allow market makers to hold their inventory of bonds during a downturn in the credit cycle while remaining neutral in terms of credit risk. To this end, a number of dealers have integrated their CDS trading and cash trading businesses.

2.3. Hedge funds

Since their early participation in the credit derivatives market, hedge funds have continued to increase their presence and have helped to increase the variety of trading strategies in the market. While hedge fund activity was once primarily driven by convertible bond arbitrage, many funds now use credit default swaps as the most efficient method to buy and sell credit risk. Additionally, hedge funds have been the primary users of relative value trading opportunities and new products that facilitate the trading of credit spread volatility, correlation and recovery rates.

2.4. Asset managers

Asset managers have significantly increased their participation in the credit derivatives market in recent years. Asset managers are typically end users of risk that use the CDS market as a relative value tool, or to provide a structural feature they cannot find in the bond market, such as a particular maturity. Also, the ability to use the CDS market to express a bearish view is an attractive proposition for many asset managers. Prior to the availability of CDS, an asset manager would generally be flat or underweight in a credit they did not like, as most were unable to short bonds in their portfolios. Now, many asset managers may also buy credit protection as a way to take a short-term neutral stance on a credit while taking a bullish longer term view. For example, an asset manager might purchase three-year protection to hedge a ten-year bond position on an entity where the credit is under stress but is expected to perform well if it survives the next three years. Finally, the emergence of a liquid CDS index market has provided asset managers with a vehicle to efficiently express macro views on the credit markets.

2.5. Insurance companies

The participation of insurance companies in the credit default swap market can be separated into two distinct groups: (1) life insurance and property & casualty (P&C) companies and (2) monolines and reinsurers. Life insurance and P&C companies typically use credit default swaps to sell protection to enhance the return on their asset portfolio either through Replication (Synthetic Asset) Transactions ("RSATs" or the regulatory framework that allows some insurance companies to enter into credit default swaps) or credit-linked notes. Monolines and reinsurers often sell protection as a source of additional premium and to diversify their portfolios to include credit risk.

2.6. Corporations

Corporations are recent entrants to the credit derivatives market and promise to be an area of growth. Most corporations focus on the use of credit derivatives for risk management purposes, though some invest in CDS indices and structured credit products as a way to increase returns on pension assets or balance sheet cash positions.

Recent default experiences have made corporate risk managers more aware of the amount of credit exposure they have to third parties and have caused many to explore alternatives for managing this risk. Many corporate treasury and credit officers find the use of CDS appealing as an alternative to credit insurance or factoring arrangements due to the greater liquidity, transparency of pricing and structural flexibility afforded by the CDS market. Corporations are also focused on managing funding costs; to this end, many corporate treasurers monitor their own CDS spreads as a benchmark for pricing new bank and bond deals and are exploring how the CDS market can be used to hedge future issuance.

3. Risk Management Issues

The risk profile of a credit default swap is essentially equivalent to the credit risk profile of a bond or loan, with some additional risks, namely counterparty risk, ba6.ditivalet070d issuance. 4

protection selling may come from structured credit issuers (or CDO issuers), for example, who sell protection in order to fund coupon payments to the buyers of structured credit products. Protection selling may also come from investors who lend at rates above Libor. For these investors, it may be more economical to sell protection and invest at spreads above Libor rather than borrow money and purchase a bond.

If the basis is positive, then the credit default spread is greater than the bond's spread. Positive basis occurs for technical and fundamental reasons. The technical reasons are primarily due to imperfections in the repo market for borrowing bonds. Specifically, if cash bonds could be borrowed for extended periods of time at fixed costs, then there would not be a reason for bonds to trade "expensive" relative to credit default swaps. If a positive basis situation arises, investors would borrow the bonds and sell them short, eliminating the spread discrepancy. In practice, there are significant costs and uncertainties in borrowing bonds. Therefore, if the market becomes more bearish on a credit, rather than selling bonds short, investors may buy default protection. This may cause credit default swap spreads to widen compared with bond spreads.

Another technical factor that causes positive basis is that there is, to some degree, a segmented market between bonds and credit default swaps. Regulatory, legal and other factors prevent some holders of bonds from switching between the bond and credit default swap markets. These investors are unable to sell a bond and then sell protection when the credit default swap market offers better value. Along this vein of segmented markets, sometimes there are market participants, particularly coming from the convertible bond market, who wish to short a credit (buy default swap protection) because it makes another transaction profitable. These investors may pay more for the protection than investors who are comparing the bonds and credit default swap markets. This is another manifestation of the undeveloped repo market.

A fundamental factor that creates positive basis is the cheapest-to-deliver option. A short CDS position (long risk) is short the cheapest-to-deliver option. If there is a credit event, the protection buyer (short risk) is contractually allowed to choose which bond to deliver in exchange for the notional amount. This investor will generally deliver the cheapest bond in the market. When there is a credit event, bonds at the

same level of the capital structure generally trade at the same price (except for potential differences in accrued interest) as they will be treated similarly in a restructuring. Still, there is the potential for price disparity. Thus, protection sellers may expect to receive additional spread compared to bonds for bearing this risk. This would lead to CDS spreads trading wider than bond spreads and therefore contribute to positive basis. Thus, when investors invest in credit default swaps, they risk entering into a position that is relatively expensive as compared to entering into a similar risk position with bonds or loans.

3.3. Legal risk

Credit default swaps investors may face legal risk if there is a credit event and the legality of the CDS contract is challenged. Although not without specific disputes, as previously stated, ISDA's standard contract has generally proven effective in the face of significant credit market stress. The large majority of contracts have tended to settle without disputes or litigation. As discussed in Section IV of the main CRMPG II Report, legal issues can and do arise in this market from time to time. Most of these disputes have involved contractual claims related to whether there was a credit event under the terms of the contract, the identity of the reference entity, the timeliness of notices delivered under the contract, the nature of the assets deliverable into the contract and the timeliness of the delivery of assets for settlement purposes.

3.4. Operational risk

With limited straight through processing, confirmation backlogs, and a clearing service in relatively early stages of operation, back offices have tended to feel the strain of handling a rapidly growing volume of activity. The recent credit event in which gross positions in the reference entity exceeded the available deliverable assets highlighted the potential difficulty for market participants in settling transactions in a timely and efficient manner. Section IV of the main CRMPG II Report addresses these issues more fully.

Other risk considerations:

- Credit default swaps are leveraged transactions. Unlike a transaction related to floating rate notes or corporate bonds with a similar amount of credit risk, principal amount is not exchanged upfront in a CDS. As noted above, large

and/or sophisticated counterparties typically mitigate the risk of non-performance by the daily updating of collateral accounts reflecting gains or losses on positions.

- Credit default swaps are over-the-counter transactions between two parties and it is difficult to estimate the amount of default swaps which are outstanding. While the net amount of all credit default swaps is zero, as the amount of long protection positions must be equal to the short protection position, there may be market participants who are very long or short exposure to specific credits.
- In marking the value of an open credit default swap to market, investors must estimate a recovery rate. If investors deviate from industry standard recovery rates, they can calculate different values for their open contracts.

* * * * *

Appendix B

CRMPGIII Recommendations

The following is an extract from the August 6, 2008 Report of the Counterparty Risk Management Policy Group III entitled “Containing Systemic Risk: The Road to Reform.”

Recommendation

Number

- V-1. The Policy Group recommends trade date (T+0) matching for electronically eligible transactions.
- Goal: End 2009.
- V-5. The Policy Group recommends that market participants should seek to streamline their methods for trade execution and confirmation/affirmation, which should facilitate an end-to-end process flow consistent with same-day matching and legal confirmation.
- V-6. The Policy Group recommends that senior leaders of trading support functions should clearly articulate to senior management the resource requirements necessary to achieve the same-day standards. Recognizing the expense management imperatives driven by recent market conditions, senior management should make every effort to help support functions achieve these standards for the overarching benefit of enhancing market resilience.
- Goal: Ongoing.
- V-10. The Policy Group further recommends frequent portfolio reconciliations and mark-to-market comparisons, including on collateralized instruments.
- Goal: Weekly end 2008, moving to daily for electronically eligible trades mid 2009.

V-11. ISDA Credit Support Annex documents spell out the bilateral terms of the margin process. While the process is generally standardized, the Policy Group recommends that the industry needs to find an effective means to resolve valuations disputes, particularly for illiquid products. Doing so is likely to be a difficult and demanding matter and therefore an industry-wide approach may have to be considered.

Goal: End of 2009.

V-12. The Policy Group recommends that, as mark-to-market disputes inevitably surface through the collateral portfolio reconciliation process, the information should be passed to the executing trading desks on a real-time basis to allow for research and resolution. This should, of course, be done with appropriate anonymity of the counterparty's identity, positions, and broader portfolio. A close alignment of the collateral team with trading desks – without violating the fire walls and controls that are critically important to the integrity of the financial system – would facilitate such information sharing. As necessary, significant and large value collateral disputes should promptly be escalated to the appropriate senior officers.

Goal: Immediate.

V-14. The Policy Group recommends that market participants actively engage in single name and index CDS trade compression. ISDA has agreed on a mechanism to facilitate single name trade compression with Creditex and Mark-it Partners. Established vendor platforms exist for termination of offsetting index trades, and we urge major market participants to aggressively pursue their use.

V-15. Based on the considerations above, the Policy Group recommends that the industry, under the auspices of the current ISDA Portfolio Compression Working Group, commit immediately and with all due speed to achieve consistency of the current product, including potentially:

- utilizing industry preferred Reference Obligations or elimination of Reference Obligations;
- eliminating Restructuring Basis distinctions, recognizing that this needs to be considered in a broader global perspective taking into account regional and national differences; and
- standardizing fee calculations based on a single, common model analytic.

V-16. The Policy Group recommends that ISDA should update its Credit Derivative Definitions to incorporate the auction mechanism so that counterparties to new credit default swap trades commit to utilize the auction mechanism in connection with future credit events.

V-18. The Policy Group recommends that all large integrated financial intermediaries (e.g., the major dealers) should promptly adopt the Close-out Amount approach for early termination upon default in their counterparty relationships with each other. We note that this can be agreed and suitably documented without making any other changes to the ISDA Master. The Policy Group expects that these arrangements will be in place in the very near term.

V-20. The Policy Group recommends that all major market participants should periodically conduct hypothetical simulations of close-out situations, including a comprehensive review of key documentation, identification of legal risks and issues, establishing the speed and accuracy with which comprehensive counterparty exposure data and net cash outflows can be compiled, and ascertaining the sequencing of critical tasks and decision-making responsibilities associated with events leading up to and including the execution of a close-out event.

V-21. The Policy Group recommends that all market participants should both promptly and periodically review their existing documentation covering counterparty terminations and ensure that they have in place appropriate and current agreements including the definition of events of default and the termination methodology that will be used. Where such documents are not current, market participants should take immediate steps to update them. Moreover, each market participant should make explicit judgments about the risks of trading with counterparties who are unwilling or unable to maintain appropriate and current documentation and procedures.

V-22. The Policy Group recommends that the industry should consider the formation of a “default management group”, composed of senior business representatives of major market participants (from the buy-side as well as the sell-side) to work with the regulatory authorities on an ongoing basis to consider and anticipate issues likely to arise in the event of a default of a major market counterparty.

V-23. Recognizing the benefits of a counterparty clearing arrangement (CCP) as discussed above, the Policy Group strongly recommends that the industry develop a CCP for the credit derivatives market to become operational as soon as possible and that its operations adhere to the BIS Recommendations.

* * * * *