

**CREDIT DERIVATIVES: REGULATORY CHALLENGES IN
AN EXPLODING INDUSTRY**

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I. INTRODUCTION

Since its inception in the mid-1990's, the market for credit derivatives has grown rapidly, from \$631 billion in notional amount in the first half of 2001, to \$17 trillion at the end of 2005, and up to \$26 trillion by the mid-2006.¹ Not only has the notional amount of the debt underlying credit derivatives ballooned, but so has the complexity of credit derivative products.² The speed in which new and innovative credit derivative products are introduced has far

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¹ See ISDA MARKET SURVEY: NOTIONAL AMOUNTS OUTSTANDING, SEMIANNUAL DATA, ALL SURVEYED CONTRACTS, 1987 – PRESENT, <http://www.isda.org/statistics/pdf/ISDA-Market-Survey-historical-data.pdf> (last visited Apr. 29, 2007).

² See Timothy F. Geithner, President and CEO, Fed. Reserve Bank of N.Y., Remarks at the Global Association of Risk Professionals (GARP) 7th Annual Risk Management Convention & Exhibition in New York City (Feb. 28, 2006).

outpaced the industry's infrastructure, posing a dilemma for securities regulators and industry leaders. Neither the regulators nor those within the industry want to stem the stunning growth that credit derivatives have enjoyed, but both recognize the need for increased risk management. This Note aims to analyze the risks associated with credit derivatives and proposes recommendations for risk management.

Assuming that readers have limited exposure to credit derivatives, this Note begins with an introductory survey of the industry in Part II. This will include a discussion of different types of credit derivative products, an outline of the latest innovations in credit derivatives to illustrate the industry's future direction, and a description of the various participants in the credit derivatives market.

Part III will illustrate the regulatory history of credit derivatives and how it has contributed to today's lack of oversight. Part IV will discuss the specific risks associated with credit derivatives and Part V will explore regulatory options to control the risks currently presented. Part V will also examine recent efforts by regulators and credit derivatives industry leaders in managing risk. This section seeks to illustrate the industry's proactive stance in implementing risk controls and show how dialogue between industry leaders and regulators can be as effective as a strict set of regulations.

II. CREDIT DERIVATIVES: THE PRODUCTS AND THE PARTICIPANTS

Credit derivatives are a subgroup of a broader derivatives market that includes swaps, futures, options, and forwards that has existed for roughly twenty-five years.³ The World Bank and IBM executed the first currency derivative in 1979 and the Chase Manhattan Bank executed the first commodity derivative in 1986.⁴ "Derivative" is simply a label for a financial product whose value usually "depends on the value of an underlying asset price, reference rate, or index."⁵ The underlying asset is called the "reference

³ Willa E. Gibson, *Are Swap Agreements Securities or Futures? The Inadequacies of Applying the Traditional Regulatory Approach to OTC Derivatives Transactions*, 24 IOWA J. CORP. L. 379, 382 (Winter 1999).

⁴ *Id.*

⁵ John D. Finnerty and Mark S. Brown, *An Overview of Derivatives Litigation*, 7 FORDHAM J. CORP. & FIN. L. 131, 131 (2001).

asset.”⁶ Reference assets can be any tradable product, such as corn, currency, oil, or equity.⁷

Derivatives are built on the fundamental forms of options and forwards,⁸ instruments that have a much older history than credit derivatives.⁹ Options are contracts where one party, A, has the right to buy (or sell) a reference asset from a counterparty, B, at or before a predetermined deadline (“maturity date”) and at a predetermined price (“strike price”).¹⁰ For this right, A pays B a fee (or “premium”).¹¹ If the strike price is lower than the market price, the option becomes more valuable to A because A can buy the reference asset from B at a lower price than if A buys it in the open market.¹² The value of an option, therefore, moves in correlation with the value of the reference asset.¹³

Forward contracts are similar to options, except that instead of a right to buy (or sell) from counterparty, the party is obligated to deliver the reference asset at a predetermined future date.¹⁴ Again, the value of the forward contract fluctuates depending on the value of the reference asset.¹⁵ If the price of oil is \$30 per barrel, and A has bought a forward contract whereby B promises to deliver oil to A at a \$28 per barrel, A’s forward contract has just saved her \$2 per barrel. If the price of oil increases even further to \$34 per barrel, A’s forward contract has just increased its value to \$6 per barrel. In essence, derivatives such as options and forwards allow parties to transfer the risks associated with an uncertain future to someone else, in exchange for a premium.

⁶ *Id.*

⁷ Suzanne E. Bish, *A Guide to Narrow the Derivatives' Understanding Gap and Reduce Losses: How to Increase Knowledge, Controls, and Reporting*, 58 OHIO ST. L.J. 539, 541 (1997).

⁸ Bernard J. Karol, *Symposium: Regulation of Financial Derivatives: An Overview of Derivatives as Risk Management Tools*, 1 STAN. J.L. BUS. & FIN. 195, 195 (Spring 1995).

⁹ See THE HISTORY OF THE CHICAGO BOARD OF TRADE, <http://www.cbot.com/cbot/pub/page/0,3181,942,00.html> (last visited on Apr. 29, 2007) (indicating that as early as 1849, forward contracts on flour, timothy seed and hay were traded on the Chicago Board of Trade).

¹⁰ See Karol, *supra* note 8, at 195 (explaining the difference between options and forward contracts).

¹¹ *Id.*

¹² *Id.*

¹³ *Id.*

¹⁴ *Id.*

¹⁵ *Id.*

Forward contracts are called futures if they are standardized and traded on an exchange.¹⁶ Futures have been exchange-traded since 1849 with the establishment of the Chicago Board of Trade (“CBOT”).¹⁷ In 1973, the CBOT created the Chicago Board Options Exchange (“CBOE”) to facilitate the auction and clearing of options contracts.¹⁸ The Chicago Mercantile Exchange (“CME”) followed six years later to trade the first interest rate futures.¹⁹ These exchanges enabled a greater number of futures and options to be traded, but they also regulate each contract agreement and require standardization.²⁰

As a result of the exchanges’ standardization, demand was created for privately negotiated forwards and options that are traded off the exchanges.²¹ These non-exchange traded contracts are called Over-the-Counter (“OTC”) derivatives.²² Parties to OTC derivatives may structure their agreements to satisfy their hedging needs without being encumbered by exchange requirements.²³ Consequently, the “complexities [of OTC derivatives] depend on the wishes of the parties,”²⁴ and are less liquid than exchange-traded derivatives.²⁵

Most credit derivatives are traded as OTC derivatives.²⁶ The two most common types of credit derivatives are credit default swaps and total return swaps, “both of which involve an exchange of payments where the cash flow is based on the performance of some

¹⁶ See GLOSSARY: CASH MARKET, <http://www.cbot.com/cbot/pub/page/0,3181,1059,00.html> (last visited Apr. 29, 2007).

¹⁷ See THE HISTORY OF THE CHICAGO BOARD OF TRADE, *supra* note 9.

¹⁸ See Karol, *supra* note 8, at 198.

¹⁹ *Id.*

²⁰ *Id.* (noting that it is in the best interest of an exchange to regulate contracts executed on its floor, because an exchange “clears” or acts as counterparty to every trade done on its listed securities, and, therefore, a party that trades an exchange-listed security is taking on the credit risk (or guarantee) of the exchange).

²¹ *Id.*

²² *Id.*

²³ *Id.* at 199.

²⁴ *Id.*

²⁵ *Id.*

²⁶ *Id.* at 203-04; *but see* Eurex Circular 266/06 (Dec. 21, 2006), available at <http://www.eurexchange.com/download/documents/circulars/cf2662006e.pdf> (announcing that Eurex began trading credit futures in March 2007) (last visited Apr. 29, 2007); *see also* CME CREDIT INDEX EVENT CONTRACTS, <http://www.cme.com/trading/prd/ir/creditevent.html> (last visited Apr. 29, 2007) (announcing that the Chicago Mercantile Exchange will begin to trade CME Credit Index Event Contracts in the second quarter of 2007).

underlying credit sensitive asset or liability.”²⁷ The underlying or reference assets for credit derivatives are generally government, agency or municipal bonds.²⁸

A credit default swap is an agreement by a seller to cover a buyer’s loss in the event of reference asset devaluation.²⁹ In return for this coverage, the buyer pays the seller a premium.³⁰ The seller is obligated to pay its counterparty an agreed-upon dollar value upon a triggering event.³¹ Triggering events may include defaults, credit-rating downgrades, or debt restructurings on the reference assets.³² These events must be publicly verifiable before the loss coverage can be paid.³³ Depending on the way the credit default swap agreement is structured, a credit derivative buyer may not have to physically deliver the devalued bonds to its counterparty upon the triggering event.³⁴

A total return swap allows the buyer of the derivative to obtain the economic benefits of the reference asset without actually owning the asset.³⁵ The benefits include interest payments, principal payments, and other returns generated by the reference asset.³⁶ In exchange, the buyer pays the seller an amount that is usually based on LIBOR,³⁷ plus a spread, and any negative decrease in value of the reference asset.³⁸ As is the case with credit default swaps, total return swaps can be structured to be effective for as long as the parties want.³⁹

Risk-averse banks, or protection buyers, are attracted to credit derivatives because they like the “credit risk protection [and]

²⁷ See Gibson, *supra* note 3, at 388.

²⁸ See Stanislas Rouyer, FINANCIAL GUARANTOR CDO EXPOSURE: AN OVERVIEW, SPECIAL COMMENT BY MOODY’S INVESTOR SERVICE, GLOBAL CREDIT RESEARCH (Jan. 2003), http://www.mbia.com/investor/publications/moodys_cdo_cds.pdf.

²⁹ See Gibson, *supra* note 3, at 388.

³⁰ *Id.*

³¹ Andre Scheerer, *Credit Derivatives: An Overview of Regulatory Initiatives in the US and Europe*, 5 FORDHAM J. CORP. & FIN. L. 149, 157 (2000).

³² *Id.*

³³ *Id.*

³⁴ See Richard Beales, *Delphi Defied: How the Credit Derivatives Business is Finding Ways to Retain Its Poise*, FIN. TIMES, Nov. 1, 2005, at 17.

³⁵ Scheerer, *supra* note 31, at 158.

³⁶ *Id.*

³⁷ See John Downes and Jordan E. Goodman, *Dictionary of Finance and Investment Terms*, 5th Ed. (1998) (defining LIBOR as the London Interbank Offered Rate, a common benchmark for short-term interest rates).

³⁸ Scheerer, *supra* note 31, at 158.

³⁹ *Id.*

may use credit derivatives to reduce exposure while maintaining relationships that may be endangered by selling its loans, reduce or diversify illiquid exposures, or reduce exposure while avoiding adverse tax or accounting treatment.”⁴⁰ Risk-tolerant parties, or protection sellers, are willing to assume the banks’ credit risk.⁴¹ In exchange, these investors receive a steady flow of premium and they diversify their credit exposures.⁴² Furthermore, sellers of credit derivatives may be getting “access to credit markets which are otherwise restricted by corporate statute or off-limits by regulation.”⁴³

Credit default swaps and total return swaps are complex enough, but products structured on top of credit derivatives have entered the market in recent years to provide investors with yet another hedging tool.⁴⁴ The proliferation of derivative-of-derivative products has been rapid, given that credit derivatives have only become prominent in the last decade.⁴⁵ Among these new products are Synthetic Collateralized Debt Obligations (“synthetic CDO’s”), which are essentially pools of credit default swaps;⁴⁶ credit derivative indices, which track portions of the credit default swap market,⁴⁷ and credit derivative product companies (“CDPC’s”), which are Synthetic CDO’s with longer life spans.⁴⁸ Each is briefly described below.

A CDO is the securitization of a pool, or a collection, of debt instruments.⁴⁹ Shares in the pool are then structured into different tranches, with the rate of returns corresponding to the degree of risk to which the investor is exposed.⁵⁰ The most basic form of CDO’s is called the cash CDO, where the underlying assets are government or corporate bonds.⁵¹ In synthetic CDO’s, the underlying debt

⁴⁰ *Id.* at 150-151.

⁴¹ *Id.*

⁴² *Id.*

⁴³ *Id.* at 151.

⁴⁴ See Geithner, *supra* note 2.

⁴⁵ See Beales, *supra* note 34.

⁴⁶ See Paul J. Davies, *Credit Derivatives' New Route*, FIN. TIMES, July 5, 2006, at 37.

⁴⁷ See Richard M. Schetman and Michael J. Southwick, *The Evolution of Credit Default Swaps: Single Name to Indices* (Summer 2006); reprinted with permission from INTERNATIONAL SECURITISATION REPORT (July 2006), <http://www.cwt.com/assets/article/070106SchetmanISR.pdf>.

⁴⁸ See Davies, *supra* note 46.

⁴⁹ See Rouyer, *supra* note 28.

⁵⁰ *Id.*

⁵¹ *Id.*

instruments are credit default swaps.⁵² Here lies the innovation and, arguably, the increased risk. The value of each tranche in a synthetic CDO is based on complex financial models because “[t]ranched instruments have no clear market price.”⁵³ It is uncertain whether these financial models are pricing the derivatives accurately and it is unclear what effect would result from a default in the CDO portfolio.⁵⁴

CDPC’s are a “kind of cross-breed between...insurers that provide financial guarantees in the securitization markets [and] collateralized debt obligations.”⁵⁵ CDPC’s sell credit protection and invest in credit derivatives at the same time, thus providing clients with yet another way to invest in credit derivatives.⁵⁶ Compared to synthetic CDO’s, CDPC’s are more attractive to some investors because CDPC’s do not mature.⁵⁷ Furthermore, whereas a CDO portfolio stays static throughout its lifetime, a CDPC credit derivative portfolio is “constantly updated and refreshed.”⁵⁸

Slightly less complicated than synthetic CDO’s and CDPC’s are credit derivative indices.⁵⁹ These are bundles of individual credit default swaps and other credit derivative products.⁶⁰ These credit derivative indices are listed on the exchanges.⁶¹ Currently, the two most tradable index companies are the Dow Jones CDX and the International Index Company Itraxx.⁶² Each company divides its indices into the types of companies that underlie the tracked credit derivatives (e.g., investment grade credit derivatives, high yield, high volatility, and emerging market).⁶³

The proliferation of innovative products built on credit derivatives exemplifies the increased demand on the credit derivatives themselves. Since credit derivatives first entered the market about ten years ago, they have functioned as a hedging tool

⁵² *Id.*

⁵³ *Risky Business; Credit Derivatives*, THE ECONOMIST, Aug. 20, 2005.

⁵⁴ *Id.*

⁵⁵ See Davies, *supra* note 48.

⁵⁶ *Id.*

⁵⁷ *Id.*

⁵⁸ Nina Mehta, *ePrimus.com: Selling Credit Protection on 2,100 Names*, DerivativesStrategy.com (July 2000), <http://www.derivativesstrategy.com/magazine/archive/2000/0700ecomp.asp> (last visited April 29, 2007).

⁵⁹ See Schetman, *supra* note 47, at 2.

⁶⁰ *Id.*

⁶¹ *Id.*

⁶² *Id.*

⁶³ *Id.*

for banks with large exposures to credit risk.⁶⁴ The OTC derivative's "flexibility to disperse credit risk is one of the benefits credit derivatives bring to the financial system and one of their attractions to investors."⁶⁵ Credit derivatives also allow banks to transfer credit exposure to other counterparties and off their balance sheets, thus giving the banks the opportunity to extend more loans.⁶⁶

Nonetheless, banks are not the only ones who transact in credit derivatives today. A Financial Times analysis on the current state of credit derivatives noted that "the use of the product is now often unrelated to any bond or loan exposure. Credit derivatives allowed investors for the first time to go short on a company's credit risk."⁶⁷ An investor does not need to have current ownership of the reference assets to transact in a credit derivative agreement.⁶⁸ Although a typical credit derivative trade still requires delivery of the actual assets when the coverage payment is triggered, theoretically that investor can purchase the assets in the open market when that time comes.⁶⁹ However, the risk of a shortage of the reference assets in the open market does exist. This risk will be discussed in Part IV below.

In summary, credit derivatives allow different parties in the market to calibrate their portfolio to accommodate varying appetites for credit risk. Credit derivatives are both useful hedging tools and speculative instruments. Participants in credit derivatives today include commercial banks, investment banks, corporations, money managers, mutual funds, hedge funds, and pension funds.⁷⁰ Such a diverse roster of participants imply that any significant shock in the credit derivative market can affect all types of investors, from the most sophisticated hedge fund investor, to the most unknowledgeable pension fund holder.

III. REGULATORY HISTORY

The regulatory body that should oversee the credit derivatives market is an open question.⁷¹ Whereas the "traditional

⁶⁴ See Beales, *supra* note 34.

⁶⁵ *Id.*

⁶⁶ See Karol, *supra* note 8, at 203.

⁶⁷ See Beales, *supra* note 34.

⁶⁸ *Id.*

⁶⁹ *Id.*

⁷⁰ *Id.*

⁷¹ See Gibson, *supra* note 3, at 381.

approach to regulating the financial markets has been to allocate regulatory authority of new financial products based on whether the product falls within the definition of a security or a futures,⁷² credit derivatives cannot be easily categorized either as a security or a futures.⁷³ If credit derivatives are securities, then the Securities Exchange Commission (“SEC”) has jurisdiction, but if credit derivatives are futures, then the Commodities Futures Trading Commission (“CFTC”) would be the appropriate regulatory agency.⁷⁴ Furthermore, there are concerns among academics that the credit derivatives market should not be heavily regulated to begin with:

Subjecting [credit derivatives] to existing securities or commodities laws would stymie product development and prevent OTC derivatives dealers from competing effectively with foreign OTC derivatives dealers who are subject to less restrictive regulation.⁷⁵

Currently, turf wars between the SEC and the CFTC have created a loophole where credit derivatives are not fully managed by either agency in the United States.⁷⁶

The Commodities Exchange Act (“CEA”) established the CFTC in 1974.⁷⁷ The Act gave the CFTC jurisdiction to regulate “all transactions involving contractual agreements providing for the sale of a commodity for future delivery.”⁷⁸ A year after the CFTC’s founding, the SEC questioned the new agency’s jurisdiction and asserted that it also had jurisdiction over “future contracts involving a security.”⁷⁹ In 1981, the agencies came to an agreement where the CFTC would retain jurisdiction over all futures and options on futures, and the SEC would gain jurisdiction over options of securities (i.e. stocks and stock indices).⁸⁰ The SEC and CFTC did not address which agency had jurisdiction over credit derivatives,

⁷² *Id.*

⁷³ *Id.*

⁷⁴ *Id.*

⁷⁵ *Id.*

⁷⁶ *Id.*

⁷⁷ *Id.* at 389.

⁷⁸ *Id.*

⁷⁹ *Id.*

⁸⁰ *Id.*

however, since credit derivatives had yet to be introduced to the U.S. market at the time.

As a result, whether the SEC or the CFTC should oversee a particular new product in the financial market depends on whether the product is a security or futures.⁸¹ However, it is difficult to place credit derivatives in either of these categories, “given that they possess features that distinguish them from both securities and futures”⁸² and because credit derivatives are essentially private agreements. Since credit derivatives are built on the concepts of forwards and options, credit derivatives are more closely related to futures than to securities.

The four-pronged analysis the Supreme Court established in *SEC v. Howey Co.* to determine whether an instrument is a security supports this view.⁸³ The *Howey* test’s first prong states that a security is an investment of money.⁸⁴ Credit derivatives, however, are not an investment of money in the sense investments in stocks and bonds are where monetary return is expected.⁸⁵ Instead, investors in credit derivatives are executing loss coverage agreements.⁸⁶ Furthermore, in credit default swaps and total return swaps, the two most widely traded credit derivatives, parties “make payments to each other, unlike most investment transactions that only involve a payment flow from the investor to the promoter or third party.”⁸⁷ This concurrent flow of funds from both parties to each other is inconsistent with the Supreme Court’s “investment of money” test.

The second and third prongs of the *Howey* test require that there is a “common enterprise”⁸⁸ and an expectation of profit by the investors for an instrument to be a security.⁸⁹ There is no common enterprise in credit derivatives.⁹⁰ Parties on either end of the agreement commit to opposing bets on the reference assets’ credit

⁸¹ *Id.* at 381.

⁸² *Id.*

⁸³ *SEC v. Howey Co.*, 328 U.S. 293, 298-299 (1946).

⁸⁴ *Howey*, 328 U.S. at 299.

⁸⁵ See Beales, *supra* note 34 (describing credit derivatives as instruments that “allow investors to buy and sell a type of insurance against the bankruptcy of one or more companies without having to trade in their less liquid bonds and loans”).

⁸⁶ *Id.*

⁸⁷ Gibson, *supra* note 3, at 393.

⁸⁸ See *SEC v. Howey Co.*, 328 U.S. at 299.

⁸⁹ *Id.*

⁹⁰ See Gibson, *supra* note 3, at 394-95 (discussing the common enterprise requirement in relation to credit derivatives).

health,⁹¹ and parties “exchange payments with each other in furtherance of their own individual business interests.”⁹² Likewise, it would be misleading to conclude that parties in credit derivatives expect to profit from their transactions.⁹³ The parties may certainly profit off one another, but the main purpose for entering into a credit derivative trade is to hedge against unfavorable credit exposure; credit derivatives “allocate risk rather than create wealth.”⁹⁴

The fourth prong of the *Howey* test requires that profits be derived solely from the efforts of a third party for an instrument to be a security.⁹⁵ Investors in credit derivatives, however, gain from favorable market movements on the reference assets, not from efforts of a third party.⁹⁶ According to this analysis, credit derivatives are not securities under the *Howey* test and, therefore, the SEC should not have jurisdiction over them. To date, the Supreme Court has not conclusively categorized credit derivatives as securities.

Instead of trying to classify credit derivatives as securities or futures and regulate them on the basis of that classification, a participant-based approach may be preferable.⁹⁷ The focus should be on “market participant-based regulation that promotes the public policy goals of the OTC derivatives market.”⁹⁸ For instance, the Federal Reserve Bank and the Office of the Comptroller of the Currency (the “OCC”) have stepped into the regulatory void left vacant by the SEC and CFTC’s territorial dispute because a significant number of credit derivatives participants are banks. However, these banking regulators have taken the “oversight approach rather than the heavy-handed regulatory [approach].”⁹⁹ These regulators have established guidelines and have gently prodded the industry to lead its own initiatives in identifying and managing risk in credit derivatives transactions.

The OCC, for instance, has established guidelines on the risks it identified as relevant in credit derivatives, which include “credit, transaction, liquidity, compliance, and strategic risks.”¹⁰⁰

⁹¹ See Karol, *supra* note 6, at 196.

⁹² Gibson, *supra* note 3, at 394.

⁹³ See Karol, *supra* note 6, at 196.

⁹⁴ *Id.*

⁹⁵ See SEC v. *Howey* Co., 328 U.S. at 299.

⁹⁶ See Gibson, *supra* note 3, at 397.

⁹⁷ *Id.* at 415.

⁹⁸ *Id.*

⁹⁹ See Scheerer, *supra* note 33, at 203.

¹⁰⁰ *Id.* at 162.

Together with the Federal Reserve Bank, the OCC has urged institutions to analyze the risks “incurred by financial institutions carrying credit derivatives, and in having appropriately sound risk management policies and procedures in place, including adequate internal controls.”¹⁰¹

The interest in credit derivatives that U.S. banking regulators have exhibited is also reflected in the guidance published by the Basel Committee on Banking Supervision and Payment and Settlement Systems (the “Basel Committee”). The Basel Committee is an international organization seeking to provide “common standards for prudent management of credit risk by banks.”¹⁰² The Basel Committee suggested that since risk in credit derivatives is usually higher than the notional amount of the reference asset, banking supervisors should take into account the credit exposure credit derivatives themselves bring, even though these instruments may be used to manage credit risk at the same time.¹⁰³

The credit derivatives industry has responded to the regulators’ guidance with the establishment of the International Swaps and Derivatives Association (“ISDA”). ISDA is a global trade association for the derivatives industry. ISDA can facilitate more efficient credit derivatives transactions and provide streamlined documents to better support these OTC trades. As a trade organization, however, ISDA does not have the authority to impose rules on the industry.

IV. THE RISKS CREDIT DERIVATIVES PRESENT

Risk has always existed when a new product enters the financial market due to a lack of infrastructure.¹⁰⁴ It is not unusual for the legal and operational support to lag behind financial product innovations, but when the market has grown as rapidly and has proliferated as widely as credit derivatives have, lack of infrastructure may have costly consequences.¹⁰⁵ The President of the Federal Reserve Bank of New York, in a speech in February 2006, highlighted the risks associated with any new market:

¹⁰¹ *Id.*

¹⁰² *Id.* at 164-65.

¹⁰³ *Id.*

¹⁰⁴ *See* Beales, *supra* note 34, at 17.

¹⁰⁵ *Id.*

A characteristic feature of periods of financial innovation is that growth in new instruments and changes in the structure of those markets can outpace the development of the risk management and processing and settlement infrastructure. This gap, the gap between the speed at which markets move to capture the benefits of new opportunities and the pace of development in the supporting control and execution infrastructure, is inevitable.¹⁰⁶

Since no single regulator or clearinghouse oversees credit derivatives, market-wide information is fragmented, making it difficult for market participants to have a complete picture of the risks involved.¹⁰⁷ A full understanding of the market flow is not just an academic exercise, but is important for the industry to predict and prepare for the possibility of a market-wide crisis.

A. Liquidity Risk

A good deal of the risk associated with credit derivatives is rooted in the fact that these are OTC products. By nature, “OTC trading is less regulated and tends to involve the more exotic and more volatile derivative instruments.”¹⁰⁸ The “OTC market permits greater customization of derivative instruments, which is useful to speculators who want to fine-tune their bets [and] more cost-effective hedges than what they can get from the options and futures exchanges.”¹⁰⁹ However, this customization means that it is difficult to liquidate an OTC position.

Illiquidity is usually not an issue until there is market disruption,¹¹⁰ such as a sudden increase of corporate or government defaults. An investor with an illiquid product will have a very difficult time unloading the risk or minimizing the loss that results from holding on to a position when the market takes a downturn.¹¹¹ The risk caused by the illiquidity in the market ultimately “impacts the [participant’s] ability to manage and hedge market risks and to

¹⁰⁶ Geithner, *supra* note 2.

¹⁰⁷ Desmond Eppel, *Risky Business: Responding to OTC Derivative Crises*, 40 COLUM. J. TRANSNAT’L L. 677, 688-93 (2002).

¹⁰⁸ Finnerty & Brown, *supra* note 5, at 146.

¹⁰⁹ *Id.*

¹¹⁰ See Scheerer, *supra* note 33, at 167-68 (discussing liquidity risk in general).

¹¹¹ *See id.*

satisfy any shortfall on the funding side.”¹¹² As a result, holding illiquid products on the balance sheet may negatively and significantly affect a party’s cash flow.

B. Short Squeeze Risk

Despite the scarcity of data and the aura of mystique surrounding credit derivatives, “the market for credit derivatives has exploded to the point where there are far more [credit derivatives] in circulation than the value of the underlying bonds.”¹¹³ Even though credit derivatives begun as a hedging tool for holders of debt portfolios (e.g. banks) to diversify their credit risk, the market has since developed to include speculators whose “use of [credit derivatives] is now often unrelated to any bond or loan exposure.”¹¹⁴ Because the market is highly leveraged, parties to credit derivatives contracts may have a difficult time acquiring reference assets in case of a shortage.¹¹⁵ Without ownership of the reference bonds, many buyers of credit protection will not be able to make physical deliveries for settlement.¹¹⁶ This risk is called the short squeeze risk.

What occurred in the credit derivatives market during the Delphi Corp. (“Delphi”) bankruptcy in 2005 illustrates this short squeeze risk.¹¹⁷ Delphi was a premium maker of auto-parts and a major supplier to General Motors, which has one of the most highly traded corporate bonds in the United States.¹¹⁸ Delphi bonds themselves became a major reference asset for credit derivatives deals.¹¹⁹ Merrill Lynch estimated that the total credit derivatives market on Delphi bonds is about \$28 billion, although Delphi only had \$2.2 billion notional bonds and \$3 billion in loans outstanding.¹²⁰

¹¹² *Id.*

¹¹³ Beales, *supra* note 34, at 17.

¹¹⁴ *Id.*

¹¹⁵ See James Batterman & Eric Rosenthal, *Delphi, Credit Derivatives and Bond Trading Behavior After a Bankruptcy Filing*, FITCH RATINGS SPECIAL REPORT, Nov. 28, 2005 (analyzing the Delphi bankruptcy as one such case) (on file with author).

¹¹⁶ Beales, *supra* note 34, at 17.

¹¹⁷ See Batterman & Rosenthal, *supra* note 115.

¹¹⁸ See Hamish Risk, Credit Derivatives Led by Too Few Banks, Fitch Says, http://www.bloomberg.com/apps/news?pid=10000087&sid=ahYEI1EowzEM&refer=top_world_news# (last visited May 13, 2007).

¹¹⁹ *Id.*

¹²⁰ *Id.*

On October 8, 2005, Delphi announced that it was filing for Chapter 11 and the price on Delphi bonds dropped accordingly.¹²¹ Delphi's bankruptcy announcement was unexpected; as the company was investment grade until early 2005.¹²² Furthermore, in the same month it announced its bankruptcy filing, Delphi was still "ranked as the 19th most referenced entity in the Fitch Synthetic CDO index."¹²³ As a result, an unusually large number of credit derivative contracts were affected by Delphi's bankruptcy.¹²⁴ The bankruptcy also had an impact on synthetic CDO's that held Delphi-referenced credit derivatives and indices that included Delphi in their portfolio.¹²⁵

With Delphi's announcement, those holding credit default swaps on Delphi bonds demanded payment on their loss coverage.¹²⁶ Unfortunately, not all of these parties physically owned Delphi bonds, making delivery of the reference assets to their counterparties impossible.¹²⁷ As previously mentioned in this Note, the delivery of the defaulting reference asset is often necessary before coverage payment can be distributed.¹²⁸ When parties to these credit default swaps tried to purchase Delphi bonds in the open market to make delivery, the price of Delphi bonds climbed back up.¹²⁹

This market price increase on the Delphi bonds is unnatural. After the bankruptcy announcement, the value of Delphi bonds should decrease.¹³⁰ Instead, Delphi bond prices rose to a level higher than they were at a month before the bankruptcy filing.¹³¹ The demand caused by the credit derivatives investors who needed the

¹²¹ See The Ballooning Credit Derivatives Market: Easing Risk or Making It Worse?, <http://www.wharton.universia.net/index.cfm?fa=viewfeature&id=1054&language=english> (last visited May 14, 2007).

¹²² See Batterman and Rosenthal, *supra* note 115, at 2 (noting that bankruptcy of other well-known American companies such as Delta Airlines, Inc. and Northwest Airlines Corp. did not trigger such a decrease in their respective bond prices because their bankruptcies were expected well before the actual announcement.).

¹²³ *Id.*

¹²⁴ *Id.*

¹²⁵ See Ivar Simensen, *Delphi Chapter 11 Filing Hits Bonds*, FT MARKETS, October 11, 2005, at 46.

¹²⁶ See The Ballooning of Credit Derivatives Market, *supra* note 121.

¹²⁷ *Id.*

¹²⁸ *Id.*

¹²⁹ *Id.*; see also Richard Beales, *Uncertain Road ahead for Delphi*, FIN. TIMES, Nov. 8, 2005, at 45.

¹³⁰ See Batterman and Rosenthal, *supra* note 115, at 4 (discussing the price effect on Delphi bonds).

¹³¹ *Id.*

bonds for delivery artificially drove the Delphi price up.¹³² Non-credit derivatives investors who “anticipated a possible short squeeze [and] looked to accumulate bonds in the anticipation of a quick gain” may have also increased the shortage in Delphi bonds.¹³³

In any case, Delphi’s short squeeze shows how “activity in the derivatives market can move bond markets.”¹³⁴ Timothy Geithner, President and CEO of the Federal Reserve Bank of New York summarized the short squeeze risk caused by credit derivatives as follows:

Credit derivatives...are less than 10 percent, and perhaps less than 5 percent, of the total OTC derivatives universe, but are growing much more rapidly. Large notional values are written on a much smaller base of underlying debt issuance. The same names show up in multiple types of positions – singles-name, index and structured products such as CDO’s. These create the potential for squeezes in cash markets and greater volatility across instruments in the event of a default, magnifying the risk of adverse market dynamics.¹³⁵

Buyers of credit protection on Delphi, for instance, now had to pay an artificially inflated price on Delphi bonds to satisfy their delivery requirements and effectively decreased the value of their coverage protection.¹³⁶ The risk of a short squeeze has increased the transaction cost of credit derivatives.

In Delphi’s case, the question was how the billions of credit derivatives trades could be settled when there was a clear shortage of the underlying bonds available for delivery. The solution came a month after Delphi’s bankruptcy announcement as a result of a team effort by industry leaders and regulators. The ISDA held an auction to determine the cash value that protection buyers may receive from their Delphi-referenced credit default swaps.¹³⁷ The auction put a stop to the increasing cost of acquiring Delphi bonds. In the auction, the bonds were priced according to the market participants’ open

¹³² *Id.* at 4-5.

¹³³ *Id.* at 5.

¹³⁴ Beales, *supra* note 34, at 17.

¹³⁵ See Geithner, *supra* note 2.

¹³⁶ See Batterman and Rosenthal, *supra* note 115, at 5.

¹³⁷ See Daniel Fisher, *A Dangerous Game*, FORBES, Oct. 16, 2006, at 40.

positions, not as a result of speculation in the open market.¹³⁸ The price set by the auction then served as a basis for settling the remaining open positions on Delphi bonds by allowing cash settlement, instead of physical settlement.¹³⁹ In other words, parties to open Delphi-referenced credit default swaps could settle their accounts by exchanging the remaining cash value of their derivative agreements.¹⁴⁰ No physical deliveries of Delphi bonds were needed.¹⁴¹

C. Settlement Risk

The Delphi crisis exemplified the industry's need for a cash-settlement mechanism and seemed to present a good solution to the credit derivatives short squeeze problem. However, the auction was voluntary and was precluded by intense negotiations among the participants.¹⁴² In other words, the Delphi crisis illustrated the inefficiency of the settlement infrastructure for credit derivatives, especially when a highly traded reference asset defaults. The market cannot rely on voluntary auctions as a permanent solution.¹⁴³ Therefore, a permanent cash settlement system is needed to better track the market's high leverage and avert another short squeeze.

Fortunately, the industry is paying attention, and it seems that regulators are letting the industry lead itself. Eric S. Rosen, managing director and head of JP Morgan Chase's credit trading, one of the biggest players in credit derivatives, said, "The [Federal Reserve Bank] is getting worried about the infrastructure. Regulators made it clear...that they don't care what your [credit derivative trading] volumes are; you've got to get the system in order.... I think [the Federal Reserve Bank] has got it right."¹⁴⁴ As of the drafting of this Note, no reactionary regulation has been introduced as a result of the Delphi crisis. However, the regulators are urging the industry to quickly develop infrastructure, and, in response, ISDA announced in September 2006 that it has developed a cash

¹³⁸ See Simon Boughey, *Delphi Protocol limits CDS Turmoil: the Procedures in an Important Step Towards the Cash Settlement of the Entire CDS Market*, EUROMONEY, December 1, 2005, at 22.

¹³⁹ Beales, *supra* note 129, at 45.

¹⁴⁰ *Id.*

¹⁴¹ *Id.*

¹⁴² *Id.*

¹⁴³ *Id.*

¹⁴⁴ The Ballooning of Credit Derivatives Market, *supra* note 121.

settlement protocol for the most basic structures of credit derivatives.¹⁴⁵

D. Concentration Risk

Concentration risk in the credit derivatives market comes in two separate forms – the concentration of large, influential players in the credit derivatives market (“institutional concentration”) and the concentration of reference assets (“asset concentration”), either of which may wreak havoc on the market in the case of large scale default.

1. Institutional Concentration

The “\$12.4 trillion market for credit derivatives is dominated by too few banks, making it vulnerable to a crisis if one of them fails to pay on contracts that insure creditors from companies defaulting.”¹⁴⁶ Ten of the top firms on Wall Street hold more than two-thirds of credit default swaps.¹⁴⁷ A default by a major dealer or investment manager in the credit derivatives market may harm the market overall¹⁴⁸ and worsen credit derivatives’ liquidity.¹⁴⁹ Since regulators do not have a long history on credit derivatives to draw upon, it is unclear whether an exit by a major market participant would create an increased credit risk that is intolerable for the remaining investors.¹⁵⁰

2. Asset Concentration

Asset concentration refers to the short squeeze risk that “arises out of the interaction of positions in one instrument with other positions...in the derivative product and in the underlying asset markets.”¹⁵¹ As illustrated in the Delphi crisis, a selected number of bonds are used as the reference assets for credit derivative

¹⁴⁵ ISDA Pledges Continued Operational Innovations, <http://www.isda.org/press/press092706cashsettlement.html> (last visited May 14, 2007).

¹⁴⁶ Risk, *supra* note 118.

¹⁴⁷ *Id.*

¹⁴⁸ *Id.*

¹⁴⁹ Carrick Mollenkamp, *IMF Identifies Credit Derivatives As a Market Risk*, THE WALL ST. J., April 6, 2005, at A6.

¹⁵⁰ *Id.*

¹⁵¹ Karol, *supra* note 8, at 205.

agreements¹⁵². In other words, the number of credit derivative agreements based on a particular reference asset is no longer limited to the number of parties who physically own the reference asset because market speculators and market participants interested in hedging can enter into credit derivative agreements without the prerequisite of ownership of the reference asset.¹⁵³ Sophisticated credit derivative products such as the credit derivative indices and CDO's may also leverage off reference assets without actually owning them.¹⁵⁴

As a consequence of this leveraged market, a shortage on a reference asset may occur when the reference asset defaults and there is a large number of delivery commitments to settle.¹⁵⁵ This is what happened when Delphi filed for bankruptcy.¹⁵⁶ Concentration risk in the credit derivatives market, therefore, come in two separate forms – the concentration of large influential players in the credit derivatives market and the concentration of reference assets that may havoc the market in case of a large scale default.

E. Document risk

The industry's reliance on documentation to uphold the terms of their derivatives transactions is especially problematic in light of the complexity and growing intricacies of credit derivatives, "making a clear understanding between the parties to the trades particularly important and an accumulation of inadequately documented trades potentially dangerous."¹⁵⁷ The 2004 case of *Eternity Global Master Fund Ltd. v. Morgan Guar. Trust Co.* against JP Morgan Chase exemplifies document risk in credit derivatives agreements. In *Eternity*, the Plaintiff purchased credit default swaps from JP Morgan as a hedge against Argentinean government bonds.¹⁵⁸ If Argentina defaulted or restructured its debt, JP Morgan agreed to purchase the Plaintiff's Argentinean bonds at par value.¹⁵⁹ When the Argentinean government conducted a voluntary debt

¹⁵² See Batterman and Rosenthal, *supra* note 115.

¹⁵³ See The Ballooning of Credit Derivatives Market, *supra* note 121.

¹⁵⁴ See Batterman and Rosenthal, *supra* note 115.

¹⁵⁵ See The Ballooning of Credit Derivatives Market, *supra* note 121.

¹⁵⁶ *Id.*

¹⁵⁷ Beales, *supra* note 33.

¹⁵⁸ *Eternity Global Master Fund Ltd. v. Morgan Guar. Trust Co.*, 375 F.3d 168, 171 (2d Cir. 2004).

¹⁵⁹ *Id.* at 173.

exchange in 2001, it was unclear whether this constituted a default or restructuring credit event, as the credit derivatives agreement between the Plaintiff and JP Morgan was silent regarding voluntary debt exchanges.¹⁶⁰

In the bond exchange program, the Argentinean government offered its bondholders the choice to exchange their existing debt for secured loans that paid a lower interest rate.¹⁶¹ The Plaintiff argued that the debt exchange was not really a choice at all because as a result of the exchange program, the original debt is placed in a trust and its payment terms suspended while the trust remains.¹⁶² In effect, the exchange program subordinated the original bonds to the secured loans, thereby ensuring the security holders would participate in the exchange.¹⁶³ Furthermore, a substantial number of other bondholders participated in the exchange in what amounted to “economic coercion,” regardless of the terminology the Argentinean government used.¹⁶⁴ The Plaintiff also maintained that the financial press interpreted the exchange as equivalent to a default. This is relevant because the contract deemed the counterparty notified of a credit event if two “publicly available sources of information” confirmed the event.¹⁶⁵ JP Morgan countered that the voluntary debt exchange program did not constitute an obligation, did not affect the value of the original debt, and, consequently, did not cause a default to take place.¹⁶⁶ JP Morgan refused to pay the coverage payment to the Plaintiff, and the Plaintiff sued for breach of contract.¹⁶⁷

In determining the definition of default and restructuring, the Second Circuit Court of Appeals drew upon the agreement between the Plaintiff and JP Morgan, the ISDA Master Agreement and 1999 Credit Derivatives Definition that were incorporated into the swaps agreement, and industry customs and practices.¹⁶⁸ The court then struggled to define the terms of the contract, noting that a “dictionary definition...does not take into account what ‘mandatory transfer’ means in context to a particular industry.”¹⁶⁹ The court also stated

¹⁶⁰ *Id.* at 175.

¹⁶¹ *Id.* at 182.

¹⁶² *Id.* at 183.

¹⁶³ *Id.*

¹⁶⁴ *Id.* at 181.

¹⁶⁵ *Id.* at 174-75.

¹⁶⁶ *Id.* at 180.

¹⁶⁷ *Id.*

¹⁶⁸ *Id.*

¹⁶⁹ *Id.* at 181.

that the contract between the Plaintiff and JP Morgan failed to spell out the effects of subordination on the meaning of default or restructuring.¹⁷⁰ The court found the Plaintiff's argument plausible but remanded the case for the lower court to determine, based on additional facts, whether the debt exchange program effectively restructured the original debt's payment schedule.¹⁷¹

The ISDA Master Agreement and Definitions discussed in the JP Morgan case provide a starting point for structuring credit derivative agreements.¹⁷² However, the JP Morgan case illustrates the difficulty courts face when interpreting ambiguous terms in a credit derivatives agreement.¹⁷³ Furthermore, any uncertainty in the contract provides the losing party on the trade with a window to argue that the triggering event did not happen and no payment is due.¹⁷⁴ Consequently, document risk in credit derivatives trades is an ever-present concern.

Another risk that relates to document risk is the potential conflict of interest in credit derivative agreements. Credit derivatives are relatively illiquid and complex, making product valuation a very difficult exercise.¹⁷⁵ In *GMO Trust v. Credit Suisse First Boston*, Credit Suisse acted as both the loss coverage seller and the "calculation agent" for its client, GMO Fund.¹⁷⁶ As a loss coverage seller, Credit Suisse was obligated to compensate GMO upon default of the reference asset, as that term was defined in their agreement.¹⁷⁷ As a calculation agent, however, Credit Suisse was also responsible for determining the value of the reference asset in the event of a "credit event" that triggered the credit default swap agreement.¹⁷⁸ Playing the concurrent roles of loss coverage seller and calculation agent created a conflict of interest for Credit Suisse.

The credit event eventually did occur, triggering Credit Suisse's obligation to cover GMO's loss.¹⁷⁹ The total loss amount

¹⁷⁰ *Id.* at 185.

¹⁷¹ *Id.* at 185-90.

¹⁷² Eppel, *supra* note 107, at 698.

¹⁷³ See generally *Eternity Global Master Fund Ltd. v. Morgan Guar. Trust Co.*, 375 F.3d 168.

¹⁷⁴ *Id.*

¹⁷⁵ See Beales, *supra* note 34.

¹⁷⁶ Finnerty & Brown, *supra* note 5, at 138, citing *GMO Trust v. Credit Suisse First Boston*, No. 00-CIV-3760 (S.D.N.Y. filed May 18, 2000) (noting that the parties eventually settled on March 20, 2001).

¹⁷⁷ *Id.*

¹⁷⁸ *Id.*

¹⁷⁹ *Id.*

was calculated based on the value of the reference asset at the time of the triggering event.¹⁸⁰ As the reference asset's value increases, the coverage payment's value decreases, and vice-versa.¹⁸¹ Thus, Credit Suisse wanted the reference asset to be valued as high as possible, and the client wanted the exact opposite.¹⁸² Credit Suisse and its client foresaw this problem when they first drafted their credit derivatives agreement, and Credit Suisse was supposed to poll five established market makers to gain the fair market value of the reference assets.¹⁸³ Although Credit Suisse followed this procedure, the client insisted that the firm "falsely inflat[ed] the market value of the reference bonds by manipulating the market makers."¹⁸⁴

Without a disinterested third party providing valuations or benchmarks for credit derivatives, it is unclear how to fairly resolve the problems that arose in the JP Morgan and Credit Suisse cases. This is especially problematic when external factors, such as Argentina's creative use of a "voluntary" debt exchange program, contribute to the terms of the contract in ways that may not be anticipated when the agreement was first established. Even with ISDA's standardized terms and well-drafted contracts, finding liability protection in credit derivatives is difficult. This mandates an infrastructure capable of minimizing unexpected risks in credit derivatives.

F. Trade Confirmation and Assignment Risks

A well-drafted agreement may minimize the parties' documentation risk, but an unconfirmed trade would render any agreement null and void. A party with an unconfirmed trade, therefore, risks nonpayment on its coverage upon default. Regarding credit derivatives, the high number of unconfirmed trades has given rise to a confirmation backlog, causing regulators and industry leaders to focus their attention on this operational failure.¹⁸⁵

Confirmation backlog is a more likely problem in the credit derivatives market than in other markets because the market is paper-intensive; no computerized system was built to manage this risk

¹⁸⁰ *Id.*

¹⁸¹ See Eppel, *supra* note 107, at 681.

¹⁸² See Finnerty & Brown, *supra* note 5, at 138-39.

¹⁸³ *Id.*

¹⁸⁴ *Id.* at 139.

¹⁸⁵ See Geithner, *supra* note 2.

when the market started to grow significantly in the 1990's.¹⁸⁶ Furthermore, the "gap between the speed at which markets move to capture the benefits of new opportunities and the pace of development in the supporting control and execution infrastructure, is inevitable."¹⁸⁷ Unlike trades that are posted electronically and in real time via clearing houses such as the Depository Trust and Clearing Corp. ("DTCC") and Bank of New York, parties to a credit derivatives transaction negotiate their agreement over the phone, followed with confirmation faxes.¹⁸⁸ Notwithstanding the market's infancy status, the credit derivatives lack of post-trade infrastructure has to be addressed quickly because it is noticeably deficient compared to the size and growth rate of the credit derivatives market.¹⁸⁹ "The spotty record of confirmations can become a risk-management issue in times of turbulence."¹⁹⁰

The Federal Reserve Bank, which has taken a lead in guiding credit derivatives, took note of the industry's confirmation backlog in September 2005, shortly after the Delphi crisis. It found that the total number of unconfirmed contracts has grown "considerably faster than the total volume of new trades."¹⁹¹ As a result, the Federal Reserve Bank gathered fourteen of the most dominant participants in credit derivatives and urged them to come up with a solution so that a potential disruption in the credit derivatives market can be averted.¹⁹² The fourteen firms agreed to impose internal initiatives to reduce the number of outstanding trade confirmations for more than 30 days by 50% in six months.¹⁹³ When the Federal Reserve Bank met with the fourteen firms one year later, the central bank noted that 70% of all unconfirmed trades have been cleared.¹⁹⁴

Confirmation backlog is further complicated by the industry practice to assign credit derivatives contracts to yet another party,¹⁹⁵ and failing to notify the original counter party that the trade has been

¹⁸⁶ See David Wessel, *Wall Street is Cleaning Derivatives Mess*, WALL ST. J., Feb. 16, 2006, at A2.

¹⁸⁷ Geithner, *supra* note 2.

¹⁸⁸ See *Eternity Global Master Fund Ltd. v. Morgan Guar. Trust Co.*, 375 F.3d 168.

¹⁸⁹ See Geithner, *supra* note 2.

¹⁹⁰ See Henny Sender, *Young Traders Thrive in the Stock/Bond Nexus*, WALL ST. J., Nov. 18, 2005, at C1.

¹⁹¹ Geithner, *supra* note 2.

¹⁹² See Sender, *supra* note 190.

¹⁹³ *Id.*

¹⁹⁴ See Blumberg, *supra* note 66.

¹⁹⁵ See Wessel, *supra* note 186.

assigned.¹⁹⁶ For instance, protection buyer Party A bought credit default swaps from Party B. Party B consequently assigned the swap agreement to Party C without obtaining Party A's prior approval. Effectively, Party A's counterparty is now Party C and this creates new risks for Party A. In comparison to Party B, Party C may not be as well known in the market, may have a lower credit rating and Party A may have wished to revise its swap agreement after it conducted due diligence on Party C.¹⁹⁷ A Wall Street Journal reporter described the situation as "it was as if you lent money to your brother-in-law and later learned that he had passed the debt to his deadbeat cousin without so much as an email."¹⁹⁸ Since the credit derivatives market does not have a developed technology infrastructure enjoyed by the more mature financial products, "no firm [is] certain who owes what to whom, [and] a minor hiccup might become a financial calamity with repercussions for the whole economy."¹⁹⁹

Despite these criticisms, an infrastructure for the credit derivatives market has existed since 2004 when the Depository Trust & Clearing Corporation ("DTCC"), the financial market's leading trade-clearing house, introduced a system called the Deriv/SERV, which aimed to be the "central utility, automating and bringing certainty" to credit derivatives.²⁰⁰ As of August 2005, the confirmation service has enrolled twenty-five dealers and over 115 end-users.²⁰¹ However, enrollment itself does not guarantee participation in this electronic confirmation system.²⁰² Each new client has to customize the Deriv/SERV platform to be sufficiently comfortable to trust the system for its confirmation needs.²⁰³ Furthermore, since not all market participants enroll in Deriv/SERV, the system does not completely do away with the manual, paper-

¹⁹⁶ Beales, *supra* note 34.

¹⁹⁷ See Karol, *supra* note 8, at 204.

¹⁹⁸ Wessel, *supra* note 186.

¹⁹⁹ *Id.*

²⁰⁰ See DTCC Deriv/Serv Homepage,

<http://derivserv.dtcc.com/products/vces/products/index9752.html> (last visited May 15, 2007).

²⁰¹ See Melanie S. Best, *Cheyne Capital Case Study: Automating OTC Derivatives Processing*, Oct., 2005,

http://www.dtcc.com/Publications/dtcc/oct05/cheyne_capital.html (last visited May 15, 2007).

²⁰² *Id.*

²⁰³ *Id.*

intensive trade confirmation²⁰⁴ and the number of newly executed credit derivative trades still outpaced the number of confirmed trades.²⁰⁵

Nonetheless, the Deriv/SERV platform is an improvement in an otherwise manual market. Ever since the Federal Reserve Bank highlighted the industry's confirmation backlog issue, the number of credit derivative agreements that are confirmed automatically via Deriv/SERV has increased substantially.²⁰⁶ As of January 2007, "Deriv/SERV electronically confirms 80% of credit derivatives traded globally, up from 40% in 2005."²⁰⁷ As the credit derivatives market matures, the confirmation process should become increasingly automated.

G. Hedging in an Opaque Market

Comparisons between the current state of the credit derivatives market and Long Term Capital Management ("LTCM"), a hedge fund whose fall followed the Russian default in 1998, have been mentioned in mainstream newspaper articles.²⁰⁸ LTCM was a large hedge fund with a management team that included a well-known Salomon Brothers trader who profited considerably from the October 1987 market crash and a number of academics with PhD's in economics and finance, two of whom were Nobel Prize recipients.²⁰⁹ Right before the fund's demise, the fund had become a major player in OTC derivatives and many in the financial market would have been adversely affected by the LTCM's fall:

[LTCM's] trades were not irresponsibly speculative, but were structured to assure that each position was hedged - the profits being made in arbitrage. Yet, by September 23, 1998, the firm's mounting losses in the global market upheaval raised fears that its failure and liquidation could cause systemic disaster - a domino effect that would topple multiple institutions. LTCM's trading portfolio was

²⁰⁴ *Id.*

²⁰⁵ *Id.*

²⁰⁶ See Lisa Argento, *Deriv/SERV Warehouse Wins 'Technology Platform of the Year' Award*, http://www.dtcc.com/Publications/dtcc/feb07/derivserv_wins_award.html (last visited May 15, 2007).

²⁰⁷ *Id.*

²⁰⁸ Wessel, *supra* note 186.

²⁰⁹ Eppel, *supra* note 107, at 678.

ultimately purchased by fourteen of its competitors in a recapitalization coordinated by the New York Federal Reserve Bank.²¹⁰

The LTCM crisis brought increased regulatory scrutiny to the financial market and perhaps unfairly colored “public perception that financial innovators frequently acted irresponsibly in creating incomprehensible and risky derivative products.”²¹¹

Recent media coverage has suggested that the underlying risk in today’s credit derivatives market may be even more severe than the risk LTCM brought to the market.²¹² Throughout their dealings with LTCM, each market participant “knew the dimensions of its exposure; [the problem was that] no one realized how exposed other firms were and how fragile LTCM’s strategy was.”²¹³ By comparison, parties in credit derivative trades may not even be certain who their counterparties are (confirmation and assignment risks) or if their loss coverage is as they expected (document risk).²¹⁴ In other words, “no firm could be sure how much risk it was taking or with whom it had a deal.”²¹⁵

The complexity and speed in which credit derivatives products are being innovated makes it even more difficult to measure the risks involved.²¹⁶ Credit derivatives are highly illiquid and complex and are valued according to intricate computer models.²¹⁷ Pricing individual credit derivatives contracts may be difficult, but having a good idea of a firm’s aggregate credit exposure is close to impossible.²¹⁸ Credit derivatives trade above their notional reference assets so notional figures are not very helpful in trying to calculate how much credit risk your company, or your counterparty, may have.²¹⁹ Again, a more organized and industry-wide infrastructure will alleviate some of this difficulty.

²¹⁰ *Id.*

²¹¹ *Id.* at 702.

²¹² *See* Wessel, *supra* note 186.

²¹³ *Id.*

²¹⁴ *Id.*

²¹⁵ *Id.*

²¹⁶ *See* Geithner, *supra* note 2.

²¹⁷ *See* Bish, *supra* note 7, at 559.

²¹⁸ *See* Geithner, *supra* note 2.

²¹⁹ *Id.*

H. Insider Trading

Despite the increasing complexity of credit derivatives, their value is ultimately based on the value of their reference assets. Since the underlying assets are corporate or government bonds and loans, information on the reference asset's credit health drives the value in credit derivatives.²²⁰ Participants in the credit derivatives market, like all players in the financial market, are not supposed to utilize confidential information to trade ahead of the market.²²¹ Unfortunately, the "credit derivatives market may be especially vulnerable since, almost by definition, most of the major players are insiders. A large number of banks and financial institutions act as intermediaries: they quote prices for credit derivatives written on corporations to which they have loan exposures."²²²

In response to warnings of insider trading, industry groups, including ISDA, proposed guidelines in 2000 for banks to create Chinese Walls in their organizations to prevent traders from accessing confidential information.²²³ However, these measures failed because the guidelines did not establish "an audit or surveillance mechanism."²²⁴ Chris Dialynas, managing director of Pacific Investment Management Co., the company that manages the largest bond fund in the world, has said that insider trading could potentially diminish investors' trust in the market.²²⁵ As more and more investors participate in the credit derivatives market, it is imperative for industry leaders and regulators to take steps to preemptively protect investors' perception in the credit derivatives market.

²²⁰ See Viral V. Archaya & Timothy C. Johnson, *Insider Trading in Credit Derivatives*, at 2-3 (May 2005) (unpublished manuscript, on file with the Annual Review of Banking and Financial Law).

²²¹ *Id.*

²²² *Id.*

²²³ See Shannon D. Harrington and John Glover, *Potential for Abuse of Credit Default Swaps May Lead to Regulation*, BLOOMBERG NEWS, Oct. 11, 2006, <http://www.iht.com/articles/2006/10/10/bloomberg/bxinsider.php> (last visited May 15, 2007).

²²⁴ *Id.*

²²⁵ *Id.*

V. CONCLUSION

Based on the risks highlighted in this Note and the high profile industry breakdown following the Delphi bankruptcy, there is reason to view the credit derivatives market in a negative light. Nonetheless, the overall credit derivatives “market appears to have operated efficiently”²²⁶ since the product’s introduction in the 1990’s and without a doubt, credit derivatives have been a positive innovation for the financial market.²²⁷ Credit derivatives redistribute credit risk to those who are willing to bear the risk in exchange for a large, potential payoff. For risk-averse market players, such as banks, insurance companies and pension funds, the capability to allocate credit exposure to another party can improve their balance sheets. For banks whose function is to extend loans to companies, credit derivatives allow them to free up capital to make loans.

Nonetheless, the risks outlined in this Note are real, present and will increase along with the growing market for credit derivatives. The absence of an efficient regulatory structure in the credit derivatives market may have contributed to its rapid growth and freedom to innovate. However, credit derivatives are no longer hedging instruments used solely by sophisticated market players. Lay investors are exposed to credit derivatives by their involvement in mutual funds and pension funds. As with any newly established market, the credit derivatives industry needs a carefully designed infrastructure to ensure that the market’s known risks are actively monitored. The question is who should lead the effort in designing that infrastructure.

Currently, parties to credit derivatives contracts turn to contract, antifraud, and insider trading law to maintain fairness in the industry. As the Delphi crisis illustrated, industry leaders, trade organizations (e.g., ISDA), and support providers (e.g., DTCC) have taken the task to manage and minimize transaction risks. Even though these “initiatives help keep the supervisors . . . closer to creating a more integrated supervisory framework,”²²⁸ one central agency with the authority to regulate the market should lead this dialogue. Participants of the market, trade organizations and support providers will inevitably push their own agendas, creating conflict rather than cohesion.

²²⁶ Karol, *supra* note 8, at 207.

²²⁷ See Archaya & Johnson, *supra* note 220, at 1.

²²⁸ Geithner, *supra* note 2.

Consequently, one agency with statutory powers to regulate should lead the infrastructure development for the credit derivatives market. This agency should have complete jurisdiction to compel all market participants to build an internal infrastructure to trade in credit derivatives, establish Chinese Walls on their credit derivatives' trading floors, and pay closer attention to their contract drafting procedures to avoid ambiguity and enforcement conflicts. The agency should have the tools necessary to conduct continuous surveillance on the industry in order to effectively monitor and avert crises. An after-the-fact settlement solution that was adopted out of necessity after the Delphi bankruptcy is too unwieldy and costly to utilize routinely.

The Delphi bankruptcy case did show that the Federal Reserve Bank could successfully initiate a dialogue between the industry's biggest traders, mostly broker-dealers, to better manage the credit derivatives confirmation backlog. Based on this initial effort, the Federal Reserve Bank, which also oversees banks that heavily trade in credit derivatives, is a good candidate to continue to lead the industry. However, the Federal Reserve Bank does not have jurisdiction over hedge funds, mutual funds, pension funds, and investment managers who transact in credit derivatives. Hedge funds, as mentioned previously, have the liberty to make large bets in any instrument, including credit derivatives.²²⁹ In other words, regulation that depends on market-participant jurisdiction is too fragmented to function effectively. Given the widespread use of credit derivatives, the Federal Reserve Bank cannot guide the credit derivatives industry alone.

The SEC or the CFTC, each having product-based rather than participant-based jurisdiction, could provide a more cohesive regulatory framework. However, the SEC and the CFTC are currently at a standstill and it is uncertain which of these agencies should regulate the credit derivatives market. Since credit derivatives are byproducts of options and forwards, however, credit derivatives are more closely related to futures than securities. Because the CFTC has had jurisdiction over futures since the 1800's, the CFTC has more experience in regulating derivative products and is better suited than the SEC to oversee the credit derivatives market. Notwithstanding any turf-wars with the SEC, the CFTC should grasp

²²⁹ See Editorial, *Targeting Hedge Funds*, WALL ST. J., Oct. 31, 2006, at A18; see also Phil Izzo, *Moving the Market: Economists See Hedge-Fund Risks*, WALL ST. J., Oct. 13, 2006, at C3.

its mandate to protect the common investor and proactively lead the credit derivatives industry as it matures. Furthermore, credit derivatives indices are currently trading in exchanges that are regulated by the CFTC, thereby entering the CFTC's jurisdiction.²³⁰

In conclusion, the CFTC should lead the current dialogue on credit derivatives to establish the appropriate infrastructure for the credit derivatives market. Opponents of heightened regulation on the credit derivatives market believe that sophisticated market participants should have the freedom to innovate and "market forces should be allowed to govern which products and services are offered and purchased."²³¹ However, current participants in the credit derivatives market are no longer limited to sophisticated institutions and banks. As the credit derivatives market grows, the variety of credit derivative products provides more options for the average investor to participate, even if they are not direct investors. A central agency with the statutory authority to regulate the market, such as the CFTC, can provide that these investors' interests are being represented. The CFTC, with its two centuries of experience in the derivatives market, can ensure that the industry is properly investing in infrastructure to reasonably minimize the industry-wide risks currently known. The credit derivatives market may be young, but its staggering growth coupled with the deleterious effect a market breakdown could have on the entire investing public necessitates the establishment of some regulatory oversight. The CFTC should lead the charge.

²³⁰ See CME Credit Event Futures Press Release, *supra* note 26; see also CME Credit Index Event Futures Contract Specifications (Feb. 7, 2006), http://www.cme.com/files/Credit_Index_Event_Futures.pdf; see also CME Credit Event Futures White Paper http://www.cme.com/files/Credit_Index_Event_Futures.pdf.

²³¹ See Eppel, *supra* note 107, at 702.