2010

Guilty by Association? Regulating Credit Default Swaps

Houman B. Shadab
New York Law School

GUILTY BY ASSOCIATION? REGULATING CREDIT DEFAULT SWAPS

HOUMAN B. SHADAB*

Abstract

A wide range of U.S. policymakers initiated a series of actions in 2008 and 2009 to bring greater regulation and oversight to credit default swaps (CDSs) and other over-the-counter derivatives. The policymakers' stated motivations echoed widely expressed criticisms of the regulation, characteristics, and practices of the CDS market, and focused on the risks of the instruments and the lack of public transparency over their utilization and execution. Certainly, the misuse of certain CDSs enabled mortgage-related security risk to become overconcentrated in some financial institutions.

Yet as the analysis in this Article suggests, failing to distinguish between CDS derivatives and the actual mortgage-related debt securities, entities, and practices at the root of the financial crisis may hold CDSs guilty by association. Although structured debt securities and CDSs share some similarities and were often utilized together in synthetic securitizations, the financial instruments are highly distinct and underwriters of such securities make decisions under a very different legal and economic framework than those made by CDS dealers. Unmanageable losses from CDS exposures were largely symptomatic of underlying deficiencies in mortgage-related structured finance and do not primarily reflect fundamental weaknesses in the risk management and infrastructure of the CDS market. In addition, the development of CDSs referencing mortgage-related securities was more of an effect than a cause of the rapid growth in mortgage-related securitization.

---

* Associate Professor of Law, New York Law School. B.A. 1998, University of California at Berkeley; J.D. 2002, University of Southern California. I would like to thank for comments Jerry Ellig and participants at the symposium "The Credit Crash of 2008: Regulation within Economic Crisis" sponsored by the *Entrepreneurial Business Law Journal* of the Ohio State University Moritz College of Law held on March 6, 2009, and Katelyn E. Christ and Charles Post for their invaluable research assistance and editing. All errors are my own. This article originally appeared in the Working Paper Series of the Mercatus Center at George Mason University.

Exemptions by the Securities and Exchange Commission to facilitate the central clearing and exchange trading of CDSs seem desirable, although a significant portion of CDS transactions are unlikely to be improved by utilizing such venues. However, mandatory central clearing is likely unnecessary to reduce CDS counterparty risk and may, in fact, increase counterparty risk to the extent CDS clearinghouses unduly concentrate risk or undermine bilateral risk management. Counterparty risk management in the CDS market has generally been prudent, and systemically troubling CDS transactions arose only from a small portion of the market where financial guarantors sold CDS protection to banks on their mortgage-related debt securities. The role of CDSs in facilitating price discovery also suggests that prohibiting uncovered (naked) CDSs to prevent speculation will decrease transparency in the credit markets. The systemically troublesome CDSs sold by AIG and certain bond insurers were purchased by banks on their mortgage-related securities and not for speculation.

Ongoing reforms being undertaken by CDS market participants under the supervision of the Federal Reserve Bank of New York to achieve greater transparency and stability call into question the extent to which additional regulation is necessary. Policymakers should act to prevent the concentration of CDS risk in regulated institutions, particularly when CDSs are sold by insurance companies, purchased by banking institutions, or likewise utilized by such institutions' unregulated subsidiaries. However, increasing regulation of all CDS transactions or all users of CDSs does not seem warranted.

TABLE OF CONTENTS

I. INTRODUCTION

The 2008 financial crisis and ensuing economic downturn led a wide range of U.S. policymakers to undertake actions intended to remedy deficiencies in the regulatory framework applicable to over-the-counter (OTC) derivatives markets. This Article examines policymaking actions intended to reduce the systemic risks posed by credit default swaps (CDSs) in particular and offers a general assessment of the extent to which they are justified in light of the characteristics and dynamics of the CDS market and their role in the financial crisis. A CDS is a type of OTC, or non-exchange traded, derivatives contract that obligates a protection buyer to pay a periodic fee to a protection seller. In return, the protection seller must compensate the buyer if a reference debt obligation experiences a negative credit event, such as a default on a loan. A CDS does not require the protection buyer to actually own or otherwise be exposed to the risk of the reference obligation and hence allows parties to trade (or speculate on) the credit risk of debt obligations such as bonds.

As part of a comprehensive plan for financial regulatory reform, on June 17, 2009, the U.S. Department of the Treasury (Treasury Department) proposed fundamental changes to the way all OTC derivatives are regulated, including CDSs. The Treasury Department's proposal seeks mandatory central clearing or exchange trading of standardized CDS contracts, prudential bank-like regulation of major CDS market participants, and enhanced transparency and recordkeeping requirements for all CDS transactions.[1] Several bills introduced by congressional lawmakers in 2009 sought to enact reforms similar to those proposed by the Treasury Department. The Securities and Exchange Commission (SEC) also promulgated a series of exemptions to facilitate the central clearing of CDSs by approving the applications of private entities to engage in central clearing without being subject to the full scope of SEC regulation applicable to clearinghouses. These and other policymaking initiatives are further detailed in Section II.

The policymakers' stated motivations echoed widely expressed criticism of the regulation, characteristics, and practices of CDS market participants, the risks of the instruments to the financial system as a whole, and the lack of public transparency over CDS utilization and execution.[2]

---

[1] DEP'T OF THE TREASURY, FINANCIAL REGULATORY REFORM: A NEW FOUNDATION, 48 (Updated July 24, 2009), http://www.financialstability.gov/docs/regs/FinalReport_web.pdf.

[2] Other official bodies have also weighed in on issues surrounding CDSs. In January of 2009, a U.S. Congressional Oversight Panel and the Group of Thirty each issued reports critical of the regulatory framework applicable to CDSs and their role in the financial crisis and urged similar reforms. CONG. OVERSIGHT

Particularly concerning to policymakers was that CDS protection sellers were not required by law to set aside capital to meet their obligations, and that regulators and market participants were seemingly unaware of the risks that particular institutions had accumulated through their CDS exposures.[3]

These concerns are not without merit. CDSs were, in a sense, born in regulatory sin: they were first used by commercial banks in the late 1990s in part to decrease the amount of capital that regulation required banks to hold in reserve.[4] CDSs also helped to facilitate the growth of mortgage-related securitization by providing banks with protection from the risks involved with securitization.[5] In addition, CDSs enabled the creation of mortgage-related securities by allowing for the creation of synthetic collateralized debt obligations (CDOs).[6] A CDO is a type of asset-backed debt security that up through the crisis became increasingly backed by cash flows from mortgage-backed securities.[7] In their synthetic form, a portion of CDOs came to be backed by mortgage-related cash flows through the sale of CDSs referencing mortgage-related securities.[8] And as of September 2009, the federal government had committed over $182 billion in U.S. taxpayer funds to the large insurer and financial services conglomerate American International Group (AIG) due in part to an AIG subsidiary selling so much CDS protection to banks that it was unable to meet its obligations to post collateral as market conditions deteriorated in September of 2008.[9]

PANEL, SPECIAL REPORT ON REGULATORY REFORM, MODERNIZING THE AMERICAN FINANCIAL REGULATORY SYSTEM: RECOMMENDATIONS FOR IMPROVING OVERSIGHT, PROTECTING CONSUMERS, AND ENSURING STABILITY 28-30 (2009); GROUP OF THIRTY, FINANCIAL REFORM: A FRAMEWORK FOR FINANCIAL STABILITY 52-53 (2009).

[3] *See, e.g.*, DEP'T OF THE TREASURY, *supra* note 1, at 47.

[4] Jeffrey T. Prince et al., *Synthetic CDOs*, *in* THE HANDBOOK OF FIXED INCOME SECURITIES 696 (Frank J. Fabozzi & Steven V. Mann eds. 2005); Laurie S. Goodman, *Synthetic CDOs: An Introduction*, J. DERIVATIVES 62-69 (Spring 2002); GILLIAN TETT, FOOL'S GOLD 46-56 (2009).

[5] *See infra* Section III.B.1.

[6] *Id.*

[7] BANK FOR INTERNATIONAL SETTLEMENTS, BASEL COMMITTEE ON BANKING SUPERVISION, CREDIT RISK TRANSFER, DEVELOPMENTS FROM 2005 TO 2007 at 5 (July 2008). For the purposes of this Article, the phrase "mortgage-related security" refers to mortgage-backed securities and also to CDOs whose underlying collateral is in significant part made up of mortgage-backed securities. "Asset-backed security" is a general category that encompasses mortgage-backed securities and CDOs and also securities backed by other receivables such as credit card payments.

[8] *See infra* Section III.B.1.

[9] *See infra* Part III.B.3.

Yet as the Obama Administration stated on February 25, 2009, a key principle of regulatory reform and financial modernization should be to "supervise financial products based on actual data on how actual people make financial decisions."[10] Given that the financial crisis implicates complex issues at the intersection of law and finance, this principle, at a minimum, requires making distinctions where appropriate and avoiding generalizations unless truly warranted. As the analysis in this Article suggests, failing to distinguish between CDSs and the actual instruments, entities, and practices at the root of the financial crisis may hold CDSs guilty by association. Not all financial instruments that transfer credit risk are alike and underwriters of debt securities make financial decisions under a very different legal and economic framework than those made by derivatives dealers. Whereas underwriters are essentially salespersons, dealers are essentially traders and middlemen.

These distinctions are important because the financial crisis is primarily the result of the economywide mispricing of mortgage-related debt *securities* such as CDOs and not primarily the result of the utilization and growth of credit *derivatives* such as CDSs.[11] CDOs are issued as Rule 144A "restricted securities" under the Securities Act of 1933 by special purpose vehicles structured as private investment companies under Rule 3a-7 of the Investment Company Act of 1940.[12] CDOs are relatively non-standardized instruments that are rarely traded after they are issued. A primary incentive for an underwriter to sell CDOs and for a credit ratings

---

[10] Overhaul, Posting of Macon Phillips to The White House Blog, http://www.whitehouse.gov/blog/09/02/25/Overhaul/ (Feb. 25, 2009 7:18 PM) (internal quotations omitted).

[11] *See generally* Yongheng Deng, Stuart A. Gabriel & Anthony B. Sanders, CDO Market Implosion and the Pricing of Subprime Mortgage-Backed Securities 26 (Mar. 1, 2009) (UCLA, Anderson Sch. of Mgmt., Working Paper No. 1, 2009), http://ssrn.com/abstract=1356630 (finding empirical evidence consistent with propositions that the growth of CDOs mispriced subprime mortgage-backed securities); Uday Raja, Amit Seru & Vikrant Vig, The Failure of Models that Predict Failure: Distance, Incentives and Defaults (Univ. of Chi. Graduate Sch. Bus., Research, Paper No. 08-19, 2008; Univ. of Mich.; Ross Sch. Of Bus., Paper No. 1122, 2008), http://ssrn.com/abstract=1296982; Joshua D. Coval, Jakub Jurek & Erik Stafford, The Economics of Structured Finance 33 (2008) (Harv. Bus. Sch., Working Paper No. 09-060, 2008), http://www.hbs.edu/research/pdf/09-060.pdf (arguing that the growth in securitization, which "allowed trillions of dollars of risky assets to be transformed into securities that were widely considered to be safe," was caused primarily by rating agencies' errors and the substitution of diversifiable risks for those that are systematic through securitization).

[12] *See generally* Jennifer E. Bethel et al., Law and Economics Issues in Subprime Litigation 8, Harvard Law School John M. Olin Center for Law, Economics and Business Discussion Paper Series 8, March 2008 (Harv. John M. Olin Ctr. For Law, Econ., and Bus., Working Paper No. 612, 2008), http://ssrn.com/abstract=1096582.

agency to rate them are for fees to be earned in managing, rating, and closing a deal.[13] CDOs and other mortgage-related securities were sold to investors as relatively safe ("investment grade") long-term investments that pay higher rates of return than similarly rated bonds.[14] Importantly, however, underwriters and credit ratings agencies were able to earn income from selling securities that were far riskier than indicated by their credit rating and that ultimately turned out to be a poor (and in many cases nearly worthless) long-term investment. The collapse or near-collapse of banking institutions resulted from their exposures to CDOs and other mortgage-related securities financed with relatively short-term liabilities.[15]

CDSs, on the other hand, are not securities and generally do not receive credit ratings.[16] CDSs are classified and regulated as "security-based swaps" under federal law. CDSs are traded by dealers among themselves and also between dealers and end-users that include both financial institutions and non-financial companies.[17] Although CDSs are

---

[13] *See* Gregory Cresci, *Merrill, Citigroup Record CDO Fees Earned in Top Growth Market*, BLOOMBERG, Aug. 30, 2005; SEC, SUMMARY REPORT OF ISSUES IDENTIFIED IN THE COMMISSION STAFF'S EXAMINATIONS OF SELECT CREDIT RATING AGENCIES BY THE STAFF OF THE SECURITIES AND EXCHANGE COMMISSION 10-11 July 8, 2008, http://www.sec.gov/news/studies/2008/craexamination070808.pdf (finding that "[f]rom 2002 to 2006, the volume of [residential mortgage-backed securities] and CDO deals rated by the rating agencies examined substantially increased, as did the revenues the firms derived from rating these products"); *Id.* at 12; Hamish Risk, *Record CDO Fees Set Up Merrill, Citigroup for Worst Writedowns*, BLOOMBERG, Mar. 3, 2008.

[14] *See generally* JANET M. TAVAKOLI, STRUCTURED FINANCE AND COLLATERALIZED DEBT OBLIGATIONS: NEW DEVELOPMENTS IN CASH AND SYNTHETIC SECURITIZATION 331-354, 405-427 (2d. ed. 2008); Joseph R. Mason & Josh Rosner, Where Did the Risk Go? How Misapplied Bond Ratings Cause Mortgage Backed Securities and Collateralized Debt Obligation Market Disruptions, Working Paper, May 3, 2007, http://ssrn.com/abstract=1027475 (arguing that "[m]any of the current difficulties in residential mortgage-backed securities (RMBS) and collateralized debt obligations (CDOs) can be attributed to a misapplication of agency ratings").

[15] *See generally* Anil K. Kashyap, Raghuram G. Rajan & Jeremy C. Stein, Rethinking Capital Regulation (Sept. 2008) (unpublished work, on file with the Fed. Reserve Bank of Kansas Symposium), http://www.kansascityfed.org/publicat/sympos/2008/KashyapRajanStein.09.15.08.pdf; Viral V. Acharya & Phillipp Schnabl, *Causes of the Crisis*, 21 CRIT. REV. 195 (2009), *available at* http://ssrn.com/abstract=1514984.

[16] CDSs utilized in synthetic CDOs may, however, receive credit ratings. *See* Press Release, Standard and Poor's, Credit FAQ: Swap Risk Ratings Introduced For Synthetic CDO and Credit Derivative Transactions, Sept. 15, 2006.

[17] The overwhelming majority of credit derivatives are utilized by five banks: JP Morgan, Bank of America, Goldman Sachs, Citigroup, and Morgan Stanley. David

quite illiquid compared to exchange-traded financial instruments such as stocks and futures,[18] they are generally traded more often than corporate bonds and structured debt securities, and will likely become more liquid as the CDS market matures.[19] A CDS dealer profits from bid/ask spreads—selling instruments at a higher price than purchased—and therefore has a strong incentive to trade more instruments by attracting order flow.[20] Unlike an underwriter, however, a dealer cannot sell a derivative without immediately exposing itself to long-term risk from its counterparty failing to perform. CDS contracts typically remain open for several years whereas the obligations of underwriters involved in a securities sale are settled and extinguished almost immediately.[21] This is in part why CDS dealers generally run a "matched book," meaning that they sell as many CDSs as they buy to offset and get rid of their long-term counterparty risks.[22] CDS counterparties are generally under no illusion as to the long-term value of the contract or its short-term volatility, which is precisely why the parties to CDS transactions often monitor and adjust their exposures on at least a daily basis. In contrast to the result of their leveraged investments in mortgage-related securities, banking institutions did not fail because of losses from CDS trading or because they were unable to meet their own CDS obligations.[23]

M. Katz, *Five Firms Hold 80% of Derivatives Risk, Fitch Report Finds*, CFO.COM, July 24, 2009.

[18] Dragon Y. Tang & Hong Yan, Liquidity and Credit Default Swaps Spreads (Sept. 4, 2007) (working paper), http://ssrn.com/abstract=891263.

[19] Andras Fulop & Laurence Lescourret, How Liquid is the CDS Market?, 2-3 (Oct. 2007) (EESEC and CRESET working paper), http://www.rmi.nus.edu.sg/events/files/PAPER/draftOct30%5B1%5D.pdf; *See also* IMF, GLOBAL FINANCIAL STABILITY REPORT: MARKET DEVELOPMENTS AND ISSUES 50 (April 2007), http://www.imf.org/External/Pubs/FT/GFSR/2007/01/pdf/text.pdf (describing the relative liquidity of different CDSs). CDS dealers are typically a party to a CDS, and the trades may be executed among dealers by phone or through an inter-broker dealer's electronic trading platform); Yalin Gündüz, *Trading Credit Default Swaps via Interdealer Brokers*, 32 J. FIN. SERV. RES. 141, 141-42 (2007).

[20] Larry Harris, TRADING AND EXCHANGES: MARKET MICROSTRUCTURE FOR PRACTITIONERS 278-79, 282-83 (2003).

[21] Robert B. Bliss & Robert S. Steigerwald, *Derivatives Clearing and Settlement: A Comparison of Central Counterparties and Alternative Structures*, FED. RESERVE BANK CHI. J. ECON. PERSPECTIVES PERSP. 22, 23 (4th Quarter 2006).

[22] *Role of Turmoil in the Financial Derivatives in Current Financial Crisis Markets: Hearing Before the S. Comm. on Agric., Nutrition, and Forestry*, 110th Cong. 8 (2008) (statement of Dr. Richard Lindsey, President and CEO, Callcott Group, LLC), http://www.shareholdercoalition.com/Lindsey.pdf.

[23] Banks' derivatives trading losses have been insubstantial and trivial compared to their actual and projected write-downs from debt securities. *Compare* COMPTROLLER OF THE CURRENCY, OCC'S QUARTERLY REPORT ON BANK TRADING

Whereas the issuance of mortgage-related securities dramatically decreased in 2008,[24] CDS transactions overall did not significantly slow and CDSs have continued to be traded among dealers and their counterparties throughout the financial crisis.[25] The CDS market has thus far remained substantially stable despite the large and relatively unexpected required payouts by CDS sellers and the failure of a major derivatives dealer (Lehman Brothers).[26] The payouts were triggered by record-sized bankruptcies in October 2008 and a surge in corporate bankruptcies in February 2009.[27] Widespread defaults by CDS protection sellers did not occur, the contractual expectations of CDS protection buyers were generally met, and Lehman Brothers was orderly replaced as a counterparty by other dealers. Warnings by credible commentators that outstanding CDS obligations and dealer defaults could spread contagion throughout the financial system never materialized.[28]

AND DERIVATIVES ACTIVITIES 2 (4th Quarter 2008) ("The difficult trading environment in 2008 led to the first annual trading loss for the [U.S. commercial] banking industry, as banks lost [a combined total of] $836 million for 2008, compared to revenues of $5,489 million in 2007."), *with* IMF, GLOBAL FIN. STABILITY REP.: RESPONDING TO THE FIN. CRISIS AND MEASURING SYSTEMIC RISKS 35 tbl. 1.3 (April 2009) (estimating over $1 trillion in U.S. bank write-downs from securities from 2007 to 2010).

[24] SECURITIES INDUSTRY AND FINANCIAL MARKETS ASSOCIATION, MORTGAGE-RELATED ISSUANCE (June 2009); Securities Industry and Financial Markets Association, *Global CDO Market Issuance Data* at 2 (Jan. 15, 2009) (reporting survey of structured finance CDOs which include mortgage-related securities as collateral).

[25] *See* MARKIT, THE CDS BIG BANG: UNDERSTANDING THE CHANGES TO THE GLOBAL CDS CONTRACT AND NORTH AMERICAN CONVENTIONS 7 (Mar. 13, 2009), http://www.markit.com/cds/announcements/resource/cds_big_bang.pdf ("The CDS markets remained liquid and functioning during the collapse of Lehman Brothers and Bear Stearns."). Reflecting the illiquidity and losses in their underlying U.S. subprime mortgage-backed securities, the ABX CDS indexes referencing such securities became relatively illiquid at various times in 2008. *See Liquidation Sale: ABX Illiquidity Underlined*, STRUCTURED CREDIT INVESTOR, May 5, 2008.

[26] Karen Brettell, *Lehman CDS Counterparties Begin Resetting Trades*, REUTERS, Sept. 15, 2008, http://www.reuters.com/article/gc06/idUSN1529868020080915; Ingo Fender & Jacob Gyntelberg, *Three International Banking and Financial Market Developments*, BIS QUARTERLY REVIEW, 6-7, Dec. (December 2008); Press Release, The Depository Trust & Clearing Corporation, DTCC Successfully Closes out Lehman Brothers Bankruptcy (Oct. 30, 2008).

[27] Laura Mandaro, *CDS Auctions Reach Record High in February*, MARKETWATCH, Feb. 27, 2009, http://www.marketwatch.com/story/bankruptcy-defaults-push-cds-auctions-a.

[28] *See* Satyajit Das, *Fear & Loathing in Financial Products, The Credit Default Swaps (CDS) Market—Will it Unravel?* (May 30, 2008 7:23 AM). http://www.wilmott.com/blogs/satyajitdas/index.cfm/2008/5. Merrill Lynch was

Despite the fact that the Lehman Brothers Holdings bankruptcy was the largest corporate bankruptcy filing in U.S. history and bondholders received less than eight cents on the dollar, CDS sellers were generally able to meet their obligations and only 7.2 percent of the approximately $72 billion in notional value of CDSs referencing Lehman was actually required to be paid out.[29] Although a general lack of transparency over CDS exposures immediately subsequent to the Lehman bankruptcy increased uncertainty in the financial markets, overall these events significantly call into question the extent to which CDSs and OTC derivatives more generally actually contribute to systemic risk. As noted in a March 2009 report by senior financial regulators from the United States, the United Kingdom, and several other nations, the fact that the unprecedented credit events in the second half of 2008 "were managed in an orderly fashion, with no major operational disruptions or liquidity problems" demonstrated the fundamental "effectiveness" of the CDS cash settlement mechanism.[30]

Underlying many of the differences between debt securities and credit derivatives is that the net value of any derivatives transaction always sums to zero: for every gain by one side of a CDS agreement, there must be an equal and opposite loss by the other. This property means that CDS agreements by themselves cannot add or reduce any net risk to the financial system. However, while derivatives can create value for companies by helping them to manage and decrease their risks,[31] derivatives can also inefficiently distribute and concentrate existing risks and thereby add net risk to the financial system. And CDSs are no exception.

Up through the beginning of the financial crisis, the misuse of CDSs led to an overconcentration of risk in certain large financial institutions. These transactions consisted of non-standardized[32] CDSs that were:

---

the only major financial institution to suffer a significant trading loss from its CDS positions due to the Lehman bankruptcy. EUROPEAN CENTRAL BANK (ECB), CREDIT DEFAULT SWAPS AND COUNTERPARTY RISK 33, Aug. 2009.

[29] Press Release, Depository Trust & Clearing Corporation, DTCC Trade Information Warehouse Completes Credit Event Processing for Lehman Brothers (Oct. 22, 2008).

[30] Senior Supervisors Group, Observations on Management of Recent Credit Default Swap Credit Events 2, Mar. 9, 2009, http://www.sec.gov/news/press/2009/report030909.pdf.

[31] *See generally* Söhnke M. Bartram, Gregory W. Brown & Jennifer Conrad, The Effects of Derivatives on Firm Risk and Value (Working Paper, Jan. 12, 2009), http://ssrn.com/abstract=1342771.

[32] *See also* Shane Kite, *Treasury Says Mortgage-Based Credit Default Swaps = Custom Contracts,* SECURITIES INDUSTRY NEWS, July 10, 2009, http://www.securitiesindustry.com/news/-23661-1.html (reporting that Treasury Secretary Timothy F. Geithner stated that "the credit default swaps that American

- written on higher than AAA-rated super senior CDO tranches backed in substantial part by residential mortgage-related securities;
- sold by an unregulated affiliate or subsidiary of a regulated insurer with a AAA credit rating;
- not supported by collateral upon the execution of the trade due to the AAA rating of the parent or affiliate; and
- purchased by commercial or investment banks to book upfront gains from negative basis trades, obtain regulatory capital relief, and hedge risk.

In particular, the subsidiaries of certain bond insurers and AIG sold so much CDS protection to banks that they were unable to meet their obligations as CDS sellers when values of mortgage-related securities began to fall. Importantly, however, these CDS transactions were anomalous and not typical of the CDS market or OTC derivatives more generally. As of year-end 2007, the total value of systemically troublesome CDSs (i.e., those which referenced mortgage-related securities and were sold by certain bond insurers or AIG's subsidiary) was approximately $188 billion—less than one percent of the then estimated $58 trillion CDS market.[33] Furthermore, although CDSs enabled mortgage-related security risk to be created with synthetic CDOs, the utilization of CDSs to create synthetic securities was driven by the more fundamental, excessive demand by investors for mortgage-related securities. Accordingly, the involvement of CDSs in the financial crisis is best viewed as resulting from deficiencies in the market for mortgage-related securities and structured finance more generally rather than from inherent flaws in CDS transactions or the CDS market's underlying infrastructure. These issues are discussed in Section III.

Unmanageable CDS losses arose because the risk management practices undertaken by certain bond insurers, AIG's subsidiary, and those of their bank counterparties were inadequate. In addition, regulation did not

---

International Group and various monoline insurance companies sold and that led to the global credit crisis were custom contracts").

[33] AIG, Annual Report (2007 Form 10-K), at 122 (Feb. 28, 2008) (disclosing $61.4 billion in exposure to CDOs with mortgage-backed collateral); Erik Holm & Jesse Westbrook, *N.Y. Regulator Pushes Banks to Rescue Bond Insurers (Update3)*, BLOOMBERG, Jan. 24, 2008 (reporting that the bond insurance "industry collectively guaranteed $127 billion of CDOs linked to mortgages"); Jacob Gyntelberg & Carlos Mallo, *OTC Derivatives Market Activity in the First Half of 2008*, BANK FOR INT'L SETTLEMENTS, Nov. 2008, at 6. The total CDS exposure of AIG's subsidiary ($527 billion) itself accounted for approximately one percent of the CDS market and is discussed in further detail in Section III.B.3.

properly limit, and regulators did not diligently supervise, those institutions' use of CDSs. AIG's thrift regulators, for instance, admitted that they failed to adequately recognize and act upon the risk posed by AIG's CDSs referencing mortgage-related CDOs, primarily because they did not appreciate the risk of the CDOs' underlying mortgage-related collateral.[34]

Additional regulation and oversight should therefore have the goal of preventing overconcentration of CDS risk in particular companies. CDS protection sellers should be prevented from taking on so much risk that they are unable to fulfill their obligations to pay protection buyers when a credit event occurs or collateral calls take place. CDS protection buyers should be prevented from becoming overly reliant on the ability of any particular CDS seller to meet its obligations. Particular attention should be focused on the risks arising from CDSs referencing asset-backed securities or other illiquid bonds. New regulation or oversight of all CDS agreements at the instrument level could achieve these goals and may prevent undue risk concentration from recurring.

However, new CDS-related regulation seems best dealt with at the institutional level, in part because regulators are probably in the best position to appropriately limit CDS usage by the institutions within their jurisdiction. New regulation should also be targeted at regulated institutions because overconcentration of CDS risk became a systemic problem only due to the misuse of CDSs by certain banking institutions and insurers. By contrast, CDS counterparty risk management is generally prudent, such as when dealers trade among themselves or with hedge funds, or simply when asset-backed securities such as CDOs are not the CDS reference obligation.

Market participants also have been making substantial improvements in the CDS market's infrastructure under the encouragement and supervision of the Federal Reserve Bank of New York (New York Fed). These improvements directly address policymakers' concerns relating to the transparency of the CDS market and its impact on financial stability. In 2009, CDS dealers and other market participants have:

---

[34] *American International Group: Examining What Went Wrong, Government Intervention, and Implications for Future Regulation, Hearing Before the S. Comm. on Banking, Housing, and Urban Affairs*, 111th Cong. 6, 18 (2009) (statement of Scott M. Polakoff, Acting Director, Office of Thrift Supervision) ("[The] pace of change and deterioration of the housing market outpaced our supervisory remediation measures for the company."); Jeff Gerth, *Was AIG Watchdog Not Up to the Job?*, MSN MONEY, Nov. 10, 2008, http://articles.moneycentral.msn.com/Investing/Extra/was-aig-watchdog-not-up-to-the-job.aspx (quoting OTS official C.K. Lee as stating that "[w]e were looking at the underlying instruments and seeing them as low-risk").

- increased standardization of the terms and settlement procedures of CDS agreements, making it easier to price, trade, pay out, and centrally clear CDSs;
- established and operated central counterparties to CDS transactions and made credible commitments to increase the range of contracts to be centrally cleared;
- reported all CDS trades to a central trade repository (operated by the Depository Trust Clearing Corporation), including customized trades not eligible for clearing;
- disclosed CDS positions in the trade repository in aggregate to the public and made more information available to regulators upon request;
- improved participation by non-dealers by including buy-side firms in the process of determining a credit event and giving them direct access to clearinghouses;
- reduced operational risks by substantially eliminating redundant or offsetting CDS agreements.[35]

As cooperative efforts with market participants continue, focusing CDS reforms on how CDSs are used by regulated institutions seems to be the most effective means to prevent a recurrence of unmanageable CDS-related losses without undermining the vast majority of potentially valuable CDS transactions. The full extent of proposed OTC derivatives reforms are therefore likely unnecessary to achieve greater transparency and stability in the CDS market. Section IV concludes with additional recommendations and draws broader lessons for financial regulatory reform.

II. CDS REGULATION AND REFORM

Due to amendments to federal securities and commodities statutes and the preemption of state law by the Commodities Futures Modernization Act of 2000,[36] CDSs are regulated under federal law pursuant to the SEC's limited jurisdiction over security-based swaps. The utilization of CDSs by banks is subject to oversight and supervision by federal bank regulators. CDSs are not regulated under federal commodities laws as futures

[35] These developments are further discussed in Sections II.B and III.A.3 and are chronicled by the New York Fed at http://www.newyorkfed.org/newsevents/otc_derivative.html.

[36] Commodity Futures Modernization Act of 2000, Pub. L. No. 106-554, §1(a)(5), 114 Stat. 2763A-365 (codified as amended in scattered sections of 7, 11, 12, and 15 U.S.C.).

contracts, nor are they regulated under state insurance or gambling law. CDS transactions and market practices are primarily governed by an evolving body of contract law. Recent actions taken by various types of policymakers seek to increase government regulation and oversight of CDS transactions, either by facilitating market participants' adoption of central counterparty clearinghouses and other practices, or by mandating them.

A. *Federal Regulation and Oversight of CDSs*

The Gramm-Leach-Bliley Act of 1999 (GLBA) defines a swap to include contracts that transfer financial risk between parties through an exchange of payments based on the value of a financial interest, without also conveying ownership in the instrument containing the financial risk that is transferred.[37] A statutory swap agreement must take place between "eligible contract participants" (i.e., sophisticated parties such as banks, insurance companies, and investment funds) and its material terms (other than price and quantity) must be subject to individual negotiation.[38] The GLBA further distinguishes between security-based swap agreements and non-security-based swap agreements. Security-based swaps are defined as swaps having "a material term . . . based on the price, yield, value, or volatility of any security or any group or index of securities, or any interest therein."[39] Non-security-based swaps are all other swaps.[40] Under the express terms of the GLBA, a credit default swap falls within the statutory definition of a swap agreement.[41] Because a material term of a CDS is based upon value of a debt security or group or index of debt securities, a CDS is a security-based swap.

CDSs fall outside of the scope of the Commodity Exchange Act (CEA) and hence outside of the Commodity Futures Trading Commission's (CFTC) jurisdiction over futures contracts for two reasons. First, a CDS transaction qualifies as an "excluded derivatives transaction" under section 2(d)(1) of the CEA. To qualify as an excluded derivatives transaction, three conditions must be satisfied: The transaction must (1) take place off of an exchange or other trading facility, (2) be between eligible contract participants, and (3) reference an "excluded commodity."[42] Excluded

---

[37] Gramm-Leach-Bliley Act § 206A(a)(3), 15 U.S.C. § 78(c) notes78c (2006) (notes); *available at* http://www4.law.cornell.edu/uscode/search/display.html?terms=swap&url=/uscode/html/uscode15/usc_sec_15_00000078---c000-notes.html.

[38] *Id.* at § 206A(a).

[39] *Id.* at § 206B.

[40] *Id.* at § 206C.

[41] *Id.* at § 206A(a)(3).

[42] Commodity Exchange Act § 2(d)(1), 7 U.S.C. § 2(d)(1) (2006).

commodities include debt securities,[43] which are referenced by CDSs. Second, CDSs fall also under the more general exclusion applicable to all swap transactions that are entered into by eligible contract participants, are subject to individual negotiation, and are not executed on a trading facility.[44]

In addition, security-based swaps of which CDSs are a type are excluded from the definition of "security" under the Securities Act and the Securities and Exchange Act (Exchange Act).[45] However, parties to a security-based swap transaction are subject to the antifraud and antimanipulation provisions under the Securities Act and the Exchange Act[46] as well as the applicable regulation and case law relating to Exchange Act Section 10(b) and Rule 10b-5.[47] Nonetheless, the SEC is prohibited from requiring, recommending, or even suggesting the registration of any security-based swap.[48] In addition, the SEC is prohibited from promulgating or enforcing rules or general orders that impose prophylactic reporting, recordkeeping requirements, or procedures against fraud, manipulation, or insider trading with respect to security-based swaps.[49] Despite not being subject to SEC or CFTC oversight for fraud, excluded OTC derivatives market transactions are still subject to private rights of action under applicable provisions of contract law and state-based antifraud laws.[50]

Most CDS dealers are owned by commercial banks or are subsidiaries of bank holding companies.[51] Accordingly, the Office of the

---

[43] Commodity Exchange Act § 1a(13)(i), 7 U.S.C. § 1a(13)(i) (2006).
[44] Commodity Exchange Act § 2(g), 7 U.S.C § 2(g) (2006) (excluding CEA applicability to futures from certain excluded swaps).
[45] Securities Act § 2A, 15 U.S.C. § 77b-1(b)(1) (2006); Securities Exchange Act § 3A, 15 U.S.C. § 78c-1(b)(1) (2006).
[46] *See* Securities Act § 17(a), 15 U.S.C. § 77q(a) (2006); Securities Exchange Act § 9(a)(2)-(5), 15 U.S.C. §§ 78i(a)(2)–(5) (2006); Securities Exchange Act § 15(c)(1), 15 U.S.C. § 78o(c)(1) (2006) (rules for brokers and dealers); Securities Exchange Act § 16(a)-(b), 15 U.S.C. § 78p(a)-(b) (2006) (applying Section 16 anti-insider trading reporting and short-swing profit provisions to security-based swaps); Securities Exchange Act § 20(d), 15 U.S.C. § 78t(d) (2006) (including security-based swaps among the types of instruments which cannot be traded on the basis of material nonpublic information).
[47] Securities Exchange Act § 10, 15 U.S.C. § 78j(b) (2006).
[48] Securities Act § 2A(b)(2), 15 U.S.C. § 78c-1(b)(2) (2006); Securities Exchange Act § 3A(b)(2), 15 U.S.C. § 78c-1(b)(2) (2006).
[49] Securities Act § 2A(b)(3), 15 U.S.C. § 78c-1(b)(3) (2006); Securities Exchange Act § 3A(b)(3), 15 U.S.C. § 78c-1(b)(3) (2006).
[50] Commodity Exchange Act § 13a-2(7), 7 U.S.C. § 13a-2(7) (2006).
[51] *See Systemic Risk: Regulatory Oversight and Recent Initiatives to Address Risk Posed by Credit Default Swaps*: *Hearing Before the Subcomm. on Capital*

Comptroller of the Currency (OCC) has oversight over the CDS trading activities of insured commercial banking institutions that it supervises, and it also publishes quarterly reports on banks' use of derivatives.[52] OCC oversight includes daily examinations of banks' CDS trading and counterparty risk relating to bank safety and soundness.[53] Federal Reserve officials have also supervised bank CDS activity in connection with its role in monitoring banks and bank holding companies for institutional stability.[54] Before the major U.S. investment banks failed, were purchased by bank holding companies, or converted into bank holding companies, CDS dealers also used to operate through investment bank subsidiaries but were not registered as broker-dealers.[55] As such, they were subject to indirect oversight by the SEC at the consolidated entity level.[56] The U.S. Office of Thrift Supervision (OTS) has oversight over thrift holding companies, such as AIG and GE Capital, and primarily conducts supervision of holding companies' risk management at the enterprise level.[57] Although the OTS did not adequately conduct oversight of AIG's subsidiary as discussed below, it had the power to do so.[58]

B. *Contract Law: ISDA Provisions and Auction Protocols*

In 1985, a group of 18 interest rate swaps dealers formed a group which eventually became the International Swaps and Derivatives Association (ISDA).[59] Today, ISDA has several hundred members consisting of dealers, end-users, and other parties. Since its formation in 1985, ISDA has been the primary provider of standardized and regularly updated contractual terms and documentation for a wide variety of OTC derivatives transactions.[60] The primary form contract governing OTC derivatives transactions is the ISDA Master Agreement. The standardized Master Agreement contains provisions for the basic terms of the transaction, such as price and payment obligations; other provisions that

---

Markets, Insurance and Government Sponsored Enterprises: 111TH Cong. 7 (Mar. 5, 2009), http://www.gao.gov/new.items/d09397t.pdf (statement of Orice M. Williams, Director Financial Markets and Community Investment) [hereinafter Systemic Risk Hearings].

[52] *See* COMPTROLLER OF THE CURRENCY, OCC's Quarterly Report on Bank Derivatives Activities (2009), http://www.occ.treas.gov/deriv/deriv.htm.

[53] Systemic Risk Hearings, *supra* note 51, at 7.

[54] *Id.* at 11.

[55] *See* 17 C.F.R. § 240.3b.12 (2006) (defining OTC derivatives dealer).

[56] Systemic Risk Hearings, *supra* note 51, at 8.

[57] *Id.* at 9.

[58] *Id. See infra* Section III.B.3.

[59] Allen & Overy, An Introduction to the Documentation of OTC Derivatives 3 (2002), http://www.isda.org/educat/pdf/documentation_of_derivatives.pdf.

[60] *Id.*

establish the ongoing relationship between the parties, such as default events and assignments; a schedule of elections and modifications; and other documents the Master Agreement may incorporate by reference.[61] ISDA also publishes standardized Definitions in booklets that CDS parties incorporate into their trade confirmation and which streamlines the overall documentation of a transaction.[62] Definitions for CDSs were first introduced in 1999 and allowed CDS contracts to be limited to four pages and the CDS market to rapidly grow.[63]

ISDA has also established a formal auction process for CDS participants to determine the value of defaulted bonds and thereby the cash payout protection sellers owe to protection buyers. Formalization of the process was deemed necessary because rapid growth of the CDS market resulted in a situation where far more CDS contracts existed relative to the underlying bonds they referenced. This made it impossible for all protection buyers to physically deliver the reference bond to protection sellers, which led to the price of reference bonds rapidly increasing subsequent to a credit event and to the use of ad hoc procedures to effect settlement.[64] In September 2006, ISDA first released a cash settlement "protocol" across a wide range of types of CDS transactions.[65] A protocol consists of the commitment by parties to a CDS to participate in a pre-planned auction of defaulted bonds to determine the price at which to cash settle their obligations.[66]

On April 8, 2009, ISDA incorporated the cash settlement auction process into standard CDS documentation (the ISDA Definitions) and thereby removed the need to establish a separate cash settlement protocol for each credit event.[67] In addition, over 2000 CDS users agreed to

---

[61] *Id.*; BAKER & MACKENZIE, DOCUMENTATION OF OTC DERIVATIVES UNDER THE ISDA MASTER AGREEMENT: A PRIMER FOR CORPORATE COUNSEL & TREASURY 3-4 (2004).

[62] Allen & Overy, *supra* note 59, at 7.

[63] *Id.*; RICHARD BRUYÈRE ET AL., CREDIT DERIVATIVES AND STRUCTURED CREDIT: A GUIDE FOR INVESTORS 42-43 (2006).

[64] Allison Pyburn, *Derivatives: ISDA Broadens Use of Cash Settlement Protocol, High Yield Report*, Oct. 2, 2006; Fiona Pool & Betsy Mettler, *Countdown to Credit Derivative Futures: Are Exchange-Traded Futures Poised to Revolutionize the Credit Derivative Market?*, FUTURES INDUSTRY, March/April 2007.

[65] Pyburn, *supra* note 64.

[66] Memorandum from Cadwalader, Wickersham & Taft LLP to Clients & Friends Memo: A Plain English Summary of Credit Default Swap Settlement Protocol (Nov. 18, 2008), http://www.cadwalader.com/assets/client_friend/111808SummaryCreditDefaultSwap.pdf.

[67] Press Release, ISDA, ISDA Announces Successful Implementation of 'Big Bang' CDS Protocol; Determinations Committees and Auction Settlement Changes

incorporate the cash settlement mechanism into existing CDS contracts as part of several fundamental changes to CDS agreements known as the Big Bang Protocol.[68] The Big Bang Protocol also established a Determinations Committee (to bring greater certainty in determining exactly when certain credit events occur), standardized CDS interest payments to either one percent or five percent, and made other changes likely to bring greater efficiency and stability to the CDS market.[69]

C. *Treasury Department OTC Derivatives Reform Proposals*

On June 17, 2009, the Treasury Department released a comprehensive financial regulatory reform proposal that would impact the way CDSs and other OTC derivatives are regulated and utilized by market participants. The goals sought by the reform proposal are to prevent OTC derivatives from posing a threat to financial stability, increasing OTC derivatives markets' efficiency and transparency, decreasing market manipulation and other improper trade practices, and ensuring that OTC derivatives are not marketed to unsophisticated parties.[70]

The Treasury Department's proposal recommends that federal securities and commodities laws be amended to require that standardized CDSs be cleared by a regulated central counterparty with robust margin requirements and other risk controls.[71] The proposal also seeks to subject OTC derivatives dealers, central counterparties, and others with large exposures to risk from derivatives to new reporting requirements, prudential supervision by regulators, and conservative capital reserve requirements.[72] Customized derivatives transactions would be required to be reported to a trade repository. Central counterparties and trade repositories would, in turn, be required to disclose trade and pricing information on an aggregate basis to the public and in a more detailed manner only to regulators.[73] Finally, the Treasury Department's proposal seeks amendment of the CEA and securities laws to ensure that regulators have adequate authority to police for fraud and abusive trading practices and to ensure that only

---

Take Effect (April 8, 2009), http://isda.org/press/press040809.html; Press Release, ISDA, Big Bang Protocol, Frequently Asked Questions, http://www.isda.org/bigbangprot/bbprot_faq.html#sf2.

[68] *Id.*

[69] *See generally*, Markit, *supra* note 25; Memorandum from Cadwalader, Wickersham & Taft LLP to Clients & Friends, ISDA Auction Hardwiring and other Market Initiatives: Strengthening the Infrastructure for CDS Transactions (Mar.12, 2009).

[70] DEP'T OF THE TREASURY, *supra* note 1, at 46-47.

[71] *Id.* at 47.

[72] *Id.* at 48.

[73] *Id.*

financially sophisticated parties utilize OTC derivatives.[74] On August 11, 2009, the Treasury Department sent draft legislation sent to Congress embodying its proposal.[75]

D. *Proposed Legislation Relating to CDSs*

In 2009, the Senate and House of Representatives introduced several bills that would substantially alter the regulatory framework applicable to CDSs. Like the Treasury Department's proposal, the bills generally sought to impose new recordkeeping, reporting, and capital reserve or margin requirements on CDS dealers and major market participants, and to require that standardized CDSs be cleared by a central counterparty. Some of the bills additionally sought to enable the CFTC to suspend trading in CDSs,[76] to require CDS buyers to own the obligation referenced by the CDS (i.e., a ban on uncovered CDSs),[77] or to prohibit all CDS trading outright.[78] These additional more stringent forms of regulation were effectively rejected in a joint statement of principles for OTC derivatives legislation by the Chairmen of the House Agriculture Committee and the House Financial Services Committee.[79]

Two more recent OTC derivatives reform bills were proposed in October 2009 in the House of Representatives.[80] Although important differences exist between the two House bills, in addition to the general registration and reporting requirements already mentioned, they would both give the SEC exclusive jurisdiction over CDSs (and other security-based swaps), require eligible CDSs to be centrally cleared and traded either on a regulated exchange or an electronic trading platform, and also enable the

---

[74] *Id.* at 48-49.

[75] Press Release, U.S. Treas. Dept., Administration's Regulatory Reform Agenda Reaches New Milestone: Final Piece of Legislative Language Delivered to Capitol Hill, Aug. 11, 2009, http://www.treas.gov/press/releases/tg261.htm.

[76] H.R. 977, 111th Cong., § 16 (2009).

[77] H.R. 2454, 111th Cong. § 355(h) (2009).

[78] H.R. 3145, 111th Cong. § 4 (2009).

[79] H. Fin. Servs. Comm., Description of Principles for OTC Derivatives Legislation (July 30, 2009), http://agriculture.house.gov/inside/Legislation/111/otc_principles_final_7-30.pdf.

[80] On October 15, 2009, the House Financial Services Committee approved the Over-the-Counter Derivatives Markets Act of 2009 (H.R. 3795) and on October 21, 2009 the House Agricultural Committee passed its version of the same bill, the Derivatives Markets Transparency & Accountability Act. *See* Press Release, H. Fin. Servs. Comm., Financial Services Committee Approves Legislation to Regulate Derivatives, Oct. 15, 2009; Press Release, H. Ag. Comm., House Agriculture Committee Approves Legislation Strengthening Derivatives Regulation, Oct. 21, 2009.

SEC to impose position limits on "large" CDS traders.[81] CDSs that are unable to be cleared centrally would be required to be reported to a regulated trade repository and face higher capital requirements.[82] The bill proposed by the House Financial Services Committee expressly permits noncash assets to be used as collateral,[83] which would reduce costs to commercial end-users of OTC derivatives. Notably, the recent bills abandon the approach taken by the Treasury Department's proposal and earlier bills which required CDSs to be centrally cleared based upon a determination of whether the contract is sufficiently "standardized."

E. *SEC Exemptions to Enable CDS Central Counterparties*

Since December 2008, the SEC has given approval to several private institutions on a case-by-case basis to act as a clearinghouse for certain types of CDSs. The first came on December 23, 2008, when the SEC approved temporary and conditional exemptions that would enable U.S.-based users of certain index CDSs to utilize LCH.Clearnet as a central counterparty.[84]

All of the clearinghouse exemptions are motivated by the SEC's belief that subjecting a central counterparty, CDS users, broker-dealers, and others to the full scope of regulation under the Exchange Act would delay and create disincentives for the prompt establishment of an effective CDS central counterparty.[85] The exemptions articulate wide-ranging concerns relating to the regulation, market characteristics, and utilization of CDSs by dealers and end-users. The SEC's concerns include the potential systemic risk posed by CDSs (especially those arising from counterparties not meeting their obligations), operational risks, risks relating to market manipulation and fraud, and the lack of regulation, transparency, and central CDS counterparties.[86] In light of these concerns and the SEC's limited jurisdiction over CDSs, the exemptive orders seek to establish a

---

[81] Hans-Christian Latta & Milena Tantcheva, *United States: Proposals For Broad Regulation Of Derivatives Markets Emerge in Congress*, Mondaq.com, Nov. 2, 2009, http://www.mondaq.com/unitedstates/article.asp?articleid=88674.

[82] *Id.*

[83] *Id.*

[84] Press Release, SEC, SEC Approves Exemptions to Allow Central Counterparty for Credit Default Swaps (Dec. 23, 2008), http://sec.gov/news/press/2008/2008-303.htm.

[85] SEC, Order Granting Temporary Exemptions Under the Securities Exchange Act of 1934 in Connection with Request of LIFFE Administration and Management and LCH.Clearnet Ltd. Related to Central Clearing of Credit Default Swaps, and Request for Comment, Exchange Act Release No. 34-59164, at 2, 17, 23, 30 (Dec. 24, 2008), at 2, 6, 17, 23, 30, http://sec.gov/rules/exorders/2008/34-59164.pdf.

[86] *Id.* at 1-2.

well-regulated central counterparty to clear certain types of CDS transactions.

The SEC believes a central counterparty can reduce the risks arising from the CDS market, facilitate the SEC's prevention and detection of fraud, and curtail market manipulation.[87] In particular, the SEC stated that a central counterparty could reduce counterparty risk by taking on (novating) each side of a CDS trade and thereby eliminating the need for parties to monitor such risk bilaterally.[88] In addition, according to the SEC, a central counterparty would also contribute to overall financial stability by subjecting CDS contracts to margin requirements, multilateral netting, loss-sharing agreements, and market-wide concentration controls, all of which would ultimately prevent the failure of a CDS participant from spreading to other market participants.[89]

Section 17A of the Exchange Act requires central counterparties that clear securities to register with the SEC.[90] The SEC exempted LCH.Clearnet from Section 17A of the Act insofar as it acts as a central counterparty for what the SEC defines as Cleared Index CDS.[91] Nonetheless, the exemptive order is conditioned upon the central counterparty taking a wide variety of actions intended to enable the SEC to monitor and improve the fairness and efficiency of securities markets. These actions include certain recordkeeping requirements, providing the SEC with access to on-site inspections, and making publicly available end-of-day CDS settlement prices.[92] With respect to qualifying CDS transactions, broker-dealers and others are subject only to the SEC's jurisdiction over fraud, market manipulation, and insider trading.[93]

---

[87] *Id.* at 4.
[88] *Id.* at 4-5.
[89] *Id.* at 5.
[90] Securities and Exchange Act § 17A(b)(1), 15 U.S.C. § 78q–1(b)(1).
[91] *Id.* at 17 n.26 (a "'Cleared Index CDS' means a credit default swap that is submitted . . . to LCH.Clearnet, that is offered only to, purchased only by, and sold only to eligible contract participants . . . and in which the reference index is an index in which 80 percent or more of the index's weighting is comprised of" generally a wide-variety of companies and other issuers having publicly available financial information). A Cleared Index CDS meets the statutory definition of swap and is also an index CDS cleared by LCH.Clearnet and references an index comprised at least 80 percent of securities from a wide-variety of companies and other issuers having publicly available financial information.
[92] *Id.* at 19-21.
[93] *Id.* at 23-24 (exempting LCH.Clearnet, Liffe and certain eligible contract participants); *Id.* at 28 (exempting Liffe members that receive or hold funds or securities for others relating to Cleared Index CDS); *Id.* at 30 (exempting broker-dealers).

Subsequent to the SEC's approval of LCH.Clearnet to operate as a central counterparty, the SEC issued a series of similar exemptions to approve central counterparties operated by the Intercontinental Exchange (the U.S.-based ICE Trust and ICE Clear Europe), the Chicago Mercantile Exchange (CME) in partnership with hedge fund Citadel, and Europe's largest futures exchange, Eurex.[94]

F. *SEC Exemptions to Enable Exchange-Traded CDSs*

The SEC's concerns relating to CDSs, along and with its belief that regulatory exemptions will facilitate the establishment of private entities able to address such concerns, likewise motivated the SEC on December 23, 2008, to approve temporary exemptions relating to the establishment of one or more CDS exchanges.[95] An exchange is a type of centrally organized market where traders meet to trade a particular financial instrument such as stocks, futures, or stock options.[96] Exchanges are generally the most integrated, transparent, and regulated type of financial market, and typically include a central counterparty clearinghouse as part of the exchange.[97] The SEC's rulemaking stems from the view that exchange-traded CDSs would benefit from the centralization, standardization, and

---

[94] SEC, Order Granting Temporary Exemptions Under the Securities Exchange Act of 1934 in Connection with Request on Behalf of ICE US Trust LLC Related to Central Clearing of Credit Default Swaps, and Request for Comments, Exchange Act Release No. 34-59578 (March 6, 2009), http://sec.gov/rules/exorders/2008/34-59527.pdf; SEC, Order Granting Temporary Exemptions Under the Securities Exchange Act of 1934 in Connection with Request of Chicago Mercantile Exchange, Inc. and Citadel Investment Group, L.L.C. Related to Central Clearing of Credit Default Swaps, and Request for Comments, Exchange Act Release No. 34-59578 (March 13, 2009), http://sec.gov/rules/exorders/2008/34-59578.pdf; SEC, Order Granting Temporary Exemptions Under the Securities Exchange Act of 1934 in Connection with Request of ICE Clear Europe Limited Related to Central Clearing of Credit Default Swaps, and Request for Comments, Exchange Act Release No. 34-60372 (July 23, 2009), www.sec.gov/rules/exorders/2009/34-60372.pdf, http://sec.gov/rules/exorders/2008/34-60372.pdf; SEC, Order Granting Temporary Exemptions Under the Securities Exchange Act of 1934 In Connection with Request of Eurex Clearing AG Related to Central Clearing of Credit Default Swaps, and Request for Comments, Exchange Act Release No. 34-60373 (July 23, 2009), http://sec.gov/rules/exorders/2008/34-60373.pdf.

[95] SEC, Order Pursuant to Section 36 of the Securities Exchange Act of 1934 Granting Temporary Exemptions from Sections 5 and 6 of the Exchange Act for Broker-Dealers and Exchanges Effecting Transactions in Credit Default Swaps, Exchange Act Release No. 34-59165 (Dec. 24, 2008), *available at* http://sec.gov/rules/exorders/2008/34-59165.pdf [hereinafter CDS Exchange Order].

[96] *See* HARRIS, *supra* note 20, at 34.

[97] DAVID LOADER, CLEARING, SETTLEMENT AND CUSTODY 2-3, 19, 80 (2002).

price and transaction transparency normally attendant to exchange trading.[98]

To facilitate the prompt development of a CDS exchange, the SEC temporarily exempted any exchange on which certain CDSs trade from having to register as a national exchange under section 6 of the Exchange Act.[99] The exemption is generally modeled after the one that is applicable to alternative trading systems, and likewise conditions the exemption for CDS exchanges on the exchange meeting certain requirements, including recordkeeping, SEC disclosure and access, and trade information confidentiality.[100] The SEC also exempted broker-dealers from the prohibition of effecting trades on unregistered exchanges insofar as they do so with respect to CDSs on an exempt exchange.[101] Finally, the SEC reserved its antifraud, insider trading, and market manipulation jurisdiction relating to exchange-traded CDS transactions.[102]

G. *State Insurance Law Reform*

From 1997 to 2000, the New York State Insurance Department issued a series of statements holding that CDSs do not qualify as insurance contracts under New York law and in 2004 codified that position in Article 69 of the New York Insurance Law.[103] A CDS was held not to be insurance because "the payment by the protection buyer is not conditioned upon an actual pecuniary loss."[104] This position permitted regulated financial guaranty insurance companies (also known as monoline bond insurers) to guaranty CDSs written on mortgage-related securities by their unregulated affiliates.[105]

As described in Section III.B.2, because certain insurance companies took on too much risk with CDSs referencing mortgage-related securities, state insurance regulators have taken action to limit the use of

---

[98] *See* CDS Exchange Order, *supra* note 95, at 5.

[99] *Id.* at 6. The exemption only applies to non-excluded CDSs. A "non-excluded CDS" is a new concept introduced by the SEC in the December 2008 orders relating to CDS clearing and exchange trading. The SEC does not define or delineate the differences between excluded and non-excluded CDSs, except to imply that all centrally cleared and exchange-traded CDSs are non-excluded CDSs.

[100] *Id.* at 9-15.

[101] *Id.* at 16.

[102] *Id.* at 15-16.

[103] *See* State of N.Y. Ins. Dep't, Circular Letter No. 19, 6-7 (Sept. 22 2008); State of New York Insurance Department, Opinion Letter Re: Credit Default Option Facility (June 16, 2000).

[104] State of N.Y. Ins. Dep't, Circular Letter No. 19, *supra* note 103, at 7.

[105] *Id.* at 2-3, 6-7.

CDSs by insurers. In particular, the National Conference of Insurance Legislators drafted model state-level insurance legislation scheduled for final review on November 19, 2009.[106] The draft legislation would only permit "credit default insurance" to be purchased by a party that "has, or is expected to have at the time of the default or other failure of the obligor under the debt instrument or other monetary obligation, a material interest in such default or other failure."[107] If adopted by a state legislature, the draft legislation could effectively prohibit the trading of uncovered CDSs in the state. As of September 2009, however, state insurance regulators seemed to have delayed regulating CDSs pending federal action.[108]

III. ASSESSMENT OF CDS REFORM ACTIONS AND PROPOSALS

Policymakers' recent actions and proposals with respect to CDSs stem from what seems to be an unduly negative view about the risks posed by all CDS transactions and their role in the financial crisis. To assess the CDS reform proposals, this Section first considers some of the basic characteristics and recent history of the CDS market, the risks of central counterparty clearinghouses, and the role of CDSs in helping investors make better decisions about credit risks. Based on those considerations and recent improvements in the CDS market supervised by the New York Fed, the SEC's exemptions seem desirable, whereas mandating that CDSs be centrally cleared does not seem warranted and could increase counterparty credit risk.

A. *CDS Market Characteristics and Practices*

Credit risk is the likelihood that a lender will suffer a loss when a borrower fails to pay back the lender in whole, in part, or on time. Stretching back centuries, parties have developed a variety of methods to reduce, determine, or otherwise deal with credit risk.[109] A CDS is a relatively new method for parties to reduce their credit risk. A CDS can be used by a bank to transfer the credit risk from its loans to a third party or by a company to hedge against credit risks from its vendors or customers. CDSs may also be used by parties not directly exposed to any particular

---

[106] National Conference of Insurance Legislators, Proposed Credit Default Insurance Model Legislation (July 24, 2009).

[107] *Id.* at § 4(b)(1).

[108] Leah Campbell & Robin Choi, *State Initiatives To Regulate Credit Default Swaps Deferred Pending Federal Action*, METRO. CORP. COUNSEL, September 2009.

[109] GEORGE CHACKO ET AL., CREDIT DERIVATIVES: A PRIMER ON CREDIT RISK, MODELING, AND INSTRUMENTS 3-5 (2006); BRUYÈRE ET AL., *supra* note 63, at 25-26.

risks that seek to trade (or "take a position") on the likelihood of specific or general credit risks. These latter types of uncovered CDSs constitute the overwhelming majority of CDS transactions and are discussed in Section III.D below.

1. *Mechanics and Contract Typology*

A CDS is a contract in which a protection buyer makes quarterly payments to a protection seller who, in return, agrees to pay the protection buyer a certain amount if a credit event takes place. [110] One party to a CDS is typically a CDS dealer and an estimated eighty percent of trades take place between dealers. [111] Other parties to CDS trades include banks trading for their debt portfolios, hedge funds, insurance companies, and sometimes non-financial companies. A credit event is a negative development involving the credit risk of a reference entity not a party to the CDS. The types of events that qualify as credit events include a borrower defaulting on a loan and a company's credit rating being downgraded by a credit rating agency. [112] The types of things that usually serve as reference entities are countries, companies, and indexes that measure credit risk (similar to how the Dow Jones Index measures stock prices). The amount a protection seller must pay to the protection buyer is called a spread (or premium) and is quoted as an annual percentage of the notional amount of a debt instrument of a reference entity. [113] CDS spreads tend to be close to the interest rate paid out by the debt instrument they reference. [114] For example, a CDS referencing a corporate bond that pays the bondholder five percent annually will generally require the protection buyer to pay out about five percent annually to the protection seller. CDS spreads move up or down depending on whether a credit event is considered more or less likely; but

---

[110] Alternative names for the protection buyer and protection seller are risk hedger and risk buyer, respectively. A protection buyer can also be viewed as taking a short position in the debt instrument underlying the CDS, and the protection seller can likewise be viewed as taking a long position. CHACKO ET AL., *supra* note 109, at 153.

[111] *See* Matthew Liesing, *CME Group, Citadel Said to Lack Credit-Default Swap Customers*, BLOOMBERG, Mar. 19, 2009 (reporting that according to the DTCC "[b]anks trading with other banks accounted for 80 percent of all [CDS] trades in the week ended March 13, [2009]").

[112] CHACKO ET AL., *supra* note 109, at 18.

[113] *Id.* at 152.

[114] SATYAJIT DAS, CREDIT DERIVATIVES: CDOS AND STRUCTURED CREDIT PRODUCTS 476 (3d ed. 2005).

the spread for any existing CDS agreement remains constant for the life of the contract. [115]

Thus, if a corporation (the reference entity) issued a $100,000 bond (the debt instrument); the notional amount is $100,000. A four percent CDS spread would require the protection buyer to make $1,000 quarterly payments to the protection seller for a total of $4,000 annually. If the corporation goes bankrupt and hence triggers a credit event payment, a physically settled CDS would require the protection buyer to first obtain the bond (which now will cost less than the notional amount) and deliver it to the protection seller who in turn pays the buyer the notional amount. If the CDS is "cash-settled," on the other hand, the protection buyer is entitled to the notional amount in cash from the protection seller, minus the post-credit event price of the bond which is determined by an organized auction. [116] Cash settlement began to replace physical settlement as the more common form of settlement in 2005 [117] and in 2009 became the default form of settlement due to implementation of the Big Bang Protocol. [118]

There are several types of CDSs. The most simple and one of the most common types is a single-name CDS in which the reference entity is a single company or country. [119] Another type of CDS references two or more reference entities and is known as a multi-name CDS. A common type of multi-name CDS is a basket CDS that references between three to ten entities. In a typical basket CDS, the credit event is the first default of any of the references entities. [120] A third type of CDS contract references a CDS index, which may be comprised of up to 125 CDS reference entities with some theme in common, such as all being American or European investment-grade companies or securities backed by mortgages. [121] An additional category of CDSs reference asset-backed securities such as mortgage related CDOs. [122]

2. *Market Size and Users*

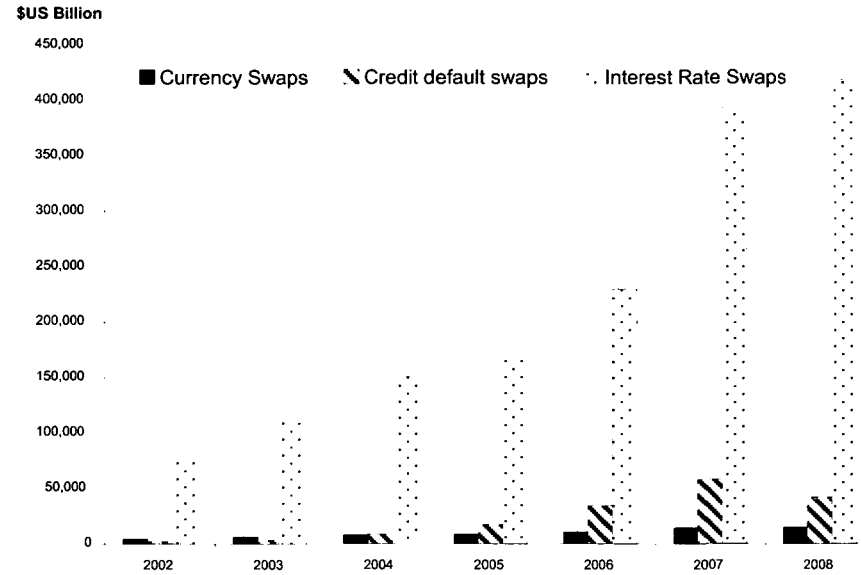
The CDS market grew substantially since 2002 as measured by the rapid growth of the notional value of all debt securities referenced by CDS

---

[115] David Mengle, *Credit Derivatives: An Overview*, ECON. REV. 4 (2007).
[116] *Id.*
[117] *Id.*
[118] *See* citations *supra* note 69.
[119] CHACKO ET AL., *supra* note 109, at 156.
[120] *Id.*
[121] Mengle, *supra* note 115, at 3; BRIAN P. LANCASTER, GLENN M SCHULTZ & FRANK J. FABOZZI, STRUCTURED PRODUCTS AND RELATED CREDIT DERIVATIVES: A COMPREHENSIVE GUIDE FOR INVESTORS 240-44 (2008).
[122] LANCASTER ET AL., *supra* note 121, at 234-40.

contracts.[123] The notional value of the CDS market peaked at year-end 2007 at $57.8 trillion and fell to $41.87 trillion as of year-end 2008.[124] Figure 1 shows the notional value of CDSs, interest rate swaps, and currency swaps from year-end 2002 through year-end 2008. Although the notional CDS market value as of year-end 2008 was almost three times larger than the $14.75 trillion value of the currency swap market, the CDS market has at all times been dwarfed by the size of the interest rate swap market, which as of year-end 2008 was $418 trillion in notional value.

FIGURE 1: NOTIONAL VALUE OF OTC SWAPS YEAR-END 2002 THROUGH 2008
Sources: BIS and ISDA



Although CDSs were originally used by banks to transfer the credit risk of their loan portfolios, hedge funds and insurance companies subsequently became the other two primary users of CDSs. Based upon the British Bankers Association 2006 survey,[125] Table 1 shows a disaggregation of CDS users by entity type and contract position. As

[123] The data reported from this Subsection is primarily obtained from the Bank for International Settlements (BIS) and supplemented with data from ISDA where BIS data was unavailable. *See* BIS, OTC Derivatives Statistics, http://www.bis.org/statistics/derstats.htm; ISDA Summaries of Market Survey Results, http://isda.org/statistics/recent.html.

[124] BIS, OTC Derivatives Market Activity in the Second Half of 2008 at 7, May 2009.

[125] Mengle, *supra* note 115, at 9.

indicated by Table 1, banks now primarily use CDSs as part of their dealer trading activities—and not to transfer credit risk to others. Dealerships and hedge funds tend to be equally weighted as protection buyers and sellers, though not perfectly. Bank loan portfolios primarily use CDSs to buy protection as opposed to obtaining synthetic loan exposure through selling CDS protection and insurance companies tend primarily to sell CDS protection. Pensions, mutual funds, and corporations are relatively small participants in the CDS market.

TABLE 1: CREDIT DEFAULT SWAP BUYERS AND SELLERS IN 2006
SOURCE: BRITISH BANKER'S ASSOCIATION

Type of Entity	Percentage of Protection Buyers	Percentage of Protection Sellers
Dealer trading portfolios	39	35
Hedge funds	28	32
Bank loan portfolios	20	9
Insurers	6	17
Pension funds	2	4
Mutual funds	2	3
Public corporations	2	1

3. *Market Infrastructure*

Although it is often noted that the survey-based notional value of CDSs reported in recent years is several times larger than such magnitudes as U.S gross domestic product, notional values bear little relation to the actual risk exposures of CDS protection sellers or in the CDS market more generally. This is partly due to the fact that dealers and other CDS market participants adopted relatively strong risk management practices and a stable market infrastructure that resulted in CDS counterparties' contractual expectations overwhelmingly being met. [126] The foundation of CDS market infrastructure is the legal certainty provided by a regime of private law consisting of standardized contractual terms, the continual development and revision of the terms to reflect changing marketplace realities, and auction practices which generally create an orderly settlement of obligations until contractual obligations are fully extinguished. Although CDS counterparties may choose to opt out of the standardized ISDA contract, and important variations exist between U.S., European, and Asian jurisdictions, the widespread adoption and knowledge of the standardized terms and settlement practices leads to substantial certainty and orderliness in CDS transactions.

Entering into a CDS transaction necessarily entails the transaction counterparties bearing certain risks. The most basic risk to a protection buyer is the counterparty risk of a protection seller not being able to meet its obligations upon the occurrence of a credit event. [127] Another risk to protection buyers arises if the protection seller's creditworthiness decreases. In this case the protection buyer may have to write down the value of hedges provided by the CDS to reflect an increased likelihood that the seller will not be able to meet its obligations. [128] For protection sellers, a CDS creates exposure directly to the credit risk of the reference entity. A

---

[126] Risks arising from operational issues and settlement practices, such as unconfirmed trade backlogs, were at one time a significant challenge for CDS market participants but were resolved through industry and regulator cooperative efforts. *See* Systemic Risk Hearings, *supra* note 51, at 18-20.

[127] Mengle, *supra* note 115, at 2. An additional risk to the protection buyer is known as "basis risk" and it is the risk that arises from purchasing CDS protection on a reference obligation that is not the exact same as the credit instrument being hedged. For example, it would arise in buying CDS protection on a corporate bond to hedge a direct loan to the company. *Id.*

[128] Holm & Westbrook, *supra* note 33 (reporting that by preventing downgrades of monoline insurance companies MBIA and Ambac "[b]anks would avoid billions more in writedowns on the value of subprime securities they had insured" in part with CDSs). *See also* Eduardo Canabarro & Darrell Duffie, *Measuring and Marking Counterparty Risk*, *in* ASSET/LIABILITY MANAGEMENT OF FINANCIAL INSTITUTIONS 122, 128 (Leo M. Tilman ed., 2003), http://www.stanford.edu/~duffie/Chapter_09.pdf.

protection seller is also exposed to the counterparty risk of a default by the protection buyer, which would deprive the seller of an expected income stream. [129] To mitigate this risk, a protection seller may require an upfront payment from the protection buyer upon entering into the CDS. In addition, a protection seller may suffer losses from being required to post collateral pursuant to provisions in the CDS, which are typically governed by ISDA's Credit Support Annex. Each CDS participant takes on the risk that its own CDS-related obligations will cause it to default or have its credit ratings downgraded (if it has rated bonds).

Several fundamental practices among CDS market participants reduce the risks normally attendant to a CDS transaction. First, dealers manage CDS risks by entering into trades that offset the risks they take on. For example, a dealer selling protection on a bond may also purchase protection on the same bond from a different client. [130] When dealers cancel out mutually offsetting CDS positions and manage only the net risk between them, the process is called netting, trade compression, or tearing-up, and greatly facilitates risk management. [131] As of year-end 2008 the major U.S. commercial bank dealers reduced their gross OTC derivatives exposures by 88.7 percent through netting. [132] Dealers also seek to limit their exposure to any single counterparty based upon that counterparty's creditworthiness—its ability to fulfill the terms of a CDS contract. [133]

Second, to reduce the counterparty risk involved with being a protection buyer, a CDS agreement may require the seller to set aside collateral to help cover the payout to the buyer that may result when a credit event occurs; particularly, when a credit event occurs and the seller is in default. As noted in March of 2009 by the Reserve Bank of Australia:

---

[129] *Id.*

[130] Mengle, *supra* note 115, at 15 (discussing the various approaches to and development of dealer risk management).

[131] Otherwise, dealers would have to monitor and adjust many more positions and use funds to collateralize redundant positions. Robert R. Bliss and George G. Kaufman, Derivatives and Systemic Risk: Netting, Collateral, and Closeout, Federal Reserve Bank Chicago 8-11 (Federal Reserve Bank Chicago, Working Paper 2005-03, 2005), http://www.chicagofed.org/publications/workingpapers/wp2005_03.pdf (describing netting); GAO, CREDIT DERIVATIVES: CONFIRMATION BACKLOGS INCREASED DEALER'S OPERATIONAL RISKS, BUT WERE SUCCESSFULLY ADDRESSED AFTER JOINT REGULATORY ACTION 23 (2007) ("In a tear-up process, an automated system matches up offsetting positions across many market participants, allowing those trades to be, in effect, terminated and thereby removing the need to confirm such trades.").

[132] COMPTROLLER OF THE CURRENCY, *supra* note 23, at 4, 14 Graph 5B.

[133] GAO, *supra* note 131, at 15.

> To mitigate the potential for loss in that event [of a CDS seller not being able to meet its obligations], market participants typically negotiate terms that give the CDS buyer the right to demand an initial margin (usually collateral such as cash or government bonds) from the CDS seller as some minimum protection should the seller default. If CDS premiums subsequently rise (thus increasing the cost of purchasing replacement protection should the CDS seller default), more collateral may be posted. Conversely, if prices fall, collateral can be returned, or the CDS buyer might even be required to post collateral to the seller. With positions generally being marked-to-market daily, participants are continuously exchanging collateral, which might require tracking the ownership of securities across numerous transactions. [134]

With collateralization, as a credit event becomes more likely (e.g., a reference entity gets closer to bankruptcy), the protection seller must add more collateral and is thereby less likely to be caught by surprise if the credit event occurs and a payout to the protection buyer is required. [135]

By the end of 2008, the total value of collateral used in all OTC derivatives transactions was estimated at almost $4 trillion, an 86 percent increase for the year. [136] The OCC also found that by year-end 2008, large U.S. commercial banks that trade OTC derivatives "tend to have collateral coverage of 30-40 percent of their net current credit exposures." [137] The ISDA Margin Survey found that the use of collateral in OTC derivatives has increased substantially since 2003. [138] In particular, since 2007 an estimated two-thirds of CDS credit exposures were collateralized and were

---

[134] RESERVE BANK OF AUSTRALIA, FINANCIAL STABILITY REVIEW 69, March 2009. *See also* COMPTROLLER OF THE CURRENCY, *supra* note 23, at 5 (stating that for U.S. commercial banks "large credit exposures from derivatives, whether from other dealers, large non-dealer banks or hedge funds, are collateralized on a daily basis"); Robert R. Bliss & Chryssa Papathanassiou, Derivatives Clearing, Central Counterparties and Novation: The Economic Implications 12, March 8, 2006; Bliss & Kaufman, *supra* note 131, at 11-12; LOADER, *supra* note 97, at 141 (2005).

[135] Jane Baird, *CDS Protection Buyers on Lehman to Get their Cash*, REUTERS, Oct. 17, 2008, http://www.reuters.com/article/innovationNews/idUSTRE49G5FU20081017 ("As Lehman CDS fell in value, before and after it filed for bankruptcy, protection sellers would have had to provide increasing amounts of Treasury bonds or other cash-like investments as collateral for those contracts.").

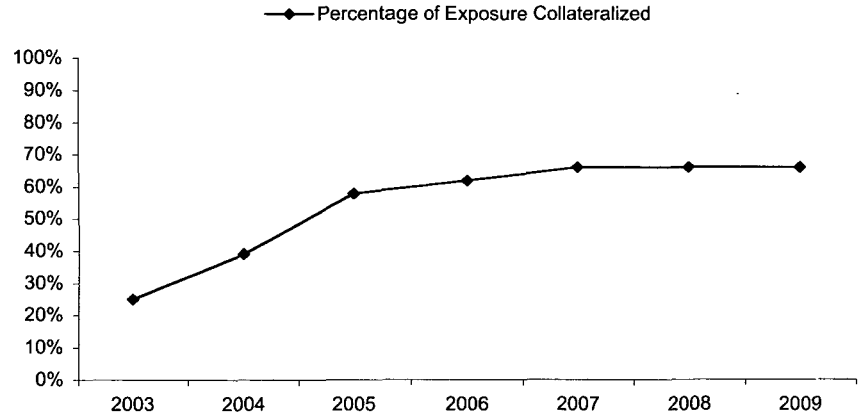
[136] ISDA, ISDA Margin Survey 2009 at 2.

[137] COMPTROLLER OF THE CURRENCY, *supra* note 23, at 4.

[138] *See* ISDA, *supra* note 136, at 7.

among the highest rates of collateralization by OTC derivatives. [139] Figure 2 below shows the trend in collateralization rates for credit derivatives from 2003 through 2009. [140] These survey results indicate that counterparty credit risk from under-collateralization has significantly decreased since 2003 and in part explains why CDS protection sellers are generally able to meet their commitments. CDS market participants seem to have reduced such exposures to adjust for increased credit risk arising from the declines in the values of debt securities and the overall deterioration of credit markets. [141] Nonetheless, there are likely significant credit exposures that remain despite the findings reported by the ISDA Margin Survey. [142]

FIGURE 2: CREDIT DERIVATIVE COLLATERALIZATION
SOURCE: ISDA



The amount of risk to CDS counterparties is far below the notional amount of debt referenced the contracts. As of June 2008, based only upon the value of the underlying debt securities referenced by CDSs and not taking into account netting, the risk of the CDS market as measured by cost of replacing the contracts was approximately 5.5 percent of the their notional value, or $3.2 trillion. [143] The combination of netting and

[139] *Id.* at 8.
[140] *Id.* at 7.
[141] For an account of the recent increased focus on and services available for derivatives collateral management, see Penny Crosman, *Wall Street Taking a Closer Look at Collateral Management*, WALL STREET & TECHNOLOGY, Nov. 17, 2008.
[142] ECB, *supra* note 28, at 48-49.
[143] BANK FOR INT. SETTLEMENTS, OTC DERIVATIVES MARKET ACTIVITY IN THE FIRST HALF OF 2008, Nov. 2008 at 4-5, 6 tbl.1 (estimating the "gross replacement value" of credit default swaps to be 3.172 trillion as of June 2008),

collateralization practices seems to substantially reduce CDS-related risk among dealers in particular. According to a 2006 study of OTC derivatives by Robert Bliss and Chryssa Papathanassiou, exposures between dealers are managed by off-setting redundant positions and nearly complete collateralization of the remaining exposures.[144] Although subject to statistical sampling limitations, a May 2007 ISDA survey likewise reported a low inter-dealer derivative counterparty risk due to netting and significant collateral coverage.[145] Consistent with this statement is a finding by several economists that JP Morgan's counterparty risk in 2003 arising from all of its OTC derivatives operations was 0.14 percent of the notional amount of derivatives utilized by the bank.[146]

Dealer exposures' to hedge funds also seem to be relatively minor as hedge funds reportedly employ heavy amounts of collateral against their derivatives positions.[147] As noted by a February 2008 Barclays Capital research report, in their CDS transactions hedge funds "typically post collateral at 100% of their current exposure, and furthermore might also be asked to post collateral to cover close-out risk on their contracts for a certain number of days going *forward*."[148] These findings imply that the primary sources of counterparty risk in the CDS market arise from banks as protection buyers and insurance companies as protection sellers. Indeed, as discussed in Section III.B, this was the precise transmission mechanism of counterparty risk from AIG's subsidiary and certain bond insurers to banks.

A third element of CDS market infrastructure is the activities of third-party service providers. In November 2006, the Depository Trust Clearing Corporation (DTCC) established a central information and

---

http://www.bis.org/publ/otc_hy0811.pdf. *See also* Lindsey testimony, *supra* note 22, at 6 (explaining that the gross replacement value of CDSs "is equal to the difference between the present value of fixed-rate premium payments to be made by protection buyers and the present value of the credit event-driven payments that the market expects will be made by protection sellers over the life of the swaps").

[144] Robert R. Bliss & Chryssa Papathanassiou, Derivatives Clearing, Central Counterparties and Novation: The Economic Implications at 12 (European Central Bank 2006).

[145] *See generally* ISDA Counterparty Credit Exposure among Major Derivatives Dealers, May 2007, http://www.isda.org/statistics/pdf/ISDA-Concentration-Survey2007.pdf.

[146] BRUYÈRE ET AL., *supra* note 63, at 27-28.

[147] ISDA, *supra* note 145, at 8 ("[V]irtually all hedge fund exposures are more than fully collateralized with independent amounts posted up-front and variation margin posted subsequently as exposures change.").

[148] Arup Ghosh et al., *Counterparty Risk in Credit Markets*, Barclays Capital, Quantitative Credit Strategy 3, Feb. 20, 2008 (emphasis in original).

processing warehouse for CDS trades.[149] By mid-October 2008, over 1200 parties and all of the major global CDS dealers registered in the warehouse, along with the overwhelming majority of CDS trades.[150] On August 3, 2009, the DTCC reported that the remaining non-standardized CDS agreements not initially entered into the warehouse became a part of the trade repository, giving the DTCC and regulators a complete picture of global CDS risk.[151] On November 4, 2008, the DTCC began to publicly disclose CDS trading activity on a weekly basis, thereby taking a major step in increasing widespread knowledge of the CDS market.[152] The DTCC will also release information about the later-entered customized contracts, but not necessarily on a weekly basis.[153] Markit has also made freely available pricing and other information on CDS transactions.

The DTCC also operates Deriv/SERV, which provides automated post-trade CDS matching and confirmation services.[154] In 2008, the Stockholm-based company TriOptima utilized its compression service to net out offsetting trades and eliminate $30.2 trillion in notional CDS value.[155] Several other CDS market service providers complement the services supplied by the DTCC by providing a wide range of informational and post-trade processing services to CDS market participants.[156] The existence and continual development of these services suggest that certain

---

[149] Press Release, *DTCC Addresses Misconceptions About Credit Default Swaps* (Oct. 11, 2008); DTCC, Trade Information Warehouse, http://www.dtcc.com/products/derivserv/suite/ tradeinfo_warehouse.php.

[150] *Id.*

[151] Press Release, DTCC, DTCC Values Additional CDS Contracts in Trade Information Warehouse at $5.7 Trillion, Aug. 3, 2009, http://www.dtcc.com/news/press/releases/2009/cds_contract_values.php. This action by the DTCC was part of an industry commitment made to the New York Fed. *See also* Press Release, Fed. Reserve Bank of New York, Statement Regarding April 1 Meeting on Over-the-Counter Derivatives.

[152] Press Release, DTCC, DTCC to Provide CDS Data from Trade Information Warehouse, Oct. 31, 2008, http://www.dtcc.com/news/press/releases/2008/warehouse_data_values.php.

[153] *Id.* The DTCC applied to the Federal Reserve and New York State Banking Dept. to create a regulated subsidiary to operate the CDS warehouse. *Effective Regulation of the Over-the-Counter Derivatives Markets: Hearing before the Subcomm. on Capital Markets, Insurance, and Gov't Sponsored Enterprises*, 111th Cong. (2009) (testimony of Larry E. Thompson, General Counsel, The Depository Trust & Clearing Corp.).

[154] *See* DTCC, Deriv/SERV: Delivering Automated Solutions and Risk Management to OTC Derivatives (2008).

[155] Karen Brettell, *CDS Dealers Compress $30 Trln in Trades in 2008*, REUTERS, Jan. 12, 2009, available at http://www.reuters.com/article/companyNewsAndPR/idUSN1233717720090112.

[156] *See* DTCC, Deriv/SERV, Service Providers, http://www.dtcc.com/downloads/products/derivserv/DerivSERV_Sol_Provider.pdf.

operational inefficiencies in the CDS market have been and are being substantially reduced along with their attendant risks. [157]

B. *CDSs and the Financial Crisis*

1. *The Growth of Mortgage-Related Securities*

CDSs written on asset-backed securities such as securities backed by subprime mortgages and other collateral have been utilized since 1998, and their utilization grew significantly after the contracts were standardized in June of 2005. [158] Economists and other commentators have claimed or implied that CDSs referencing of mortgage-related securities facilitated the tremendous growth in the issuance of such securities and therefore indirectly facilitated the growth in subprime mortgage lending since 2000. [159] The underlying theory is that mortgage-related securities would not have been issued and purchased to such a great extent had it not been for the credit protection provided by CDSs referencing such securities. The historical development of CDSs is largely consistent with this theory.

Generally, the growth of mortgage-related securities and CDSs referencing such securities coincided. In 2006, the year after CDSs on asset-backed securities became standardized, [160] the issuance of cash CDOs and CDOs with mortgage-related securities as collateral grew dramatically. [161] In addition, bank underwriters utilized CDSs to hedge the risks they were exposed to in the process of producing mortgage-related securities. [162] As a result, banking institutions at least to some extent held or issued more mortgage-related securities because they had the opportunity to

---

[157] *See* GAO, *supra* note 51, at 18-20.

[158] LAURIE S. GOODMAN ET AL., SUBPRIME MORTGAGE CREDIT DERIVATIVES 125 (2008).

[159] *See* MARTIN N. BAILY, ROBERT E. LITAN & MATTHEW S. JOHNSON, THE BROOKINGS INST., PAPER 3, THE ORIGINS OF THE FINANCIAL CRISIS 7-8 (2008) (stating that CDSs in part "facilitated the boom in subprime lending that occurred after 2000").

[160] GOODMAN ET AL., *supra* note 158, at 125.

[161] SIFMA, Global CDO Market Issuance Data, http://www.sifma.org/research/pdf/CDO_Data2008-Q4.pdf.

[162] Nadia Damouni, *Synthetic ABS is a Hot Property*, RISK.NET, April 1, 2006; Elisa Parisi-Capone, *Collateralized Debt Obligations (CDOs): An Introduction*, RGE MONITOR, March 7, 2007, http://media.rgemonitor.com/papers/0/template_CDO_brief_0307-links.pdf; GOODMAN ET AL., *supra* note 158, at 125 (stating that banks used CDSs on CDOs "to hedge their warehouse risk while subprime mortgages were being aggregated for securitization").

purchase CDSs on CDOs and other asset-backed securities. [163] Consistent with that dynamic are the activities of Merrill Lynch, which by year-end 2007 held $30.4 billion in CDOs primarily backed by subprime mortgages and had $23.6 billion hedged primarily with CDSs on the CDOs. [164] These facts suggest that CDSs referencing mortgage-related securities increased the issuance of such securities.

However, other facts suggest that the demand for CDSs written on mortgage-related securities did not stem primarily from banks seeking a type of warranty that induced them to make more mortgage-relates securities than they otherwise would have made. First, banks may have purchased CDSs on CDOs primarily to hedge the CDO-related risks they had already taken on or were already committed to taking on anyways. Investment banks continued to securitize mortgage-related securities even after they could not purchase CDS protection, [165] which suggests that CDSs were not necessary for large-scale mortgage-related securitization. In addition, to the extent banks were solely purchasing CDSs to execute negative basis trades and book profits earlier rather than later, [166] CDSs were not utilized for hedging purposes and therefore not directly related to the excessive production of mortgage-related securities.

CDSs referencing mortgage-related securities were also involved with mortgage-related securitization in that the premiums from such CDSs were often used to back the cash flows in synthetic CDOs. [167] As a result, CDSs referencing mortgage-related securities enabled the creation of

---

[163] Michael S. Gibson, *Credit Derivatives and Risk Management* 6-7 (Fed. Reserve Bd. Fin. & Econ. Discussion Series, Paper No. 47, Finance and Economics Discussion Series Divisions of Research & Statistics and Monetary Affairs Federal Reserve Board, Washington, D.C. 6-7, May 22, 2007) (arguing that mortgage-related security underwriters might have not been so discouraged from taking on related warehouse risks because of being able to utilize CDSs referencing such securities). This may also in part be due to CDSs on structured finance securities freeing up capital for banks to use in building such portfolios. *See* Anthony Faiola et al., *What Went Wrong*, WASH. POST, Oct. 15, 2008, at A01 (reporting that "[i]nvestors loaded up on the mortgage-based investments, then bought 'credit-default swaps' to protect themselves against losses rather than putting aside large cash reserves").

[164] Merrill Lynch, Annual Report (2007 Form 10-K), at 35-37 (Feb. 25, 2008).

[165] Michael Lewis, *The Man Who Crashed the World*, VANITY FAIR, Aug. 2009, at 98, 138 (reporting that because AIGFP was "[u]nwilling to take the risk of subprime-mortgage bonds in 2004 and 2005, the Wall Street firms swallowed the risk in 2006 and 2007").

[166] *See infra* note 187 and accompanying text.

[167] Damouni, *supra* note 162; GOODMAN ET AL., *supra* note 158, at 141 (stating that "75% of mezzanine ABS CDO assets were acquired synthetically through ABS CDS").

synthetic mortgage-related securities.[168] Synthetic mortgage-related securities were also issued in greater volumes because CDSs could be purchased on the safest type of security issued by synthetic CDOs (known as the "super senior" layer).[169] CDSs referencing such super senior securities were of the type sold by certain bond insurers and AIG,[170] and are discussed below. It is important to note, however, that CDSs were used in synthetic CDOs because of investor demand for mortgage-related securities, not CDSs per se. In 2005 and 2006, more investors sought to purchase mortgage-related securities than were actually available. To meet this demand, synthetic CDO issuers sold CDS protection on mortgage-related securities and used the CDS premiums to make payments to CDO investors.[171] Accordingly, despite the involvement of CDSs in synthetic mortgage-related securitization, such securities are best understood as belonging to and being a function of the broader market for mortgage-related securities and not the CDS market.

More generally, by the time standardized CDSs on asset-backed securities and on CDOs were introduced and began to grow in 2005 and 2006, respectively, subprime mortgage originations and the issuance of subprime mortgage-backed securities were already at (or past) their peak and declining.[172] In addition, the issuance of cash CDOs dramatically decreased in the second half of 2007 due to decreasing mortgage-backed asset prices and ratings.[173] This suggests that CDO issuance levels were primarily a function of perceived CDO collateral quality and not of external hedging opportunities with CDSs. Mortgage-related securities did not widely utilize CDS protection as a method of credit enhancement to obtain an investment grade credit rating given all of the alternative means of enhancement.[174] This is likely due to the underlying economics and specific

---

[168] GOODMAN ET AL., *supra* note 158, at 141-43, 173-76.

[169] *See* FRANK J. FABOZZI ET AL., INTRODUCTION TO STRUCTURED FINANCE 136-43 (2006).

[170] *See id* at 136; Gretchen Morgenson, *The Reckoning: How the Thundering Herd Faltered and Fell*, N.Y. TIMES, Nov. 8, 2008; Tracy Alloway, *Synthetic CDO Stumper*, ft.com/alphaville, Nov. 13, 2009.

[171] Damouni, *supra* note 162; Paul J. Davies, *CDS on CDO Documents Standardised*, FIN. TIMES ONLINE, June 7, 2006. *See also generally* FABOZZI ET AL., *supra* note 169, at 133-43 (explaining the mechanics of synthetic CDOs including partially funded structures).

[172] NERA ECONOMIC CONSULTING, HOW DID WE GET HERE? THE STORY OF THE CREDIT CRISIS 4, Feb. 10, 2009, http://www.nera.com/image/PUB_Credit_Crisis_Origins_0309.pdf.

[173] SIFMA, Global CDO Market Issuance Data; SIFMA, Research Quarterly 8, Feb. 2008, http://www.sifma.org/research/pdf/RRVol3-2.pdf.

[174] GOODMAN ET AL., *supra* note 158, at 316 (stating that "[m]ost subprime [securitization] deals . . . use what is termed an *excess spread/overcollateralization* (ES/OC) structure" for credit enhancement); BIS, CREDIT RISK TRANSFER:

risks involved with mortgage securitization, which made credit enhancement in the form of excess spread (overcollateralization)—and not CDS purchasing—the most appropriate for achieving the purposes of the transaction. [175]

CDSs referencing asset-backed securities or CDOs have always been a small part of the overall CDS market. In 2007, CDSs referencing asset-backed securities were estimated to total $1 trillion in notional value, or four percent of the then estimated $26 trillion CDS market. [176] Importantly, AIG's subsidiary sold its troublesome CDSs on mortgage-backed CDOs prior to 2006—prior to CDSs on CDOs becoming standardized. This means that to the extent the standardization and growth of CDSs on CDOs enabled parties to take mortgage-related risks they otherwise would not have taken, AIG's exceptional risk taking with CDSs on CDOs was not an instance of such activities. Overall, the development of CDSs referencing mortgage-related securities seems to have been more of an effect than a cause of the growth in mortgage-related securitization. [177]

2. *Overconcentration of CDS Exposure: Monoline Bond Insurers*

In the 1980s, monoline bond insurance companies that historically specialized in insuring bonds issued by municipalities began to insure mortgage-related securities (which are type of bond) using CDSs, and significantly increased their activities in this area in 2000. [178] These insurers utilized their own AAA credit ratings to lower the costs of their customers' funding by guaranteeing (insuring) their bonds. [179] The

---

DEVELOPMENTS FROM 2005 TO 2007 AT 49, 58, July 2008; Janet M. Tavakoli, Introduction to Collateralized Debt Obligations 1, Tavakoli Structured Finance (2003), http://www.tavakolistructuredfinance.com/cdo.pdf; Marc Gurtler et al., *Design of Collateralized Debt Obligations: The Impact of Ratings on the First Loss Piece* 215-216, *in* THE CREDIT DERIVATIVES HANDBOOK: GLOBAL PERSPECTIVES, INNOVATIONS, AND MARKET DRIVERS (Greg N. Gregoriou & Paul Ali eds. 2008).

[175] EIM Group, Subprime Mortgages at 7, May 2007, http://celestri.org/wp-content/uploads/2007/08/sub_prime_101.pdf.

[176] *Id.*

[177] *See also* Paul U. Ali & Jan Job de Vries Robbe, *The Changing Face of Credit Default Swaps* 6, *in* THE CREDIT DERIVATIVES HANDBOOK: GLOBAL PERSPECTIVES, INNOVATIONS, AND MARKET DRIVERS (Greg N. Gregoriou & Paul Ali eds. 2008) (stating that "the extension of credit default swaps to more exotic reference obligations . . . [was in part] *a consequence* of the equally explosive growth in the global securitization market over the last decade" and the maturation of the CDS market) (emphasis added).

[178] *See* State of N.Y. Ins. Dep't, Circular Letter No. 19, *supra* note 103, at 2, 6.

[179] Birgit Specht & Dresdner Kleinword, *What is a Wrap? Introducing Monoline Bond Insurance*, GTNEWS, Feb. 7, 2001.

guarantees they provided on mortgage-related securities were effectuated by a subsidiary of the insurer (a special purpose vehicle or a "transformer") selling CDS protection on mortgage-related securities, which in turn were guaranteed by the insurer.[180] Because the transformer was not itself an insurance company and CDSs were not regulated as insurance contracts, the transformer was minimally capitalized against the event of payout.[181] At the end of 2007, the monoline insurers guaranteed approximately $127 billion of CDOs with mortgage-related exposure.[182]

When providing insurance on CDOs with a CDS, a monoline insurer would typically guarantee the highest rated (super senior) CDO tranches owned by an investment or commercial bank.[183] These banks purchased CDSs from monolines to hedge their own exposures to super senior CDO risk.[184] However, hedging was likely not the primary motivation banks purchased CDSs from the monolines.[185] Monoline insurers were able to charge CDS protection buying banks a relatively low fee. This is because the monolines used their own AAA credit rating and overall good standing as reasons not to post collateral upon entering the CDSs, and also because they were only required to reserve a small amount of capital against the guarantee of the AAA-rated CDO assets.[186] As a result, the monolines' bank counterparties were able to execute negative basis trades and immediately book accounting gains when purchasing CDS protection from the monolines.[187] Commercial banks were also able to

---

[180] *See* State of N.Y. Ins. Dep't, Circular Letter No. 19, *supra* note 103, at 3.

[181] *Id.*; MORRISON FOERSTER, CREDIT DEFAULT SWAPS AS INSURANCE: ONE REGULATOR OR MANY? 2 (Oct. 6, 2008), http://www.mofo.com/news/updates/files/081006CreditDefault.pdf ("the monoline financial guarantee insurers issued credit default swaps out of non-insurance subsidiaries that were not required to hold sufficient reserves against future claims.").

[182] Holm & Westbrook, *supra* note 33.

[183] Statement of Patrick M. Parkinson, Deputy Director, Division of Research and Statistics, Board of Governors of the Federal Reserve System, to the Subcommittee on Capital Markets, Insurance, and Government Sponsored Enterprises, Committee on Financial Services, U.S. House of Representatives (Feb. 14, 2008), http://financialservices.house.gov/hearing110/parkinson021408.pdf.

[184] *Id.*

[185] Craig Stein & David Aron, *Negative Basis Trade Basics*, DW ONLINE, Nov. 17, 2006 ("Credit protection is often secondary [in terms of motivation for purchasing CDSs], given that many negative basis trades reference AAA-rated notes.").

[186] TAVAKOLI, *supra* note 14, at 348-349.

[187] Henny Sender, *Rock-solid Counterparty Hedges Spiral Out of Control*, FIN. TIMES, Feb. 13, 2008; Philip Alexander, *Securitisation Strategy Rethink*, THE BANKER, Dec. 1, 2008; Nicoletta Kotsianas, *CDS Negative Basis Trading Jitters Hit Market*, CREDIT INVESTMENT NEWS, Feb. 18, 2008, at 10; TAVAKOLI, *supra* note 14, at 348-49. A related accounting-based motivation for banks to purchase

obtain regulatory capital relief in purchasing CDSs from monoline insurers. [188]

When mortgage-related debt securities began to decrease in value, several monoline insurers that guaranteed such securities with CDSs suffered financial losses, had their own bonds downgraded by credit ratings agencies and, as of this writing, may still be taken over by their respective state insurance regulator. [189] One result of the insurers' downgrades and reduced creditworthiness was that banks that had purchased CDS protection from the insurers were required to write down the value of the protection. [190] For example, in 2008 Merrill Lynch reported a net credit valuation loss of $10.4 billion that resulted largely from the reduced creditworthiness of its monoline insurance company CDS counterparties. [191]

CDSs from monoline bond insurers was to insulate their CDOs from the volatility associated with mark-to-market accounting rules. *See* Holm & Westbrook, *supra* note 33 (reporting that "bond insurers sold credit derivatives to banks . . . allowing banks to avoid writing them down as the underlying value of the securities slumped.").

[188] Under Basel I capital regulation, banking institutions were able to regulatory capital relief for entering into CDSs on the CDOs in their trading books (as opposed to their banking books). *See* Board of Governors of the Fed. Reserve System, Application of Market Risk Capital Requirements to Credit Derivatives, SR 97-18, June 13, 1997; Dominic O'Kane, Credit Derivatives Explained, Lehman Brothers International (Europe), March 2001, at 69 ("Since the introduction of the second Capital Adequacy Directive in 1996, EU banks have been allowed to use an approved value-at-risk (VaR) model . . . [which] may result in a lower capital requirement than implied under the banking book rules"); RICK WATSON & JEREMY CARTER, ASSET SECURITISATION AND SYNTHETIC STRUCTURES: INNOVATIONS IN THE EUROPEAN CREDIT MARKETS 52-53 (2006) (stating that under Basel I debt instruments matched with a CDS (and hence fully hedged) have lower capital requirements).

[189] *See generally* Economist Staff, *Buddy, Could You Spare Us $15 Billion?*, CFO.COM, Jan. 25, 2008), http://www.cfo.com/article.cfm/10590651/c_2984367; David Henry & Matthew Goldstein, *Death of a Bond Insurer*, BUSINESSWEEK, Apr. 17, 2008; Alistair Barr, *Ambac Sees Quarterly Losses of Roughly $1.3 Bln: Insurer to Stop Paying Interest and Dividends on Some Securities,* MARKETWATCH.COM, July 28, 2009; Shannon D. Harrington & Christine Richard, *Ambac Credit Default Swaps Jump to Record on Surplus Concerns*, BLOOMBERG.COM, July 28, 2009; Nicole Bullock, *Muni Bonds Lose Ratings After Ambac Cut to Junk*, FIN. TIMES ONLINE, July 31, 2009.

[190] Katharina Bart, *FOCUS: Investment Banks Seen With Hefty Monoline Write-Downs*, WALL ST. J., March 26, 2009.

[191] Merrill Lynch, Annual Report (2008 Form 10-K), at 18, 23, 34 (Feb. 24, 2009).

3. *Overconcentration of CDS Exposure: AIG*

The monoline insurers' ongoing difficulties with CDSs written on mortgage-related securities was repeated in AIG but played out with much more speed and severity. AIG is the holding company of an international financial services conglomerate. AIG is regulated at the consolidated holding company level by the OTS as a Federal Saving Bank. [192] AIG's insurance subsidiaries are primarily regulated by the New York and Pennsylvania Insurance Departments. The OTS also had oversight power and responsibility over AIG Financial Products (AIGFP), a largely unregulated financial services subsidiary of AIG. [193]

From 2001 to 2005, AIGFP had written so much CDS protection that by year-end 2007, it had amassed $527 billion in notional credit risk exposure as a CDS protection seller, of which approximately $61.4 billion of the CDSs referenced the multi-sector CDOs containing significant amounts of mortgage-backed securities as collateral. [194] These swaps were primarily written on highly rated debt securities, including the safest super senior CDO tranches. [195] AIG's CDS counterparties included major U.S. and non-U.S. commercial and investment banks that primarily purchased protection from AIG for their own debt portfolios, such as Société Générale, Deutsche Bank, Goldman Sachs, Merrill Lynch, Calyon, and UBS. [196]

AIGFP's bank counterparties had two (potentially overlapping) motivations for entering into the CDS transactions. The first was to purchase CDS protection to mitigate the credit risks to which the counterparties were exposed and execute negative basis trades. [197] This was

---

[192] *See* Polakoff Testimony Before the Committee on Banking, Housing, and Urban Affairs, United States Senate, *supra* note 34, at 6-7.

[193] *Id.* at 3.

[194] AIG, Annual Report (2007 Form 10-K), at 122 (Feb. 28, 2008); *Am. Int'l Group's Impact on the Global Economy: Before, During, and After Fed. Intervention: Hearing Before the House Financial Services Subcomm. Capital Market, Insurance, and Government Sponsored Enterprises* 4, March 12, 2009 111th Cong., Addendum at 4 (Testimony by Mr. Edward M Liddy, Chairman and Chief Executive Office, Am. Ins. Group).

[195] AIG, Annual Report (2007 Form 10-K), at 121-122 (Feb. 28, 2008); Polakoff, *supra* note 34, at 5.

[196] Press Release, AIG, AIG Discloses Counterparties to CDS, GIA, and Securities Lending Program, Attachment A-B (March 15, 2009), http://media.corporate-ir.net/media_files/irol/76/76115/releases/031509.pdf.

[197] Nicoletta Kotsianas, *AIG Move Creates Nervous Jitters*, DERIVATIVES WK., 12, Feb. 18, 2008, *available at* http://www.iiderivatives.com/pdf/DW021808.pdf. As disclosed by AIG, AIGFP's CDSs on CDOs were for counterparties' arbitrage purposes. AIG, Annual Report (2008 Form 10-K), at 132, 136 (March 2, 2009).

the motivation for AIGFP's problematic CDS on CDO transactions.[198] Second, AIGFP's bank counterparties entered into the transactions to obtain regulatory capital relief under Basel I on their own corporate loan and residential mortgage portfolios. For these transactions, AIGFP's French regulated subsidiary Banque AIG entered as the CDS counterparty.[199]

AIGFP earned revenues from its CDS on CDO transactions by collecting fees from its counterparties which, in 2005, amounted to $3.26 billion and accounted for 17.5 percent of AIG's total operating income that

---

[198] However, as with the monoline bond insurers, AIGFP's bank counterparties likely also received some regulatory capital relief when purchasing CDSs on their CDOs because, to the extent the CDOs were held in their trading books (and not their bank books), the applicable Basel regulation allowed them to calculate how much capital they had to set aside based on their own risk models, and may have thus resulted in a lower capital charge. *See* citations, *supra* note 188.

[199] AIG, Annual Report (2008 Form 10-K), at 133 (March 2, 2009). During the relevant time period, AIGFP's bank counterparties were operating under a modified version of the original risk-based capital rules promulgated by the Basel Committee on Banking Supervisions (Basel I) and which became effective in the United States in 1989. U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-08-362R, RISK-BASED CAPITAL: NEW BASEL II RULES REDUCED CERTAIN COMPETITIVE CONCERNS, BUT BANK REGULATORS SHOULD ADDRESS REMAINING UNCERTAINTIES 62 (Appx. III: Basel Timeline), Sept. 2008. Basel II is expected to be implemented by core banks in the United States between 2012 and 2014 and in the European Union by 2010. *Id.* at 9, 63. In 2004, the SEC permitted securities firms (investment banks) to apply their own capital rules so long as they were consistent with Basel I standards. Under Basel I, by entering into a CDS referencing a corporate loan or a mortgage in its portfolio, a bank can substitute the Basel I risk category of their CDS counterparty for the risk category of the reference loan. *See* Board of Governors of the Federal Reserve System, SR 96-17, Supervisory Guidance for Credit Derivatives http://www.federalreserve.gov/BOARDDOCS/SRLetters/1996/sr9617.htm (Aug. 12, 1996) (stating that "a banking organization that owns the underlying asset upon which effective credit protection has been acquired through a credit derivative may . . . assign the . . . underlying asset to the risk category appropriate to the guarantor"). *See also* Board of Governors of the Federal Reserve System, SR 09-1, Application of the Market Risk Rule in Bank Holding Companies and State Member Banks (Jan. 14, 2009), http://www.federalreserve.gov/boarddocs/srletters/2009/SR0901.htm. This rule provided AIGFP's bank counterparties with regulatory capital relief because Banque AIG is a bank, and under Basel I banks belong to a lower risk category (20 percent) than either corporate loans or residential mortgages, which received 100 percent and 50 percent risk weights, respectively. Treas. Minimum Capital Rule 12 C.F.R. Part 3 Appendix A, § 3 (2002); GAO, RISK-BASED CAPITAL: BANK REGULATORS NEED TO IMPROVE TRANSPARENCY AND OVERCOME IMPEDIMENTS TO FINALIZING THE PROPOSED BASEL II FRAMEWORK, 15 (Tbl. 2), Feb. 15, 2007.

year.[200] AIGFP was not required to hold capital or reserves against its potential CDS payouts because AIGFP was not a bank (and hence not required to comply with capital regulation), CDS were not regulated as insurance products, and AIG's regulators did not require that such capital or reserves be set aside. In addition, AIGFP's counterparties did not require it to post collateral upon entering into the agreements. The counterparties relied upon the strength of AIGFP's insurance affiliates and AIG's (then) AAA credit rating: AIG fully guaranteed AIGFP's CDS obligations and allowed AIGFP to assume AIG's credit rating in negotiating the swaps.[201]

Because AIGFP's CDS on CDO portfolio nonetheless required AIGFP to post collateral in response to decreasing values of the underlying assets and were otherwise structured as "pay-as-you-go,"[202] by August 2008 the CDSs referencing CDOs created obligations to post $19.7 billion as the value and quality of the assets decreased along with the mortgage market downturn.[203] During the same time period in 2008, AIG also became increasingly unable to meet its short-term obligations to return the cash it had invested in long-term mortgage-backed securities in exchange for the securities AIG had loaned to its counterparties.[204] AIG was required set aside or pay a total of $8.5 billion to its securities lending counterparties.[205]

Due to concerns about AIG's ability to meet these obligations and the ongoing deterioration of the value of the mortgage-backed securities giving rise to AIG's obligations, on September 15, 2008, AIG's bonds were downgraded which caused an additional $20 billion in collateral call obligations.[206] Because AIG did not have the funds to meet the collateral

---

[200] Gretchen Morgenson, *Behind Insurer's Crisis, Blind Eye to a Web of Risk*, N.Y. TIMES, Sept. 27, 2008.

[201] AIG, Annual Report (2007 Form 10-K), at 89 (Feb. 28, 2008); AIG, Annual Report (2005 Form 10-K), at 14-15 (March 16, 2006) (noting that from March through June 2005 AIG was downgraded one notch from the highest AAA (or Aaa) rating).

[202] AIG, Annual Report (2008 Form 10-K), at 40, 140-141, 145-146 (Mar. 2, 2009); Allison Bell, *AIG Sells More CDOs*, NAT'L UNDERWRITER LIFE & HEALTH, Dec. 26, 2008. For a general discussion of the pay-as-you-go CDS template see GOODMAN ET AL., *supra* note 158, at 135-41.

[203] AIG, Annual Report (2008 Form 10-K), at 40 (Mar. 2, 2009). For a breakdown of collateral postings by quarter and CDS type *see id.* at 145-146.

[204] Serena Ng & Liam Pleven, *An AIG Unit's Quest to Juice Profit*, WALL ST. J., Feb. 5, 2009 at C1.

[205] AIG, Annual Report (2008 Form 10-K), at 3-4 (Mar. 2, 2009).

[206] *American International Group's Impact on the Global Economy: Before, During, and After Federal Intervention: Hearing Before the Subcomm. on Capital Markets, Insurance, and Government Sponsored Enterprises of the H. Comm. on Financial Services*, 111th Cong. 6 (2009) (statement of Orice M. Williams,

calls and securities lending-related obligations and was unable to raise the requisite funds on its own, the Federal Reserve and Treasury Department implemented several different lending programs to assist AIG with its obligations. From September 2008 to April 2009, over $182 billion in federal funds were committed to AIG and as of September 2, 2009, $120.7 billion remained outstanding.[207] The federal government's support of AIG stemmed from the belief that AIG's default would threaten the stability and solvency of AIG's insurance subsidiaries and bank counterparties.

AIGFP's position as a CDS seller was similar to that of the monoline bond insurers. When selling CDSs to banks, AIGFP was able to command the resources and reputation of its parent AIG and its insurance affiliates so as to have the benefits that come along with being a regulated thrift and insurance company, but without bearing the costs. AIGFP did not have to take bank capital charges or set aside insurance reserves against its own CDS credit risks and was able to negotiate CDSs without any upfront collateral.[208] The fact that AIGFP did not post any collateral upon entering into its problematic CDS transactions and was not required to do so by its counterparties demonstrates that CDS counterparty risk management practices can be ruinously insufficient. After all, despite the incentives created by AIGFP's unique position, the risks and associated losses could have been mitigated had AIGFP or its counterparties exercised more diligent risk management.

Although the collateral obligations that triggered AIG's collapse arose from AIGFP's CDSs on multi-sector CDOs, most of AIGFP's CDS portfolio was not involved with the ruinous collateral obligations or a substantial source of AIG's losses. Out of AIGFP's $527 billion year-end 2007 CDS portfolio, only 14 percent of the notional value, or $78 billion, was written on multi-sector CDOs. In addition, AIG was exposed to more mortgage-related security risk outside of its CDS portfolio than within it. Going into 2008, this portfolio included $89.8 billion in residential mortgage-backed securities, $61.4 billion in AIGFP's CDSs written on multi-sector CDOs having at least some exposure to subprime mortgage collateral, $23.9 billion in commercial mortgage-backed securities, and

---

Director, Financial Markets and Community Investment, Government Accountability Office).

[207] *Id.* at 3; GAO, TROUBLED ASSET RELIEF PROGRAM: STATUS OF GOVERNMENT ASSISTANCE PROVIDED TO AIG, HIGHLIGHTS, Sept. 21, 2009, http://www.gao.gov/new.items/d09975.pdf.

[208] *See also American International Group: Examining What Went Wrong, Government Intervention, and Implications for Future Regulation: Hearing Before the S. Comm. on Banking, Housing, and Urban Affairs,* 111th Cong. 3 (2009) (statement of Donald L. Kohn, Vice Chairman, Board of Governors of the Federal Reserve System) (AIGFP "exploited the strength . . . of affiliates that were large, regulated entities in good standing.").

$10.8 billion in CDOs and other asset-backed securities.[209] More than half of AIG's long-term residential mortgage-backed securities, about $49.5 billion, were funded through short-term cash loans from AIG's securities lending program.[210] Accordingly, AIG's collapse is best understood as resulting not simply from its mortgage-related CDS exposures, but rather from its companywide mortgage-related security exposures, of which the CDSs on multi-sector CDOs were only a part.[211]

Federal assistance to AIG was solely due to the losses and liquidity shortfalls that resulted from AIGFP's CDSs on multi-sector CDOs and the securities lending program's investment in mortgage-backed securities.[212] The September 15, 2008 downgrades of AIG's long-term bonds by credit ratings agencies were based on these liquidity issues and also general concerns about mortgage exposures.[213] In 2008, AIG incurred a capital loss of $32.6 billion arising from write-downs of the mortgage-backed securities it owned, and AIGFP recognized an unrealized market valuation loss of $25.7 billion on its CDSs referencing mortgage-backed CDOs.[214] By contrast, despite constituting 86 percent of AIGFP's CDS notional exposure at year-end 2007, the CDSs *not* written on the multi-sector CDOs did not trigger collateral calls or AIG's ratings downgrades, and did not motivate or become the target of government assistance to AIG.[215]

---

[209] AIG, Annual Report (2007 Form 10-K) at 104, 122 (Feb. 28, 2008).

[210] *Id.* at 108.

[211] *See also* Richard Squire, *Shareholder Opportunism in a World of Risky Debt*, 123 HARV. L. REV. (forthcoming 2010) (manuscript at 23, http://ssrn.com/abstract=1394995) (arguing that "despite the concentrated nature of AIG's exposure to the housing market through its subprime-linked swaps, that exposure alone almost certainly would not have been enough to bankrupt the company").

[212] Williams Testimony, *supra* note 206, at 5-6, 10-11, 17-18.

[213] Greg Robb et al., *AIG Gets Fed Rescue in Form of $85 Billion Loan*, MARKETWATCH, Sept. 16, 2008 (quoting a ratings analyst as stating that the "main reason for the rating actions is the combination of reduced flexibility in meeting additional collateral needs and concerns over increasing residential mortgage-related losses").

[214] AIG, Financial Supplement (Fourth Quarter 2008), at 77 (showing non-AIGFP CDS portfolio December 31, 2008 year-to-date losses attributable to RMBS portfolio of $25.63 billion and attributable to CMBS portfolio of $7.06 billion); AIG, Annual Report (2008 Form 10-K), at 117 (Mar. 2, 2009).

[215] AIG, Annual Report (2008 Form 10-K), at 117-18, 134, 139, 266-67 (Mar. 2, 2009); AIG, Financial Supplement (Fourth Quarter 2008), at 76. This is in part because these other CDSs, which primarily included CDSs written on corporate loans and non-securitized prime mortgages, were written on higher quality and better-diversified assets. *See* AIG, Annual Report (2008 Form 10-K), at 134 (Mar. 2, 2009).

AIG's excessive risk taking with CDSs reflected its excessive risk taking with respect to mortgage-backed securities and other structured securities more generally. Like most other large financial institutions, AIG sought exposure to mortgage-related security returns during a time in which the risks involved with securities were widely underpriced. AIG's losses from CDSs referencing mortgage-related securities and the ensuing government assistance reflect the more widespread problem of mispriced mortgage-related risk and bank solvency. Had AIGFP never entered into the CDSs on mortgage-backed CDOs, AIG would likely not have been the target of government assistance in September 2008. However, federal assistance likely would have been just as necessary. Assistance instead would have directly targeted AIGFP's bank counterparties—the primary recipients of federal assistance to AIG. As implied by the analysis in Section III.B.1 above, banks likely would have taken on a substantial amount of CDO-related risks whether or not AIGFP (or another firm) had sold them CDS protection.

C. *CDS Trade and Post-Trade Regulation*

In order for the securities and derivatives markets to smoothly function, certain activities must take place after parties to the transaction execute a trade. These post-trade activities include clearing and settlement, and they ensure that the economic purpose of the trade is fully completed and that the legal obligations of the trading counterparties are fully discharged. Clearing and settlement can take place bilaterally, between trading counterparties, or through an intermediary known as a clearinghouse (also known as a central counterparty or a "CCP"). OTC trades are typically cleared and settled bilaterally, while the utilization of a central counterparty is a feature associated with exchanged-traded instruments.

1. *Mandatory Central Clearing and Non-Cleared CDS Requirements*

The regulatory reforms and proposals relating to OTC derivatives seek to facilitate the utilization of a central counterparty to clear and settle CDS trades. While the SEC exemptions rely largely upon the self-interest of CDS counterparties to utilize CDS clearinghouses, any OTC derivatives legislation that is enacted into law will likely mandate that CDSs that can be centrally cleared must be centrally cleared and that non-centrally cleared CDSs will be subject to higher capital requirements.

A well-functioning clearinghouse can reduce counterparty risk by taking on the risk of default of a CDS counterparty, including default by a

CDS dealer to numerous CDS transactions.[216] To be able to be centrally cleared, a CDS must be sufficiently liquid and standardized, and have sufficient price transparency.[217] These characteristics apply to the major CDS indices and single-name CDSs, but not to unusual indices or customized CDSs.[218] However, standardized CDSs did not give rise to systemically significant losses. As noted in the Introduction, systemically important counterparty risk management failures occurred only in the very limited portion of the CDS market in which non-standardized CDSs were sold to banks on their mortgage-backed CDOs. Accordingly, proposals to mandate the central clearing of standardized CDSs will not address deficiencies that can and did arise from non-standardized CDSs.

Higher capital requirements for non-standardized and non-clearable CDSs could reduce systemic risk. However, this would come at the cost of either requiring additional funds to be tied up in derivatives transactions or preventing parties from undertaking the prudent use of customized CDSs.[219] An alternative solution would be to only require regulated institutions such as banks and insurance companies to set aside capital against CDSs that are not clearable. This alternative would address the risks posed by systemically important financial institutions without increasing the cost CDS transactions that do not seem to pose systemic risks.

A second issue regarding whether central clearing of CDSs should be mandatory is whether new regulation would be redundant because market participants have already achieved the same outcome without mandates. Since 2005, CDS market participants have sought to establish a central counterparty.[220] Most efforts stalled in part because of a failure by regulators to coordinate their activities and grant approval to entities to operate as clearinghouses, a reluctance by dealers to lose income from trading to clearinghouses, CDS agreements not being sufficiently standardized for central clearing to be feasible, and disagreements among

---

[216] *See, e.g.*, Bliss & Steigerwald, *supra* note 21, at 24-26; Int'l Monetary Fund, Global Financial Stability Report: Responding to the Financial Crisis and Measuring Systemic Risk 102-03, 106-07, 2009, http://www.imf.org/external/pubs/ft/gfsr/2009/01/pdf/text.pdf.

[217] *See* ECB, *supra* note 28, at 79.

[218] *Id.*

[219] Karen Brettell, *Central Clearing of Derivatives Seen Adding Risk*, REUTERS, June 9, 2009; Brendan Daly, *Borrowers Step Up Their Fight Against OTC Derivatives Regulation*, EUROWEEK, Oct. 16, 2009.

[220] *Hearing Before the Nat'l Conf. of Ins. Legislators*, 111th Cong. (2009) (testimony of Robert Pickel, Chief Executive Officer, Int'l Swaps and Derivatives Ass'n); Serena Ng, *Crisis on Wall Street: Controlling Swaps' Risk Is Still Vexing*, WALL ST. J., Feb. 23, 2009, at C3.

market participants about margin requirements and other practical issues.[221] In the first half of 2009, however, these impediments began to recede due in part to the SEC's exemptions and approvals of CDS clearinghouses and industry-wide efforts at CDS standardization.[222] As of December 2009, clearinghouses operated by the Intercontinental Exchange in both the United States and Europe had cleared over $4.3 trillion worth of CDS indexes and clearinghouses operated by Eurex and the CME Group had also centrally cleared CDSs.[223]

A third issue is whether utilization of a CDS clearinghouse (or multiple clearinghouses) may increase risk, whether or not its use is mandated. One problem is that utilizing a clearinghouse removes the direct incentive for counterparties to consider counterparty risk upon entering a trade since that risk is shifted to the clearinghouse.[224] In addition, bilateral clearing may allow parties to tailor and manage their counterparty risk exposures in a way that a central counterparty may not. This is in part because dealers probably have better information about counterparty risk than clearinghouses.[225] A central counterparty could undermine these advantageous aspects of bilateral clearing by introducing a monopolistic structure into the market for CDS counterparty risk management. In

---

[221] *Clearing Standardized OTC Derivatives, Testimony Before the Subcomm. on Capital Mkts., Ins., and Gov't Sponsored Enters. of the H. Comm. on Fin. Servs.*, 111th Cong. (2009) (testimony of Christian A. Johnson, Professor, S.J. Quinney Coll. of Law, The Univ. of Utah); *Banking Crisis: Before the Treasury Comm. of the H. of Commons* 284 (2009) (Testimony by Adair Turner, Lord Turner of Ecchinswell) (stating that about seventy-five percent of CDSs are "probably not of a sufficiently standardised form that it would be possible to be put into a central counterparty clearing arrangement"); Ng, *supra* note 220; Matthew Leising, *Credit Swaps Clearing Stalls on Pricing, ICE Says (Update 1)*, BLOOMBERG, Feb. 10, 2009.

[222] Matthew Leising & Shannon D. Harrington, *Intercontinental to Clear Credit Swaps Next Week*, BLOOMBERG, Mar. 6, 2009; Markit, *supra* note 25, at 7-8; B&B Structured Finance, Summary of CDS Clearing Initiatives, June 1, 2009 (describing recent initiatives), http://www.bandbstructuredfinance.com/CDSConferenceCallTheFuture.htm; Matthew Leising & Shannon D. Harrington, *Intercontinental to Clear Credit Swaps Next Week (Update 2)*, BLOOMBERG, Mar. 6, 2009.

[223] Matthew Leising, *CME Backs $119 Million in Credit Swaps on First Day of Clearing*, BLOOMBERG, Dec. 16, 2009; *Eurex Credit Clear Starts CDS Clearing*, HEDGEWEEK, Aug 4, 2009.

[224] Robert Hills et al., *Central Counterparty Clearing Houses and Financial Stability*, in 6, FINANCIAL STABILITY REVIEW 122, 128 (1999), http://www.jscc.co.jp/en/ccp12/materials/docs/11.pdf.

[225] *See* Craig Pirrong, The Economics of Clearing in Derivatives Markets: Netting, Asymmetric Information, and the Sharing of Default Risks Through a Central Counterparty 33-38 (Jan. 8, 2009) (working paper, on file with the Univ. of Houston Dep't of Fin.), http://ssrn.com/abstract=1340660.

addition, to the extent regulatory reform has the result of favoring a particular clearinghouse market structure, it may result in suboptimal outcomes from the standpoint of efficiency and market stability. In particular, it may be the case that having multiple clearinghouses so greatly reduces bilateral netting opportunities that it actually increases counterparty risk. [226]

A final issue is the extent to which a CDS clearinghouse may unduly concentrate counterparty risk and itself become a source of systemic risk. This issue is worth noting because the failure of a central counterparty would likely be much more disruptive than the failure of any single derivatives dealer. [227] A clearinghouse failure may arise because central counterparties face technically difficult risk management challenges, they are likely to be subject to deficient prudential supervision and risk-based capital requirements similar to those underlying the financial crisis, and they may be the beneficiary of risk-subsidizing "too big to fail" policies. [228] In addition, central counterparties may have an incentive to reduce the amount of margin collateral they require their customers to post in order to attract business. [229]

---

[226] Darrell Duffie & Haoxiang Zhu, *Does a Central Clearing Counterparty Reduce Counterparty Risk?* 1-2 (Rock Ctr. for Corporate Governance at Stanford Univ., Working Paper No. 46 2009), http://ssrn.com/abstract=1348343.

[227] *See* Bliss & Papathanassiou, *supra* note 144, at 9 ("The effects of such a CCP failure, were it to occur, might well outweigh the effects of the failure of a major dealer in a bilaterally-cleared market."); COMMITTEE ON PAYMENT AND SETTLEMENT SYSTEMS, NEW DEVELOPMENTS FOR CLEARING AND SETTLEMENT SYSTEMS FOR OTC DERIVATIVES 28, March 2007, http://www.bis.org/publ/cpss77.pdf?noframes=1 ("In the absence of sound risk management, a CCP theoretically could increase systemic risk by increasing the potential for contagion rather than mitigating it."); ECB, *supra* note 28, 53 (stating that if a CCP were to fail "it would create a centralized source of systemic failure").

[228] *See* Press Release, President's Working Group on Fin. Markets, Policy Objectives for the OTC Market (Nov. 14, 2008), http://www.ustreas.gov/press/releases/reports/policyobjectives.pdf; Kirsi Ripatti, *Central Counterparty Clearing: Constructing a Framework for Evaluation of Risks and Benefits* 20-24 (Bank of Finland, Research Discussion Paper No. 30, 2004), http://ssrn.com/abstract=787606 (explaining the risk management challenges of central counterparties), http://ssrn.com/abstract=787606; Aline van Duyn, *Fed Warns on Proposed OTC Clearing Rules*, FINANCIAL TIMES, Sept. 15, 2009 ("Patrick Parkinson, senior adviser to the Federal Reserve Board, said proposed legislation that would require all 'standardised derivatives' to be centrally cleared could create pressure for 'central clearing counterparties to clear a wider range of derivatives than would be safe to clear'.").

[229] Jacob Bunge, *Competition In OTC Clearing Comes With Its Own Risk—ICE CEO*, DOW JONES NEWSWIRES, Oct. 22, 2009; SQUAM LAKE WORKING GROUP ON

Had a CDS central counterparty been operational throughout the financial crisis, it likely would not have prevented excessive mortgage-related risks from being taken on by sellers of CDS protection on mortgage-backed securities. The CDSs sold by AIGFP and the monoline insurers were non-standardized and therefore would not have been cleared centrally. But even if AIGFP's CDSs were centrally cleared, a clearinghouse likely would have also unduly relied upon AIG's credit rating and failed to incorporate AIG's balance sheet risks into its decision about whether and to what extent it would have required AIGFP to post margin collateral. [230]

2. *Exchange-Traded CDSs*

In addition to facilitating the establishment of a CDS clearinghouse, the SEC in December of 2008 finalized exemptions to facilitate the development of an exchange-traded CDS product. In general, these exemptions are desirable to the extent they facilitate the development of exchange-traded CDS products supported by market participants. The most recent legislative bills also require that clearable CDSs be traded on a regulated exchange or an electronic trading platform, the latter of which would likely include trading platforms currently utilized by market participants such as GFI CreditMatch, Creditex, and MarketAxess.

Underlying the SEC's rulemaking and proposed legislation is the belief that trading CDSs on an exchange would increase financial stability because exchange-traded financial instruments generally pose less of a risk to the financial system due to being centrally cleared and more liquid and transparent than OTC instruments. [231] While exchange-traded instruments generally do have less counterparty-related risks, their relative safety has limited relevance to reducing the risks of the CDS market.

First, to be able to be traded on regulated exchange a financial instrument must be completely standardized except as to price and also trade in a sufficiently large volume. [232] Even after implementation of the Big Bang Protocol, it is not clear to what extent CDSs would be sufficiently standardized and trade in large enough volumes to be traded on an exchange. Since a primary motivation for entering a CDS transaction is to custom tailor the contract to the unique interests of the parties, a significant

---

FINANCIAL REGULATION CREDIT DEFAULT SWAPS, CLEARINGHOUSES, AND EXCHANGES, 3-4, July 2009.

[230] *See* Craig Pirrong, *The Clearinghouse Cure*, REGULATION, Winter 2008-09, at 46.

[231] *See* Stephen G. Cecchetti, *Preparing for the Next Financial Crisis*, EUROINTELLIGENCE, Apr. 11, 2007, http://www.eurointelligence.com/Article3.1018+M5772d4e3338.0.html.

[232] *See* Johnson testimony, *supra* note 221, at 4 and Exh. 1.

portion or even majority of the CDS market is unlikely to ever be sufficiently standardized to be exchange traded. Second, a CDS is attractive to banks in part because it allows them to hedge their credit risk to particular clients without undermining their business relationship with that client.[233] The increase in transparency associated with an exchange may, therefore, make banks less likely to purchase an exchange-traded CDSs. In addition, the dealers that dominate the CDS market are unlikely to support exchange trading of CDSs because increased price transparency will reduce CDS trading profits.[234] Finally, to the extent central counterparties are utilized and reduce counterparty risk and increase transaction transparency, trading CDSs on an exchange would not be necessary to attain those ends. Due to these considerations, trading CDSs on regulated exchanges is unlikely to take place in any significant amount, if at all.

D. *Uncovered CDSs and Price Discovery*

An estimated 80 percent of CDSs are entered into by protection buyers not directly exposed to the credit risk referenced in the CDS—by protection buyers not owning the reference debt obligation.[235] These CDS agreements are referred to as uncovered or naked CDSs and are often described by commentators as instruments used solely to speculate or gamble on the health of companies.[236] In part reflecting this view, and also the concern that CDS transactions may be used to manipulate markets and undermine the health of public companies, several of the policymaking initiatives described in Section I seek to reduce the use of uncovered CDSs and further enable federal regulators to police CDS markets for potentially abusive trade practices.[237] On September 19, 2008, the SEC announced a sweeping investigation relating to market manipulation using CDSs with fifty derivatives-related investigations reportedly under way as of May

---

[233] *See* Jose A. Lopez, *Recent Policy Issues Regarding Credit Risk Transfer*, Federal Reserve Bank of San Francisco Economic Letter, Dec. 2, 2005.

[234] Shannon D. Harrington & Matthew Leising, *OTC Trading Amendment Won't Cut Risk, May Cost Banks Billions*, BLOOMBERG, Oct. 16, 2009.

[235] Isabelle Clary, *Consequences*, PENSIONS & INVESTMENTS, Feb. 9, 2009.

[236] *See, e.g.*, Janet Morrissey, *Credit Default Swaps: The Next Crisis?*, TIME, Mar. 17, 2008; Alan Wheatley, *UPDATE 1-Ban CDS as "Instruments of Destruction"–Soros*, REUTERS, June 12, 2009.

[237] SEC officials claim that a lack of uniform recordkeeping and SEC reporting makes investigation abusive trading with CDSs with difficult. *See To Review the Role of Credit Derivatives in the U.S. Economy: Hearing Before the H. Comm. on Agric.*, 110th Cong. 6 (2008) (statement of Erik Sirri, Director of Division of Trading and Markets, SEC).

2009.[238] While CDSs may be used to manipulate certain markets, it is highly unlikely that CDS trading did anything other than hasten the collapse of the large financial institutions already overinvested in mortgage-related securities. Despite the SEC's investigation, as of November 24, 2009 the only action involving CDSs that has been brought was a single case for insider trading.[239] Importantly, none of the systemically troublesome CDSs sold by the monoline insurers or AIG were uncovered—all were purchased by banking institutions in reference to the credit risks they were directly exposed to through their ownership of mortgage-backed CDOs.

Concerns about market manipulation with CDSs should be balanced against the role played by covered and uncovered CDSs in creating new and valuable information for investors about credit risk. CDSs help to make known what investors think about debt instruments and give incentives for parties to do research about credit risk, and thereby may also help to correct erroneous views about credit risk. This does not mean that the CDS market is perfectly "efficient," more price-informative than all bond markets, or that credit ratings say nothing important about credit risk.[240] CDS spreads may not accurately price actual credit risks to the extent investors' views about particular credit risks or broader macroeconomic issues are mistaken.[241] Nonetheless, CDSs do contribute significantly to credit market price discovery.

Price discovery is the process through which market participants learn the value of a particular product.[242] By already having knowledge about or doing research about a product and then having that knowledge or research reflected in the price one is willing to buy or sell the product, the interaction between buyers and sellers over time helps the product to trade at a price that reflects its actual value, and hence be "discovered." Price discovery is assisted to the extent to which a market is liquid, meaning that

---

[238] Press Release, SEC, SEC Expands Sweeping Investigation of Market Manipulation (Sept. 19, 2008), Release No. 2008-14.

[239] Press Release, Securities and Exchange Commission, SEC Charges Hedge Fund Manager and Bond Salesman in First Insider Trading Case Involving Credit Default Swaps (May 5, 2009).

[240] Nan Li, *The Price Discovery Process in Credit Derivative Markets: Evidence from Sovereign CDS Market*, AM. J. FIN. & ACCT. (2009) (finding "no statistical evidences with regard to the pricing contribution of sovereign CDS market" and that "sovereign bond market advances in price discovery process by at least one week").

[241] Bjorn Imbierowicz, Firm-Fundamentals, Economic Data, and a Bubble in the CDS Market 1-2, 21 (Feb. 10, 2009) (unpublished working paper, http://ssrn.com/abstract=1195083) (finding that CDS spreads were too low relative to economic fundamentals from mid-2003 to mid-2007).

[242] *See* Randall S. Kroszner, Governor, Fed. Reserve Sys., Recent Events in Financial Markets, Speech at the Inst. of Int'l Bankers Annual Breakfast Dialogue (Oct. 22, 2007).

buyers and sellers actually have the ability to trade products and thereby put their views about price into action. Unlike other publicly traded stocks, however, bonds are relatively illiquid. Bonds can be difficult or unattractive to trade for a variety of reasons, including the fact that their supply is limited by the willingness of certain companies to actually issue bonds in a particular currency, because bondholders often purchase bonds as long-term investments, and because bonds are relatively non-standardized.[243] Bond illiquidity extends to the short sale market. Bonds are difficult to borrow and then repurchase as is required in a short sale transaction.[244] By contrast, purchasing a CDS gives investors a relatively simple method of taking a short position in and expressing a negative view about the credit risk of a reference entity, which greatly assists the price discovery process.

Unsurprisingly, financial economists have found that CDS transactions are more price-informative than the cash bond market. CDS spreads reveal unique information about the quality of bonds and other types of debt instruments such as mortgage-related securities. For example, CDS spreads often signal information about the credit risk of bonds before price adjustments are made in the underlying instrument.[245] In addition, CDS prices seem to play a particularly important informational role during

---

[243] BRUYÈRE ET AL., *supra* note 63, at 66-67; OLIVER HART & LUIS ZINGALES, CTR. FOR ECON. POLICY RESEARCH, A NEW CAPITAL REGULATION FOR LARGE FINANCIAL INSTITUTIONS, Centre for Economic Policy Research, at 15-16, June (2009), www.cepr.org/pubs/dps/DP7298.asp; Song Han et al., Effects of Bond Liquidity on the Nondefault Component of Corporate Bond Spreads: Evidence from Intraday Transactions Data, 3, Sept. 13, 2007, http://www.fma.org/Orlando/Papers/liq.pdf; Robert Blanco et al., *An Empirical Analysis of the Dynamic Relation between Investment-Grade Bonds and Credit Default Swaps*, 60 J. FIN. 2255, 2256 (2005).

[244] Song Han & Hao Zhou, Effects of Bond Liquidity on the Nondefault Component of Corporate Bond Spreads: Evidence from Intraday Transactions Data 3 (Sept. 13, 2007) (Working Paper, http://www.fma.org/Orlando/Papers/liq.pdf).

[245] *See* IMF, Global Financial Stability Report, Market Developments and Issues 70-72, April 2006, http://www.imf.org/external/pubs/ft/GFSR/2006/01/pdf/chp2.pdf; Santiago Forte & Juan Peña, *Credit Spreads: An Empirical Analysis on the Informational Content of Stocks, Bonds, and CDS*, J. BNK. FIN. 2009; Lars Norden & Martin Weber, *The Co-Movement of Credit Default Swap, Bond and Stock Markets: An Empirical Analysis*, 15 EURO. FIN. MGMT. (2009); Blanco et al., *supra* note 243; Haibin Zhu, An Empirical Comparison of Credit Spreads between the Bond Market and the Credit Default Swap Market, 29 J. FIN. SERVS. RES. 211 (2006); Virginie Coudert & Mathieu Gex, *Contagion in the Credit Default Swap Market: The Case of the GM and Ford Crisis in 2005*, 34 (CEPII, Working Paper No. 2008) Sept. 2008. *See also* Viral V. Acharya & Timothy C. Johnson, *Insider Trading in Credit Derivatives*, 84 J. FIN. ECON. 110 (2007) (finding evidence of an information flow from CDS markets to equity markets).

credit market downturns.[246] The quality of information revealed by CDS spreads also seems to have increased over time as the market has matured.[247] This latter finding is likely due partly to the development and widespread trading of CDS indices in 2005 and 2006. Importantly, CDS prices are generally more informative about credit risk than credit agency ratings.[248] For example, Bear Stearns' senior debt was never downgraded prior to its collapse in 2008 even though spreads on CDSs referencing Bear Stearns' bonds had already increased dramatically.[249]

The role of CDSs in leading credit risk price discovery relative to bonds and credit ratings has very important implications for the efficiency and stability of credit markets. On a micro level, it implies that banks and other parties with exposure to credit risk are able to make more informed decisions by looking to the CDS spreads of particular borrowers or debt obligations.[250] For example, in late 2006 J.P. Morgan began to sell off its holdings of subprime mortgage-backed securities because the CDS spreads on such securities indicated to bank managers that their risk was underpriced.[251]

---

[246] Santiago Forte & Lidja Lovreat, Credit Risk Discovery in the Stock and CDS Market: Who, When and Why Leads? 28 (July 2008) (Working Paper, http://ssrn.com/ abstract=1183202).

[247] Balázs Cserna & Björn Imbierowicz, How Efficient are Credit Default Swap Markets? An Empirical Study of Capital Structure Arbitrage Based on Structural Pricing Models 2-3 (July 2008) (Working Paper, http://ssrn.com/abstract=1099456).

[248] *See generally* John Hull, Mirela Predescu & Alan White, *The Relationship Between Credit Default Swap Spreads, Bond Yields, and Credit Rating Announcements*, 28 J. BNK. FIN. 2789 (2004); Antonio Di Cesare, Do Market-Based Indicators Anticipate Rating Agencies? Evidence for International Int'l Banks, Bank of Italy Economic Research Paper No. 593, May 2006, *available at* http://ssrn.com/abstract=915362; Lars Norden, Credit Derivatives, Corporate News, and Credit Ratings 3-4, Dept. of Banking and Fin., Univ. of Mannheim Working Paper 3-4, Sept. 14, 2008), http://ssrn.com/abstract=1138698 (suggesting that private information is incorporated into CDS prices before ratings downgrades); Ahmet K. Karagozoglu, Measuring Credit Risk: CDS Spreads vs. Credit Ratings: Why Are They So Different? (Submitted for the Presentation at the 43rd Meeting of the Euro Working Group on Fin. Modeling July 2008), http://www.cass.city.ac.uk.ewgfm43/Papers/15.1karagozoglu.pdf.

[249] Frank Partnoy, *Overdependence on Credit Ratings Was a Primary Cause of the Crisis*, Eleventh Annual International Int'l Banking Conf. Fed. Res. Bank of Chicago and the European Cent. Bank, Credit Market Turmoil of 2007-08: Implications for Public Policy 18-20, http://www.law.yale.edu/documents/pdf/cbl/Partnoy_Overdependence_Credit.pdf.

[250] IMF, *supra* note 245, at 71-72.

[251] Shawn Tully, *Jamie Dimon's SWAT Team*, FORTUNE, Sept. 15, 2008, at 64 (reporting that although "the market seemed to be saying that the bonds were solid

On a macro level, the implication is that CDS price discovery helps to mitigate credit bubbles and decrease overall credit market volatility.[252] This implication raises the question as to whether CDS trading reduced the amount of funds devoted to financing mortgage-related securities by signaling that such securities were priced too low relative to their risk. This question can be answered in part by observing the behavior and pricing of the ABX.HE indices (ABX), which are CDS indices that measure the value of asset-backed securities that have U.S. subprime mortgages (i.e., "home equity") as their collateral.[253] The ABX was first introduced in January of 2006, and in January of 2007 tranches off of the ABX began to be traded.[254] Prior to that time, the only ways to express negative views about the housing market were to short sell the stock of companies in related markets (such as home builders) or to trade in the then nascent CDS on asset-backed securities market. Both methods are less direct and less price-informative than purchasing protection on (selling short) a specific ABX index.

Despite being relatively new instruments, spreads on ABX indices from late 2006 through 2007 seemed to show that risk in the underlying mortgage market was underpriced. Over that time, ABX spreads on tranches of mortgage-backed securities began to grow relative to their cash market equivalents. By October of 2007, spreads on ABX indices were higher than those of mortgage-backed securities for every rating level.[255] The CDS market thus seems to have signaled that risk in the mortgage-backed securities market was underpriced before that information was reflected in actual mortgage-backed security spreads.[256] Anecdotal evidence also suggests that CDSs provided such an early-warning signal and actually slowed the issuance of mortgage-related securities.[257]

. . . . By late 2006 the cost of default swaps on subprime CDOs had jumped sharply").

[252] *See* IMF, *supra* note 245, at 74-76.

[253] Carrick Mollenkamp, *Index With Odd Name Has Wall Street Glued*, WALL ST. J., June 21, 2007; *Morning ABX.HE Dose*, WALL ST. J., June 21, 2007, at C1.

[254] GOODMAN ET AL., *supra* note 158, at 161.

[255] *Id.* at 169.

[256] Gary B. Gorton, *The Subprime Panic* (Yale ICF Working Paper No. 23, Sept. 30, 2008) http://ssrn.com/abstract=1276047 (concluding that "the ABX indices . . . reveal[ed] *hitherto unknown* information, namely, the aggregated view that subprime was worth significantly less" than generally assessed by market participants) (emphasis added). Broader but related macroeconomic factors may have also contributed to increased ABX spreads, such as liquidity and investor risk-appetite. *See* Ingo Fender & Martin Scheicher, *The ABX: How Do the Markets Price Subprime Mortgage Risk?*, BIS Q. REV. 72-80 (2008).

[257] Antony Currie, *Hedge Funds Head Up the Securitization Revolution*, AM. SECURITIZATION J. 21, Winter/Spring, 2007.

The role of CDSs in promoting credit risk price discovery suggests that financial volatility can be reduced with more widespread CDS trading. Had the CDS market been more developed after the turn of the century it is likely that the risks from mortgage-related securities would not have been so mispriced or at least not for as long. Regulation that undermines the continued development of uncovered CDS trading is thus likely to decrease the accuracy of credit risk pricing and thereby increase the likelihood that excessive risk taking with loans and other debt instruments will take place.

IV. CONCLUSION

A root cause of the financial crisis was underpricing the risks related to the growth of mortgage-related securitization. The growth of mortgage-related securitization, however, was a phenomenon largely distinct from the growth of the CDS market. CDSs did enable the growth of mortgage-related securitization by allowing bank underwriters to hedge their risks and also to create synthetic mortgage-related securities. However, CDS price discovery seems to have helped to more accurately price the risks of mortgage-related securities. In addition, the overwhelming majority of CDSs were not involved in mortgage-related securitization. Importantly, the systemically disruptive losses of CDS sellers came only from the limited portion of CDSs tied directly to mispriced mortgage-backed CDOs, and synthetic mortgage-related securitization using CDSs was driven by the demand for mortgage-related securities. Accordingly, systemic losses from CDSs were primarily an effect of the underpriced risk of mortgage-related securities and not an independent cause of the financial crisis. To conclude otherwise would be to hold CDSs guilty by association.

To help prevent excessive CDS risk concentration such as that which occurred with AIG, certain bond insurers, and their bank counterparties, new laws or more effective oversight should require regulated entities to set aside adequate funds to hedge their counterparty risks when entering into CDS transactions. Bank capital regulation in particular should be adequately tailored to provide assurances that banks as CDS purchasers do not become overexposed to risk from CDS sellers defaulting on their obligations or otherwise arising from decreased creditworthiness.

In addition, regulators of thrifts and other banking institutions should more adequately supervise nonbank subsidiaries for the risks they impose on the consolidated entity and the nonbank's affiliates, and not just vice versa. Insurance regulators, too, should exercise greater diligence over the affairs of noninsurance affiliates of regulated insurance subsidiaries. Limiting the ability of insurance companies to make loans to parent companies with noninsurance affiliates, and the ability of depository

institutions to guarantee the liabilities of certain subsidiaries, are also likely to help accomplish these ends.

The SEC's exemptions to facilitate the central clearing and exchange trading of CDSs seem desirable. They do not mandate structures not supported by market participants or that may plausibly introduce new counterparty risk to the CDS market. The SEC's exemptions may also enable innovation in clearing services and exchange-traded products to the extent new products and market practices support such structures and the exemptions make them more commercially feasible. Market participants and regulators should also be aware that the use of central counterparties may not fully address counterparty risk and could even increase that risk by introducing a new source of concentrated CDS exposure into the financial system and potentially undermine superior bilateral risk management practices. Federal and state legislative proposals to prohibit the use of all or substantially all CDSs are overbroad and unnecessary, especially if overconcentration of CDS risk in regulated institutions is prevented. Substantially limiting CDS trading would decrease transparency in the credit markets by undermining the beneficial role of CDS traders in helping to reveal the true risk of bonds and other debt instruments.

The unique nature of AIGFP also has important implications for financial regulatory reform. Although AIGFP was described on March 3, 2009 by Federal Reserve Chairman Ben Bernanke as a "hedge fund,"[258] the description is not accurate. AIGFP's CDS activities were fundamentally different from how hedge funds typically utilize CDSs. AIGFP utilized CDSs as a type of long-term fixed-income asset or insurance product not subject to reserve requirements, principal funding, daily marking, or oversight by regulators. This in part explains why AIGFP executives viewed CDSs as "free money" compared to their traditional business lines and used flawed mathematical models focused only on the long-term cost of default and not the short-term variables of collateral risk and contract pricing.[259]

Hedge funds, in contrast to AIGFP, typically view CDSs as instruments with both long-term and short-term risk and actively trade CDSs as part of a strategy involving other credit instruments.[260] AIGFP's

---

[258] Craig Torres & Hugh Son, *Bernanke Says Insurer AIG Operated Like a Hedge Fund (Update3)*, BLOOMBERG, Mar. 3, 2009 (quoting Chairman Bernanke as stating that AIGFP "was a hedge fund basically that was attached to a large and stable insurance company.").

[259] Carrick Mollenkamp et al., *Behind AIG's Fall, Risk Models Failed to Pass Real-World Test*, WALL ST. J., Oct. 31, Nov. 3, 2008, at A1.

[260] *See* Alla Gil, *Integrating Event Risk in Portfolio Construction*, *in* CREDIT DERIVATIVE STRATEGIES: NEW THINKING ON MANAGING RISK AND RETURN 7-24 (Rohan Douglas ed., 2007).

exclusively long-term view of CDSs is also in part explained by the fact that by year-end 2007 AIGFP had raised $36.6 billion in relatively long-term debt (notes and bonds) and was fully guaranteed by a large and highly-rated parent company.[261] Hedge funds, by contrast, typically borrow on a short-term basis and do not have access to permanent capital or the benefit of similar guarantees. Unlike hedge funds' net CDS exposures and substantial use of collateral, AIGFP was significantly unbalanced in its CDS positions as a net protection seller and did not post collateral upon entering the transactions.[262]

Although credit strategy hedge funds have suffered losses throughout the crisis, no hedge fund required or was the target of federal assistance to prevent widespread financial disruption. This is likely in part because hedge fund prime brokers and CDS counterparties brought more scrutiny to the funds' CDS activities than the credit ratings agencies and the OTS brought to AIGFP's activities.[263] The fact that AIGFP's CDS-related activities and outcomes were so unlike those of credit hedge funds suggests that the unique regulatory framework and practices applicable to AIGFP and its counterparties were an essential factor contributing to AIGFP taking on excessive risks and calls into question the appropriateness of current financial reform efforts predicated on generalizing from AIGFP to hedge funds and other nonbank financial institutions.[264]

Recent efforts to increase the stability and transparency of derivatives markets by market participants acting under supervision of the New York Fed also call into question the extent to which regulatory reform is necessary because their efforts address many of the specific goals sought by reform proposals. For example, if the DTCC's representation that their trade warehouse contains information on every CDS trade is accurate and market participants' commitment to report trades is effectively supervised by the New York Fed, then additional mandates under the securities laws enforced by the SEC would be redundant. Any additional regulation should take into account these improvements and also the complexity of the derivatives markets so as not to reduce the benefits of CDSs or create

---

[261] AIG, Annual Report (2007 Form 10-K), at 170 (Feb. 27, 2008).

[262] *See* Ghosh et al., *supra* note 148, at 3; ISDA, *supra* note 157, at 8.

[263] A 2007 survey of bank prime brokers' relationships with credit-oriented hedge funds found that "most hedge funds were reported to be financing their positions at level well below maximum leverage permitted by the prime brokers (typically 40% - 60% of the maximum allowable)." Roger Merritt & Eileen Fahey, *Hedge Funds: The Credit Market's New Paradigm*, Fitch Ratings, Credit Policy, June 5, 2007.

[264] Robert Schmidt & Scott Lanman, *Geithner, Bernanke Seek to Plug Gaps in Finance Rules (Update1)*, BLOOMBERG, Mar. 25, 2009 (reporting that Chairman Bernanke stated that "AIG highlights the urgent need for new resolution procedures for systemically important non-bank financial firms" such as hedge funds).

unanticipated negative consequences by, for example, giving parties incentives to create customized CDSs to avoid centralized clearing.[265]

Derivatization and securitization can be economic substitutes in transferring credit risk.[266] However, the overall success of CDSs compared to CDOs in transferring credit risk suggests that OTC derivatives are in important ways superior to securitization in effectively transferring risk transfer and thereby provide important insights to market participants and policymakers seeking regulatory modernization as to the most efficient and stable market microstructure for such purposes. Indeed, from a pure financial modeling perspective, CDOs share much of the same quantitative risk properties as CDS and other credit derivatives.[267] This suggests that much of the problem with mortgage-related securities and structured finance was not the complexity or the risks of the instruments per se, but rather the contractual, regulatory, and institutional framework under which the securities were issued and which led to their proliferation throughout the financial system.[268]

---

[265] *See also* Johnson testimony, *supra* note 221, at 1 (arguing that "the effort to clear all OTC derivatives through regulated central counterparties (CCPs) should be done slowly and methodically and with substantial input from OTC derivatives market participants.").

[266] That derivatization and securitization may be used to accomplish the same end is implicit in the side-by-side analysis of CDSs and CDOs *in* Frank Partnoy & David A. Skeel, Jr., *The Promise and Peril of Credit Derivatives*, 75 U. CIN. L. REV. 10119 (2007). *See also generally* Darrell Duffie, *Innovations in Credit Risk Transfer: Implications for Financial Stability*, BIS Working Paper No. 255, July 1, 2008, http://ssrn.com/abstract=1165484.

[267] *See* PAUL WILMOTT, PAUL WILMOTT INTRODUCES QUANTITATIVE FINANCE 490-92 (2d ed. 2007).

[268] *See also* Partnoy, *supra* note 257, at 1 (arguing that but for institutional and regulatory dependence on credit ratings, CDOs and related entities "at the center of the crisis *could not, and would not, have been created or sold*") (emphasis added).