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Hazardous Hedging: The (Unacknowledged) Risks of Hedging with Credit Derivatives

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HAZARDOUS HEDGING: THE (UNACKNOWLEDGED) RISKS OF HEDGING WITH CREDIT DERIVATIVES

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Abstract

Is hedging with credit derivatives always beneficial? The benefit of hedging with credit derivatives, such as credit default swaps, is presumed by the Dodd-Frank Act, which excludes hedge transactions from much of the new financial regulation. Yet, significant new risks can arise when credit derivatives are used to manage risks. Hedging, therefore, should be defined not only in relation to whether a transaction offsets risks, but also whether, on balance, the risks that are mitigated—as well as any new risks that arise—are outweighed by the potential benefits.

Firms using credit derivatives to hedge often fail to account for the full costs associated with using those instruments. There are numerous risks that can arise. Informational asymmetries and negative externalities, however, make it difficult for firms to accurately assess those risks. Consequently, the far-reaching exemptions for hedge activity provided by the Dodd-Frank Act are inappropriate. Credit derivative hedges must be subject to regulatory oversight, rather than exemption.

Regulators of the derivatives markets must consider the risks of hedging with credit derivatives and the inability of firms to account for those risks, as well as the value to firms of mitigating risks with credit derivatives and the costs arising from their use. Among other proscriptions, the types of credit derivatives transactions that can be classified as a hedge should be limited, as

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well as the size of those positions. In addition, margin and collateral requirements for credit derivatives should take account of the greater risks arising from their use.

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Introduction

As the European debt crisis worsens at the end of 2011, with no signs of improving, a large, multinational financial institution becomes concerned with its exposure to the European credit markets. To offset this risk, the firm's risk strategists formulate a complex series of transactions using credit default swaps ("CDSs")[1] to minimize the firm's risk exposure to the region. Based on historical information and expected market movements, the firm's risk managers believe that the best way to minimize the firm's exposure is by using CDSs to sell credit protection on an index of large U.S. companies. Under this strategy, the firm would earn a premium on the CDSs sold, which the risk managers believe would provide the company with a way to offset losses in the event that Europe's debt crisis worsens. Because of the extent of its exposure to the European crisis, the firm aggressively sells credit protection, establishing a large position in the market. The firm's position attracts the attention of market participants because its trading activities are distorting the market.

Unfortunately, the strategy backfires. The size and complexity of the trades proves to be too much, creating risks that the firm's risk managers did not anticipate. The index on which the firm sold protection did not behave as expected, drastically increasing the overall risk exposure of the firm and resulting in significant losses. The strategy, which should have provided the firm with a way to offset loss due to worsening European credit, instead causes the firm billions in losses.

The firm in the foregoing example is not a hypothetical one; rather, it is the scenario that JP Morgan faced in the first and second quarters of 2012.[2] A JP Morgan employee and member of the firm's

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[1] A CDS is an insurance-like product that enables parties to manage credit risk by purchasing credit protection from a third party, which promises to reimburse the protection buyer in the event of default or non-payment by a creditor. Daniel Hemel, Comment, *Empty Creditors and Debt Exchanges*, 27 YALE J. ON REG. 159, 161 (2010). CDSs and other credit derivatives are discussed in greater detail *infra* Part I.

[2] Katy Burne, *Making Waves Against 'Whale,'* WALL ST. J., Apr. 11, 2012, at C1; Jesse Eisinger, *Volcker Rule Gets Murky Treatment*, N.Y. TIMES (Apr. 18, 2012, 12:00 PM), http://dealbook.nytimes.com/2012/04/18 interpretation-of-volcker-rule-that-muddies-the-intent-of-congress; Dan Fitzpatrick, Robin Sidel & David Enrich, *Bank Order Led to Losing Trades: J.P. Morgan's Efforts to Shield Itself from European Market Fallout*

Chief Investment Office, dubbed "the London Whale," engaged in a risk management strategy that cost the firm billions of dollars in losses.[3] According to JP Morgan, the trades were supposed to "hedge the bank's global structural risks and the [Chief Investment Office's] investments are directly related to managing those risks."[4] The losses from the trades, however, forced the financial giant to restate its earnings for the first quarter[5] and impacted its earnings for the second quarter.[6] JP Morgan, in trying to manage its risk exposure, had, in actuality, increased it unexpectedly.

In spite of the size of the losses and JP Morgan CEO Jamie Dimon's *mea culpa* acknowledging the "poorly reviewed, poorly executed and poorly monitored" trades, JP Morgan executives held steadfast that the trades were done to "hedge" the firm's credit exposure.[7] Yet, the trades, in the opinion of some, were highly

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Prompted Disastrous Bets, WALL ST. J., May 12, 2012, at A1; Gregory Zuckerman & Katy Burne, '*London Whale' Rattles Debt Market*, WALL ST. J., Apr. 6, 2012, at A1 (describing the impact of JP Morgan's trading on the CDS index market, stating, "A sign of how hot the trade is: [t]he net 'notional' volume in the index ballooned to $144.6 billion on March 30[, 2012] from $92.6 billion at the start of [2012]").

[3] Fitzpatrick et al., *supra* note 2, at A1 ("[T]he trader . . . earned the 'whale' nickname by taking large positions that roiled a corner of the credit market.").

[4] Burne, *supra* note 3, at C1 (quoting JP Morgan spokesman Joe Evangelisti).

[5] Joe Weisenthal, *JPMorgan to Restate Q1 Earnings After Discovering Material Weakness*, BUS. INSIDER (July 13, 2012), http://www.businessinsider.com/jpmorgan-to-restate-q1-earnings-2012-7 ("The restatement . . . will reduce the firm's previously-reported net income for the 2012 first quarter by $459 million. The restatement relates to valuations of certain positions in the synthetic credit portfolio in the firm's Chief Investment Office . . . .").

[6] *See* Jessica Silver-Greenberg, *JPMorgan Says Trading Loss Tops $5.8 Billion; Profit for Quarter Falls 9%*, N.Y. TIMES (July 13, 2012, 10:10 AM), http://dealbook.nytimes.com/2012/07/13/jpmorgan-reports-second-quarter-profit-of-5-billion-down-9/?_php=true&_type=blogs&_r=0 ("JP Morgan Chase on Friday said that losses on its botched trade had reached $5.8 billion so far this year. Despite those losses, the bank reported a second-quarter profit of $5 billion, down 9%.").

[7] Dan Fitzpatrick, Gregory Zuckerman & Liz Rappaport, *J.P. Morgan's $2 Billion Blunder: Bank Admits Losses on Massive Trading Bet Gone Wrong; Dimon's Mea Culpa*, WALL ST. J., May 11, 2012, at A1 [hereinafter *J.P. Morgan's $2 Billion Blunder*].

reminiscent of speculative trades that were seen as being responsible for the 2008 financial crisis.[8] Many also opined that JP Morgan's activity was prohibited under the Volcker Rule,[9] a controversial section[10] of the recently enacted Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 ("Dodd-Frank Act" or "Act").[11] Interestingly, Mr. Dimon asserted that the trading strategy "doesn't violate the Volcker [R]ule . . . ."[12]—which prohibits speculative trading but permits banks to engage in "hedging" or "risk mitigating" trading.[13] In stating that the billion-dollar loss inducing trades did not violate the Volcker Rule, Mr. Dimon affirmed the company's stance that the trades were "hedges."

A hedge, in general terms, mitigates or offsets risk exposure.[14] Yet, as JP Morgan executives asserted that the large losses were the result of a failed hedge strategy, many wondered: What exactly *is* a hedge?[15] Moreover, if "hedges" like the ones involved in the London Whale fiasco could be so complex and

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[8] Zachary A. Goldfarb, *JPMorgan Loss Deals Blow to Fight Against Regulations*, WASH. POST, May 12, 2012, at A1 ("The bad trades that caused JP Morgan's loss recalled the type of complex, highly speculative strategies that helped to nearly crater the banking industry in 2008—before taxpayers stepped in to bail it out. In this case, the trader in London tried to 'hedge,' or protect against, corporate bonds and loans owned by JP Morgan.").

[9] Dodd-Frank Wall Street Reform and Consumer Protection (Dodd-Frank) Act, Pub. L. No. 111-203, § 619, 124 Stat. 1376 (2010) (codified at 12 U.S.C. § 1851 (2012)) (the Volcker Rule).

[10] Andrew F. Tuch, *Conflicted Gatekeepers: The Volcker Rule and Goldman Sachs*, 7 VA. L. & BUS. REV. 365, 369 (2012) ("The most controversial [provision] is [s]ection 619, the so-called Volcker Rule . . . ."); *see also* Ian Katz & Kasia Klimasinska, *Lew Says Volcker Rule to Prevent Repeat of London Whale Bets*, BLOOMBERG (Dec. 5, 2013), http://www.bloomberg.com/news/2013-12-05/lew-says-volcker-rule-meets-obama-s-goals-in-financial-oversight.html.

[11] Dodd-Frank Act, Pub. L. No. 111-203, 124 Stat. 1376 (2010) (codified as amended in scattered sections of 7, 12, and 15 U.S.C.).

[12] *J.P. Morgan's $2 Billion Blunder*, *supra* note 7, at A2.

[13] See *infra* Part II, for a more detailed discussion on the Volcker Rule.

[14] "Hedge" is defined as: "To use two compensating or offsetting transactions to ensure a position of breaking even . . . ." BLACK'S LAW DICTIONARY 791 (9th ed. 2009).

[15] *See, e.g.*, Eisinger, *supra* note 2 (discussing the imprecision of the term "hedge" and arguing that federal regulators have provided little clarity as to the term's precise meaning).

increase, rather than reduce, risks, should the newly enacted derivatives regulatory scheme under the Dodd-Frank Act exempt such transactions?

The London Whale fiasco demonstrates that not all hedges are created equal; rather, given the complex hedging strategies available, such transactions may increase the risk exposure of a firm. The success of the new derivatives regulatory regime in reducing the risks associated with hedging with credit derivatives is impacted, in large part, by what types of transactions are identified as hedges and, therefore, exempted from regulatory oversight. This Article proposes that in deciding whether or not a transaction is a hedge, one should balance the risks of a transaction against its expected benefits.

Derivatives, especially credit derivatives,[16] have become essential tools for risk management.[17] Given that risk, specifically credit risk, is an inevitable aspect of business operations, risk management is a major component of the operation of most firms—financial and non-financial alike.[18]

Through credit derivatives, such as CDSs, firms can target, diffuse, and minimize their credit risk exposure.[19] Credit derivatives

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[16] Michael S. Gibson, *Credit Derivatives and Risk Management* 1 (Fed. Reserve Bd., Divs. of Research & Statistics & Monetary Affairs, Working Paper No. 47, 2007), *available at* http://federalreserve.gov/pubs/feds/2007/200747/200747pap.pdf ("The growth of credit derivatives suggests that market participants find them useful for risk management.").

[17] *See* Bruce S. Darringer, *Swaps, Banks, and Capital: An Analysis of Swap Risks and a Critical Assessment of the Basle Accord's Treatment of Swaps*, 16 U. PA. J. INT'L. BUS. L. 259, 273 (1995) ("For certain swaps, the swap dealer may never find a perfect match, and therefore must use dynamic hedging to neutralize its risk exposure throughout the life of the swap."); Steven L. Schwarcz, *Systemic Risk*, 97 GEO. L.J. 193, 221–22 (2008) [hereinafter Schwarcz, *Systemic Risk*] ("These hedging strategies, at least theoretically, facilitate risk-spreading to parties better able to bear the risks . . . . This diversification of risk also reduces the likelihood that a default will cause any given institution to fail and mitigates the impact of any such failure on other institutions . . . .").

[18] The extension of funds, goods, or services on credit exposes firms to the risk of non-payment—i.e., credit risk. *See* DIMITRIS N. CHORAFAS, CREDIT DERIVATIVES & THE MANAGEMENT OF RISK 38 (2000). Credit risk is the risk of default or non-payment and has been described as one of the oldest risks in the markets. *Id*. ("Credit risk is the oldest form of exposure in financial markets.").

[19] *See* Frank D'Souza, Nan S. Ellis & Lisa M. Fairchild, *Illuminating the Need for Regulation in Dark Markets: Proposed Regulation of the OTC*

also allow the trading of specific and discrete aspects of risk, without selling or trading the underlying source of risk.[20] Importantly, these instruments are malleable, granting firms much wanted flexibility in managing credit risk.[21]

With credit derivatives, firms are able to transfer credit risk to those who are able and willing to bear the risks more efficiently or at a lower cost.[22] This is the purpose of hedging.[23] Ideally, a hedge diffuses one firm's risks among numerous entities, thereby minimizing the negative externalities that arise from the concentration of risk.[24] Because hedging typically has positive externalities beyond the entities involved, it is widely considered a beneficial activity that should be encouraged.[25] The introduction and

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Derivatives Market, 12 U. PA. J. BUS. L. 473, 474 (2010) ("[Derivatives] can be used as a hedge against potential losses from unpredictable changes in commodity and financial markets. As such, if used properly, derivatives are a good way of transferring risk.").

[20] *See* David Mengle, *Credit Derivatives: An Overview*, 92 FED. RES. BANK OF ATLANTA ECON. REV. 1, 1–2 (Fourth Quarter 2007), *available at* http://www.frbatlanta.org/filelegacydocs/erq407_mengle.pdf.

[21] Gregory R. Duffee & Chunsheng Zhou, *Credit Derivatives in Banking: Useful Tools for Managing Risk?*, 48 J. MONETARY ECON. 25, 26 (2001) ("Thus, for now, credit derivatives can be thought of as instruments that repackage traded risks into more convenient forms. . . . [C]redit derivatives' flexibility in repackaging risks can, in some circumstances, allow banks to trade previously untradeable credit risks.").

[22] Erik F. Gerding, *Code, Crash, and Open Source: The Outsourcing of Financial Regulation to Risk Models and the Global Financial Crisis*, 84 WASH. L. REV. 127, 195 (2009) [hereinafter Gerding, *Code, Crash, and Open Source*] ("[T]hese instruments, including securitizations and credit derivatives, enable companies to reduce their cost of capital by disaggregating the residual risk traditionally borne by shareholders; companies can then offload these risks to more efficient risk bearers."); Ronald J. Gilson & Charles K. Whitehead, *Deconstructing Equity: Public Ownership, Agency Costs, and Complete Capital Markets*, 108 COLUM. L. REV. 231, 252 (2008) ("A company will use risk management instruments to transfer those risks that counterparties can manage at lower cost . . . .").

[23] *See* Schwarcz, *Systemic Risk*, *supra* note 17, at 221 ("These hedging strategies, at least theoretically, facilitate risk-spreading to parties better able to bear the risks, including the 'deep pockets' of the global capital markets.").

[24] *See id.* at 221–22 ("This diversification of risk also reduces the likelihood that a default will cause any given institution to fail and mitigates the impact of any such failure on other institutions . . . .").

[25] *See id.* ("The net effect of hedging strategies, however, appears to be a

development of credit derivatives has transformed risk management and revolutionized the derivatives markets.[26]

But with great rewards, come great risks. Specifically, hedge transactions undertaken with credit derivatives may carry hidden hazards that expose parties to the transaction to new, significant, and potentially unmanageable risks.[27] Indeed, using credit derivatives to hedge always exposes parties to counterparty credit risk, that is, the risk that the other party to the transaction will not fulfill its side of the bargain.[28] Additional potential risks include convergence risk,[29] basis risk,[30] and codependent risk.[31] The possibility of such risks in a hedge-like transaction means that a "hedge" could result in additional risks that outweigh the risks that are being mitigated in the transaction. Parties to these types of transactions, however, may fail to account for these risks because of informational asymmetry and negative externalities.[32] Consequently, the risks involved in these transactions are often unconsidered or improperly priced.

The London Whale fiasco demonstrated the risks that can result from a risky hedge strategy—a possibility that, previously, had received little consideration.[33] The size of JP Morgan's profits and

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positive reduction of risk.").

[26] José Manuel González-Páramo, Member, Exec. Bd. of the Eur. Cent. Bank, Some Reflections on the Future of the Market for Credit Derivatives, Keynote Address at the 30th International Bürgenstock Meeting 2 (Sept. 9, 2009) ("[C]redit derivatives and structured credit markets have transformed the way banks operated.").

[27] *See* OLEG V. BYCHUK & BRIAN J. HAUGHEY, HEDGING MARKET EXPOSURES: IDENTIFYING AND MANAGING MARKET RISKS ix (2011) ("Like the proverbial wolf in sheep's clothing, many apparently safe investments may contain hidden, and sometimes unexpected, hazards . . . [for example] hedge counterparty exposure . . . .").

[28] *See* discussion *infra* Part III.A.

[29] Convergence risk is the concentration of risk in a single entity or segment of the market because of converging hedging strategies or counterparties. *See* discussion *infra* Part III.A.

[30] Basis risk is the risk that the derivative used may not move in tandem with the losses a firm experiences. *See* discussion *infra* Part III.A.

[31] Codependent risk is the risk that a transaction exacerbates another, unrelated risk. *See* discussion *infra* Part III.A.

[32] Frank Partnoy & David A. Skeel, *Debt as a Lever of Control: The Promise and Peril of Credit Derivatives*, 75 U. CIN. L. REV. 1019, 1036.

[33] *J.P. Morgan's $2 Billion Blunder*, *supra* note 7, at A2 ("[T]he plan [JP Morgan] has been using to hedge risks 'has proven to be riskier, more

the strength of its balance sheet allowed it to absorb billions in losses.[34] However, it is plausible that another firm or financial institution may not have survived losses stemming from a comparably risky hedge. The fact is, with the increasingly complex hedge strategies that address risk from a broad-based perspective, hedges themselves are an unacknowledged source of risk in the derivatives markets. This is particularly true of hedges established with credit derivatives, such as CDSs and collateralized debt obligations ("CDOs").[35] Credit derivatives are a prime example of complex derivative instruments that are difficult to price and that may expose firms to hidden hazards—even when used in a supposedly benevolent manner.[36] Importantly, these risks may not only jeopardize the stability of the firm that is hedging, but, possibly, the entire financial market.

Recasting hedges as a potential source of risk is salient because of the preferential treatment that the Dodd-Frank Act grants to hedges.[37] Following the global financial crisis of 2008, lawmakers decided to end their previously deregulatory approach to the derivatives market in an effort to promote financial stability.[38] The new regulatory framework for derivatives, set forth in Title VII of the Act, enacts extensive and far-reaching reforms intended to make the derivatives markets more transparent and stable. Among the Act's many methodologies are: re-classification of actors in the derivatives markets, limitations on previously permissible activities,

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volatile and less effective as an economic hedge than the firm previously believed.'").

[34] *See* Jessica Silver-Greenberg & Peter Eavis, *JPMorgan Discloses $2 Billion in Trading Losses*, N.Y. TIMES (May 10, 2012, 10:11 PM), http://dealbook.nytimes.com/2012/05/10/jpmorgan-discloses-significant-losses-in-trading-group ("For a bank that earned nearly $19 billion last year, the trading loss, which could go higher, will not cripple it in any way.").

[35] See *infra* Part I.A, for a detailed description of CDSs and CDOs.

[36] *See* Charles W. Murdock, *Credit Default Swaps: Dubious Instruments*, 3 HARV. BUS. L. REV. ONLINE 133, 135 (2013), http://www.hblr.org/wp-content/uploads/2013/03/Murdock_Credit-Default-Swaps1.pdf ("An additional concern is the difficulty in adequately pricing CDSs. Since each transaction is unique, there is a dearth of market information about each particular transaction.").

[37] *See* Dodd-Frank Act § 619, 12 U.S.C. § 1851 (2012) (establishing a broad exemption for banks to engage in risk-mitigating hedging activities).

[38] *See* Dodd-Frank Act §§ 701–37 (establishing increased regulatory oversight of derivatives markets).

and re-regulation of other transactions.[39] Notably, the new regulatory framework consistently exempts hedges from regulatory oversight.[40] Even more significant is that this exemption applies broadly to *all* hedge strategies and derivative instruments, including credit derivatives.[41]

This Article argues that hedge transactions should not be routinely exempt from regulatory oversight. Credit derivatives are highly complex financial instruments that may be utilized to implement intricate hedging strategies.[42] Firms that use credit derivatives to offset or neutralize risks may, unknowingly, expose themselves to greater risks.[43] As such, broad-based exemptions for hedge transactions are not prudent. Rather, in order to safeguard the stability of the financial markets, regulators should subject credit derivative hedges to oversight to minimize the negative ramifications of these instruments on the financial markets and other market participants. By refusing to regulate credit derivative hedge transactions differently, regulators are ignoring a real and potent source of systemic risk.[44]

This Article represents one of the first critical assessments of hedging with credit derivatives. While accepting that hedging is beneficial, this Article analyzes the risks that can accompany credit derivative-based hedges and the systemic implications of such risks. In so doing, the Article addresses a gap in the legal literature on

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[39] Section 723 of the Dodd-Frank Act imposes a clearing requirement, section 737 directs the Commodity Futures Trading Commission ("CFTC") to create more position limits, and section 721 defines the various classifications of participants. *See id.* §§ 721–37.

[40] *See infra* Part II.C.

[41] *See* Dodd-Frank Act § 619.

[42] WILLIAM W. BRATTON, CORPORATE FINANCE 368–72 (2008).

[43] *Id.* at 371–72.

[44] Systemic risk is the risk that the failure of one or a few firms would have a disproportionate effect on the wider economy. *See* Timothy E. Lynch, *Gambling by Another Name; The Challenge of Purely Speculative Derivatives*, 17 STAN. J.L. BUS. & FIN. 67, 101 (2011) [hereinafter Lynch, *Gambling*] (providing various definitions of "systemic risk"); Schwarcz, *Systemic Risk*, *supra* note 17, at 204 (Systemic risk is "the risk that (i) an economic shock such as market or institutional failure triggers (through a panic or otherwise) either (X) the failure of a chain of markets or institutions or (Y) a chain of significant losses to financial institutions, (ii) resulting in increases in the cost of capital or decreases in its availability, often evidenced by substantial financial market-price volatility.").

hedging with credit derivatives by challenging the underlying premise that hedges are always beneficial, regardless of the type of instrument used to mitigate risk exposure. By demonstrating that credit derivatives hedging can be a source of market instability and far-reaching risk, this Article highlights a significant oversight in the consideration of systemic risks in the financial markets that the Dodd-Frank Act and related regulations were intended to address.

The Article is structured as follows. Part I provides an overview of credit derivatives and hedging. This section discusses the functioning of two primary credit derivatives—CDSs and CDOs. It highlights how firms offset credit risks with credit derivatives. Part II examines the benefits of hedging with credit derivatives, highlighting the numerous advantages that make these instruments attractive to firms seeking to manage their risk exposure. Further, this Part provides an in-depth assessment of the financial regulation of hedge transactions. Specifically, Part II traces the development of hedge regulation prior to and including the enactment of the Dodd-Frank Act. Part III analyzes the risks that accompany credit derivative hedge transactions and examines whether these risks warrant the regulation of credit derivative hedges. Importantly, in this Part, a new definition of hedging is suggested in order to address many of the risks that arise from these transactions. Part IV discusses the shortcomings of the Dodd-Frank Act in addressing the risks attendant to using credit derivatives to hedge and proposes recommendations to address these deficiencies that also protect the financial markets from the potential fallout of risky hedges.

I. Credit Derivatives and Hedging—A Primer

A. What Are Credit Derivatives?

A derivative is a financial instrument whose value derives from changes in the value of an underlying asset[45] or external event, such as rainfall,[46] inflation,[47] or a natural catastrophe.[48] A credit

[45] D'Souza et al., *supra* note 19, at 474 ("Derivatives are financial instruments for which value is 'derived' from underlying assets, such as mortgages, stocks, bonds or other commodities.").

[46] A weather derivative is based on future weather related occurrences, such as rainfall, temperature, snowfall, or frost. *See* CME GROUP, WEATHER PRODUCTS BROCHURE 1 (2013), *available at* http://cmegroup.com/trading/weather/files/weather-products-brochure.pdf (discussing ways

derivative is a derivative whose value is linked to the credit performance of an underlying asset, corporation, or sovereign.[49]

There are many types of derivatives, but all derivatives have two foundational building blocks—options and forwards.[50] An option creates the right, but not the obligation, to buy or sell[51] an

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weather derivatives assist businesses in managing "exposure to temperature-based risk"); *see generally* CME GROUP, http://cmegroup.com/trading/weather (last visited Apr. 16, 2014) (listing various weather derivatives traded on the Chicago Mercantile Exchange).

[47] An inflation derivative is linked to the change in inflation as measured by inflation indices, such as the Consumer Price Index. For a more detailed discussion and explanation of inflation derivatives, see generally JEROEN KERKHOF, LEHMAN BROTHERS HOLDINGS INC., INFLATION DERIVATIVES EXPLAINED: MARKETS, PRODUCTS, AND PRICING (July 2005), *available at* http://the.earth.li/~jon/junk/kerkhof.pdf.

[48] Catastrophe derivatives are based on the occurrence of natural catastrophic events, such as hurricanes, earthquakes, tsunamis, or wildfires. *See* Timothy Lynch, *Derivatives: A Twenty-First Century Understanding*, 43 LOY. U. CHI. L.J. 1, 25 (2011) [hereinafter Lynch, *Derivatives*]. *See generally* Sylvie Bouriaux & Richard MacMinn, *Securitization of Catastrophe Risk: New Developments in Insurance-Linked Securities and Derivatives*, 32 J. INS. ISSUES 1 (2009), *available at* http://insuranceissues.org/V23-32.php; Alexander Muermann, *Pricing Catastrophe Insurance Derivatives* (Wharton Fin. Insts. Ctr., Working Paper No. 3-18, 2003), *available at* http://fic.wharton.upenn.edu/fic/papers/03/0318.pdf.

[49] *See* Mengle, *supra* note 20, at 1.

[50] Complex derivatives instruments are combinations of options and forwards. *See* Desmond Eppel, *Risky Business: Responding to OTC Derivative Crises*, 40 COLUM. J. TRANSNAT'L L. 677, 680 (2002) ("[T]hese two basic trades form the building blocks of all other derivative products. By modifying and combining options and forward contracts creatively, financial innovators have developed a variety of derivatives products, including futures, swaps, . . . and other credit derivatives."); Brent W. Kraus, *The Use of Regulation of Derivative Financial Products in Canada*, 9 WINDSOR REV. LEGAL SOC. ISSUES 31, 39 (1999) ("Although new and innovative financial derivatives continue to appear, these products are either hybrids or variants of two building block derivatives: the option and the forward."); Adam R. Waldman, Comment, *OTC Derivatives & Systemic Risk: Innovative Finance or the Dance into the Abyss?*, 43 AM. U. L. REV. 1023, 1027–28 (1994) ("All derivative transactions can be traced to 'fundamental types of building blocks' known as forwards and options.").

[51] If the option entitles one to buy, it is a call option; if the contract entitles one to sell, it is a put option. *Option Types: Calls & Puts*, NASDAQ,

underlying asset at a specified price[52] on a future date.[53] On the other hand, a forward contract creates the obligation to buy or sell the underlying asset at a specified price on a future date.[54] Financial

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http://nasdaq.com/investing/options-guide/option-types-puts-calls.aspx#ixzz2XkRU8i8h (last visited Apr. 16, 2014) ("In the special language of options, contracts fall into two categories—[c]alls and [p]uts. A [c]all represents the right of the holder to buy stock. A [p]ut represents the right of the holder to sell stock."); *Purchase of Put Options*, PNC, https://pnc.com/webapp/unsec/ProductsAndService.do?siteArea=/pnccorp/PNC/Home/Personal/Investments+and+Wealth+Management/Wealth+Management+and+Advice/Asset+Management/Strategies+for+Concentrated+Equity+Positions/Purchase+of+Put+Options (last visited Apr. 16, 2014) ("When you buy a put option, you receive the right to sell a stock at a set price on some future date."); *see also Call Options*, N.Y. STOCK EXCH., https://nyse.nyx.com/education/all-about-investing/options/call-options (last visited Apr. 16, 2014) ("An option that gives you the right to buy an asset at a fixed price is called a 'call' option.").

[52] This is known as the strike price. Janice Revell, *How to Profit from Market Volatility*, FORTUNE, Oct. 17, 2011, at 82 ("To reap more income from dividend-paying stocks you already own, you can sell 'covered calls,' granting another investor the right to buy a stock you own at a higher price in the future (known as the strike price)."); *Sale of Call Options*, PNC, https://pnc.com/webapp/unsec/ProductsAndService.do?siteArea=/pnccorp/PNC/Home/Personal/Investments+and+Wealth+Management/Wealth+Management+and+Advice/Asset+Management/Strategies+for+Concentrated+Equity+Positions/Sale+of+Call+Options (last visited Apr. 16, 2014) ("The seller of a call option gives the buyer the right to purchase a share of stock at a predetermined 'strike' price.").

[53] This is known as the strike date. Norman M. Feder, *Deconstructing Over-The-Counter Derivatives*, 2002 COLUM. BUS. L. REV. 677, 692 (2002) (defining the strike date as the date on which an option right expires); *see also* SUNDARAM JANAKIRAMANAN, DERIVATIVES AND RISK MANAGEMENT 240 (2011).

[54] An exchange-traded forward is a future. Roberta Romano, *A Thumbnail Sketch of Derivative Securities and Their Regulation*, 55 MD. L. REV. 1, 10 (1996) ("Futures contracts are standardized forward contracts. They are obligations to buy or sell an asset at a specified future date for a specified price, and no money changes hands until maturity. The difference is that with the standardization of contract terms, the futures contracts are readily transferrable. Futures contracts are publicly traded on exchanges . . . ."); *see also* Rhett G. Campbell, *Energy Future and Forward Contracts, Safe Harbors, and the Bankruptcy Code*, 78 AM. BANKR. L.J. 1, 1–3 (2004) ("A 'forward contract is a legal agreement to make or take delivery in the future' . . . . A futures contract (i.e., a commodity contract for future

institutions use options and forwards to mitigate various risks. For example, a publicly traded company may offer its stock as collateral for a loan. By accepting this stock as collateral, the bank is exposed to a potential fall in stock value. To protect itself against this risk, the bank may buy a put option on the common stock. The put option insures the banks against a loss in the value of the collateral. If the stock loses value, the put option appreciates, thereby neutralizing the loss.[55]

Derivatives may be categorized as either exchange-traded or over-the-counter ("OTC").[56] Exchange-traded derivatives are traded on regulated exchanges.[57] These exchanges act as an intermediary between the parties and guarantee settlement of the contract through a central settlement system known as a "clearinghouse."[58] Only fungible and liquid contracts that are highly standardized are traded on exchanges.[59] Many of the basic terms of exchange-traded

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delivery traded on a national or regional exchange) has four distinct traits . . . .").

[55] BRATTON, *supra* note 42, at 163.

[56] *See* Willa E. Gibson, *Investors, Look Before You Leap: The Suitability Doctrine Is Not Suitable for OTC Derivative Dealers*, 29 LOY. U. CHI. L.J. 527, 537–38 (1998) ("Derivatives can also be identified by the market in which they trade. Derivatives that trade through an organized public exchange are referred to as exchange-listed derivatives, which include both futures and exchange-listed options. In contrast, derivatives contracts privately negotiated between parties without a centralized market are referred to as OTC derivatives.").

[57] *Id.*

[58] Feder, *supra* note 53, at 732 ("[A] clearinghouse house concentrates payment and delivery risks in a central entity by effectively acting as a mandatory counterparty to each party performing or expecting performance under a traded contract.").

[59] AM. STOCK EXCH. ET AL., CHARACTERISTICS AND RISKS OF STANDARDIZED OPTIONS 4 (1994), *available at* http://cboe.com/learncenter/workbench/pdfs/CharacteristicsandRisksofStandardizedOptions.pdf ("Most options have standardized terms—such as the nature and amount of the underlying interest, the expiration date, the exercise price, whether the option is a call or a put, whether the option is a physical delivery option or a cash-settled option, the manner in which the cash payment and the exercise settlement value of a cash-settled option are determined, the multiplier of a cash-settled option, the style of the option, whether the option has automatic exercise provisions, and adjustment provisions."). For a definition of "fungibility," see *Options Glossary: Fungibility*, OPTIONS INDUS. COUNCIL, http://optionseducation.org/

derivatives are not subject to negotiation between the parties.[60] On the other hand, bespoke, highly customized derivatives are traded OTC.[61] OTC derivatives are bilaterally negotiated between the counterparties and are tailored to the needs of the parties.[62] The unregulated nature of OTC derivatives greatly contributes to their popularity, resulting in an OTC market that is many times larger than the exchange-traded market.[63]

Most credit derivatives are traded OTC, with the most popular of them being CDSs.[64] CDSs are bilateral contracts in which a protection buyer pays a premium to a protection seller in exchange for which the protection seller compensates the protection buyer if the underlying asset suffers a credit event.[65] The underlying asset of a CDS can range from the debt of a single corporate issuer or a sovereign, to indices linked to these debt instruments.[66] If a credit

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tools/glossary.html (last visited Apr. 16, 2014) ("Options listed on national exchanges are fungible, while over-the-counter options generally are not.").

[60] *See* Feder, *supra* note 53, at 731–32 ("When purchasing or selling an exchange-traded contract, the buyer and seller are obligated by inflexible terms and conditions set by the exchange: settlement dates, settlement amounts, and contract maturities are standard; option strike prices are limited to increments of certain round numbers; settlement is physical . . . . Some derivatives contracts that trade on exchanges even limit how much the price can move up or down on a given-trading day.").

[61] *Id.* at 734 ("OTC derivatives contrast with exchange-traded derivatives because the former are made-to-order.").

[62] *Id.* at 734–35 ("[P]arties to OTC transactions can tailor individual derivatives to specific exposures or for specific risk postures.").

[63] *See* Bank for Int'l Settlements, *International Banking and Financial Market Developments*, BIS Q. REV., June 2013, app. A, at A10, *available at* http://bis.org/publ/qtrpdf/r_qs1306.pdf (providing the outstanding notional values of OTC and exchange-traded derivative contracts as of December 2012).

[64] Mengle, *supra* note 20, at 1 (stating that the "vast majority" of credit derivatives take the form of CDSs).

[65] Credit events are performance triggers in CDS contracts. Given the importance of credit events, they are meticulously specified in the credit derivative contract. *Id.* at 3. "Credit events" are defined to include: "bankruptcy, failure to pay, obligation acceleration, obligation default, repudiation/moratorium, or restructuring." *See* INT'L SWAPS AND DERIVATIVES ASS'N, 2003 ISDA CREDIT DERIVATIVES DEFINITIONS 30 (2003), *available at* https://globalmarkets.bnpparibas.com/gm/features/docs/dfdisclosures/2003_ISDA_Credit_Derivatives_Definitions.pdf.

[66] *See* Lynch, *Derivatives*, *supra* note 48, at 22; *see also* INDEP. DIRS.

event does not occur during the life of the CDS, the contract ends with the protection buyer making only the premium payments to the protection seller. In an example of a single-name CDS,[67] depicted in

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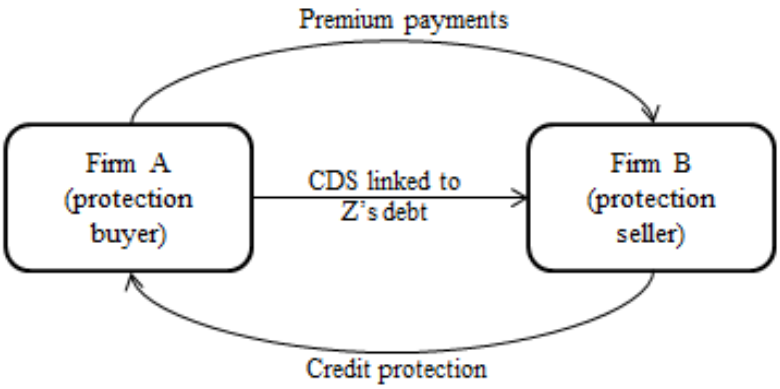
COUNCIL, BOARD OVERSIGHT OF DERIVATIVES: INDEPENDENT DIRECTORS COUNCIL TASK FORCE REPORT 6 (2008), *available at* www.ici.org/pdf/ppr_08_derivatives.pdf (defining a CDS as an "agreement in which the protection seller agrees to make a payment to the protection buyer in the event of a specified credit event (such as a default on an interest or principal payment of a reference entity) in exchange for a fixed payment or series of fixed payments"); INT'L MONETARY FUND, GLOBAL FINANCIAL STABILITY REPORT: OLD RISKS, NEW CHALLENGES 57 (2013), *available at* http://www.imf.org/external/pubs/ft/gfsr/2013/01/pdf/c2.pdf ("Although CDS that reference sovereign credits are only a small part of the sovereign debt market ($3 trillion notional SCDS outstanding at end-June 2012, compared with $50 trillion of total government debt outstanding at end-2011), their importance has been growing rapidly since 2008, especially in advanced economies."); Kristin N. Johnson, *Things Fall Apart: Regulating the Credit Default Swap Commons*, 82 U. COLO. L. REV. 167, 194 (2011) [hereinafter *Things Fall Apart*] ("Credit default swaps are privately negotiated, bilateral agreements. Credit default swaps are a class of swap agreements that typically references debt obligations such as a specific debt security (a 'single-name product'); a group or index of debt securities (a 'basket product'); or collateralized loan agreements, collateralized debt obligations, or related indexes. In a credit default swap agreement, one party (the 'protection buyer') seeks to reduce its risk exposure related to a referenced debt asset by entering into an agreement with another party (the 'protection seller'); the protection seller agrees to enter into the credit default swap agreement because she seeks to gain exposure to the likelihood that the issuer of the reference asset (the 'reference entity') will default on the reference asset. The protection buyer pays periodic premiums to the protection seller for this insurance-like arrangement. In the event that the reference entity defaults on its obligations related to the reference asset, the protection buyer may require the protection seller to purchase the reference asset for face value, or some percentage of face value agreed upon in the credit default swap agreement, less the market value of the security. In short, credit default swap agreements involve a transfer of the risk that the issuer of a reference asset will default and the reference asset will decline in value.").

[67] A single-name CDS is a CDS from which protection is written on a single entity. Mary Brown, *Credit Default Swaps: What Happens in a Credit Event?*, INVESTOPEDIA (June 25, 2009), http://investopedia.com/articles/bonds/09/what-happens-to-single-name-cds.asp ("A single-name CDS is a derivative in which the underlying instrument is a reference obligation, or a bond of a particular issuer or reference entity.").

Diagram 1, Firm *A* has credit exposure to Company *Z* and seeks to offset this exposure. To insure against this risk, Firm *A* purchases a CDS linked to Company *Z*'s public debt issuance from Firm *B*. Firm *A*, the protection buyer, makes premium payments to Firm *B*, the protection seller. In the event Company *Z* defaults on its debt or any other stipulated credit event occurs, Firm *B* will compensate Firm *A* for the loss incurred.[68]

Diagram 1



Another important credit derivative is the CDO.[69] A CDO is a portfolio of debt instruments (assets) that is bought by a special purpose vehicle ("SPV"), as demonstrated in Diagram 2 below.[70] The SPV pays for the portfolio by selling interests to the cash flows that these debt instruments (assets) generate to investors.[71] Interests in the debt instruments (assets) are sliced into tranches and issued as securities to investors.[72] The senior tranche is rated AAA, most

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[68] For a similar hypothetical, see JAMES D. COX, ROBERT W. HILLMAN & DONALD C. LANGEVOORT, SECURITIES REGULATION: CASES AND MATERIALS 564 (7th ed. 2013).

[69] *See* Houman B. Shadab, *Credit Risk Transfer Governance: The Good, the Bad, and the Savvy*, 42 SETON HALL L. REV. 1009, 1012 (2012) ("The foregoing complex web of contracts was the result of the parties' attempt to transfer credit risk: CDS[s], CDOs, and mortgage-backed securities are all instruments of credit risk transfer . . . .").

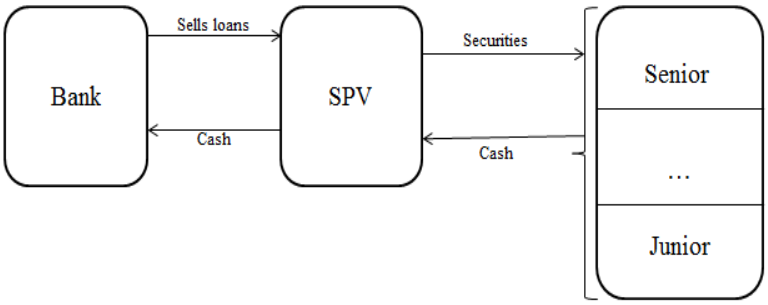
[70] *See* BRATTON, *supra* note 42, at 370.

[71] M. Todd Henderson, *Credit Derivatives Are Not "Insurance,"* 16 CONN. INS. L.J. 1, 12–15 (2009); *see generally* JOHN HULL, OPTIONS, FUTURES, AND OTHER DERIVATIVES (Donna Battista et al. eds., 7th ed. 2009).

[72] Marcin Wojtowicz, CDOs and the Financial Crisis: Credit Ratings and Fair Premia 5 (Sept. 2012) (unpublished Ph.D. dissertation, VU University

insulated from risk, and receives the lowest interest payment.[73] The junior tranche is the most exposed to risk, and therefore, earns the greatest amount of interest.[74] If the credit quality of the portfolio owned by the SPV declines,[75] the SPV makes contractually determined payments to the SPV's sponsor firm. In exchange for this protection, the sponsor firm makes periodic payments to the SPV that are distributed among the SPV's investors, along with any money generated from the SPV's assets.[76]

Diagram 2



Amsterdam), *available at* http://efmaefm.org/0EFMAMEETINGS/EFMA%20ANNUAL%20MEETINGS/2013-Reading/papers/EFMA2013_0216_fullpaper.pdf ("Structured finance transforms corporate bonds and other assets . . . into securitized tranches.").

[73] Partnoy & Skeel, *supra* note 32, at 1029–30 ("For example, for a tranche to be rated AAA, S&P might require that it be able to withstand a default rate of 30% of the asset pool for a particular period of time, assuming a level of defaults based on the ratings of those assets. The default rate for lower credit ratings would be correspondingly higher. The model also incorporates assumptions about how much of the face value might be recovered after a default."); *see also* Wojtowicz, *supra* note 72, at 5 ("A given tranche incurs losses only after all subordinate tranches are wiped out. Most of the credit risk is thus concentrated in the first-loss equity tranche, which also provides the highest coupon. More senior tranches have lower default risks and accordingly offer lower coupons.").

[74] *Cf.* Wojtowicz, *supra* note 72, at 5 (discussing senior tranches which have lower default risks and offer lower coupons).

[75] What qualifies as a decline in credit quality would be specified in agreements between the SPV and the firm and known to the SPV's investors. For example, a decline in credit quality would be the default of one of the loans or bonds included in the portfolio.

[76] COX ET AL., *supra* note 68, at 570.

CDSs and CDOs enable market participants to isolate and transfer credit risk without having to liquidate or syndicate the underlying debt.[77] Credit derivatives, thus, transform credit risk from an illiquid, untradeable aspect of debt, to one that can be valued and traded.[78] The ability to segregate and trade discrete aspects of risk has contributed to the exponential growth of credit derivatives.[79] Consequently, credit derivatives have become a fundamental risk management tool for firms, as they enable firms to offset varied risks with ease.[80] Using credit derivatives in this manner is known, broadly, as "hedging," which is discussed in greater detail below.

B. Hedging in Practice

A hedge is a transaction undertaken to offset or neutralize an existing exposure to specific risks.[81] Through hedging, entities aim to

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[77] *See Things Fall Apart*, *supra* note 66, at 194 ("Credit default swaps are a class of swap agreements that typically references debt obligations such as . . . collateralized debt obligations. . . . In a credit default swap agreement, one party (the 'protection buyer') seeks to reduce its risk exposure related to a referenced debt asset by entering into an agreement with another party (the 'protection seller'); the protection seller agrees to enter into the credit default swap agreement because she seeks to gain exposure to the likelihood that the issuer of the reference asset (the 'reference entity') will default on the reference asset. The protection buyer pays periodic premiums to the protection seller for this insurance-like arrangement. . . . In short, credit default swap agreements involve a transfer of the risk that the issuer of a reference asset will default and the reference asset will decline in value.").

[78] *See* DEUTSCHE BÖRSE GROUP, THE GLOBAL DERIVATIVES MARKET: AN INTRODUCTION 8 (2008), *available at* http://deutsche-boerse.com/INTERNET/MR/mr_presse.nsf/0/0A4A6E3F8ED836BDC1257457002D5669/$File/2008-04%20DB_WP%20GlobalDerivativesMarket_e.pdf?OpenElement (discussing how credit derivatives, which provide compensation if a creditor defaults on its bonds, can be used as an investment).

[79] *See id.* at 4.

[80] *See* Duffee & Zhou, *supra* note 21, at 26 ("Thus, for now, credit derivatives can be thought of as instruments that repackage traded risks into more convenient forms.").

[81] Luis Vasco Lourenço Pinheiro & Miguel A. Ferreira, How Do Banks Manage Interest Rate Risk: Hedge or Bet? 2 (June 30, 2008) (unpublished manuscript), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1157672 ("Through the use of hedging strategies,

minimize the riskiness associated with their assets. During the common law era, courts identified a transaction as a hedge if the party to a contract had pre-existing exposure to the risk that the contract was intended to mitigate.[82] In spite of this seemingly simple formulation, one academic sagely commented, "[i]n endeavoring to distinguish hedging from wagering, the courts are between the devil and the deep sea."[83] Since the common law determination of whether a transaction was a hedge turned on the intent of at least one of the parties to the contract, which was difficult for the court to determine *ex post*,[84] this simple rule did not always yield simple results.[85]

In its most basic and ideal form, a hedge is the acquisition of a position that is opposite to the risk the entity already faces, such that any losses a firm incurs because of said risk are matched by an equal gain on the hedge position.[86] Because gains and losses are

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managers can put into practice opposite directional bets in order to neutralize initial exposure.").

[82] Lynn Stout, *Regulate OTC Derivatives by Deregulating Them*, REG., Fall 2009, at 31–32, *available at* http://www.cato.org/regulation/fall-2009 (discussing common law rules regarding hedging).

[83] Edwin W. Patterson, *Hedging and Wagering on Produce Exchanges*, 40 YALE L.J. 843, 878 (1931).

[84] *Id.* at 846.

[85] *See* State v. Stripling, 21 So. 409, 410–11 (Fla. 1896) (determining that futures contracts, because of the moral harm they cause, falls within the definition of gambling which is prohibited under the Act for the Better Suppression of Gambling); Cunningham v. National Bank of Augusta, 71 Ga. 400, 405 (1883) (holding that a contract was not enforceable because it amounted to gambling in that it induced people to risk an asset with the hope that they would see a profit); Rumsey et al. v. Berry, 65 Me. 570, 574 (1876) (refusing to uphold a contract "entered into without an intention of having any wheat pass from one party to the other, but with an understanding that at the appointed time the purchaser is merely to receive or pay the difference between the contract and the market price"); Brua's Appeal, 55 Pa. 294, 298–99 (1867) (holding that a contract was not enforceable because it was like gambling and because the contract lacked consideration).

[86] PHILIP MCBRIDE JOHNSON & THOMAS LEE HAZEN, DERIVATIVES REGULATION 120 (Successor ed. to COMMODITIES REGULATION, 3d ed. 2004); John D. Finnerty & Dwight Grant, *Alternative Approaches to Testing Hedge Effectiveness Under SFAS No. 133*, 16 ACCOUNTING HORIZONS 95, 99 (June 2002) ("For a perfect hedge, the change in the value of the derivative exactly offsets the change in the value of the hedged item. . . ."); Wendy C. Perdue, *Manipulation in Futures Markets:*

closely matched, hedgers forfeit the opportunity to profit if market conditions change in their favor.[87] This "severely restricted investment motive" is what many consider to be the hallmark of hedging.[88] Credit derivatives are particularly well suited to hedging, as they facilitate the transfer of risk from one entity that inefficiently bears credit risk, to another that is able to bear the risk at a lower cost or is more willing to be exposed to the risk.[89]

Consider the following example: Bank *A* extends a loan of $100 million to Company *B*. Company *B* is a long-time and profitable customer of Bank *A*, so it does not want to syndicate the loan. However, because of the large size of the loan, Bank A is concerned with the possibility of Company *B*'s default. Bank *A*, therefore, enters into a CDS with Hedge Fund *C* based on the credit quality of Company *B*. If Company *B* defaults on its loan, Hedge Fund *C* will be required to compensate Bank *A*; in return, Bank *A* makes periodic payments to Hedge Fund *C*. In this transaction, Bank *A* has offset its risk exposure to Company *B*—whatever losses it incurs in the event that Company *B* defaults will be mitigated through its contractual arrangement with Hedge Fund *C*. This transaction is referred to as a one-to-one hedge or micro-hedge because Bank *A* is hedging a single liability—here, the credit risk of Company *B*.[90]

Redefining the Offense, 56 FORDHAM L. REV. 345, 390 (1987) ("First, the goal appears to be based on a simplistic understanding of hedging. As Holbrook Working has explained, it is inaccurate and simplistic to view the 'perfect hedge' as one where the spread between cash and futures prices remains constant and which, therefore, results in no profit or loss. Contrary to the assumption of this simplistic view of hedging, Working has explained that '[m]ost hedging is done in the expectation of a change in spot-future price relations.'").

[87] JOHNSON & HAZEN, *supra* note 86, at 121-20.

[88] *Id.* at 121.

[89] Saule T. Omarova, *The Quiet Metamorphosis: How Derivatives Change the "Business of Banking,"* 63 U. MIAMI L. REV. 1041, 1045 (2009) ("Derivatives . . . serve as the modern means of isolating, unbundling, and transferring economic risk.").

[90] In hedging a single asset or liability risk, the party is engaging in microhedging. *See* STEVIE D. CONLON, PRINCIPLES OF FINANCIAL DERIVATIVES: U.S. AND INTERNATIONAL TAXATION ¶ A3.04[4] (2012) (explaining a microhedge as a "hedge that addresses single asset or liability risk—or even a hedge that addresses risk associated with a fairly discrete series of assets or liabilities").

While useful in providing the basic framework of CDS hedges, this simplistic formulation is but the tip of the iceberg. In today's markets, most hedge transactions, especially those involving financial derivatives, are more complex, going far beyond the simple formulation of a one-to-one hedge.[91] Hedging strategies vary widely in complexity and, owing to the malleability of financial derivatives, can be tailored to a firm's risk profile and risk mitigation needs.[92] CDSs may be used to mitigate the risks arising from a wide array of assets through a portfolio or macro-hedge.[93] In a portfolio hedge, a firm takes a broader view of the risks it faces and attempts to mitigate its exposure most efficiently.[94] Using the example above, if Bank *A* were exposed to the risk of default from Companies *D*, *E*, *F*,

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[91] Robert O'Harrow, *Derivatives Made Simple, If That's Really Possible*, WASH. POST, Apr. 21, 2010, A13 ("Over the past two decades, derivatives have evolved from relatively straightforward deals to highly complex transactions . . . ."); Michael Robinson, *Experts Warn of Hidden Danger of Complex Investments*, BBC (July 5, 2011), http://bbc.co.uk/news/business-13961625 ("But in Britain and elsewhere, complex financial derivatives are once again thriving.").

[92] Popular hedging strategies include anticipatory hedges, strip hedges, and rolling hedges. An anticipatory hedge is a transaction that is intended to mitigate risks that do not yet exist. CONLON, *supra* note 90, ¶ A3.04[3]. A firm may enter into an anticipatory hedge because of uncertainty as to whether a specific hedge instrument may be available at a later date or concerns that such hedge transactions may be more expensive in the future. *Id.* However, in undertaking such a hedge, there is the risk that the anticipated risk being hedged may never materialize or may not materialize as expected, thereby exposing the entity to greater risks. *Id.* A strip hedge is a "series of hedging instruments that are used to hedge payments or amounts occurring at different points in time." *Id.* ¶ A3.04[5]. A stack or rolling hedge is an alternative strategy to a strip hedge if the latter proves to be prohibitively expensive. *Id.* ¶ A3.04[6]. A stack hedge is the use of short-term hedge transactions to protect against long-term risk exposure. *Id.* In this strategy, the short-term hedge is "rolled forward" by closing out one derivative transaction and taking the same position with another derivative transaction with a later expiration date. *Id.* A rolling hedge does not provide complete mitigation against risks, as new hedges must be entered into as the previous ones expire. *Id.*

[93] *Id.* ¶ A3.04[4]. Portfolio hedge may also refer to hedges entered into to address enterprise risk. Enterprise risk is the "net price or rate [of] risk of a person's entire activities." *Id.* A hedge that addresses enterprise risk attempts to mitigate against the risks facing the entire business operations of the firm as a whole. *Id.*

[94] *Id.*

and *G*, it could purchase protection through a CDS, from Hedge Fund *C*, linked to an index that references the debt of these companies. Portfolio hedging may also be accomplished through securitization using a CDO.[95] Through a CDO, a firm is able to sell various sources of credit risk to an SPV and protect itself from default in a comprehensive manner.[96]

In the examples so far, we have recognized the actions of the firm in protecting itself from risks arising from its business operations as a hedge. But what of the firms on the other side of these transactions? More concretely, if a speculator enters into a transaction to offset risk, is this transaction a hedge? A speculator is an investor in the derivatives market, who is willing to take on risks for a premium.[97] Generally, these investors do not have initial exposure to the underlying risks, but willingly take on such exposure because of their belief in future market movements.[98] Speculators

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[95] See *supra* Part I.A, for a description of securitization.

[96] Henderson, *supra* note 71, at 12 ("A CDO is, at its core, the same as a CDS contract. As in a CDS contract, the parties to a CDO contract are shifting the risk of an underlying debt instrument from lender to investor, but instead of doing so for a corporate loan or bond issuance from a single borrower they do so for a series of loans or bonds from many borrowers. In this way, some portfolio theory-based diversification is achieved, since the risk for any investor of any one buyer defaulting is absorbed by gains on other debtors that do not default.").

[97] Feder, *supra* note 53, at 719 ("Speculators buy or sell derivatives without true exposure to or core interest in the underlying risk. There usually is no shortage of entities willing to place their money on their view of future price movements, regardless of underlying risks they actually face . . . ."); *see also* Lynch, *Gambling*, *supra* note 44, at 79 ("According to the 'risk hedging' theory, a speculator assumes the risk held by another in return for a favorable price premium from that other party.").

[98] Feder, *supra* note 53, at 719 ("Those without underlying exposure who are convinced that the markets will move in a certain direction or that the market's judgment of the credit of a given entity is mistaken usually find derivatives a particularly useful way to economically test their conviction."); Lynn A. Stout, *Are Stock Markets Costly Casinos? Disagreement, Market Failure, and Securities Regulation*, 81 VA. L. Rev. 611, 672 (1995) ("Perhaps the most significant cost associated with speculative trading is the cost of speculators' acquisition and analysis of the information on which they base their differing expectations. Investors trying to predict which stocks or markets will do well invest enormous time and effort gathering and digesting the vast quantities of information relevant to the futures of firms, industries, and the market as a whole.").

bear the uneasy designation of being mere gamblers in the derivatives markets, but are, nonetheless, needed for the market's liquidity.[99] Theoretically, there could be an equal match of hedgers who have complementary needs; however, realistically, speculators are needed to take on these risks.[100]

In the prior example, Hedge Fund *C* would be a speculator because it deliberately exposed itself to the credit risk of Company *B*. To extend the above example, as illustrated in Diagram 3: suppose after establishing the CDS with Bank *A*, Hedge Fund *C* enters into an offsetting transaction with Bank *D* linked to the debt of Company *B*. In the transaction with Bank *D*, Hedge Fund *C* is mitigating its risk exposure, similar to Bank *A* in the prior transaction. Some argue, however, that the transaction between Hedge Fund *C* and Bank *D* differs from that between Bank *A* and Hedge Fund *C*. According to these arguments, the difference between the transactions is based on the fact that Bank *A* is hedging exposure arising from its business operations; whereas, Hedge Fund *C* is hedging a speculative position.[101] Per this point of view, such hedging of a speculative position is not a "true hedge" and, as such, should not be recognized as a hedge. However, to categorize a transaction as a hedge based on whether the person offsetting the risk is the primary or secondary bearer of the risk may be unsatisfactory and unhelpful. This dividing line may not accurately reflect whether the transaction, on balance, actually mitigates risk.

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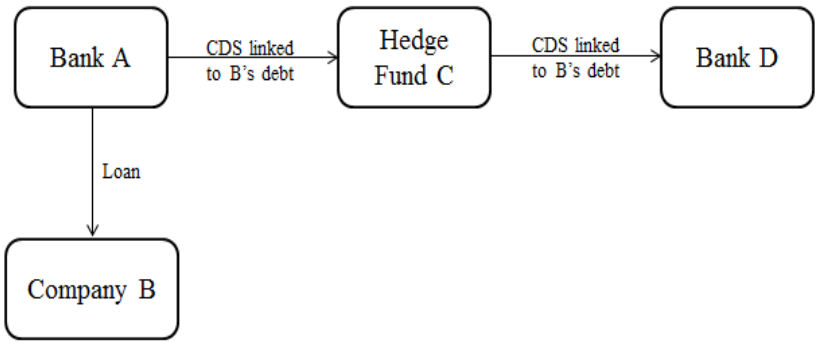
[99] Thomas Lee Hazen, *Rational Investments, Speculation, or Gambling?—Derivative Securities and Financial Futures and Their Effect on the Underlying Capital Markets*, 86 NW. U. L. REV. 987, 1014–15 (1992) ("[A]lthough driven by selfish motives, speculators provide additional liquidity in the markets."); Lynch, *Gambling*, *supra* note 44, at 80 ("[T]he existence of speculators creates liquidity in the derivatives market . . . .").

[100] Lynch, *Gambling*, *supra* note 44, at 119 ("[W]ithout speculators, potential hedgers would have to find other hedgers with an exactly (or nearly exactly) opposite position in order to enter into a derivatives contract to hedge their pre-existing risks.").

[101] *See, e.g.*, *id.* at 71 ("If a counterparty is not hedging a pre-existing risk with the derivatives contract, he is deemed to be a speculator.").

Diagram 3



Put another way, categorizing transactions as a hedge only if the entity has a pre-existing risk exposure is both too broad and too narrow. It is too narrow because it excludes transactions that may offset risks in the most optimal manner. On the other hand, it is too broad because it includes transactions that may incur more risks than they neutralize. This delineation, therefore, is not helpful as it does not always reflect whether a transaction is truly mitigating risks or merely increasing risk exposure. To impose this restriction is to engage in a type of shorthand that may be useful in eliminating some sources of risks that arise from credit derivatives hedging, but should not be used as a substitute for actual analysis of a transaction to determine whether it truly mitigates risk. Therefore, offsetting the risks from a speculative position may, in some instances, be a "true hedge," provided that it is aimed more at managing risk exposure than increasing it.

The complexities of the derivatives markets and available hedge strategies force reconsideration of the identifying characteristics of a hedge. It is, therefore, necessary to look beyond: (1) intent—which was previously difficult to discern and has only become more difficult, and (2) pre-existing risk exposure—which is a poor substitute for identifying whether a transaction is an optimal transferal of risk. Nonetheless, it is important that a hedge include only those transactions that truly mitigate risk exposure. If transactions like those involved in the London Whale fiasco[102] are treated as hedges, then the definition is so broad as to include transactions that are more risky than they are beneficial. On the other

[102] *See supra* notes 2–6 and accompanying text (describing the London Whale debacle).

hand, the definition cannot be so strictly cabined that only the narrowest category of transactions is recognized. Both nuance and balance are needed.

As such, a transaction should be recognized as a hedge if it is established to mitigate risk exposure and does not introduce new, significant risks that outweigh the benefits of the transaction. Such a definition of a hedge moves away from questions of primary and secondary sources of risk and from issues regarding the intent of the hedger. This definition provides a more nuanced view that recognizes that hedges may pose risks and acknowledges that these risks should be taken into account when categorizing a transaction as a hedge.

Below, the benefits of hedging with credit derivatives, as well as attendant risks, are discussed in greater detail.

II. Hedging—Its Benefits and Regulation

A. Benefits of Hedging with Credit Derivatives

In daily operations, one of the most common risks firms face is credit risk.[103] A manufacturer that sells products to a customer on credit is faced with the risk that the customer may not pay for the goods. Similarly, a bank that makes a multi-million dollar loan to a corporation will be concerned that the corporation may not be able to repay the loan. In both examples, the manufacturer and the bank are exposed to credit risk.

Credit derivatives are well suited to hedge against credit risks because they allow for the separation and subsequent trading of credit risk distinct from the underlying asset or loan.[104] Prior to the

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[103] Credit risk is the risk of non-payment on a loan. *See* GEORGE CHACKO, ANDER SJÖMAN, HIDETO MOTOHASHI & VINCENT DESSAIN, CREDIT DERIVATIVES: A PRIMER ON CREDIT RISK, MODELING, AND INSTRUMENTS 3–4 (2006) ("[C]redit risk is the risk that a borrower won't pay back the lender.").

[104] *See* Andrew Scheerer, *Credit Derivatives: An Overview of Regulatory Initiatives in the U.S. and Europe*, 5 FORDHAM J. CORP. & FIN. L. 149, 156 (2000) ("The purpose of a CDS is to provide credit protection against credit losses associated with a default on a specified underlying asset. Typically, the underlying or reference asset is some form of credit (e.g., a single credit or the first to default in a basket of credits), extended by the party seeking protection (the 'beneficiary') against a default of its debtor, a third party. The beneficiary swaps the credit risk with a provider of credit protection

development of credit derivatives, banks and other financial institutions addressed these concerns regarding potential default through syndication of the loan, which minimized their exposure to a single borrower.[105] Credit derivatives, however, allow entities to maintain customer relationships that may expose them to credit risks, yet hedge their risk exposure by transferring the credit risk to someone who can bear the risk more efficiently.[106]

The impact of this risk transfer is significant. First, it increases a firm's productivity, as a firm is able to focus energy on its primary business, with lessened concern for the impact of credit losses on its operations.[107] Further, by offsetting its exposure to credit risk, a firm hedging with credit derivatives is able to reduce earnings volatility and, likely, plan aspects of its business operations with greater ease.[108] In turn, this lowers the costs associated with the

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(the 'guarantor'). The transaction is similar to a guarantee or a standby letter of credit . . . .").

[105] *See* Christian A. Johnson, *At the Intersection of Bank Finance and Derivatives: Who Has the Right of Way?*, 66 TENN. L. REV. 1, 45 (1998) [hereinafter *Bank Finance*] ("Syndicated loans are loans that involve more than one lender. Many large loan transactions can have anywhere from two or three lenders to twenty or thirty.").

[106] *See* Erik F. Gerding, *Credit Derivatives, Leverage and Financial Regulation's Missing Macroeconomic Dimension*, 8 BERKELEY BUS. L.J. 29, 37 (2011) [hereinafter Gerding, *Credit Derivatives*]; Gilson & Whitehead, *supra* note 22, at 245–46. In the heyday of the expansion of the CDS markets, Alan Greenspan, former Chairman of the Federal Reserve Board, described credit derivatives as being necessary for the stability of the financial markets. *See* Alan Greenspan, Chairman, Fed. Reserve, Address at the Federal Reserve Bank of Chicago's Forty-first Annual Conference on Bank Structure (May 5, 2005), *available at* http://federalreserve.gov/boarddocs/speeches/2005/20050505 ("As is generally acknowledged, the development of credit derivatives has contributed to the stability of the banking system by allowing banks, especially the largest, systemically important banks, to measure and manage their credit risks more effectively. In particular, the largest banks have found single-name credit default swaps a highly attractive mechanism for reducing exposure concentrations in their loan books while allowing them to meet the needs of their largest corporate customers.").

[107] *See* Hull, *supra* note 71, at 45–66.

[108] Laurin C. Ariail, *The Dodd-Frank Wall Street Reform and Consumer Protection Act: The Impact of Dodd-Frank on End-Users Hedging Commercial Risk in Over-the-Counter Derivatives Markets*, 15 N.C. BANKING INST. 175, 189 (2011).

firm's operations and enables the firm to operate more efficiently.[109] The benefits of eliminating credit risks that a firm is ill-equipped to handle have results that extend beyond the firm in question. Specifically, in focusing more on its primary business, the firm is able to be more innovative in its primary industry and is better positioned to offer its goods or services at a lower cost.[110] Secondly, the transfer of credit risk increases market liquidity.[111] Credit derivatives allow banks and other lenders to extend loans with a lower risk of default.[112] As such, lenders are more willing and better able to lend more money to additional entities.[113]

The popularity of using credit derivatives to hedge against credit risk is due, in large part, to their highly customizable nature.[114]

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[109] *See* Keith Sill, *The Economic Benefits and Risks of Derivative Securities*, FED. RES. BANK OF PHILA. BUS. REV., Jan.–Feb. 1997, at 15, 16, *available at* http://phil.frb.org/research-and-data/publications/business-review/1997/january-february/brjf97ks.pdf ("Derivatives markets are successful institutions because they make financial markets more efficient. This generally means that borrowing and lending can occur at lower cost than would otherwise be the case because derivatives reduce transaction costs. For example, more efficient mortgage markets mean that homeowners can borrow at lower cost. Similarly, firms can raise funds for investment at a lower cost when financial markets are efficient. This in turn can lead to faster economic growth.").

[110] *See id.* at 16.

[111] Partnoy & Skeel, *supra* note 32, at 1024.

[112] *Id.*

[113] MOORAD CHOUDHRY, STRUCTURED CREDIT PRODUCTS: CREDIT DERIVATIVES AND SYNTHETIC SECURITIZATION 61 (2d ed., 2010) (stating that credit derivatives "reduc[e] credit risk with a specific client (obligor) so that lending lines to this client are freed up for other business"); Partnoy & Skeel, *supra* note 32, at 1024–25. *But see* Ronald Fink, *Default Swap Faults*, CFO MAG., Oct. 7, 2004, at 39, 42 ("The advent of credit default insurance in the late 1990s led to the widespread expectation that banks would be more willing to make loans to companies, since the banks wouldn't be on the hook for defaults by borrowers. But a look back at actual practices suggests that those expectations were vastly overblown. While the notional value of credit default swaps soared almost six-fold between 2001 and 2003, from $630 billion to $3.6 trillion, the percentage of bank assets made up of loans to companies fell from 20% to 17% during roughly the same interval.").

[114] *See* COX ET AL., *supra* note 68, at 561 ("Derivatives are a useful tool to hedge risk because of the ability to customize the risk related to the reference item and transfer that risk to another via the derivative contract.").

The reference entity of a CDS, for example, can be a single corporate entity, an index of corporations, sovereign debt, or any loan obligation.[115] Because firms can tailor credit derivatives to meet specific risk mitigation needs, they can more accurately target and reduce their risk exposure.[116] A corollary of the customizability of credit derivatives is risk diversification. Credit derivatives enable firms to diversify their risk exposure, making them less susceptible to adverse events affecting a single sector, industry, or client.[117]

Two poignant examples of the benefits of hedging with credit derivatives occurred during the corporate failures of Enron in 2001 and WorldCom in 2002.[118] Both firms had issued substantial corporate debt, but financial institutions, by and large, hedged their credit exposure, thereby preventing Enron and WorldCom's failures from spilling over into the banking industry and financial markets.[119] Indeed, former Chairman Alan Greenspan specifically attributed the muted impact of the corporate crises of the early 2000s to banks' use of credit derivatives, which "effectively spread losses from defaults by Enron, . . . WorldCom, [et al.] . . . over the past year . . . from banks . . . to insurance firms, pension funds or others . . . ."[120]

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[115] Lynch, *Derivatives*, *supra* note 48, at 21–22 ("Examples of transactions commonly referred to as derivatives in the marketplace include . . . credit default swaps (whose payoffs are derived from the occurrence or non-occurrence of a 'credit event' of some reference entity or entities, such as the bankruptcy of an identified corporation, a debt default by some foreign government, or the third default within a basket of bonds).").

[116] COX ET AL., *supra* note 68, at 561.

[117] *See* Charles K. Whitehead, *The Evolution of Debt: Covenants, the Credit Market, and Corporate Governance*, 34 J. CORP. L. 641, 657 (2009) ("[U]sing a credit default swap, a bank can buy or sell all or a portion of a borrower's credit risk without transferring the loan or bond itself, enabling it to more efficiently manage and diversify exposure . . . .").

[118] FRANK PARTNOY, INFECTIOUS GREED: HOW DECEIT AND RISK CORRUPTED THE FINANCIAL MARKETS 376 (2003) ("Bankers and bank regulators applauded credit default swaps for their ability to shift risks away from banks . . . the simultaneous bankruptcies of Enron, Global Crossing, and WorldCom would have decimated the banking industry. But even after a myriad of defaults of 2001 and 2002, the banks were doing just fine.").

[119] Partnoy & Skeel, *supra* note 32, at 1024 ("By limiting their exposure, banks averted what could have been a parallel wave of banking failures.").

[120] Alan Greenspan, Chairman, Fed. Reserve, Address Before the Council on Foreign Relations (Nov. 19, 2002), *available at* http://cfr.org/monetary-policy/conversation-alan-greenspan/p5249. Former Chairman Greenspan has since changed his view on CDSs, admitting, "Credit-default swaps, I

While only some of the benefits of credit derivatives are highlighted here, the advantages of using these instruments are linked, generally, to their ability to disperse risk among entities. This risk dispersion strengthens and stabilizes the markets and firms operating in these markets, as they are better able to withstand shocks to the markets or unanticipated losses.[121] These risk management benefits were lawmakers' primary focus when they decided how to police the derivatives markets under the Dodd-Frank Act.[122] As such, hedging became an important categorization in the regulation of derivatives—granting broad exemptions to these types of transactions within the regulatory schema.

B. Historical Regulatory Approach to Hedge Transactions

Although options and forwards date back millennia,[123] swaps were not part of the financial landscape until the 1980s, with credit default swaps making their debut in the 1990s.[124] Federal regulation

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think, have serious problems associated with them." *See* Alistair Barr, *Greenspan Sees 'Serious Problems' with CDS: Comment Comes After Former Fed Chairman Praised Credit-Default Swaps in 2002*, MARKETWATCH (Oct. 23, 2008, 2:47 PM), http://marketwatch.com/story/greenspan-says-credit-default-swaps-have-serious-problems.

[121] *Credit Derivatives: Effects on the Stability of Financial Markets*, CURRENT ISSUES (Deutsche Bank Research, Frankfurt, Germany), June 9, 2004, at 2 ("This results in a more efficient allocation of risks within the economy. Economic shocks such as a slump in growth or, more especially, crises in specific sectors or companies can be better absorbed as the associated costs are lower in total and less concentrated.").

[122] COX ET AL., *supra* note 68, at 567.

[123] Jerry W. Markham, *"Confederate Bonds," "General Custer," and the Regulation of Derivative Financial Instruments*, 25 SETON HALL L. REV. 1, 5 (1994) ("Historians have traced transactions in derivative instruments to 2000 B.C.").

[124] Partnoy, *supra* note 118, at 374. The first currency swap occurred in 1981 between IBM and the World Bank. GILLIAN TETT, FOOL'S GOLD: HOW THE BOLD DREAM OF A SMALL TRIBE AT J.P. MORGAN WAS CORRUPTED BY WALL STREET GREED AND UNLEASHED A CATASTROPHE ix (2009). The swap allowed IBM to swap its bond obligations and earnings denominated in Swiss francs and Deutsche marks for surplus dollars held by the World Bank. *Id.* By the mid-1990s, bankers at JP Morgan came up with the idea to swap default risks on loans, so as to reduce the riskiness of the loans, without syndicating the loans or losing the client relationship. *Id.* In

of options and futures was first enacted in the early 1900s.[125] Initial regulation of derivatives focused on stamping out rampant speculation that dominated the futures markets in the form of "bucket shops."[126] Bucket shops, considered akin to gambling houses, proliferated in the 1800s and early 1900s and were the source of numerous manipulative and fraudulent schemes.[127] In an

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1994, JP Morgan brokered the first credit default swap between Exxon and the European Bank of Reconstruction and Development ("EBRD"). *Id.* Exxon needed to open a line of credit with JP Morgan to cover potential liability for the 1989 Exxon Valdez oil spill. *Id.* JP Morgan sold the risk of default on the loan to the EBRD, and in exchange paid EBRD a fee for taking on the risk. *Id.*

[125] *See* Hazen, *supra* note 99, at 1017 n.165 ("See 7 U.S.C. § 6a(4) (1989). This was the eventual predecessor of section 21 of the Future Trading Act of 1921, 42 Stat, 198 (Aug. 24, 1921) . . . ."). Some states regulated early derivative transactions through the enactment of stock jobbing legislation, which prohibited betting on the change in value of the stock of public corporations. *See Stock Jobbing Laws: Bill to Prohibit Short Scales Recalls Early Anti-Trading Measures*, N.Y. TIMES, Jan. 20, 1908, at 10.

[126] Bucket shops were "storefronts that took commodities orders but rarely had offsetting obligations," thereby promoting outright and blatant gambling on the future price movement of the underlying commodities. *Id.* at 1014. In these transactions, there was never any intent to deliver the underlying commodity, nor did any of the parties to the transaction have a prior or future ownership interest in the underlying contract. *Id.* Consequently, these transactions, also known as difference contracts, were simply a gamble on price fluctuations. *Id.* at 1014–15; *see* Lynn A. Stout, *Why the Law Hates Speculators: Regulation and Private Ordering in the Market for OTC Derivatives*, 48 DUKE L.J. 701, 721 (1999) [hereinafter Stout, *Hates Speculators*] ("Modern legislation has largely replicated, and in important ways strengthened, the common law rule against difference contracts. Codification of the rule first began in the late nineteenth and early twentieth centuries, when a large number of state legislatures passed 'antibucketshop' laws declaring contracts for the sale of goods illegal unless settled by delivery. Like the common law, many of these statutes contained exclusions for organized futures trading and for indemnity agreements where one of the parties could prove a hedging purpose.").

[127] Hazen, *supra* note 99, at 1014–16 ("[T]he first attempts to regulate financial speculation predated both state and federal securities laws and were based on prohibitions against gambling. . . . The absence of an enforceable delivery obligation thus meant that there was great potential for fraud."); Jerry W. Markham, *Regulation of Hybrid Instruments Under the Commodities Exchange Act: A Call for Alternatives*, 1990 COLUM. BUS. L. REV. 1, 54–55 ("[I]t should be remembered that Section 4 of the CEA

effort to circumscribe the rampant speculation of bucket shops, federal law created a contract market monopoly in which futures contracts were considered illegal unless they were traded on a commodities exchange.[128]

Congress enacted the Commodity Exchange Act ("CEA")[129] in 1936 to prevent manipulation, fraud, and excessive speculation on the commodities futures markets and promote the integrity of the market.[130] To further these goals, the CEA established a delivery

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originally required futures trading to be conducted on futures exchanges for the purpose of stopping so-called 'bucket shops,' which were simply gambling dens for betting on price changes in commodities."); Kevin T. Van Wart, *Preemption and the Commodity Exchange Act*, 58 CHI. KENT L. REV. 657, 662–63 (1982) ("[M]any states responded to the 'speculative spirit which . . . prevailed pre-eminently' during the last quarter of the nineteenth century by enacting bucket-shop legislation. These statutes treated 'bucketing' as a form of gambling and made futures contracts criminally illegal where the parties to the agreement never intended delivery of the underlying commodity but were dealing only for its prospective rise or fall in price.").

[128] Hazen, *supra* note 99, at 1016.

[129] Commodity Exchange Act, 7 U.S.C. §§ 1–26 (2012).

[130] U.S. GOV'T ACCOUNTABILITY OFFICE, GAO/GGD-99-74 THE COMMODITIES EXCHANGE ACT: ISSUES RELATED TO THE COMMODITIES FUTURES TRADING COMMISSION'S REAUTHORIZATION app. II (May 1999) ("The Commodity Exchange Act (CEA) of 1936 was passed after the grain price collapse of 1933—believed to be a result of continued market manipulation and the failure of a large brokerage house. The act provided for more extensive regulation of the markets and their participants . . . provided for the Secretary of Agriculture to (1) impose limits on speculative trading in futures or in the underlying commodity (speculative position limits) and (2) specify thresholds for the mandatory reporting of large positions in futures or in the underlying commodity (large trader reporting); specifically outlawed fraudulent conduct in connection with futures trades by members of contract markets and certain affiliated persons; prohibited specific forms of sham trading and any transaction used to cause an artificial price . . . expanded the activities subject to criminal (misdemeanor) sanctions to include fraud, manipulation, off-exchange trading, and violations of speculative trading limits . . . ."); William L. Stein, *The Exchange-Trading Requirement of the Commodities Exchange Act*, 41 VAND. L. REV. 473, 478 (1998) ("The legislation extended regulatory coverage to additional commodities, gave a commission the power to impose speculative position limits, outlawed various fraudulent activities, and added to the arsenal of sanctions available to punish violators. In enacting the CEA, Congress emphasized again the paramount policy

requirement for all futures contracts or, alternately, an offset mechanism to enable settlement without delivery.[131] To minimize the impact of speculative positions on the commodities markets, the CEA directed the CFTC to impose limits on the size of any one trader's open positions in a given commodity.[132] As required by the CEA, the CFTC, in conjunction with the regulated exchanges, establishes these limits, known as position limits.[133] The CFTC establishes limits for those commodities it believes are most susceptible to market manipulation and excessive speculation.[134] For any commodity that is not subject to a CFTC-stated position limit, the CFTC requires the exchanges to set position limits.[135] The narrow definition of hedging required that the party who sought the exemption have a direct and specific exposure to the price risks being hedged.[136] In so defining hedging, Congress sought to simplify the identification of a hedger by basing the definition on pre-existing risk exposure.[137]

Market participants, however, found the narrow definition of hedging to be too restrictive to allow them to take full advantage of the benefits of risk management through the commodities markets.[138]

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concerns of preventing manipulation and of outlawing bucket shops.").

[131] *See* Stout, *Hates Speculators*, *supra* note 126, at 718–22 ("Traders who buy exchange-traded futures are technically entitled to demand delivery. As a practical matter, however, most exchange-traded futures are settled through an "offset" process in which one party to the contract extinguishes her obligation by reentering the pit and purchasing a second, offsetting contract. Thus a trader obligated to sell 100 bushels of wheat on May 1 might offset her obligation by purchasing a contract to buy 100 bushels on May 1, absorbing the price difference as profit or loss. . . . Thus the centerpiece of the CEA is an 'exchange trading requirement' that reincarnates, in a modified statutory form, the common *law* rule requiring contracts of sale for future delivery to be settled by actual delivery.").

[132] *See* Commodity Exchange Act § 4a(a).

[133] *See* Exchange-Set Speculative Position Limits, 17 C.F.R. § 150.5 (2013).

[134] *See id.* § 150.5(b); Dan M. Berkovitz, Gen. Counsel, CFTC, Position Limits and the Hedge Exemption, Brief Legislative History, Testimony Before the CFTC (July 28, 2009), *available at* http://cftc.gov/PressRoom/SpeechesTestimony/berkovitzstatement072809.

[135] *See* 17 C.F.R. § 150.5 (allowing the "contract market" to set levels).

[136] *See id*.

[137] *See id.*

[138] The severe restrictions of the definition of a bona fide hedge were fully evident in *Corn Products Refining Co. v. Benson*, 232 F.2d 554 (2d Cir. 1956). In this case, the Secretary of Agriculture accused Corn Products

In response to market complaints and adverse court decisions,[139] Congress modified the definition of a bona fide hedge.[140] With the passage of the Commodity Futures Trading Commission Act in 1974, the CFTC was created and the CEA amended to remove the statutory definition of a bona fide hedge.[141] One of the first tasks of the newly created agency was to craft a more functional definition of hedge that addressed the concerns of market participants regarding flexibility, but still honored Congressional desire to eliminate fraud and market manipulation.[142] The CFTC expanded the definition of a

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Refining Company ("Corn Products") of exceeding the position limits on speculative trading in corn futures. *Id.* at 556. Corn Products responded by stating that its trading qualified as bona fide hedging, as the trades were based on forecasts of its anticipated needs for corn and its by-products in the future. *Id.* at 561. The court, adopting a strict interpretation of hedging, found that Corn Products was not a hedger under the CEA because it did not have fixed price contracts for the sale of its products at the time of the trades. *Id.* at 558. According to the court, anticipated sales were not binding obligations and, as such, could not be hedged against. *Id.* at 562. In short, the court refused to recognize anticipatory hedging as a legitimate hedging strategy that would entitle a firm to the bona fide hedge exemption. *Id.*

[139] *See id.* at 562.

[140] In response to *Corn Products*, Congress amended the CEA and brought anticipatory hedging within the definition of bona fide hedging. *See* Pub. L. No. 778, ch. 690, 70 Stat. 630 (1956) (stating that the CEA was amended by inserting a new paragraph, which said "an amount of such commodity the purchase of which for future delivery shall not exceed such person's unfilled anticipated requirements for processing or manufacturing during a specified operating period not in excess of one year").

[141] Commodity Futures Trading Commission Act, Pub. L. No. 93-463, § 101A, 88 Stat. 1389, 1395 (1974) (codified as amended at 7 U.S.C. § 2(a)(1) (2012)) (creating the CFTC); *id*. § 404 (authorizing Secretary of Agriculture to modify definition of "bona fide hedging"); Conforming Amendments to Orders Prescribing Limits on Positions and Daily Trading in Certain Commodities, 40 Fed. Reg. 15,086 (Apr. 4, 1975) (codified at 17 C.F.R. pt. 150).

[142] Federal Speculative Position Limits for Referenced Energy Contracts and Associated Regulations, 75 Fed. Reg. 4150 (Jan. 26, 2010) ("Prior to 1974, the CEA included a limited statutory hedging definition . . . . When the Commission was created in 1974, the Act's definition of commodity was expanded . . . . Congress was concerned that the limited hedging definition, even if applied to newly regulated commodity futures, would fail to accommodate the commercial risk management needs of market participants that could emerge over time. Accordingly, Congress, in section 404 of the Commodity Futures Trading Commission Act of 1974, repealed the

bona fide hedge, such that a transaction no longer required an identical underlier for a transaction to be considered a hedge.[143] Rather, a hedge would be recognized if the underlier were either "normally a substitute" or "economically appropriate" to reduce risk exposure.[144] In subsequent agency interpretive releases, the CFTC clarified that the bona fide hedge exemption was intended to apply to "the broad scope of risk-shifting transactions which may be possible in the diverse types of futures contracts now under regulation."[145]

As the CFTC liberalized its view of hedging, it also tried to remain true to the established regulatory goals of preventing fraud and market manipulation. Notably, the agency's broader approach to hedging was indicative of its burgeoning laissez-faire approach to regulation of the commodities market.[146] This attitude coincided with

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statutory definition and gave the Commission the authority to define *bona fide* hedging.").

[143] *See* 17 C.F.R. § 1.3(z)(1) (2005).

[144] *Id.* Specifically, a bona fide hedge transaction was any transaction on a contract market that "normally represent[ed] a substitute for transactions to be made or positions to be taken at a later time in a physical marketing channel, and where they are economically appropriate to the reduction of risks in the conduct and management of a commercial enterprise and where they arise from" the potential change in value of assets, liabilities, or services. *Id.* Further, to qualify as a bona fide hedge, the transaction must have as its purpose offsetting price risks incidental to commercial cash operations. *See id.* § 1.3(z)(2)(iv). In addition, the definition listed specific examples of transactions that would qualify for bona fide hedge treatment. These enumerated cases harkened back to the requirements of sameness of prior definitions. The enumerated transactions included: (i) sales of futures that do not exceed currently owned quantities or twelve months' anticipatory production of the same commodity by the same person; (ii) purchases of futures that do not exceed fixed-priced sales or twelve months' anticipatory requirements of the same commodity by the same person; (iii) offsetting sales and purchases of futures that do not exceed in quantity the same commodity that has been bought by the same person; and (iv) sales and purchases of futures to be offset by another commodity provided it is substantially related to the actual anticipated cash position. *Id.* § 1.3(z)(2).

[145] Clarification of Certain Aspects of the Hedging Definition, 52 Fed. Reg. 27,195, 27,196 (1987) (quoting 42 Fed Reg. 14,833 (1977)). Further, in the interpretive release, the CFTC also recognized cross-hedging and balance sheet hedging as legitimate hedging strategies that, generally, could be recognized as a bona fide hedge. *Id.* at 27,196.

[146] Andrew Notini, *Paper Tiger: The Validity of CFTC Position-Limit Rulemaking Under Dodd*-Frank, 46 SUFFOLK U. L. REV. 185, 185 (2013)

the development and mainstream acceptance of the Efficient Capital Markets Hypothesis ("ECMH").[147] The ECMH posits that the price of an asset incorporates all relevant information, thereby reflecting the intrinsic or "true" value of the asset.[148] With regulators believing in the efficiency of the markets, regulatory focus expanded to accommodate market efficiency as a primary goal of financial regulation.[149]

Guided by the ECMH, regulators saw their role within the markets as enabling efficiency without intrusive regulations.[150] As such, the CFTC only mandated position limits on a handful of traded commodities, leaving it up to the exchanges to establish position limits as they saw appropriate.[151] The decreased regulatory focus on

("Preceding these events [i.e., the 2007 financial crisis] was a period of laissez-faire financial regulation wherein major financial institutions and capital markets were largely left to regulate themselves.").

[147] The ECMH gained widespread acceptance in the 1970s, specifically with the publication of Eugene Fama's article *Efficient Capital Markets: A Review of Theory and Empirical Work*. *See generally* Eugene Fama, *Efficient Capital Markets: A Review of Theory and Empirical* Work, 25 J. FIN. 383 (1970). The CFTC began broadening its definition of a bona fide hedge in 1976 by refraining from reimposing prior Congressional requirements of sameness. *See* 17 C.F.R. § 1.3(z)(1).

[148] Hazen, *supra* note 99, at 987 ("According to the [ECMH], the market establishes and maintains stock prices at a level that bears a rational relationship to the 'true value' of a publicly traded company, because the price reflects the total mix of information available and accounts for the various sectors of the investor community."). Eugene Fama defined three forms of market efficiency. Fama, *supra* note 147, at 383. Under the weak form of market efficiency, only historic price information is included in the current market price. *Id.* Under the semi-strong form of market efficiency, all public information is included in the current market price. *Id.* Under the strong form of market efficiency, all information, both public and private, is included in the current market price. *Id.*

[149] H.R. REP. NO. 101-616, at 14 (1990) ("[A]n effective enforcement program is necessary to maintain investor confidence in the integrity, fairness, and efficiency of our . . . markets.").

[150] *See* Hazen, *supra* note 99, at 1024 ("[T]he current laissez-faire approach is based upon [the premise] of . . . market efficiency.").

[151] *Speculative Limits*, CFTC, http://cftc.gov/IndustryOversight/MarketSurveillance/SpeculativeLimits/index.htm (last visited Apr. 16, 2014) ("Most physical delivery and many financial futures and option contracts are subject to speculative position limits. For several markets (corn, oats, wheat, soybeans, soybean oil, soybean meal, and cotton), the limits are determined by the Commission and set out in Federal regulations

position limits meant a concomitant de-emphasis on the bona fide hedge classification. Further, and more notably, the explosion in the OTC derivatives market in the 1990s diminished the importance of the bona fide hedge exemption.[152] Parties to OTC transactions were unconcerned with being designated a hedger, as position limits and the bona fide hedge exemption apply only to exchange-traded transactions.[153] Aided in part by the hands-off approach of regulators towards the derivatives market, OTC transactions flourished.[154] Indeed, by year-end 1998, the Bank for International Settlements estimated the outstanding notional value of OTC derivatives at US$72 billion[155] and by 2000, estimated the value had risen to over US$95 billion.[156]

The laissez-faire approach of regulators culminated with the adoption of the Commodity Futures Modernization Act of 2000 ("CFMA").[157] The CFMA explicitly prohibited the CFTC or the Securities and Exchange Commission ("SEC") from regulating OTC derivatives[158] and clarified the legality of off-exchange derivatives.[159]

(CFTC Regulation 150.2, 17 CFR 150.2). For other markets, the limits are determined by the exchanges.").

[152] GARY J. SCHINASI, R. SEAN CRAIG, BURKHARD DREES & CHARLES KRAMER, MODERN BANKING AND THE OTC DERIVATIVES MARKETS: THE TRANSFORMATION OF GLOBAL FINANCE AND ITS IMPLICATIONS FOR SYSTEMIC RISK 9, 36 (INT'L MONETARY FUND 2000).

[153] *Id.* at 18.

[154] *Id.* at 9.

[155] Serge Jeanneau, *International Banking and Financial Market Developments*, BANK FOR INT'L SETTLEMENTS Q. REV., Feb. 2000, at 31, *available at* http://www.bis.org/publ/r_qt0002.pdf.

[156] *Id*. at 36.

[157] Commodities Futures Modernization Act of 2000, Pub. L. No. 106-554, 114 Stat. 2763A (2000) (codified in scattered sections of 7, 11, 12, and 15 U.S.C.).

[158] *Derivatives*, SEC, https://sec.gov/spotlight/dodd-frank/derivatives.shtml (last visited Apr. 16, 2014).

[159] Per the Commodities Exchange Act, off-exchange transactions were not legally enforceable. During the period of growth for OTC transactions, there was some uncertainty as to whether these OTC contracts were illegal. However, after the enactment of the CFMA, such uncertainties were resolved in favor of these transactions' legality. Stein, *supra* note 130, at 473–74 ("The Commodity Exchange Act (CEA) makes it illegal to trade a contract for the purchase or sale of a commodity for future delivery—a 'futures contract'—unless the contract is executed on a federally designated exchange. . . . [T]his central premise of futures regulation recently has been

Importantly, the CFMA further marginalized the reach of the bona fide hedge exemption and reflected the changed regulatory focus from prevention of fraud to the promotion of market efficiency.[160] It is debatable whether the liberalized policies of the CFMA were necessary to facilitate greater market efficiency or if these policies merely resulted in the 2008 financial crisis.[161] What was evident was that with the majority of derivatives transactions occurring off-exchange, the impact of the bona fide hedge categorization on the market was limited. However, the enactment of the Dodd-Frank Act

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attacked as unworkable and undesirable. Some . . . claim that even if such transactions fall within the letter of the requirement, off-exchange transactions do not implicate the trading restriction's policy concerns. In contrast, others suggest that off-exchange transactions threaten the safety and soundness of the international financial system, and violate the clear language of the CEA."); Memorandum from Cravath, Swaine & Moore LLP on Commodity Futures Modernization Act of 2000 to the Members of the Int'l Swaps & Derivatives Ass'n 10–11 (Jan. 5, 2001), *available at* http://isda.org/speeches/pdf/analysis_of_commodity-exchange-act-legislation.pdf ("Until amended by the Act, the CEA required that futures contracts be traded on a regulated exchange. A futures contract traded off an exchange was illegal and unenforceable. . . . The development of OTC derivatives transactions since the early 1980's reduced this clarity and led to concerns about the enforceability of certain derivatives transactions under the CEA."); *Taking Stock of Derivatives: Commodity Exchange Act and CFTC Face Uncertain Futures, FAS 133 Arrives in Y2K*, 2 STROOCK CAPITAL MKTS. (Stroock & Stroock & Lavan LLP, New York, N.Y.), Feb. 2000, at 1 [hereinafter *Taking Stock of Derivatives*], *available at* http://www.stroock.com/SiteFiles/Pub87.pdf ("The central tenet of the Commodity Exchange Act ("CEA") is that 'futures contracts' (which are standardized and may be readily offset) must be traded on regulated exchanges. . . . As the market for OTC derivatives—such as swaps, commercial options and hybrid securities—began to emerge in the mid-1980s, concerns arose over the 'legal risk' that these transactions might constitute illegal 'off-exchange' futures contracts.").

[160] *See Taking Stock of Derivatives*, *supra* note 159, at 1.

[161] According to Professor Lynn Stout, the CFMA was the direct and foreseeable cause of the 2008 financial crisis because it sanctioned the "wholesale removal of centuries-old legal constraints on speculative trading in over-the-counter (OTC) derivatives." Lynn Stout, *Derivatives and the Legal Origin of the 2008 Credit Crisis*, 1 HARV. BUS. L. REV. 1, 4 (2011); *see also* Lynn Stout, *Uncertainty Dangerous Optimism, and Speculation: An Inquiry into Some Limits of Democratic Governance*, 97 CORNELL L. REV. 1177, 1178 (2012) ("[D]isagreement-based speculative trading represents a form of market failure that deserves attention.").

in 2010 changed this status quo significantly and the hedge exemption became, once again, en vogue.

The bona fide hedge exemption was initially adopted as part of a regulatory framework primarily designed to eliminate fraud and curb market manipulation.[162] The Dodd-Frank Act breathed new life into the significance of transactions being designated hedges, as many notable exemptions from the far-reaching derivatives regulatory framework hinged on whether a transaction is classified as a hedge for regulatory purposes.[163] As will be seen in the discussion below, while legislators were focused on monitoring and minimizing activities and actors that pose systemic concerns to the markets, the consistent exemption of hedge transactions indicated the unwavering belief of lawmakers that hedging was not a source of systemic risk in the markets. Thus, under the regulatory framework promulgated by the Dodd-Frank Act, the main questions are whether the hedge exemption remains appropriate given (1) the growth and complexity of derivatives transactions, particularly credit derivatives and (2) the focus of the Dodd-Frank Act on reducing systemic risk.

C. The Dodd-Frank Act and the New Hedge Exemptions

Among other things, the 2008 crisis highlighted the failure of the prior deregulatory approach that valued efficiency and financial innovation above all else; a new approach was needed. Congress responded to the financial crisis by enacting the Dodd-Frank Act.[164] The stated purposes of the Dodd-Frank Act is: "[t]o promote the financial stability of the United States by improving accountability and transparency in the financial system, to end 'too big to fail,' to protect the American taxpayer by ending bailouts, to protect consumers from abusive financial services practices, and for other purposes."[165] The Dodd-Frank Act is described as the most

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[162] See discussion of bucket shops as the evil targeted by the CEA, *supra* note 126 and accompanying text.

[163] *See infra* Part II.C.

[164] Mark Koba, *Dodd-Frank Act: CNBC Explains*, CNBC (May 11, 2012, 4:01 PM), http://cnbc.com/id/47075854 ("Dodd-Frank [is] a comprehensive and complicated piece of financial regulation born out of the Great Recession of 2008.").

[165] The long title of the Dodd-Frank Act is: "The Dodd-Frank Wall Street Reform and Consumer Protection Act, an Act to promote the financial stability of the United States by improving accountability and transparency

extensive "overhaul" of the financial markets "since the Great Depression."[166] It affects nearly all aspects of the financial, insurance, and consumer finance industries, creating new agencies and offices and eliminating others.[167]

The dramatic failures of Lehman Brothers, AIG, and Bear Stearns,[168] along with the role of OTC credit derivatives in their downfall, impressed upon lawmakers the need to regulate the OTC derivatives market given its size, magnitude, and impact on the financial markets.[169] Title VII of the Dodd-Frank Act—titled the Wall Street Transparency and Accountability Act—addresses the perceived shortcomings of the derivatives market.[170]The title mandates clearing of OTC derivatives contracts,[171] implements

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in the financial system, to end 'too big to fail,' to protect the American taxpayer by ending bailouts, to protect consumers from abusive financial services practices, and for other purposes." Pub. L. 111-203, 124 Stat 1376 (2010).

[166] Ben Protess, *Deconstructing Dodd-Frank*, N.Y. TIMES, Dec. 12, 2012, at F12.

[167] For example, the Treasury Department created the Financial Stability Oversight Council and eliminated the Office of Thrift Supervision. *See* 12 U.S.C. § 5321 (2012).

[168] *See generally Saving Wall Street: The Last Resort*, ECONOMIST, Sept. 20, 2008, at 86.

[169] *See, e.g.*, 156 CONG. REC. S5874 (daily ed. Jan. 5, 2010) (statement of Sen. Saxby Chambliss) ("As ranking member of the Agriculture Committee, I have spent a great deal of time understanding the over-the-counter derivatives market—its complexities, and its legitimate utility. I have found that both Republicans and Democrats generally agree on the major issues relating to derivatives regulation. We all generally agree there needs to be greater transparency, registration, more clearing, and compliance with a whole host of business conduct and efficient market operation regulations. This is important, because it is a 180-degree shift away from current law where over-the-counter swaps are essentially unregulated today."); *see also id.* at S5881 (statement of Sen. Hutchinson) ("I wish to return to the aftermath of the financial crisis, when Congress was tasked with the responsibility of modernizing our financial regulatory structure so that we would have proper oversight of today's banking system and financial markets. . . . Thus, were financial regulatory reform to succeed, we needed to enhance mortgage underwriting standards, bring greater transparency to the derivatives markets, and once and for all end too big to fail. The conference report before us takes steps toward these goals.").

[170] Dodd-Frank Act §§ 701–7, 15 U.S.C. §§ 8301–44 (2012).

[171] Dodd-Frank Act § 723.

reporting and recordkeeping systems for derivative transactions,[172] and creates new classifications of derivatives users.[173]

This new derivatives regulatory design revived the importance of hedging. Under this regime, hedging is no longer solely important to avoid position limits; rather, it provides a much-valued exemption from many of Dodd-Frank's more onerous requirements.[174] Specifically, the hedging exemption touches four important provisions in Title VII: (1) the clearing mandate; (2) the definition of a major swap participant; (3) the Volcker Rule; and (4) the Swaps Push-Out Rule. Each of these provisions is discussed below.

1. The Clearing Mandate and Major Swap Participant Definition

One of the primary charges leveled against the OTC derivatives market was its lack of transparency.[175] This opacity made it possible for risks to build up, unnoticed, in the financial markets, as evidenced by AIG's collapse.[176] To address this issue, Title VII requires that all derivatives the CFTC determines should be cleared must be traded through a central counterparty clearinghouse.[177] Further, all standardized CDSs must be cleared unless an exemption is available.[178] This clearing mandate is intended to reduce risks,

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[172] *Id.* § 727.

[173] *Id.* § 721(a)(33).

[174] *See, e.g.*, *id.* § 619 (the Volcker Rule) (establishing a broad exemption for banks to engage in risk-mitigating hedging activities).

[175] *See, e.g.*, Colleen Baker, *Regulating the Invisible: The Case of Over-the-Counter Derivatives*, 85 NOTRE DAME L. REV. 1287, 1306 (2010); *see also* Partnoy & Skeel, *supra* note 32, at 1036.

[176] Baker, *supra* note 175, at 1306.

[177] Dodd-Frank Act § 723. A central counterparty clearinghouse provides central clearing for previously OTC traded derivatives. Ariail, *supra* note 108, at 185 ("Under central counterparty (CCP) clearing, market participants post a set amount of initial margin to the CCP. Depending on how the CCP is organized, in some cases it will convert the bilateral contracts cleared by members into two separate contracts—one with the CCP and another with each party involved. Since the CCP takes the place of the counterparty, the market participant is no longer exposed to the credit risk of the counterparty, but instead that of the CCP . . . .").

[178] *See* Dodd-Frank Act § 723(h)(1)(a) ("It shall be unlawful for any person to engage in a swap unless that person submits such swap for clearing to a

especially counterparty credit risk, inherent in the trillion-dollar OTC market by forcing many of these previously privately negotiated contracts onto central exchanges.[179]

The clearing mandate is one of the most significant components of Title VII and the new derivatives regulatory framework. As such, the only exception to the clearing mandate is for transactions undertaken by non-financial entities to "hedge or mitigate commercial risk" ("HMCR" or "hedge standard").[180] Known as the "end-user exemption," it gives non-financial hedgers the benefit of deciding whether to submit a hedge transaction to a central exchange or to trade it OTC.[181] Among other advantages, end-users hedging with non-cleared derivatives can use non-liquid assets to meet margin requirements, thereby making liquid assets available for more immediate business needs.[182] The end-user exemption was necessary and significant in the opinion of many lawmakers—commercial end-users had not contributed to the crisis and should not be deprived of a necessary risk management tool, they argued.[183]

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derivatives clearing organization that is registered under this Act or a derivatives clearing organization that is exempt from registration under this Act if the swap is required to be cleared.").

[179] Baker, *supra* note 175, at 1306 ("For derivatives traded on exchanges or cleared through individual CCPs, the counterparty is the CCP itself. Therefore, market participants are only exposed to the credit risk of the CCP.").

[180] *See* Dodd-Frank Act § 723(2)(h)(7).

[181] *Banking Industry Urges SEC and CFTC to Include Small Banks*, 5 HEDGE FUNDS & PRIVATE EQUITY, Mar. 21, 2011, at 1, *available at* 2011 WL 11533830 ("The Dodd-Frank Act mandates new clearing requirements for swaps, but provides an exception for end-users if they use these derivatives to hedge or mitigate commercial risk.").

[182] JEFFREY J. NICHOLS & KENNETH ADAMS, HAYNES & BOONE, LLP, WHAT DOES "HEDGE OR MITIGATE COMMERCIAL RISK" MEAN? 4 (Sept. 5, 2012), *available at* http://haynesboone.com/files/Uploads/Documents/Attorney%20Publications/Updated-Hedging-or-Mitigating-Commercial-Risk-paper.pdf; *see generally* Ariail, *supra* note 108 (discussing the advantages and disadvantages of the end-user exemption on the effectiveness of the Dodd-Frank Act in regulating the derivatives market).

[183] 156 CONG. REC. S6192–93 (daily ed. July 22, 2010) (letter from Sen. Christopher Dodd and Sen. Blanche Lincoln to House Chairmen Collin Peterson and Barney Frank on the Treatment of End Users) ("Congress recognized this concern and created a robust end user clearing exemption for those entities that are using the swaps market to hedge or mitigate

An exemption based on the HMCR standard is also present in the definition of major swap participants. Title VII creates new categories of market participants—specifically, major swap participants and swap dealers—based on the size of their derivative transactions.[184] These classifications identify substantial players in the derivatives market and subject them to greater regulatory oversight and scrutiny.[185] In so doing, the Act seeks to monitor the trading activities of potentially systemically important market participants so as to minimize risky or destabilizing behavior on their part.[186]

The Dodd-Frank Act defines a major swap participant as any person who is not a swap dealer[187] and maintains a substantial position in swaps, excluding positions held for hedging or mitigating commercial risk.[188] So as not to dilute the potential reach of the

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commercial risk. . . . These entities did not get us into this crisis and should not be punished for Wall Street's excesses. They help to finance jobs and provide lending for communities all across this nation. That is why Congress provided regulators the authority to exempt these institutions.").

[184] *See* Further Definition of 'Swap Dealer,' 'Security-Based Swap Dealer,' 'Major Swap Participant,' 'Major Security-Based Swap Participant' and 'Eligible Contract Participant,' 77 Fed. Reg. 30,596 (May 23, 2012) (codified at 17 C.F.R. pts. 1, 240); *Final Rules Regarding Further Defining "Swap Dealer," "Major Swap Participant" and "Eligible Contract Participant,"* CFTC, http://cftc.gov/ucm/groups/public/@newsroom/documents/file/msp_ecp_factsheet_final.pdf.

[185] *See* Dodd-Frank Act § 731.

[186] *See* Swap Data Recordkeeping and Reporting Requirements, 77 Fed. Reg. 2179 (Jan. 13, 2012) (codified at 7 C.F.R. pt. 45) ("In a broad sense, the costs presented to market participants by the requirements of this rule represent the internalization by financial market participants of a negative externality—the costs generated by systemically risky behavior on the part of market participants, which had previously been internalized by the taxpaying public in the form of government bailouts of failed financial firms that were brought down in part by this risky behavior.").

[187] For a definition of swap dealer, see Dodd-Frank Act § 721(a)(49); Further Definition, 77 Fed. Reg. at 30,596.

[188] Included in the definition of major swap participant is: (i) any person whose "outstanding swaps create substantial counterparty exposure that could have serious adverse side effects on the financial stability of the United States banking system or financial markets;" or (ii) any person who (1) "is a financial entity that is highly leveraged relative to the amount of capital it holds and that is not subject to capital requirements established by an appropriate Federal banking agency;" and (2) maintains a substantial

major swap participation classification, lawmakers severely limited the derivatives positions that could be excluded from these calculations.[189] Consequently, the hedge exemption is quite significant to entities that use derivatives extensively, but would prefer to avoid the greater regulatory oversight that comes with being designated an MSP.

The dearth of exemptions for these two pivotal provisions of the Dodd-Frank Act (i.e., the clearing mandate and the major swap participant definition) highlights their importance. Although the Act establishes the parameters of the rules, it does not define "hedge or mitigate commercial risk"; rather, this is left to numerous regulators, including the CFTC.[190] The job of defining hedging was not a new one for the CFTC, having been tasked with this duty since its inception.[191] What was new for the CFTC, however, was developing a workable definition of hedging that could be applied effectively to the large and varied types of derivatives, ranging from physical commodities to financial instruments, which now fell under its purview.

To minimize uncertainty and provide a measure of clarity, the CFTC interpreted the HMCR standard consistently in adopting regulations regarding the end-user exemption and the MSP definition.[192] Transactions that met any one of three tests would

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position in outstanding swaps in any major swap category as determined by the [CFTC]." Dodd-Frank Act § 721(a)(33).

[189] The other exemption available to the major swap participant definition is also related to hedging. Specifically, positions held by "any employee benefits plan . . . for the primary purpose of hedging or mitigating any risk directly associated with the operation of the plan" are exempted from the definition of major swap participant. Dodd-Frank Act § 721(33)(A)(i)(II).

[190] The task of drafting regulations for Title VII of the Dodd-Frank Act primarily fell to three groups of regulators: the CFTC, the SEC, and the "Prudential Regulators," which includes the Federal Reserve Board, the Federal Deposit Insurance Corporation, and the Office of the Comptroller of the Currency. Dodd-Frank Act § 712(a). The responsibilities of each regulator were according to the financial instruments or entities that were under the regulators' domain. The derivatives of importance to this Article fell under the purview of the CFTC. As such, its regulations are the focus of this Article.

[191] *See supra* Part II.B.

[192] *See* End-User Exception to the Clearing Requirement for Swaps, 77 Fed. Reg. 42,560 (July 19, 2012) (codified at 7 C.F.R. pt. 39); Further Definition of "Swap Dealer," "Security-Based Swap Dealer," "Major Swap Participant," "Major Security-Based Swap Participant," and "Eligible

qualify as a hedge under the HMCR standard.[193] For the first test, the CFTC relied on prior regulations that included the bona fide hedge standard.[194] To qualify as a hedge under the bona fide hedge standard, a transaction must (1) be "a substitute for transactions . . . or positions" that have been or will be undertaken "at a later time in a physical marketing channel"; (2) be "economically appropriate to the reduction of risks in the conduct and management of a commercial enterprise"; and (3) "arise from[] [t]he potential change of value of assets," liabilities, or services.[195] In addition, if a transaction meets these requirements and is the hedge of a hedge, it may also qualify as a bona fide hedge.[196]

The second test under which a transaction may be classified as a hedge per the HMCR standard required that the derivative be "economically appropriate for the reduction of risks in the conduct and management of a commercial enterprise."[197] To provide some guidance to market participants, the regulations provide a non-exhaustive list of six sources of risks that may be hedged within the scope of the rule.[198]

Contract Participant," 77 Fed. Reg. 30,596 (May 23, 2012) (codified at 17 C.F.R. pts. 1, 240).

[193] *See* 17 C.F.R. § 1.3(kkk) (2013).

[194] *See* 17 C.F.R. § 1.3(z)(1).

[195] *Id.*

[196] 7 U.S.C. § 6a(6)(2) (2012); 17 C.F.R. § 1.3(z) (including in the bona fide hedge definition a swap of a swap that qualifies as a bona fide hedge). *But see* 17 C.F.R. § 1.3(kkk)(2) (refusing to recognize hedges of non-hedges as a qualifying transaction under the HMCR standard).

[197] 17 C.F.R. § 1.3(kkk)(1)(i).

[198] *Id*. These include:

> (A) The potential change in value of assets that a person owns, produces, manufactures, processes, or merchandises, or reasonably anticipates doing so . . . in the ordinary course of business;
>
> (B) The potential change in the value of liabilities that a person has incurred or reasonably anticipates incurring in the ordinary course of business . . . ; or
>
> (C) The potential change in the value of services that a person provides, purchases, or reasonably anticipates providing or purchasing in the ordinary course of business . . . ;
>
> (D) The potential change in the value of assets, services, inputs, products, or commodities that a person owns, produces, manufactures, processes, merchandises, leases,

The third test recognized a transaction as a hedge if it qualified for hedge accounting treatment under Financial Accounting Standards Board accounting standards or Governmental Accounting Standards Board standards.[199] Finally, the HMCR standard includes a catchall provision requiring that the transaction not be used for the "purpose that is in the nature of speculation, investing or trading."[200]

> or sells, or reasonably anticipates . . . [doing so] in the ordinary course of business . . . ;
> (E) The potential change in value related to any of the foregoing arising from . . . foreign exchange rate movements associated with such assets, liabilities, services, inputs, products, or commodities; or
> (F) Any fluctuation in interest, currency, or foreign exchange rate exposures arising from a person's current or anticipated assets or liabilities . . . .

[199] *Id.* § 1.3(kkk)(1)(iii). In general, to be eligible for hedge accounting under the FASB, there needs to be "formal documentation of the hedging relationship and the entity's risk management objective and strategy for undertaking the hedge." ERNST & YOUNG, FINANCIAL REPORTING DEVELOPMENTS: DERIVATIVES AND HEDGING 8 (Oct. 2013). "Both at the inception of the hedge and on an ongoing basis, the hedging relationship is expected to be highly effective in achieving offsetting changes in fair value or cash flows during the period that the hedge is designated." *Id.* The hedged item must present "an exposure to change in fair value or cash flows that could affect reported earnings," and the hedged item cannot be related to

> (1) an asset or liability that is or will be remeasured with changes in fair value attributable to the hedged risk reported currently in earnings . . . , (2) an investment that is or will be accounted for by the equity method, (3) a present or future minority interest in one or more consolidated subsidiaries, (4) a present or future equity investment in a consolidated subsidiary, (5) a future business combination or (6) an equity instrument issued or to be issued by the entity and classified in stockholder's equity.

Id. Alternatively, to be generally eligible for hedge accounting under the GASB, a derivative is a hedging derivative instrument if the derivative is "(1) associated with an item that is eligible to be hedged and (2) determined to be effective . . . ." GOV'T ACCOUNTING STANDARDS BD., DERIVATIVE INSTRUMENTS: A PLAIN-LANGUAGE SUMMARY OF GASB STATEMENT NO. 53, at 10 (2010).

[200] 17 C.F.R. § 1.3(kkk)(2)(i).

2. The Volcker Rule

One of the more significant limitations on how banks may use derivatives is section 619 of the Dodd-Frank Act, more popularly known as the Volcker Rule.[201] Named after Paul Volcker, former chairman of the Federal Reserve who first proposed it,[202] the Volcker Rule is one of the more controversial aspects of the Dodd-Frank Act because it attempts to resurrect the Glass-Steagall Act by separating investment banking from commercial banking.[203]

The Volcker Rule prohibits a banking entity from engaging in proprietary trading and from acquiring, sponsoring, or having certain relationships with a hedge fund or private equity fund.[204] In addition, nonbank financial companies that engage in such activities or have relationships with hedge funds or private equity funds are subject to additional capital requirements, quantitative limits or other restrictions.[205] Affected entities have two years to comply with implementing regulations, and, during this time, they must conform their activities to the requirements of the Volcker Rule.[206] Importantly, the Volcker Rule exempts certain activities which, at times, may be indistinguishable from proprietary trading.

For purposes of this Article, the most notable exemption is for hedging, which is undefined in the statute.[207] The task of drafting

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[201] Dodd-Frank Act § 619, 12 U.S.C. § 1851 (2012).

[202] Arthur E. Wilmarth, *The Dodd-Frank Act: A Flawed and Inadequate Response to the Too-Big-to-Fail Problem*, 89 OR. L. REV. 951, 1025 (2011).

[203] Charles K. Whitehead, *The Volcker Rule and Evolving Financial Markets*, 1 HARV. BUS. L. REV. 39, 42 (2011).

[204] *See* Dodd-Frank Act § 619(a)(1).

[205] *Id.* § 619(a)(2).

[206] *Id.* § 619(c)(2).

[207] *Id.* § 619(d)(1)(C). Several agencies are responsible for enacting related regulations to implement the Volcker Rule, including the CFTC, the SEC, and the Prudential Regulators (collectively, "the Regulators"), and operate under the coordination of the Chairman of the Financial Stability Oversight Commission ("FSOC"). *Id.* § 619(b)(2)(A). Each agency is required to coordinate and consult with each other, so as to ensure consistency in implementation and application of the relevant rules. *Id.* § 619(b)(2)(B). Section 111 of the Dodd-Frank Act established the FSOC. *Id.* § 111. It is comprised of ten voting members and five non-voting members. *Financial Stability Oversight Council: Who Is on the Council?*, U.S. DEP'T OF THE TREASURY, http://treasury.gov/initiatives/fsoc/about/council/Pages/default.aspx (last visited Apr. 16, 2014). The voting members are: the Secretary of the Treasury, the Chairman of the Board of Governors of the Federal

regulations to define the nuances and contours of the Volcker Rule was given to the CFTC, the SEC, and the Prudential Regulators.[208] These agencies adopted regulations that specify how they will determine whether a transaction qualifies as a hedge, thereby being eligible for exemption under the Volcker Rule.[209] Given that credit derivatives fall under the purview of the CFTC, this Article will consider the final rules of the CFTC in this regard.[210]

Per these regulations, banking entities are permitted to hedge individual and aggregate risks, thereby permitting portfolio hedging.[211] The risk being hedged, however, must be a specific, identifiable risk that arises from the individual or aggregated

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Reserve System, the Comptroller of the Currency, the Director of the Bureau of Consumer Financial Protection, the Chairperson of the Securities Exchange Commission, the Chairperson of the Commodity Futures Trading Commission, the Director of the Federal Housing Finance Agency, the Chairperson of the National Credit Union Administration, and an independent member with insurance expertise appointed by the President and confirmed by the Senate for a six-year term. *Id.* The five non-voting members are: the Director of the Office of Financial Research, the Director of the Federal Insurance Office, a state insurance commissioner designated by the state insurance commissioners, a state banking supervisor designated by the state banking supervisors, and a state securities commissioner designated by the state securities commissioners. *See* Dodd-Frank Act § 111(b); *see also Financial Stability Oversight Council: Who Is on the Council?*, U.S. DEP'T OF THE TREASURY, http://treasury.gov/initiatives/fsoc/about/Pages/default.aspx (last visited Apr. 16, 2014).

[208] See *supra* note 190, for a listing of the agencies that are referred to as the Prudential Regulators.

[209] *See* Prohibitions and Restrictions on Proprietary Trading and Certain Interests in, and Relationships with, Hedge Funds and Private Equity Funds, 79 Fed. Reg. 5536 (Jan. 31, 2014) (to be codified at 12 C.F.R. pts. 44, 248, 351; 17 C.F.R. pt. 225) (SEC and Prudential Regulators' final Volcker Rule regulations); Prohibitions and Restrictions on Proprietary Trading and Certain Interests in, and Relationships with, Hedge Funds and Private Equity Funds ("CFTC Final Volcker Rule"), 79 Fed. Reg. 5807 (Jan. 31, 2014) (to be codified at 17 C.F.R. pt. 75) (CFTC's final Volcker Rule regulation).

[210] The CFTC Volcker Rule is not a joint rule with the Prudential Regulators and the SEC, but the agencies "worked closely together to develop the same rule text . . . except for information specific to the CFTC or the other agencies, as applicable." CFTC Final Volcker Rule, 79 Fed. Reg. at 5808.

[211] *Id.* at 5907.

positions held by the banking entity.[212] That is to say, banking entities are not permitted to hedge "more generalized risks that a trading desk or combination of desks, or the banking entity as a whole, believe exists based on non-position-specific modeling or other considerations."[213]

Further, to use the exemption, banking entities must adopt and enforce an internal compliance program that is "reasonably designed" to comply with the regulations.[214] This compliance program must include written policies and procedures that address permissible techniques and strategies that the bank may use to hedge its exposure.[215] Importantly, the bank's internal compliance program must require that correlation analysis is undertaken to demonstrate that the hedge "significantly mitigates the specific, identifiable risk(s) being hedged . . . ."[216]

To qualify for the exemption, the hedge activity must comply with the bank's internal procedures and policies.[217] At inception, the hedge must not introduce significant new or additional risks and must be designed to mitigate or demonstrably reduce one or more specific risks.[218] Finally, the regulation requires that the compensation of persons implementing the bank's hedging activity not be structured so as to incentivize impermissible proprietary trading.[219]

3. The Swaps Push-Out Rule

A final section of the Dodd-Frank Act that places restrictions on entities engaged in swaps transaction is known as the Swaps Push-Out Rule or the Lincoln Amendment.[220] The Swaps Push-Out Rule disallows federal assistance to swap entities, which include swap dealers and major swap participants, but excludes major swap

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[212] *Id.*
[213] *Id.*
[214] *Id.* at 5784.
[215] *Id.*
[216] *Id.*
[217] *Id.*
[218] *Id.*
[219] *Id.* at 5786.
[220] Dodd-Frank Act § 716, 15 U.S.C. § 8305 (2012). It is called the Lincoln Amendment in recognition of its chief architect and proponent, former Senator Blanche Lincoln (D-AR). Wilmarth, *supra* note 201, at 1030.

participants that are insured depository institutions.[221] In effect, swap entities are denied access to FDIC insurance and to the Federal Reserve discount window.[222] The practical result is that swap entities that are required or need to have access to Federal assistance, such as banks, must either cease all derivative activities or siphon off these activities into an affiliate company.[223]

This broad prohibition has another important exemption. It does not prohibit access to federal assistance to a swap entity that limits its swap activities to "hedging and other similar risk mitigating activities directly related to the [swap entity's] activities . . . ."[224] This hedge exemption, yet another example of the importance placed on hedge transactions, provides swap entities with a way of avoiding the impact of the Swaps Push-Out Rule if they are able to demonstrate that the transaction is a hedge. Section 716 became effective on July 16, 2013,[225] but permits the relevant federal banking agency to grant a twenty-four month transition period for swap entities to divest or cease prohibited swap activity.[226] The transition period may be extended for an additional year if the relevant Federal banking agency so decides.[227]

As stated above, the Swaps Push-Out Rule exempts hedging transactions from the Rule's prohibition, but the scope of the exemption is unclear. No regulatory agency has to date proposed rules or issued guidance on how the hedge exemption will be

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[221] *See* Dodd-Frank Act § 716(b)(2).
[222] *See id.* § 716(a).
[223] Section 716(c) of the Dodd-Frank Act specifically allows a swap entity to form an affiliate entity and conduct all swap activities through this affiliate entity. *See id.* § 716(c).
[224] *See id.* § 716(d)(1). There are other available exemptions from the Swaps Push-Out Rule. *See id.* § 716(d).
[225] *Id.* § 716(h); *see also* Guidance on the Effective Date on Section 716, 77 Fed. Reg. 27,456 (May 10, 2012).
[226] Dodd-Frank Act § 716(f). The OCC issued guidance that it would consider favorably a request by an insured depository institution for a transitional period of up to twenty-four months "to provide sufficient opportunity for institutions to conform their swaps activities in an orderly manner." Transition Period Under Section 716 of the Dodd-Frank Wall Street Reform and Consumer Protection Act, 78 Fed. Reg. 1306, 1307 (Jan. 8, 2013).
[227] Dodd-Frank Act § 716(f).

interpreted and applied.[228] The language used to identify hedge transactions under section 716 is similar in concept but is not the exact phrasing used for HMCR,[229] bona fide hedging,[230] or the Volcker Rule.[231] Given that regulators have not indicated how this exemption will be applied, it is impossible to say whether or not the exemption will distinguish between beneficial hedge transactions and less-than-beneficial ones. However, the Swaps Push-Out Rule provides yet another example of the exemptions from key pieces of the derivatives regulatory framework that are granted to hedge transactions in the Dodd-Frank Act.

The consistent exemption of hedge activity throughout the Dodd-Frank Act reflected the minimal concern lawmakers had for potential risks that could arise from hedges. As discussed below, risks can accompany credit derivatives used to hedge and these risks should be considered when deciding whether to exempt a transaction from regulatory oversight.

III. Risky Hedging

A. Risks of Hedging

As beneficial as credit derivatives are for the dispersion of risk in the financial markets, there are also less beneficial aspects of their use, even when they are used to hedge. Prior literature has focused on the drawbacks of credit derivatives when they are used for non-hedging purposes and, consequently, resulted in losses.[232]

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[228] While the OCC and the Federal Reserve have issued rules relating to the scope of the Swaps Push Out Rule, i.e., which entities are entitled to the exemptions and subject to the prohibitions of section 716, the agencies have not issued any guidance indicating how "hedging and other similar risk mitigating activities" will be interpreted or applied. *See* Prohibition Against Federal Assistance to Swaps Entities (Regulation KK), 79 Fed. Reg. 340 (Jan. 3, 2014) (to be codified at 12 C.F.R. pt. 237).

[229] 17 C.F.R. § 1.3(kkk) (2013).

[230] *Id.* § 1.3(z).

[231] Dodd-Frank Act § 619(d)(1)(C).

[232] *See, e.g.*, Charles L. Hauch, Comment, *Dodd-Frank's Swap Clearing Requirements and Systemic Risk*, 30 YALE J. ON REG. 277, 278 (stating that CDSs have been "largely condemned for exacerbating losses"); Seema G. Sharma, *Over-the-Counter Derivatives: A New Era of Financial Regulation*, 17 LAW & BUS. REV. AM. 279, 280 (2011) (focusing on CDSs as a source of systemic risk that led to "the worst economic nightmare since

However, there are negative implications for firms and the financial markets when CDSs are used to hedge. Stated differently, when firms use credit derivatives to hedge, these derivatives may expose firms to hidden hazards that, instead of mitigating risks, expose firms to new, significant, and unmanageable risks.

In spite of the malleability of credit derivatives, a perfect hedge is almost impossible to achieve.[233] A hedge, while mitigating one risk, oftentimes introduces another risk. For example, derivative hedge positions always expose a firm to counterparty credit risk.[234] Other reasons for a hedge being imperfect include a mismatch in duration, price, size, timing of payments, or terms of the hedge transaction.[235] Some of these imperfections may be easily addressed, especially if the hedger is aware of the imperfections, but others may be more difficult to offset prior and subsequent to establishing a hedge. Further, hedging may expose firms to "codependent" risk—that is, the risk of unknown interaction among risk exposure—or convergence risk.[236] Each of these risks is discussed in greater detail below.

Counterparty credit risk. When credit derivatives are used to hedge, a firm may be exchanging credit risk for counterparty credit risk.[237] Counterparty credit risk is the risk that the other party to the derivatives contract may become unwilling or unable to fulfill its

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the Great Depression"). *But see* Houman B. Shadab, *Guilty by Association? Regulating Credit Default Swaps*, 4 ENTREPRENEURIAL BUS. L.J. 407, 415 (2010) [hereinafter *Guilty by Association*] (highlighting the stability of the CDS market and the small impact of CDS losses resulting from the Lehman Brothers collapse).

[233] *See* DAN BORGE, THE BOOK OF RISK 77 (2001) ("As professional risk managers like to say '[t]he only perfect hedge is in a Japanese garden.'").

[234] Sean J. Griffith, *Governing Systemic Risk: Towards a Governance Structure for Derivatives Clearinghouses*, 61 Emory L.J. 1153, 1163 (2012) ("Counterparty credit risk . . . is extremely difficult, if not impossible to hedge and is inherent in every derivatives transaction.").

[235] CONLON, *supra* note 90, at A3.04 (describing reasons why a hedge may be imperfect).

[236] *See infra* notes 254–67 (discussing convergence risk) and notes 277–81 (discussing codependent risk).

[237] EUR. CENT. BANK, CREDIT DEFAULT SWAPS AND COUNTERPARTY RISK 5 (2009) ("The 'risk circularity' within the CDS market may be a concern for financial stability, as banks may be replacing one type of risk (i.e. credit risk) with another—counterparty risk.").

side of the transaction.[238] It is a natural corollary of hedging or, for that matter, any derivative transaction.[239] With CDSs, counterparty risk is more worrisome because of jump-to-default risk or jump risk.[240] Credit events for CDSs may occur suddenly, as reference entities jump to default, thereby requiring protection sellers to post collateral or compensate their counterparties within a short period.[241] Further, jump risk is most likely to occur when the markets are depressed and, consequently, protection sellers may be suffering from a liquidity crisis at that moment, as well, making it difficult for them to fulfill their obligations under the CDS contract.[242]

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[238] Feder, *supra* note 53, at 723 (describing the consequences of one party becoming insolvent before a contract is settled and how to mitigate "counterparty risk"); *Guilty by Association*, *supra* note 232, at 435 ("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.").

[239] *See Bank Finance*, *supra* note 105, at 18–19 ("Because participants in the OTC market perform their own credit checks, participants often measure credit risk by determining the replacement cost of the swap transaction if the counterparty should default. Parties typically measure damages under the ISDA Master Agreement by determining the amount that a new counterparty would require to be paid (or an amount that it would pay) to assume the obligations of the defaulting party. Participants calculate this amount by discounting the present value of the net cash flows that the new counterparty expects it would receive or will pay over the remaining life of the derivative transaction. Depending upon the type of transaction and volatility of the risk hedged, this amount could exceed millions of dollars.").

[240] Jeremy C. Kress, *Credit Default Swaps, Clearinghouses, and Systemic Risk: Why Centralized Counterparties Must Have Access to Central Bank Liquidity*, 48 HARV. J. LEGIS. 49, 56 (2011) ("Counterparty nonperformance is more likely under jump-to-default scenarios because the obligee may not have sufficient liquidity to make notional amount payments immediately.").

[241] *Id.*

[242] *See, e.g.*, Charles Davi, *How to Understand the OTC Derivatives Market*, ATLANTIC (July 16, 2009, 1:00 PM), http://business.theatlantic.com/2009/07/understanding_the_otc_derivatives_market.php ("[C]ounterparty risk is highly correlated to macroeconomic credit risk . . . and so, as the overall risk of default rises, so does the risk of counterparty default. This means that CDS protection sellers are least likely to payout at the very moment they're obligated to: upon someone else's default.").

Market participants manage exposure to counterparty credit risk through margin and collateral requirements.[243] Together, margin and collateral minimize a counterparty's losses in the event of nonperformance.[244] The amount required for margining and collateralization of a transaction reflects the parties' "assessment both of the riskiness of the position and of each other's credit quality."[245] Exchange-traded credit derivatives are subject to strict margining and collateral requirements to protect the clearinghouse and its members from the possibility of default.[246] Further, because

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[243] *See Things Fall Apart*, *supra* note 66, at 206 ("At the time of the execution of the credit default swap agreement, parties typically do not exchange funds; rather, the parties agree to set aside a certain amount of collateral to cover their obligations under the agreement."); Hal S. Scott, *An Economy in Crisis: Law, Policy, and Morality During the Recession: Suggestions for Regulatory Reform: The Reduction of Systemic Risk in the United States Financial System*, 33 HARV. J. L. & PUB. POL'Y 671, 694 (2010) ("Under current bilateral practice, a significant credit event that impairs the counterparty's solvency or jeopardizes its ability to perform, or a significant change in a contract's volatility, does not necessarily trigger readjustment of initial margin levels. But this lack of readjustment is a result of industry practice and perhaps better knowledge of counterparty individual risks for margin than is available through the homogenous margin practices of clearinghouses.").

[244] Charles K. Whitehead, *Destructive Coordination*, 96 CORNELL L. REV. 323, 351 (2011) [hereinafter *Destructive Coordination*] ("When the economy is strong, a borrower's default risk is likely to be remote, minimizing the amount of capital each bank must set aside against prospective loss. When the economy sours, however, risk-based requirements can put pressure on each bank to strengthen its capital cushion . . . .").

[245] Stephen G. Cecchetti, Jacob Gyntelberg & Marc Hollanders, *Central Counterparties for Over-the-Counter Derivatives*, BIS Q. REV., Sept. 2009, at 47, *available at* http://bis.org/publ/qtrpdf/r_qt0909f.pdf.

[246] *Things Fall Apart*, *supra* note 66, at 236 ("The clearinghouse enters into an agreement with each of the parties and negotiates certain material terms of the agreement, such as margin and collateral requirements."). Margin includes initial and variation margin. Anupam Chander & Randall Costa, *Clearing Credit Default Swaps: A Case Study in Global Legal Convergence*, 10 CHI. J. INT'L L. 639, 647 (2010). Initial margin is the amount that must be deposited with the exchange at the time the contract is made. *Id.* at 648. At the end of trading, the contracts are marked to market, that is, the margin account is adjusted to reflect the party's gains or losses. *Id.* at 647. If the balance in the margin account falls below a certain

the clearinghouse interposes itself between the parties to an exchange-traded credit derivative, the counterparty credit risk is limited to the clearinghouse.[247] The inclusion of the clearinghouse as the counterparty for every exchange-traded derivative minimizes counterparty credit risk.[248]

Margin and collateral rules for OTC derivatives depend on the agreement reached between counterparties to the transaction. The use of collateral in OTC transactions has grown considerably, with an International Swaps and Derivatives Association survey reporting that 93% of credit derivatives were subject to collateral arrangements in 2011,[249] compared to 63% in 2006.[250] Collateralization and margin do not fully immunize parties to OTC transactions from counterparty credit risk, but can be beneficial in reducing their exposure.[251]

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threshold, the party must deposit additional funds to return to the initial margin levels. *Id.* at 648. This is variation margin. *Id.*

[247] *See* Gerding, *Credit Derivatives*, *supra* note 106, at 42.

[248] *Id.* at 64.

[249] INT'L SWAPS AND DERIVATIVES ASSOC., MARGIN SURVEY 2012, at 3 (2012), *available at* http://www2.isda.org/functional-areas/research/surveys/margin-surveys. In 2012, this figure dropped to 73.7%. INT'L SWAPS AND DERIVATIVES ASSOC., MARGIN SURVEY 2013, at 2 (2013) [hereinafter MARGIN SURVEY 2013], *available at* http://www2.isda.org/attachment/NTcxMQ==/ISDA%20Margin%20Survey%202013%20FINAL.pdf ("Among all firms responding to the survey, 73.7% of all OTC derivatives trades (cleared and non-cleared) are subject to collateral agreements. For large firms, the figure is 80.7%.").

[250] INT'L SWAPS AND DERIVATIVES ASSOC., MARGIN SURVEY 2006, at 2 (2006), *available at* http://www2.isda.org/attachment/MTY1NA==/ISDA-Margin-Survey-2006.pdf ("Respondents report that approximately 59 percent of their derivative transactions are secured by collateral agreements, and 63 percent of mark-to-market credit exposure is covered by collateral. These results continue trend of increasing coverage during the past several years: The 2003 Survey, for example, reported coverage of 30 percent of trades and 29 percent of exposure.").

[251] *See* MARGIN SURVEY 2013, *supra* note 249, at 3 ("Nonetheless, collateralization remains among the most widely used methods of mitigating counterparty credit risk in the OTC derivatives market, and market participants have increased their reliance on collateralization over the years. In an evolving regulatory environment that broadly seeks to reduce the counterparty risk associated with derivatives, the continued use of bilateral collateralization has an important role to play in risk mitigation."). The benefits of collateral and margin can be lessened by the type of collateral used and the way in which counterparties hold collateral

Importantly, the extent to which collateral and margin can reduce counterparty credit exposure depends on whether counterparties appropriately establish collateral and margin so as to reflect the level of risk faced.[252] For OTC transactions, this information regarding the health of the counterparty may not be readily or accurately available. The inaccuracy of this information could result in the parties agreeing to inadequate margin and collateral levels.[253]

Convergence risk. Another risk that comes from hedging is convergence. Convergence risk may arise from hedging for two reasons—either convergence in hedging strategies or convergence of hedging counterparties.[254] Converging hedging strategies refers to the possibility of all similarly situated firms undertaking the same or highly similar hedging strategy such that the occurrence of a single negative event affects these firms similarly.[255] In such a scenario, the firm's risks are multiplied because the actions of other parties diminish the effectiveness of its hedging strategy. The involvement of third parties that are beyond the control and influence of the hedger makes this risk particularly difficult for an individual firm to address *ex ante*.

Indeed, the risk of convergence in hedging strategies is more pronounced because of the likelihood that similarly situated firms will gravitate towards the same hedging strategy to protect their

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and margin posted to them. For OTC trades, collateral can be posted in illiquid assets or other difficult-to-value assets, particularly in a stressed market. Further, collateral and margin may not be held in segregated accounts. *See id.* at 8–10 ("The low interest rate environment means that cash is, often, the cheapest-to-deliver form of collateral under most collateral agreements. . . . The first of these questions asked whether respondents had made arrangements to segregate collateral posted as Independent Amounts ("IA") and what types of arrangements were made to secure that collateral.").

[252] *See Destructive Coordination*, *supra* note 244, at 355 ("CDS costs surged following the collapse of Lehman Brothers in September 2008, reflecting market-wide concern over the stability of other firms. The result was a significant increase in the amount of collateral that protection sellers were required to post."); *see also* Nina Hval, *Credit Risk Reduction in the International Over-the-Counter Derivatives Market: Collateralizing the Net Exposure with Support Agreements*, 31 INT'L LAWYER 801, 809 (1997) ("In general, counterparties can alter the amount of assets that collateralize their derivative transactions as their credit exposure to each other rises or falls.").

[253] *See* Gerding, *Credit Derivatives*, *supra* note 106, at 40.

[254] *See* Schwarcz, *Systemic Risk*, *supra* note 17, at 203–04.

[255] *See id*.

operations.[256] This was evident with the sub-prime mortgage crisis in 2008.[257] As the mortgage industry grew, mortgage providers established the same or highly similar hedging strategies to insure against the risk of default.[258] This included using CDSs and CDOs to disperse the credit risk accompanying these loans.[259] As the real estate market began to decline, numerous lenders were faced with the possibility that their hedging strategies would not provide them with the expected protection.[260] Further exacerbating the problem was that their hedging strategies did not anticipate widespread default and the complete collapse of the housing market, along with the dependence of other mortgage providers on the same type of protection.[261] Under the weight of this reality, their hedges buckled and, ultimately, failed.

Convergence of hedging counterparties is the other side of the same coin. This is the risk that firms will hedge with the same counterparty, thereby concentrating the risk in this entity, rather than diffusing risks broadly throughout the markets. The 2008 crisis, once again, provides a relevant example in American Insurance Group ("AIG") and its subsidiary AIG Financial Products ("AIGFP").[262] In the years preceding the financial crisis, AIGFP was one of the leading sellers of protection on subprime mortgages through CDSs.[263] Hedgers bought credit protection from AIGFP to the tune of billions of dollars and, notably, many did not require margin or collateral from AIGFP to protect against counterparty credit risk.[264]

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[256] *See* Schwarcz, *Systemic Risk*, *supra* note 17, at 203–04; Houman B. Shadab, *Coming Together After the Crisis: Global Convergence of Private Equity and Hedge Funds*, 29 NW. J. INT'L. L. & BUS. 603, 607 (2009).

[257] *See* Dorit Samuel, *The Subprime Mortgage Crisis: Will New Regulations Help Avoid Future Financial Debacles?*, 2 ALB. GOV'T L. REV. 217, 240–41 (2009).

[258] *See id.*

[259] Michael Greenberger, *Overwhelming a Financial Regulatory Black Hole with Legislative Sunlight*, 6 J. BUS. & TECH. 127, 143–47 (2011).

[260] *Id.*

[261] *Id.*

[262] *See generally* William K. Sjostrom, Jr. *The AIG Bailout*, 66 WASH. & LEE L. REV. 943 (2009) (discussing AIG's involvement in credit derivatives and the 2008 mortgage crisis).

[263] Sjostrom, *supra* note 262, at 959.

[264] Many counterparties did not require margin and collateral from AIGFP because of the triple-A credit rating enjoyed by AIG, the parent company. See *supra* notes 240–63 and accompanying text, for a discussion on

Because of AIGFP's central role in the CDS market as a protection seller, there was a concentration of risk in the insurance behemoth. This convergence of risk caused panic within the markets when AIG's pristine credit rating was downgraded and there were concerns with regards to whether AIGFP would be able to meet its obligations under the CDS to which it was a party.[265]

Convergence, whether in hedging strategies or hedging counterparties, in sum, is risk concentration. The risk of convergence when hedging with credit derivatives is further exacerbated by the fact that there are a limited number of possible counterparties for credit derivatives hedges, particularly portfolio hedges.[266] By their nature, portfolio hedges will likely be customized transactions for which the counterparty will likely be a large financial institution. But, even non-portfolio hedges will likely be transacted with the same entities, thereby increasing the interconnectedness of the parties. This interconnectedness could result in a hedge being risky because the failure of one entity may have far-reaching consequences for numerous market participants and, potentially, the wider economy—in essence, systemic risk.[267]

Basis risk. Another significant risk of credit derivatives is basis risk. Basis risk is the risk that the credit derivative may not accurately track the risks the firms wants to neutralize.[268] Although credit derivatives are highly malleable, the markets remain

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counterparty credit risk and the importance of margin and collateral in providing protection buyers with safeguards.

[265] Sjostrom, *supra* note 262, at 962.

[266] A 2009 Fitch Ratings report stated that 80% of the derivatives positions held by the 100 companies reviewed were held by five banks—namely, JP Morgan Chase, Bank of America, Goldman Sachs, Citigroup, and Morgan Stanley. FITCH RATINGS, DERIVATIVES: A CLOSER LOOK AT WHAT NEW DISCLOSURES IN THE U.S. REVEAL 1 (July 22, 2009), *available at* http://nysscpa.org/committees/banking/dder.pdf.

[267] See *supra* note 254 and accompanying text, for a discussion of systemic risk. *But see* Schwarcz, *Systemic Risk*, *supra* note 17, at 221–22 ("These hedging strategies, at least theoretically, facilitate risk-spreading to parties better able to bear the risks. . . . This diversification of risk also reduces the likelihood that a default will cause any given institution to fail and mitigates the impact of any such failure on other institutions . . . .").

[268] JOHNSON & HAZEN, *supra* note 86, at 123; ANDREW M. CHISHOLM, DERIVATIVES DEMYSTIFIED 240 (2d ed. 2010) ("[T]he risk that results from potential changes in the relationship or 'basis' between two financial variables.").

imperfect.[269] Consequently, a firm may not be able to use a credit derivative that matches on a one-to-one basis the level, quantum, or type of risk the firm faces. These imperfections result in firms establishing a less-than-ideal hedge position, albeit one that is the best available in the market. A firm may hedge with a credit derivative that has a high, yet tolerable, basis risk for a number of reasons—a lack of derivatives contracts that perfectly match its needs; the derivative being used is more liquid than the one that most closely matches its needs; or, a preference to hedge using a different underlying asset for diversification of exposure.[270] Nonetheless, if basis risk is improperly or insufficiently managed, the hedge position may expose the firm to risks that outweigh the benefits of the hedge.[271]

As an example, imagine a firm that has credit risk exposure to a few sovereigns in Asia. CDSs linked to these sovereigns' debt are not liquid.[272] The firm decides to manage its exposure through a CDS linked to an Asian sovereign index that is more liquid. Because the firm is not hedging its exposure to the sovereign in question, the transaction exposes the firm to the possibility that the CDS may not precisely match the losses the firm will experience in the event of the sovereign's default. If the sovereigns to which the firm is exposed default, but this default is not matched by the CDS index on which it has bought protection, then the firm is unprotected in its exposure to the Asian sovereigns in spite of its hedging activities.

Basis risk is not new to users of credit derivatives, but with portfolio hedging,[273] basis risk becomes a significant concern. As discussed previously, with a portfolio hedge, a firm is attempting to mitigate varied risks as efficiently as possible.[274] This endeavor is inherently complicated and involves some mismatch between the risks the firm faces and the credit derivative used to address these risks.[275] As such, the firm faces the possibility that the hedge position

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[269] Schwarcz, *Systemic Risk*, *supra* note 17, at 232.
[270] *See* Hull, *supra* note 71, at 51–54.
[271] *See id*. at 53 ("Note that basis risk can lead to an improvement or a worsening of a hedger's position. Consider a short hedge. If the basis strengthens (i.e. increases) unexpectedly, the hedger's position improves; [and vice versa]. For a long hedge, the reverse holds.").
[272] *Cf.* INT'L MONETARY FUND, *supra* note 66, at 57 (discussing the illiquidity of European sovereign debt).
[273] See *supra* Part I.B, for a discussion on portfolio hedging.
[274] See *supra* Part I, for a discussion on portfolio risk.
[275] See *supra* Part I.B, for a discussion on hedging in practice.

will not operate as expected. Put another way, in using a credit derivative to hedge portfolio risks, the position may not mitigate the risks to which the firm is exposed to the extent or in the manner intended. Rather, the hedge strategy may expose the firm to significant, unforeseen risks that compromise the effectiveness of the hedge and the stability of the firm undertaking the hedge.

Although modeling should control for basis risk, modeling may fail because of (a) a lack of historical inputs that adequately capture the range of possible outcomes, or (b) the inability of the model to capture the scenario facing the firm *ex ante*.[276] Market imperfections, therefore, can result in a failed hedge that does not mitigate risks as expected, but instead increases the risk exposure of the firm.

Codependent risk. Relatedly, using credit derivatives to hedge may expose the firm to "codependent risk." This is the risk that a hedge exacerbates a separate, unrelated risk to which the firm is exposed, but which is positively correlated to the hedge position or risks the hedge is aimed at mitigating.[277] Importantly, codependent risk, as defined herein, is not correlational risk. "Correlation risk refers to the change in the [payoff or] marked to market value of an asset when the correlation between the underlying assets changes over time."[278] On the other hand, codependent risk refers to seemingly unrelated risks that are positively correlated, but the correlation is unknown to the firm at the time of the hedge. Codependent risk, therefore, exacerbates risks associated with a hedge such that if the hedge fails, the losses are magnified exponentially because of the codependency of the underlying risk being hedged (or the hedge instrument used) and another risk exposure of the firm.

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[276] Gerding, *Code, Crash, and Open Source*, *supra* note 22, at 141 ("Monte Carlo simulations . . . estimate[] financial losses using sophisticated random sampling driven by advanced computing power. This random sampling proves particularly valuable when several different variables can interact to produce financial loss . . . . Modelers can assume that this relationship will follow historical patterns (use historical data), which leads back to the problem of whether the historical data selected provide an adequate sample.").

[277] The term "codependent risk" is coined in this Article specifically for purposes of describing the risk that may flow from use of credit derivatives in the manner described herein.

[278] *Knowledge Center Archive*, SEI INVS. CO., *available at* http://seic.com/enUS/about/3133.htm (last visited Apr. 16, 2014).

Thus, codependent risk, in a non-financial manner, may be analogous to mixing two medications that worsen the side effects of each. This risk is all the more possible in portfolio hedging, as the firm may not be aware of, or have accounted for, the different ways in which risks outside of the portfolio being hedged may correlate with the hedge positions being taken for a specific portfolio. Being unaware of the codependent risks, the firm does not appropriately calculate these risks into the costs of its hedging strategy. Consequently, when the hedge begins to go awry and worsens the codependent risks, the firm may not be able to manage or contain the fallout.

Consider the following example: a firm is exposed to credit risk from a range of countries and customers. To protect itself, the firm enters into a highly complex, customized, and illiquid CDS with a derivatives dealer.[279] The firm has never used this CDS to manage its risks, but believes that it should mitigate its credit risk exposure. When the risks that the firm sought to manage arise, however, the hedge does not operate as intended. Instead, the transaction heightens the risk exposure of the firm because, in addition to not eliminating the risk in the way the firm intended, the transaction has exposed it to new hidden risks.

When hedging a portfolio of risks with a complex financial instrument, it is difficult to predict how the instrument will behave or how it will impact other sectors of a firm's business.[280] Further, when the instrument being used is illiquid, as in the scenario presented above, it is even more difficult for the firm to unwind the transaction

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[279] Derivatives dealers are intermediaries that will take the other side of a derivatives contract, with the hope that they will earn a profit when they find another party to take the opposite side of the transaction. In other words, dealers are middlemen that connect counterparties that have opposite needs. Because of this, dealers are essential to the liquidity of the derivatives market. *See* Chisholm, *supra* note 268, at 3; Thomas C. Singher, Note, *Regulating Derivatives: Does Transnational Regulatory Cooperation Offer a Viable Alternative to Congressional Action?*, 18 FORDHAM INT'L L.J. 1397, 1405 (1995) ("Thus, dealers provide valuable liquidity to derivatives markets and eliminate the need for end-users to locate one another independently.").

[280] *See* Kian-Guan Lim, *Portfolio Hedging and Basis Risk*, 6 APPLIED FIN. ECON. 543, 543 (1996) ("[I]f the spot-futures prices are not cointegrated, the hedged portfolio suffers from the risk of potentially large changes in value . . . .").

or reduce the harmful impact of the poorly performing transaction.[281] Being able to accurately estimate the likelihood of codependent risk is difficult because it is a prime example of the "unknown unknowns"[282]—that is, the inadvertent creation of new, significant risks resulting from the use of intricate credit derivatives to manage complex financial risks. Consequently, when portfolio hedging is undertaken using complex credit derivatives, it is necessary to consider the possibility of codependency risk, especially because of the difficulty in accurately predicting the behavior of these instruments in the face of market stress or unexpected financial events. Codependent risk may also raise systemic concerns. If a firm's hedging strategy exposes it to codependent risk, this risk could weaken the position of the firm in the markets—subjecting it to margin calls and other stressors that could affect its liquidity. If the firm at issue is systemically important, the repercussions of this exposure could spread to the wider economy, impacting entities and markets that are unconnected to the firm's derivatives use.

The risks that can arise from hedging demonstrate that hedging can actually expose firms to risks, even if they are useful for risk management. As such, if the goal of the Dodd-Frank Act is management or reduction of systemic risk, it is arguably unwise for hedges to be routinely exempted from regulatory oversight, as is currently the case. Historically, when derivative-like instruments were simpler and the focus of regulation was the prevention of fraud and market manipulation, a sweeping hedge exemption made more sense. However, with the current focus of market regulation being on the reduction of systemic risk, to provide a blanket exemption for all hedges regardless of the instruments or strategies being used to hedge does not further the purported legislative goal of monitoring

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[281] *See* JP MORGAN, THE J.P. MORGAN GUIDE TO CREDIT DERIVATIVES 18 (1999), *available at* http://investinginbonds.com/assets/files/Intro_to_Credit_Derivatives.pdf ("A Dynamic Credit Swap avoids the need to allocate resources to a regular mark-to-market settlement or collateral agreements. Furthermore, it provides an alternative to unwinding a risky position, which might be difficult for relationship reasons or due to underlying market illiquidity.").

[282] Frank Partnoy, *What's Inside America's Banks?*, ATLANTIC (Jan. 2, 2013, 5:38 PM), http://theatlantic.com/magazine/archive/2013/01/whats-inside-americas-banks/309196/?single_page=true.

and regulating such sources of risk;[283] nor does this course of action improve the health of the financial markets.

It is important, therefore, that modern recognition of transactions as a hedge balance the benefits against the costs in order to determine whether a transaction should be categorized as a hedge. By incorporating a cost-benefit approach to the definition of hedging, what constitutes a hedge is appropriately constrained such that beneficial transactions that mitigate risks are granted preferential regulatory treatment. On the other hand, transactions that introduce new, significant risks that outweigh the benefits of the transaction are subject to greater regulatory scrutiny. However, this cost-benefit balance, while necessary, is difficult to achieve. Many of the risks associated with credit derivative hedges are not accounted for in the markets because of informational asymmetry and negative externalities.[284] Put another way, market participants in undertaking these transactions, and the market in pricing them, may not accurately account for the risks that accompany these transactions either because they are unaware of the risks or because they know they will not bear the costs in full and are, thus, unconcerned with them. Both of these theories are discussed below.

B. Do Credit Derivative Hedges Need to Be Regulated?

The focus of the Dodd-Frank Act was on the reduction of risks in the derivatives markets, in an effort to avoid a repeat of the 2008 financial crisis.[285] With respect to hedge transactions, the specific concerns of lawmakers were two-fold: (1) prevent speculative activities from being disguised as hedges; and (2) allowing end-users[286] to manage their risks using derivatives.[287] This

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[283] *See supra* notes 38–39 and accompanying text (discussing the legislative goals of market stability and transparency).

[284] *See infra* Part III.B.

[285] *Things Fall Apart*, *supra* note 66, at 205-15 (analyzing the role that systemic risk resulting from credit derivatives played in the 2008 financial crisis).

[286] See *supra* Part II.C.1, for a discussion on end-users and the end-user exemption.

[287] *See* RENA S. MILLER, CONG. RESEARCH SERV., THE COMMODITIES FUTURES TRADING COMMISSION: BACKGROUND AND CURRENT ISSUES 5 (June 2013) ("[I]f a grain farmer uses a futures position to hedge against the possibility that grain prices might eventually fall, then . . . he may be

focus was understandable. Credit derivatives were thought to be responsible for the implosion of AIG, Bear Stearns, and Lehman Brothers because these firms used these instruments to engage in highly speculative, yet profitable, activities that endangered the health of the broader economy.[288] Hedging, on the other hand, was seen as beneficial, not as a potential source of risk in the derivatives market.[289] So the view of lawmakers boiled down to a simple maxim: hedging was good and, therefore, should be freed from the restrictions of regulation.

But to maintain such a simplistic view of hedging is to be unaware of the complexities of hedging strategies and instruments that are available to firms. Indeed, given the risks that may arise from credit derivatives hedging strategies, as discussed above,[290] it is evident that not all hedges are equally beneficial. Instead, it is necessary to balance the risks of the hedge against its benefits to ascertain whether the transaction truly mitigates risk. Admittedly, this balance is difficult. It is not always feasible to accurately gauge whether the benefits of a hedge outweigh the costs. However, rather than engage in a nuanced approach to hedges, the Dodd-Frank Act assumes that hedging is more beneficial than not and, consequently, exempts such transactions.[291] In an era in which hedging instruments and strategies are more complex, it is vital for the stability of the

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required to post additional cash or liquid securities to cover unrealized losses in that position. . . . Many nonfinancial firms complained during the debate over the Dodd-Frank Act that their use of derivatives posed no systemic threat and thus they should not be subjected to the cost of clearing these OTC derivatives. . . . This particular debate came to be known as 'the end-user debate'. . . . As a result of these concerns, the Dodd-Frank Act in [s]ection 723 includes a broad exemption from the clearing requirement for firms that are primarily non-financial in nature.").

[288] Karl S. Okamoto, *After the Bailout: Regulating Systemic Moral Hazard*, 57 UCLA L. REV. 183, 196–203 (2009) (blaming the failure of AIG, Bear Stearns, and Lehman Brothers on CDSs).

[289] Ludger Hentschel & Clifford W. Smith, Jr., *Controlling Risks in Derivatives Markets* 1 J. FIN. ENG'G 101, 101–02 (1995) ("In brief, we argue that the possibility of widespread default throughout the financial system caused by derivatives has been exaggerated, principally due to the failure to appreciate the low default risk associated with individual derivative contracts.").

[290] See *supra* Part III.A, for a discussion of the risks associated with hedging with credit derivatives.

[291] See *supra* Part II.C.1, for a discussion on the Dodd-Frank Act bona fide hedging exemption.

market and market participants to reconsider what transactions are treated as hedges—a process that should prevent treating risky hedges the same as less-risky hedges.

Therefore, it is important that regulation exempts only those transactions in which, on balance, the benefits outweigh the risks and which do not introduce new, significant risks to the firm's operations. Lawmakers have failed to consider the potential downside of hedges and, consequently, do not apply a balancing standard in defining and regulating hedges. Rather, the definition of a hedge is vague and all hedges, regardless of the type of transaction or potential associated risks, are exempted from oversight.[292]

Arguably, such broad-based exemptions for all hedges, including credit derivative hedges, may be a valid regulatory approach if firms and markets incorporate a cost-benefit definition of hedging when pricing the transaction or deciding which instruments to use to hedge. If parties were able to accurately account for the risks that accompany hedging with credit derivatives, then the approach of lawmakers, to exempt all hedges, would be the best approach. However, the opposite is also true—that is, if the markets do not accurately assess the benefits and incorporate the attendant costs of using credit derivatives to hedge, then regulation will be necessary to minimize the impact of the firms' and markets' misjudgments.[293]

Therefore, the issue is whether hedgers and their counterparties are able to and actually will correctly determine, without the assistance of legal rules, the best way to hedge using credit derivatives. The optimal way to hedge with credit derivatives is the approach that exposes hedgers to the least risks and imposes the least costs, not only on the parties to the hedge, but also on the wider financial markets. Under a Coaseian understanding, legal rules are unnecessary for credit derivatives hedges because the parties will bargain for the optimal result.[294] This view, however, is premised on

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[292] See *supra* Part II.C, for a discussion of this lack of regulation.

[293] *See* Schwarcz, *Systemic Risk*, *supra* note 17, at 232.

[294] Seth D. Harris, *Coase's Paradox and the Inefficiency of Permanent Strike Replacements*, 80 WASH. U. L.Q. 1185, 1269 (2002) ("Coase and the NLRA's sponsors shared an interest in efficiency and a belief that bargaining can be a means to achieve it."); Elizabeth Hoffman & Matthew Spitzer, *The Coase Theorem: Some Experimental Tests*, 25 J.L. & ECON. 73, 75–76 (1982) ("This assumption is, in essence, a statement that parties in non-zero-sum games will choose a Pareto optimal allocation."); Michael I. Swygert & Katherine E. Yanes, *A Unified Theory of Justice: The*

certain assumptions,[295] two of which are relevant here: (1) perfect information of the parties involved in the hedge and (2) no externalities from the risks of hedging that affect non-parties to the hedge transaction. Neither assumption holds true, however, with regard to hedge transactions undertaken with credit derivatives.

Regulation of credit derivatives hedges is not needed if parties have the information necessary to balance efficiently the risks of the credit derivatives hedge against its benefits, because the parties will factor in the potential risks in pricing the transaction. However, there are reasons to believe that there is asymmetrical information in using credit derivatives to hedge, resulting in inefficient recognition and pricing of risks.

Informational asymmetry "[a]rises whenever a buyer or seller has more information about a product or service than his counterpart does—which can provide the better-informed party with considerable economic advantage."[296] As an initial matter, it is

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Integration of Fairness into Efficiency, 73 WASH. L. REV. 249, 277 (1998) ("[T]he Coase Theorem implies that the assignment of rights would not be important in terms of economic efficiency, because, regardless of which party received an entitlement, the parties would bargain to achieve the Pareto optimal allocation of resources."). *But see* Stewart Schwab, *Collective Bargaining and the Coase Theorem*, 72 CORNELL L. REV. 245, 256 n.47 (1987) ("I emphasize that the Coase Theorem predicts only that the parties will bargain to an efficient outcome.").

[295] The Coase Theorem is based on different assumptions, including: rational actors, no transaction costs, no legal impediments to bargaining, competitive markets, perfect competition, and perfection information. *See, e.g.*, Hoffman & Spitzer, *supra* note 294, at 73 (explaining the Coase Theorem as stating that: "a change in a liability rule will leave the agents' production and consumption decisions both unchanged and economically efficient within the following (implicit) framework: (a) two agents to each externality (and bar-gain), (b) perfect knowledge of one another's (convex) production and profit or utility functions, (c) competitive markets, (d) zero transactions costs; (e) costless court system, (f) profit-maximizing producers and expected utility-maximizing consumers, (g) no wealth effects, [and] (h) agents will strike mutually advantageous bargains in the absence of transactions costs"); *see generally* Steven G. Medema & Richard O. Zerbe, Jr., *The Coase Theorem*, *in* 1 ENCYCLOPEDIA OF LAW AND ECONOMICS: THE HISTORY AND METHODOLOGY OF LAW AND ECONOMICS 836–92 (Boudewijn, Bouckaert & Gerrit De Geest eds., 2000) (discussing various criticisms against and arguments in favor of the Coase Theorem).

[296] Fink, *supra* note 113, at 1.

inherently difficult to price credit derivatives.[297] Credit risk is priced using historical data and advanced financial modeling, but there are two notable limitations. First, credit risk may be mispriced if one does not look back far enough in time to create a more accurate picture.[298] Second, the approach is based on certain assumptions that do not hold during times of market stress or disruption.[299] Further, valuing CDSs and CDOs entails pricing the credit risk of the underlying assets. As noted by Professor Gerding:

> Pricing credit risk as it flows through a long chain of multiple securitizations and credit derivatives requires parties to either trace information back to the ultimate underlying assets (an enormously

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[297] JOHN D. FINNERTY, PRICEWATERHOUSECOOPERS' CREDIT DERIVATIVES PRIMER 41 (2000) (explaining that credit derivatives are more difficult to price than other types of derivatives because of the inherent differences between credit derivatives and other derivatives); Peter Eavis, *Unreliable Guesswork in Valuing Murky Trades*, N.Y. TIMES (Aug. 14, 2013, 4:33 PM), http://dealbook.nytimes.com/2013/08/14/how-hard-is-it-to-value-derivatives-see-the-details-of-the-jpmorgan-case/?_r=0 ("The lawyers defending the two JPMorgan traders may use the fuzziness of the derivatives market to their advantage. They might ask: How can the government argue that the traders' valuations were off when there it's [sic] difficult to know what the 'right' price is?").

[298] Gerding, *Code, Crash, and Open Source*, *supra* note 22, at 141 ("To calculate value-at-risk, modelers must assume the basic distribution of losses, i.e., they must determine the shape of the curve in the preceding diagram. They have three options. First, they can assume that losses fall in a "normal" distribution—in other words, that they follow a bell-curve shape. This assumption may have no basis in reality. Therefore, modelers can take a second approach of using historical data to determine the distribution of losses. This approach has downsides as well; historical data chosen may suffer from sample bias. For example, modelers may not have looked far enough back in time to gather data, and may miss important historical events in which massive losses were incurred. Inputting more historical data would ameliorate this, but financial markets do not always follow historical patterns.").

[299] The Black-Scholes model is one approach to valuing credit risk and is based on the assumption that market prices change in continuous time. *See* ROGER LOWENSTEIN, WHEN GENIUS FAILED: THE RISE AND FALL OF LONG-TERM CAPITAL MANAGEMENT 68 (2000). This assumption falters during market disruptions, as was seen in the failure of Long-Term Capital Management upon the default of Russia on its debt. *Id.* at 144–60.

> difficult task) or to rely on the risk calculations of investors or rating agencies earlier in the chain (who may have perverse incentives or have made mistakes).[300]

The difficulty in pricing credit derivatives strongly suggests that parties may also have difficulty in recognizing and ascertaining the risk of hedging with CDSs and CDOs.[301] Because of informational asymmetry, parties are not able to accurately price the costs and benefits of using credit derivatives to hedge.[302] Oftentimes, the credit protection buyer has more information on the risks accompanying the underlying debt than the credit protection seller, thereby making it more challenging for the protection seller to accurately price the credit derivative.[303] This is true particularly for complex credit derivative hedges, or one that references an illiquid underlier. Further, with each transfer of the credit risk,[304] the information regarding the underlying credit risk deteriorates, making

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[300] Gerding, *Credit Derivatives*, *supra* note 106, at 55.

[301] Chorafas, *supra* note 18, at 9–10 ("The problem is that the fine print of the risks embedded in credit derivatives is not visible to outsiders—even if the nature of these risks is known to them in order of magnitude, which is not necessarily the case. It is always difficult to assess an institution's credit risk if it is being based only on disclosures showing up in annual reports and similar statements. But it becomes nearly impossible to do so with pools of assets and liabilities if one is not an insider.").

[302] FRANK SKINNER, PRICING AND HEDGING INTEREST AND CREDIT RISK SENSITIVE INSTRUMENTS 292 (2005).

[303] *Id*. ("To make matters worse, the seller of credit protection also faces an *information asymmetry*. That is, the buyer of credit protections, being the lender of the reference bond, would know more about the likelihood of restructuring than the seller of the credit protection.").

[304] Credit risk can change hands many times creating a complex, interconnected web of buyers and sellers of credit protection. For example, a bank that has exposure to Company *A* may purchase credit protection from Hedge Fund *B* in the form of a CDS. Hedge Fund *B* may hedge its exposure to the debt it bought by entering into a CDS with Insurance Company *C* and so on. The further along in the chain the counterparty finds itself, the less information it has about the underlying credit risk. *See generally* Robert P. Bartlett III, *Inefficiencies in the Information Thicket: A Case Study of Derivative Disclosures During the Financial Crisis*, 36 IOWA J. CORP. L. 1 (2010) (describing the chain of risk transfers that can occur in the life of a credit derivative).

it even more difficult to price subsequent transfers.[305] Such transactions carry costs and risks that are not being accounted for in the pricing of the transaction. Consequently, the unaccounted for risks in these transactions require that officials play an important role in regulating these hedges.

The second assumption, that there are no negative externalities from hedging with credit derivatives on third parties, is equally problematic. Given that today's markets present an interconnected arena in which contagion is easily spread among firms, a failed credit derivative hedge will impact the wider markets.[306] The fallout from this hedge is not likely to remain confined to a single firm; rather, the fallout will likely affect the broader markets. Consequently, the costs of such a credit derivative hedge are not going to be borne solely by those who are party to the transaction; rather, the broader markets will share in the costs of the transactions.

The externalities are even greater if one of the firms in the failed hedge is systemically significant or is exposed to convergence risk. As such, the parties are not incentivized to internalize the costs that come with the transactions.[307] Put another way, the parties to the transaction can internalize the benefits of the CDS and CDO hedge and externalize the costs. Regulation is needed, therefore, to force the parties to internalize the costs of the CDS hedge and to minimize the externalities on the broader markets.

In sum, the risks that accompany credit derivative hedges require that the derivatives regulatory scheme include credit derivatives instead of exempting them wholesale. Some regulatory oversight is necessary to mitigate the risks that accompany CDS hedges because firms and the markets are unable to efficiently and accurately assess the costs and benefits attendant to the use of these instruments.

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[305] Gerding, *Credit Derivatives*, *supra* note 106, at 40 ("This difficulty [calculating the risk of default] stems in part from the tendency of information on underlying credit risk to deteriorate with each credit risk transfer.").

[306] *Id*. ("Through this chain reaction of falling dominoes, counterparty risk can transform into systemic risk.").

[307] *See, e.g.*, Partnoy & Skeel, *supra* note 32, at 1040–42.

IV. Implications and Recommendations

A. Failure of Dodd-Frank to Address the Hazards of CDS Hedging

The Dodd-Frank Act presumes hedges are beneficial and exempts these transactions from much of the derivatives regulatory framework. However, the Act does not define what constitutes a hedge. This task is left to various regulators charged with implementing the legislation.[308] As argued above, hedging should be defined in terms of the costs and benefits of the transaction in managing risk and concomitant risk exposure from the transaction.[309] The primary risks surrounding the use of credit derivatives to hedge are counterparty credit risk, convergence risk, basis risk, and codependent risk.[310] Generally, the new regulatory framework does not recognize or address these risks, but, to the extent that it does, it falls short in how it handles these risks.

Generally, the hedge exemptions contained in the Act and related regulations fail to delineate between hedging with credit derivatives and other types of hedge transactions. Because of the risks that may accompany credit derivatives, they should be regulated, not exempted from oversight, even when supposedly used to offset risks. In adopting a blanket exemption for hedges without concern for the instrument used, lawmakers have ignored the complexities of CDSs and CDOs. Policymakers also overlooked the additional risks that accompany these instruments, even if a firm intends to use them in a supposedly benevolent manner. The difficulty in valuing credit derivatives, in addition to the informational asymmetry and negative externalities surrounding these instruments, means that the risks identified, while not unique to credit derivatives, are acutely present even when these instruments are used to hedge.[311] As such, credit derivatives should not be exempted in the same manner or to the same extent as other derivative instruments, even when used to hedge.

An overarching concern with the exemption of hedge transactions is that lawmakers have maintained a traditional,

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[308] *See supra* Part II.C and accompanying notes.
[309] *See* discussion *supra* Part III.
[310] For a discussion of these risks, see *supra* Part III.A.
[311] *See* discussion *supra* Part III.B.

microprudential approach to these types of transactions.[312] Rather than considering the impact that widespread credit derivative hedging could have on the markets, the definition of hedging takes a firm-specific approach that does not take into consideration whether a hedge transaction exposes the firm or the markets to risks.[313] This is particularly relevant with respect to convergence risk, which requires a macro-approach to the hedging strategies of market participants, especially those that are systemically important. Viewing the hedging strategies of market participants in a vacuum, without consideration of the hedging activities of other similarly situated firms, provides only a partial picture of the impact hedging decisions may have on the markets or other actors.

Importantly, the Act introduces recordkeeping and reporting requirements for swaps, including credit derivatives that have been implemented pursuant to CFTC rulemaking.[314] Under these rules, parties to a swap are required to report specified information to the appropriate swap data repository or, if none exists, directly to the CFTC.[315] Admittedly, the reporting and recordkeeping regime that

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[312] Viral V. Acharya & T. Sabri Öncü, A Proposal for the Resolution of Systemically Important Assets and Liabilities: The Case of the Repo Market 2 (Oct. 4, 2012) (unpublished manuscript), *available at* http://federalreserve.gov/Events/conferences/2012/cbc/confpaper6/confpaper6.pdf ("Taking the micro-prudential view, both the Dodd-Frank Wall Street Regulation and Consumer Protection Act (DFA) signed into law by President Obama in July 2010 in the U.S. and, internationally, Basel III focus on single financial institutions.").

[313] *Id.*

[314] *See* Swap Data Recordkeeping and Reporting Requirements, 17 C.F.R. § 45 (2013) (detailing swap recordkeeping requirements and how to report under the section); Swap Data Recordkeeping and Reporting Requirements: Pre-Enactment and Transition Swaps, 17 C.F.R. § 46 (2013).

[315] The CFTC adopted final rules to implement these reporting and recordkeeping requirements. *See* 17 C.F.R. § 45; 17 C.F.R. § 46. Under the recordkeeping requirements, both counterparties must keep records about the swap. 17 C.F.R. § 46.2; 17 C.F.R. § 45.2. The reporting final rule requires that counterparties report the terms of their swap transaction to Swap Data Repositories ("SDR"). 17 C.F.R. § 46.3; 17 C.F.R. § 45.10. For every swap, one of the counterparties is also responsible for reporting information about the swap to the appropriate SDR. 17 C.F.R. § 46.5; 17 CFR § 45.8. This information includes: price, notional size, and life cycle events. 17 C.F.R. § 46.3 (discussing multi-asset swaps); 17 C.F.R. § 45.3–4 (discussing life cycle events). The SDR will then publicly disseminate the

the Act establishes[316] will reduce the magnitude of imperfect information within the markets, thereby lessening the opacity of the markets and better enabling market participants to price more accurately the instruments used to hedge.[317]Nonetheless, informational shortcomings are likely to persist, especially with regards to portfolio hedges.[318] Counterparties will continue to face difficulties in valuing CDOs[319] and estimating counterparty credit risk, even under the CFTC's reporting and recordkeeping regime. The information the CFTC requires parties to report to the markets, namely price and notional size, may ameliorate counterparty credit risk and convergence risk to some extent, as market participants will have more information on the trading activities of other market participants. Yet, this publicly available information will not eliminate the informational asymmetry issues discussed above because parties need more data to better assess the risks arising from the underlying assets.

In relation to the clearing mandate and the swap dealer definition, regulators have restricted recognition of a transaction as a hedge to those in which a firm is managing pre-existing risk exposure.[320] However, circumscribing the definition of a hedge in this manner is unhelpful, as this categorization does not always match whether a transaction, on balance, is more beneficial than risky. It is possible that a credit derivative transaction in which a firm is managing secondary risk is, on balance, more beneficial than one in which a firm is mitigating primary risk. To treat these two transactions disparately because of the source of the risk, but without concern for the risks that may accompany either transaction, is to miss the proverbial forest for the trees. Put another way, limiting the definition of hedging to the mitigation of pre-existing risk may address some forms of risky hedging, but if there is no consideration

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information in real time. Real-Time Public Reporting, 17 C.F.R. § 43 (2013).

[316] 17 C.F.R. § 45; *Dodd-Frank Legislation: "Reporting and Record-keeping,"* BAKER TILLY (Aug. 2, 2012), http://bakertilly.com/dodd-frank-legislation-reporting-and-recordkeeping.

[317] *Dodd-Frank Act*, CFTC, http://cftc.gov/LawRegulation/DoddFrankAct/index.htm (last visited Apr. 16, 2014).

[318] See *supra* Part I.B and accompanying notes, for a discussion on portfolio hedging.

[319] *See* Bartlett, *supra* note 304, at 3–4.

[320] *See* Exceptions to the Clearing Requirement, 17 C.F.R. § 50.50(c) (2013); *supra* Part I.

of risk exposure from a credit derivative hedge, then lawmakers may be ignoring some of the more significant sources and types of risks.

In crafting the regulations for the clearing mandate and the swap dealer definition, regulators used the historical bona fide hedge definition.[321] Yet, the adoption of the bona fide hedge standard to apply to all types of derivatives is problematic. While the bona fide hedge standard may be appropriate for determining if a transaction based on a physical commodity is a hedge, it is questionable whether the standard may be imported to address hedging with credit derivatives. Going beyond the complexities of credit derivatives that differentiate them structurally from commodities futures, the bona fide hedge exemption may not be able to serve the current goals of financial market regulation. The bona fide hedge exemption was developed initially to eliminate fraud and curb market manipulation,[322] but now regulatory goals are aimed at reducing systemic risk and achieving market stability. Implementation of a hedge standard that does not take into account whether the alleged hedge introduces new, significant, and unmanageable risks to the firm does not further these goals. In fact, it may undermine the Act's goals to not place these considerations at the forefront when considering whether a transaction should be designated as a hedge.

Notably, the clearing mandate and swap dealer definition embrace a definition of hedging that also fails to account for whether the transaction introduces new, significant risks to the entity. Because of this shortcoming, transactions that may expose a firm to basis and codependent risk could, nonetheless, be exempted from regulatory oversight. The failure to consider whether a transaction is, on balance, creating more risks than it is mitigating, may have significant consequences for firms that are able to avoid regulatory oversight of credit derivative hedges. Similarly, in failing to question whether the transaction introduces additional risk, the firm may be exposed to basis risk that results in the risks of the supposed hedge outweighing its expected benefits. This is further compounded by the

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[321] *See Q&A—Final Rulemaking Regarding Further Defining "Swap Dealer," "Major Swap Participant" and "Eligible Contract Participant,"* CFTC 2, http://cftc.gov/ucm/groups/public/@newsroom/documents/file/msp_ecp_qa_final.pdf (last visited Apr. 16, 2014) ("The interim final rule draws upon principles in the Commission's long standing interpretation of bona fide hedging. It excludes swap activity for the purpose of portfolio hedging and anticipatory hedging.").

[322] *See* discussion *supra* Part II.B.

absence of any mechanism within these regulations that induce firms to consider the impact that such risky hedges may have internally on the stability of their own operations or externally vis-à-vis the broader economy. As such, not only are firms able to avoid internalization of potential costs of these risky hedge transactions, but the regulations do not require these entities to consider whether the transaction, on balance, increases risks.

Furthermore, there are additional issues specific to the hedge exemption contained in the clearing mandate. To reduce counterparty credit risk inherent in OTC credit derivative transactions, the Act mandates that all standardized derivatives are cleared and gives the CFTC authority to determine what types of derivatives must be cleared.[323] However, clearing may not be the "panacea" that lawmakers expect it to be.[324] As a baseline matter, it is important to note that clearing derivatives will not "eliminate" counterparty credit risk; rather, it will "concentrate[] the credit risk" in the clearinghouse.[325] Although it is true that clearinghouses are able to manage counterparty credit risk better than individual firms,[326] the point is that clearinghouses shift risk, not eliminate risk.[327] As such, counterparty credit risk is decreased, but not removed from the markets.

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[323] For a discussion of the Dodd-Frank clearing requirements, see *supra* Part II.C.1.

[324] *See* Craig Pirrong, *The Inefficiency of Clearing Mandates*, 665 POL'Y ANALYSIS 1, 2 (July 21, 2010).

[325] Wallace Turbeville, *Derivatives Clearinghouses in the Era of Financial Reform*, *in* THE FUTURE OF FINANCIAL REFORM: WILL IT WORK? HOW WILL WE KNOW? 45, 46 (Michael Konczal ed., Roosevelt Institute 2010).

[326] *Id.* ("Clearinghouses manage credit risk using proven methods and systems that are uniform and virtually always superior to what can be achieved by individual trading firms."). The question of whether the clearing mandate is the most effective way to handle the risks associated with the OTC derivatives market is beyond the scope of this Article. *See generally* Pirrong, *supra* note 324

[327] *See* Kristin N. Johnson, *Governing Financial Markets: Regulating Conflicts*, 88 WASH. L. REV. 185, 193 (2013) ("Consequently, some commentators conclude that introducing clearinghouses may only shift risks in the OTC derivatives market from the balance sheets of individual market participants to the balance sheet of a centralized institution."); Adam J. Levitin, *Response: The Tenuous Case for Derivatives Clearinghouses*, 101 GEO. L.J. 445, 465 (2013) ("In particular, clearinghouses are secured creditors, which transfer risk to members' unsecured creditors by limiting the assets available to them in the event of a member's bankruptcy.").

Another important issue regarding the clearing mandate is the natural limitations to its implementation. Namely, a clearinghouse can only be effective in reducing risks if it deals in products that are both fungible and liquid.[328] Bespoke, complex credit derivatives used to hedge likely will not be eligible for clearing—thereby, voiding the benefits of central clearing for these types of transactions. Arguably, the more complicated the hedge, the more risks involved—these credit derivative hedges, potentially, are even riskier but are outside the scope of the clearing mandate. Consequently, counterparty credit risk will remain a significant source of risk for uncleared credit derivatives used to hedge. The failure of a major counterparty may still have destabilizing consequences on a firm using CDSs and CDOs to hedge. This analysis holds true for non-financial end-users who take advantage of the clearing exemption in hedging with credit derivatives. Admittedly, it is not likely that the instability of a non-financial end-user from exposure to a failed credit derivative-based hedge would have systemic consequences. However, convergence of hedge counterparties or hedging strategies could cause the failure of many similarly situated end-users, which, in turn, may have systemic implications.

While the Volcker Rule regulations consider whether the hedge introduces significant risks into the system, unlike the regulations for the clearing mandate and the swap dealer definition, their reach is stymied.[329] For one, the Volcker Rule regulations apply to banks, bank affiliates, and certain nonbank entities, and not to market participants generally.[330] This limitation may not be all that insignificant, as these are likely the actors whose hedging activities using credit derivatives may pose the greatest risk to the marketplace. Consequently, the built-in limitation of the Volcker Rule hedging standards to these entities is likely appropriate. Nonetheless, even with regard to hedging activities by end-users and other market participants, regulators should consider conditioning recognition of credit derivative-based transactions as hedges only if these transactions do not introduce new, significant risks to the firm itself or the wider market. This would require a more streamlined definition of hedging that currently does not exist in the disparate regulatory frameworks.

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[328] Turbeville, *supra* note 325, at 46–47.
[329] *See supra* Part II.
[330] *See* Dodd-Frank Act § 619, 12 U.S.C. § 1851 (2012).

Another salient issue is with temporal reach of the Volcker Rule regulations. That is to say, the regulations only consider whether the hedge introduces new and significant risks at inception.[331] They do not consider or address subsequent development of significant risks, such as codependent risk. Therefore, these large systemically important institutions may still be able to undertake a potentially hazardous hedge using CDSs and CDOs, even under the Volcker Rule regulations. In presuming hedges to be beneficial, the Dodd-Frank Act exempts hedges from regulatory oversight. In so doing, the Act fails to recognize the potential risks that arise from use of these instruments for seemingly beneficial reasons. Notable steps were taken to address counterparty credit risk and convergence risk, specifically through the clearing mandate and the recordkeeping and reporting requirements. However, these measures fall short in truly protecting the financial markets from the risks of credit derivatives hedges, particularly codependent risk.

B. Recommendations

Using credit derivatives to hedge can be beneficial, but, as this Article argues, these types of transactions may be hazardous to the hedger and, possibly, to the broader economy. The Dodd-Frank Act presumes that all hedges are beneficial and that they do not need to be subject to regulatory oversight. However, as discussed above, CDS- and CDO-based hedges should be subject to regulatory oversight in order to minimize the impact of a risky hedge on the markets and market participants. But, addressing the risks attendant to hedge transactions with credit derivatives is not an easy task, primarily because the hazards are not always readily identifiable. As discussed above, informational asymmetry and negative externalities contribute to the inability of firms and the markets to accurately balance the costs and benefits of a credit derivative hedge.

As an initial matter, the risks of a credit derivatives hedge that results from informational asymmetry and negative externalities are best addressed through *ex ante* regulation because *ex post* regulation would be inefficient and reactionary in regards to failed or

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[331] *See* Prohibitions and Restrictions on Proprietary Trading and Certain Interests in, and Relationships with, Hedge Funds and Private Equity Funds, 79 Fed. Reg. 5536, 5632 (Jan. 31, 2014) (to be codified at 12 C.F.R. pts. 44, 248, 351; 17 C.F.R. pt. 225).

failing credit derivative hedges.[332] Indeed, by the time the firm recognizes the new, significant, and, possibly, unmanageable risks arising from a credit derivative it used to hedge, it is too late to compartmentalize the impact of the failed hedge from destabilizing the firm and its counterparties. As one academic sagely noted: "Secrets . . . do not last long and derivatives failures travel . . . ."[333] It is important, therefore, to attempt to limit the spread of hedge failure, which as discussed above, can affect numerous large, systemically important institutions owing to interconnectedness and convergence in the markets for credit derivatives.

There are three primary mechanisms by which regulators can address inefficient cost-balancing arising from informational asymmetry and/or negative externalities—increased disclosure, decreasing the risky activity, and/or a corrective tax.[334] Each is discussed below. Ultimately, no one suggestion may be sufficient on its own, but some combination may be required to achieve the most efficient regulatory approach.

1. Enhanced Disclosure

A time-honored response to the problem of informational asymmetry is increased disclosure.[335] The securities markets are regulated under a disclosure regime in which persons seeking to participate in the markets are required to disclose material information regarding products they are selling.[336] With respect to credit derivatives, greater disclosure of related costs and risks of the

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[332] Regulation is required *ex ante* to protect from losses, which is the intent of the law. *Ex post* regulation would not be able to protect from losses, but could only react once losses have already occurred. Therefore, *ex post* regulation is insufficient because it does not effectuate the intent of the law.

[333] CHORAFAS, *supra* note 18, at 39.

[334] *See* STEVEN SHAVELL, FOUNDATIONS OF ECONOMIC ANALYSIS OF LAW 92–94 (2004) (discussing the option of a corrective tax to control negative externalities).

[335] Paul M. Healy & Krishna G. Palepu, *Information Asymmetry, Corporate Disclosure, and the Capital Markets: A Review of the Empirical Disclosure Literature*, 31 J. ACCT. & ECON. 405, 408 (2001) ("Another potential solution to the information asymmetry problem is regulation that requires managers to fully disclose their private information.").

[336] *See generally The Investor's Advocate: How the SEC Protects Investors, Maintains Market Integrity, and Facilitates Capital Formation*, SEC, http://sec.gov/about/whatwedo.shtml (last visited Apr. 16, 2014).

products should mitigate informational asymmetry, allowing the parties to make more informed decisions regarding the value of the transaction.[337] To be most effective, the disclosure regime must be mandatory.[338] This ensures a specified, minimum level of disclosure from all parties and prevents parties from either failing to disclose unfavorable information or only doing so selectively.

Although greater disclosure will reduce informational gaps, it is not enough to address the issues identified with credit derivative hedges. First, in spite of disclosure, the parties may nonetheless operate with incomplete information. Further, the level of disclosure necessary for the parties to have perfect information may be prohibitively costly. As such, parties will only disclose information up to the point at which it is cost efficient for them to do so. Incomplete information may persist because the parties simply do not know the risks attendant to the credit derivative-based hedge. If the parties themselves are ignorant to the risks of their credit derivative hedges, they will not be able to disclose the risks. Secondly, if disclosures become pro-forma, parties may discount the disclosures made or fail to appreciate the severity of the risks involved.[339] Consequently, the information disclosed may not be considered or factored in when the parties evaluate a credit derivative hedge and its potential risks.

In spite of the persistence of informational asymmetry, lawmakers should require enhanced disclosure of CDS and CDO hedges because, while imperfect, it will still be an important tool for regulators in monitoring these transactions. Further, lawmakers should commission a study of how financial institutions use credit derivatives to hedge in order to better understand the risks that can arise from use of these instruments. Credit derivatives can be complicated financial instruments. The unintended consequences of using credit derivatives to hedge are not yet fully understood or

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[337] Jaime Caruana, Gen. Manager, Bank for Int'l Settlements, Keynote Address at the FSB Roundtable on Risk Disclosure: Financial Stability and Risk Disclosure (Dec. 9, 2011), *available at* http://bis.org/speeches/sp111222.pdf ("Nevertheless, strengthened, transparent disclosure is good for markets, because it helps investors make more informed decisions.").

[338] For a general discussion on the benefits of mandatory disclosure regulation, see Allen Ferrell, *The Case for Mandatory Disclosure in Securities Regulation Around the World*, 2 BROOK. J. CORP. FIN. & COM. L. 81, 81–85 (2007).

[339] *See* Steven L. Schwarcz, *Rethinking the Disclosure Paradigm in a World of Complexity*, 2004 U. ILL. L. REV. 1, 19.

appreciated by lawmakers and market participants alike. Nonetheless, they are being treated in the same manner as derivative instruments with which there is much more historical familiarity. Lawmakers and regulators, therefore, should subject these instruments to greater study to develop a more fulsome understanding of their workings and the possible codependent risks, among other risks, that can develop from the extensive use by numerous market participants in different ways.

2. Limitations on Credit Derivative Hedges

To reduce the risks of credit derivative hedges, regulation could also seek to decrease the level of activity associated with these types of transactions. One way to accomplish this would be to limit recognition of certain CDS and CDO transactions as hedges. As a starting point, regulators could classify as a hedge only cleared or exchange-traded credit derivatives. This would deny preferential regulatory treatment for OTC credit derivative hedges, encouraging firms to move as many of their hedges to clearinghouses or central exchanges. This classification would comport with the goals of the Dodd-Frank Act of moving as much derivatives trading as possible to exchanges. Another approach would be to deny hedge recognition to illiquid credit derivatives and/or credit derivatives used for portfolio hedges. This approach creates a narrower category of transactions that would not qualify for the hedge exemption, focusing on those that are on balance most likely to be more risky than beneficial.

Either proposal would enhance regulatory oversight of the types of hedging transactions that are most likely to be accompanied by hidden risks. Such limitations would not prevent firms from hedging—either with illiquid credit derivatives or with credit derivatives for portfolio hedging. Firms can choose to use a more liquid credit derivatives or hedge risks on a micro, rather than macro, level in order to have the transaction classified as a hedge. Alternately, they could use these transactions to hedge, but these transactions would not be deemed a hedge for regulatory purposes. This alternative places the need for market stability above the firms' individual needs to use certain instruments or strategies to address their risk exposure.

Yet another alternative to restrict credit derivative hedge activity is to impose position limits on credit derivative hedges. Position limits have been considered solely in terms of their ability to

minimize market manipulation by speculators.[340] However, position limits may also have a useful role in limiting the reach of a failed credit derivative hedge transaction. Through position limits, regulators can address the risks that arise from using credit derivatives to hedge.[341] By employing position limits in this manner, the fallout of a failed hedge would be cabined significantly, as it would reduce the exposure of hedgers and other market participants to certain hedge transactions.

Notably, hedge position limits would limit the exposure of a firm to codependent risk, particularly with portfolio hedges, by limiting the size of an outstanding position in credit derivatives used to hedge. Further, if limitations were imposed on these instruments used to hedge, in the event that a firm falls victim to codependent risk, the resulting negative consequences would be minimized. This limitation is similar to the Dodd Frank Act's requirement that banks maintain a portion of mortgages they have originated on their books.[342] Moreover, imposing limitations on credit derivative-based hedges would minimize the negative consequences in the event a firm falls victim to codependent risk. Similarly, position limits would also limit the consequences of a hedge that exposes a firm to counterparty credit risk and convergence risk.

Given that hedging is beneficial, position limits should not apply across the board to all hedge transactions. Instead, position limits for hedgers should be higher than position limits for speculators. This would respect the fact that the reasons for imposing hedge position limits are not the same as the reasons for imposing speculative position limits. Also, this would recognize that hedging can be beneficial and should be encouraged. Finally, hedge position limits should not apply to one-to-one credit derivative hedges and CDS or CDO hedges traded on an exchange or cleared. These types are less likely to have systemic implications or raise the concerns pertaining to credit derivative hedging discussed throughout this Article.

However, position limits, even for speculative positions, face strong market objections and may be politically impossible for

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[340] *See supra* Part II.B.
[341] *See supra* Part II.B.
[342] Dodd-Frank Act § 641(b)(b), (c)(1), 15 U.S.C. § 78o-11 (2012).

agencies to impose.[343] Such objections would likely be even stronger for subjecting hedges to position limits. One of the main objections is that hedge position limits would have a chilling effect on hedging. Hedge position limits, the argument goes, would discourage firms from entering into beneficial hedges because of higher transactional costs or, worse yet, may encourage regulatory arbitrage, as firms would search for less regulated means to neutralize their risk exposure. However, regulating hedging is not the same as preventing hedging. This Article proposes the former, not the latter. Further, because of the importance of hedging to corporate risk management strategies, it is unlikely companies will abandon hedging because of restrictions. Indeed, firms may be more conscientious in exposing themselves to credit risk knowing that their ability to offset these risks will be legally limited.

The fact that regulation chills activity, whether intentionally or unintentionally, while a legitimate objection, is an argument that may be leveled against the adoption or imposition of most rules. As some academics have opined, the financial markets are similar to the tragedy of the commons,[344] in that each actor seeks to reap maximum benefits from finite resources, without regard for the resources' depletion. In order to prevent or reduce the likelihood of complete exhaustion of these finite resources, laws need to regulate each actor's use of the resources in order to maximize the common good. Imposing hedge position limits to circumscribe the possible fallout of a bad hedge is one of the best ways to ensure that market participants are able to share in the finite resources of the "financial markets commons."

3. Margin and Collateral Requirements

A well-recognized way of forcing firms to internalize the negative externalities that accompany their activity is through use of a corrective tax.[345] The implementation of a corrective tax forces

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[343] *See generally Int'l Swaps & Derivatives Ass'n v. CFTC*, 887 F. Supp. 2d 259 (D.D.C. 2012) (overturning speculative position limits established by the CFTC).

[344] *Things Fall Apart*, *supra* note 66, at 190; *see generally* Schwarcz, *Systemic Risk*, *supra* note 17.

[345] Economist Arthur Pigou first explored and explained the use of taxes in controlling externalities. According to Pigou, the presence of negative externalities from the actions of others justified government intervention in

parties to moderate their activities because of the increased costs associated with the activities. Under a corrective tax regime, parties will make payments approximating the anticipated harm of their activities.[346] A corrective tax is useful, even when the state or affected parties do not have perfect information regarding the magnitude of the harm.[347]

In the context of hedging with credit derivatives, a corrective tax would impose higher margin and collateral requirements for credit derivative-based hedges. Margin and collateral requirements provide two main benefits to firms. Margin and collateral protect parties from counterparty credit risk.[348] The amount required is based on the likelihood of counterparty default and the risks accompanying the underlying. Accurate information regarding both risks is, therefore, necessary for parties to determine the appropriate level of margin and collateral that ought to be required. Margin and collateral requirements also impose a cost on firms who have to pay it. Assets that are committed to collateralizing credit derivatives are not available for business operations and cannot be utilized by the firm.[349] The costs imposed, therefore, will force parties to limit their activities accordingly.

However, the benefits of margin and collateral can be muted by leverage. Leverage is a key feature of credit derivatives and can be present even in hedge transactions—albeit in less obvious ways.[350] In the context of credit derivatives, a transaction is leveraged when a counterparty does not commit capital to cover the

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order to control or discourage the activity from which the negative externality arose. Such taxes are referred to as Pigouvian taxes. On the other hand, Pigou also advocated a subsidy for those whose activity generated a positive externality. These are called Pigouvian subsidies. *See generally* ARTHUR CECIL PIGOU, THE ECONOMICS OF WELFARE (1932); Shavell, *supra* note 334, at 94.

[346] *See* Shavell, *supra* note 334, at 94 n.23.

[347] *See id.* at 95.

[348] *See supra* Part III.A.

[349] INT'L SWAPS AND DERIVATIVES ASS'N, MARKET REVIEW OF OTC DERIVATIVE BILATERAL COLLATERALIZATION PRACTICES 5 (2010) ("[Collateralization] has become a risk-reduction method of choice for banks and non-bank financial institutions for many reasons; . . . it reduces capital requirements which frees up capital for other investment purposes . . . .").

[350] Gerding, *Credit Derivatives*, *supra* note 106, at 41.

full amount of its future obligation under the contract.[351] Additionally, lower than required margin and collateral requirements can result in highly leveraged credit derivative contracts.[352] With respect to CDSs, for example, if collateral and margin is set too low, the CDS protection seller will apportion less capital to cover its future obligations.[353] Additionally, the protection seller will be able to enter into more CDSs, using the excess cash as collateral and margin for other CDSs.[354] Leverage is important in assessing the risks of hedging with credit derivatives, as the fallout from counterparty default is magnified significantly if counterparties to credit derivatives are leveraged.[355]

The Dodd-Frank Act authorizes regulators to establish collateral requirements for derivatives that are exempted from exchange trading and central clearing.[356] In implementing these rules, it is particularly important that regulators consider that parties using credit derivatives to hedge their risk exposure may not accurately account for the risks of using these instruments. Rather than subjecting credit derivatives-based hedges to the same or lower collateral requirements or, alternately, leaving this decision primarily to the parties using these instruments, regulators should impose a minimum level of required collateral and margin, which increases depending on the characteristics of the credit derivative instrument being used or the underlying asset. This requirement will go a long way in forcing parties to internalize the costs of using these instruments, in spite of imperfect information.

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[351] *Id.*

[352] *Id.* at 42.

[353] *See id.* ("Lower collateral means that a party to a derivative contract need deploy less of its own capital to cover its future payment obligations.").

[354] *Id.* ("When set too low, collateral requirements allow a firm to increase leverage excessively or to overinvest in underwriting fresh derivative contracts.").

[355] *Id.* at 41 ("The financial damage from counterparty defaults can increase exponentially to the extent that the parties to a derivative contract are leveraged.").

[356] Dodd-Frank Act § 723(a)(2), 7 U.S.C. § 2 (2012); *see also* Gerding, *Credit Derivatives*, *supra* note 106, at 30.

Conclusion

Hedging is a necessary and significant tool for firms to manage risks that arise from their daily operations.[357] With the advent and development of credit derivatives, firms are able to shift risk to parties who are able to bear the risk more efficiently.[358] However, the use of credit derivatives to neutralize risk exposure is, itself, fraught with risks. Firms that choose to offset risks with these complex instruments may be exposed to different risks, including counterparty risk, convergence risk, basis risk, or codependent risk.[359] To decide whether a transaction is a true hedge, therefore, the inquiry should not focus on the intent of the parties or on the source of the risk; rather, a true hedge should be determined by looking at whether the benefits of the transaction outweigh the costs.

While balancing the costs against the expected benefits of the transaction seems straightforward, firms and the markets are limited in their ability to accurately gauge the costs of using credit derivatives to hedge. Asymmetrical information and negative externalities affect the ability of firms to account for the costs of hedging with credit derivatives.[360] Regulation is needed to force parties to account for costs that they would otherwise fail to incorporate when deciding how to value the costs of credit derivatives used to manage risk exposure.

Lawmakers, however, have focused on the benefits of hedging, treating attempts by firms to hedge as equally beneficial irrespective of the instruments utilized to achieve the task.[361] While the benefits of using CDSs and CDOs to neutralize risk are undeniable, there are risks that must be considered. To treat all derivative transactions the same based on their intended purpose—here, to hedge risk exposure—is to ignore a potentially significant source of risks to the financial markets. Given that credit derivatives used to hedge may expose firms to new, significant risks that outweigh the benefits of the transaction, wholesale exemptions from regulatory oversight are inappropriate for these instruments. Regulators, therefore, should impose some measure of regulation on

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[357] *See supra* notes 16–17 and accompanying text.
[358] *See supra* notes 22–23 and accompanying text.
[359] For a discussion of these risks, see *supra* Part III.A.
[360] *See* discussion *supra* Part III.B.
[361] *See* discussion *supra* Part IV.A.

these complex instruments in order to minimize the potential damage to the financial markets that could result from their unbridled use.