THE LAW AND ECONOMICS OF CREDIT DEFAULT SWAPS

DERIVATIVES REGULATION, INSURANCE LAW, AND RECENT FINANCIAL MARKET REFORMS

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ABSTRACT

This study investigates the legal and regulatory aspects of credit default swaps (CDSs), a controversial financial transaction that functions as a type of credit risk insurance or credit risk transfer. The study offers, firstly, an overview of the nature of CDSs in terms of their functioning, markets, uses, regulatory reforms and relationship with related financial instruments (chapter 1). It then investigates the legal characterization of these transactions (chapter 2), with special attention to their classification as insurance contracts (chapter 3) or financial derivatives (chapter 4). The question of legal characterization is followed by an analysis of regulatory policy issues, starting with a survey of the issues and challenges posed by CDSs (chapter 5), after which the principal regulatory strategies are analyzed and the principal reform alternatives are examined (chapter 6).

Methodologically, the study combines traditional legal-doctrinal analysis with the economic and institutional analysis of law. There are relatively few legal sources that deal explicitly with CDSs, and the application of earlier legal categories (for example insurance, financial securities and swap contracts) raises many issues. By analysing the institutional history of the relevant legal categories, the study seeks to shed light on their interpretation in novel situations. Economic analysis is particularly relevant for the evaluation of regulatory policy alternatives. The study incorporate insights from new methodological approaches in economics (including behavioural economics), and reviews a wide range of empirical studies on financial stability concerns and on the impact of CDS usage.

The study finds that, although there is significant legal uncertainty and confusion regarding these transactions, CDSs should normally be classified as a form of credit insurance unless such classification has been specifically excluded by legislation (as is the case in the United States following the Dodd-Frank Act). It is technically incorrect to classify them as financial securities, because the way in which they are traded (novations) implies that they cannot be subject to secondary-market trading in the proper sense. Similarly, their classification as swaps does not correspond to the standard financial meaning of swaps. It is further argued that the swap-based terminology was applied to CDS contracts as a consequence of the regulatory lobbying victories of the International Swaps and Derivatives Association (ISDA). Recent legislation has broadened the category of swaps to include these transactions in some cases, but the outcome is unsatisfactory in terms of legal doctrine, because functionally identical transactions may now be insurance, derivatives, or both.

Regarding regulatory policy, it is found that the issues posed by CDSs should be tackled by a combination of different regulatory strategies. At present, the leading regulatory framework in this field is the industry self-governance
architecture designed and controlled by ISDA; despite its many weaknesses it also has advantages, which might be harnessed through light-touch co-regulation. This should also address certain institutional failures of the current ISDA architecture. In terms of transparency, the post-crisis regulatory reforms have somewhat reduced the opacity of the CDS market; increased transparency is fundamental, but this does not appear to be the main issue in the future, because there are limits to what can be demanded and it seems unlikely that increased disclosures would address the main problems associated with CDSs. Compulsory central counterparty (CCP) clearing has acquired prominence in the post-crisis regulatory reforms; it is however unlikely to function well for CDSs, because they are functionally not swaps but credit insurance, so that their risk structure is asymmetric and involves significant fat tails and macroeconomic correlation. In the future, the key issue is the creative application of credit insurance regulation principles in a way that addresses the peculiar concerns raised by CDSs. Targeted protection selling limits might be applied within the post-reform regulatory scheme that covers CCPs and compulsory collateral requirements. Regarding targeted protection buying regulation, the new European short selling regulation is an interesting test case that will be studied empirically in order to evaluate its effectiveness and costs.
FOREWORD

I discovered the fascinating world of credit default swaps in 2007, when my good friend Sakari Puisto lent me a copy of Frank Partnoy’s extraordinary study in financial history, *Infectious Greed: How Deceit and Risk Corrupted the Financial Markets* (2003). In this well-documented book, which reads like a thriller, Partnoy—former investment banker turned law professor—not only unveils the murky side of financial derivatives but also reveals the essential factors that would lead to the global financial crisis many years later. At the time of my reading, the first signs of the looming crisis were appearing, and I became convinced that this was a global question that merits sustained attention. My professional and personal paths subsequently took a range of turns, but the question of credit default swaps maintained a continual presence, which finally matured into this study.

I am especially grateful to Professors Seppo Villa, Pia-Letto Vanamo and Kalle Määttä for their unfailing encouragement and guidance. I also wish to particularly thank Teemu Juutilainen and Lauri Ahokallio for most helpful conversations on general and specific questions during the early stages of the research project. Numerous others have contributed with helpful conversations, encouragement and assistance (without necessarily sharing my opinions), including Rasmus Ahvenniemi, Klaus Alholm, Philip Booth, Thomas Brand, Markus Bunders, Lalli Castrén, Chandika Chandrasekeram, Kevin Dowd, Frederik Dømler, Matias Forss, Juha Halttunen, Ilkka Harju, Katri Havu, Matti Heimonen, Antti Hietanen, Heribert Hirte, Marja Hokkanen, Sakari Huovinen, Klaus Ilmonen, Esa Jokivuolle, Olli Juntunen, Ville Kaikkonen, Timo Kaisanlahti, Panu Kalmi, Vesa Kanniainen, Ohto Kanninen, Juha Karhu, Eero Kasanen, Gordon Kerr, Arthur Kimball-Stanley, Jussi Kivistö, Mårten Knuts, Antti Kuusterä, Marko Lehtimäki, Jason Lepojärvi, Eva Lomnicka, Fernando Losada, Carl Lööberg, Tuomas Majuri, Heikki Marjosola, David McIlroy, Antti Miettunen, Jaakko Mikkilä, Jukka Mähönen, Jukka Mäkinen, Sami Napari, Jaana Norio-Timonen, Olli Norros, Tapio Passinen, Lauri Pietarinen, Pertti Pylkkönen, Osmo Ruuskanen, Kristian Siikavirta, Raimo Siltala, Jussi Syrjänen, Paavo Teittinen, Otto Utti, Juhani Vaivio, Martti Vihanto, Mika Viljanen, Charles Whitehead and Jyri Wilska. A special thanks to Jukka Mähönen and Timo Kaisanlahti for their most valuable feedback during the pre-examination process.

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<tr>
<td>AFME</td>
<td>Association for Financial Markets in Europe</td>
</tr>
<tr>
<td>AIG</td>
<td>American International Group (US insurance company)</td>
</tr>
<tr>
<td>AML</td>
<td>Securities Markets Act (Arvopaperimarkkinalaki 495/1989) (FI)</td>
</tr>
<tr>
<td>BBA</td>
<td>British Bankers’ Association</td>
</tr>
<tr>
<td>BIS</td>
<td>Bank for International Settlements</td>
</tr>
<tr>
<td>CCP</td>
<td>Central counterparty</td>
</tr>
<tr>
<td>CDI</td>
<td>Credit default insurance</td>
</tr>
<tr>
<td>CDS</td>
<td>Credit default swap</td>
</tr>
<tr>
<td>CDO</td>
<td>Collateralized debt obligation</td>
</tr>
<tr>
<td>CEA</td>
<td>Commodity Exchange Act of 1936 (US)</td>
</tr>
<tr>
<td>CFTC</td>
<td>Commodity Futures Trading Commission (US)</td>
</tr>
<tr>
<td>CFMA</td>
<td>Commodity Futures Modernization Act of 2000 (US)</td>
</tr>
<tr>
<td>EBA</td>
<td>European Banking Authority (EU)</td>
</tr>
<tr>
<td>EMIR</td>
<td>European Market Infrastructure Regulation (EU)</td>
</tr>
<tr>
<td>EP</td>
<td>European Parliament</td>
</tr>
<tr>
<td>ESMA</td>
<td>European Securities and Markets Authority (EU)</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
</tr>
<tr>
<td>FASB</td>
<td>Financial Accounting Standards Board (US)</td>
</tr>
<tr>
<td>FI</td>
<td>Finland</td>
</tr>
<tr>
<td>FSA</td>
<td>Financial Services Authority (UK)</td>
</tr>
<tr>
<td>FSMA</td>
<td>Financial Services and Markets Act 2000 (UK)</td>
</tr>
<tr>
<td>GAAP</td>
<td>Generally Accepted Accounting Principles (US)</td>
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<tr>
<td>GAO</td>
<td>General Accounting Office (US)</td>
</tr>
<tr>
<td>IFRS</td>
<td>International Financial Reporting Standards</td>
</tr>
<tr>
<td>ISDA</td>
<td>International Swaps and Derivatives Association</td>
</tr>
<tr>
<td>MiFID</td>
<td>Markets in Financial Instruments Directive (EU)</td>
</tr>
<tr>
<td>NAIC</td>
<td>National Association of Insurance Commissioners (US)</td>
</tr>
<tr>
<td>NCOIL</td>
<td>National Conference of Insurance Legislators (US)</td>
</tr>
<tr>
<td>NYSID</td>
<td>New York State Insurance Department</td>
</tr>
<tr>
<td>OCC</td>
<td>Office of the Comptroller of the Currency (US)</td>
</tr>
<tr>
<td>OTC</td>
<td>Over the counter (non-exchange traded derivatives)</td>
</tr>
<tr>
<td>SAP</td>
<td>Statutory Accounting Principles (US insurance regulation)</td>
</tr>
<tr>
<td>SEC</td>
<td>Securities and Exchange Commission (US)</td>
</tr>
<tr>
<td>SIFMA</td>
<td>Securities Industry and Financial Markets Association (US)</td>
</tr>
<tr>
<td>UK</td>
<td>United Kingdom of Great Britain and Northern Ireland</td>
</tr>
<tr>
<td>US</td>
<td>United States of America</td>
</tr>
<tr>
<td>VakSopL</td>
<td>Insurance Contracts Act (Vakuutussopimuslaki 543/1994) (FI)</td>
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1 INTRODUCTION

Credit default swaps (CDSs)—a form of credit risk insurance or credit risk transfer—are highly contested. At one end of the spectrum, there are those such as Alan Greenspan to whom CDSs are a wonderful innovation that has made the global financial system more stable.\(^1\) At the other end there are those to whom CDSs are “instruments of destruction”\(^2\) or “financial weapons of mass destruction”\(^3\) that damage global finance.\(^4\) This chapter provides, first, an overview of the nature of credit default swaps in terms of their functioning, markets, uses, regulatory reforms and relationship with related financial instruments. Second, a literature review is offered, outlining the research situation concerning CDSs and identifying the principal research needs. Third, the objectives of the present study are explained, after which a discussion of methodological choices and challenges follows. The final section outlines the structure of the rest of the study.

1.1 UNDERSTANDING CREDIT DEFAULT SWAPS

1.1.1 Description

The history of CDSs extends to the early 1990s, as the first credit derivatives were invented by J.P. Morgan investment bankers in 1994.\(^5\) The CDS market peaked in 2007 at $57.8 trillion in notional value, although market size can only be estimated and continues to be subject to disputes regarding measurement methodology.\(^6\) CDSs were a relatively unknown phenomenon until 2008, when they hit mainstream business news due to their alleged involvement in the global financial crisis.\(^7\) Their public presence reached a peak as a result of Charles Ferguson’s documentary film Inside Job (2010), in which credit default swaps figured at large.

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\(^1\) Greenspan 2005: 7 states that “as is generally acknowledged, the development of credit derivatives has contributed to the stability of the banking system.”

\(^2\) Foster 2009, citing Soros, who mainly referred to naked CDSs.

\(^3\) See Buffett 2003: 16, who wrote that “derivatives are financial weapons of mass destruction, carrying dangers that, while now latent, are potentially lethal.” The expression was not limited to CDSs, yet credit derivatives were Buffett’s main concern: see ibid. 14–15.

\(^4\) See Buiter 2009 (arguing that CDSs are harmful).


\(^7\) An excellent analysis of the early stages of the crisis is Gorton 2008.
1.1.1.1 Structure

There are many possible reasons why credit default swaps remained largely unknown for several years. Their supposed complexity should not, however, be included in those reasons. Despite the technical jargon surrounding these financial contracts, their basic structure is simple. A credit default swap is a contract between two parties, whereby one party (normally called the protection buyer) pays periodic fees in return for a promise by the other (the protection seller) to compensate the loss of value of one or more reference obligations in the case of a credit event on those obligations. The notion of credit event is usually defined broadly, so that it will include also events other than outright non-payment, and can be negotiated by the parties. The essential structure of CDSs can be represented visually as in Figure 1.

**Figure 1** The basic structure of a credit default swap.

In spite of the terminology, credit default swaps functionally resemble traditional financial arrangements such as credit insurance and financial guaranties. According to Bank of England’s David Rule, “[a] CDS is similar, in economic substance, to a guarantee or credit insurance policy, to the extent that the protection seller receives a fee ex ante for agreeing to compensate the protection buyer ex post, but provides no funding.” René Stulz goes even further as he writes: “There is nothing particularly exotic about credit default swaps. They are

---

8 For example Banks, Glantz and Siegel 2007: 7 (“In a basic CDS the credit protection buyer pays the credit protection seller an up-front or periodic fee in exchange for a compensatory payment that becomes due and payable if the reference credit defaults during the life of the contract”). For a longer description, see for example ISDA 2014a and Parker 2007: 27–30.


10 See for example Mengle 2007: 2.

11 Rule 2001: 118.
as easy to understand as insurance contracts.” Stulz is, of course, writing from a strictly economic point of view, but it will be seen that this functional similarity with insurance contracts is one of the key tensions surrounding credit default swaps—also from a legal-doctrinal and a regulatory-political viewpoints. There is at least a two-fold paradox here. On the one hand, whereas financial guaranties necessarily involve three parties, CDSs are two-party relationships, and in this respect they resemble insurance more than anything else. On the other hand, insofar as CDSs can be legally bought without being subject to insurance regulation, and sold without being economically exposed to the credit risk, they differ from insurance and can become “a private contract in which private parties bet on a debt issuer’s bankruptcy.”

1.1.1.2 Product Categories, OTC Markets, and Settlement

Over the years, the global CDS market has developed into a range of different products, the principal categories of which are known as single-name CDSs (i.e. based on a single debtor) and index CDSs (structured on a basket of different debts). According to the financial derivatives industry organization ISDA, the majority of CDSs are single-name transactions, about a third are based on indices, and the remaining are so-called tranches. These concepts are well explained by Houman Shadab:

CDSs are classified broadly by the type of obligation or entity they reference, and different types of CDSs typically have unique terms associated with that type of CDS. The two most common types of CDSs are single-name CDSs and CDS indices that reference corporate bonds. A single-name CDS references a single bond or a single reference entity. CDS indices typically reference 125 reference entities that have some common theme, such as all being American or European investment-grade companies. CDSs that reference sovereign debt make up nearly twenty percent of the CDS market, while CDSs that reference loans or the debt issued in securitizations (i.e., asset-backed securities) constitute approximately two percent of the market.

Another key notion concerning the CDS market is that it is—or least at has been until post-crisis legislation—an over-the-counter (OTC) market, which means that the contracts are bilaterally negotiated and not publicly traded. As will be seen later, recent legislation seeks to channel most OTC derivatives to centralized clearing, so that they would no longer be OTC products in the strictest sense. There are limits, however, to both the formal applicability of this legislation and

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12 Stulz 2010: 74.
14 Partnoy and Skeel 2007: 1021.
15 ISDA 2014b (citing DTCC data from 2011).
16 Shadab 2012: 1034.
17 On OTC derivatives generally, see for example Feder 2002; Steinherr 2000: 151–168.
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its practical enforceability and side-effects. It should be emphasized, however, that despite the OTC nature of the CDS market so far, it has in practice been highly standardized around the contract architecture developed by ISDA.\textsuperscript{18}

There is finally an important technical distinction concerning the settlement of CDSs, which happens when the reference entity defaults on its debt and protection seller must pay the relevant compensation. The settlement of the contract may in principle take place in one of two ways, depending on what the parties have agreed to.\textsuperscript{19} One is so-called \textit{physical settlement}, in which case the party effecting payment (the protection seller) accepts delivery of the underlying assets and pays par value for them; economically, this implies that the protection seller is making the protection buyer whole, i.e. providing compensation for the loss of value of the reference assets. Alternatively, the contract may be subject to \textit{cash settlement}, in which the protection seller simply pays, in cash, the difference between the par value of the assets and their market value after default. In this case, no underlying assets are implicated other than for purposes of calculation, and indeed it may be that neither party is in possession of those assets.

1.1.1.3 \textbf{Market Size and Participants: Informational Difficulties}

One consequence of the over-the-counter nature of the global CDS market is that there is no precise data on its early development. David Mengle of ISDA has provided some data from 1997 onwards and described its development in generic terms;\textsuperscript{20} yet even today it must be acknowledged that the information on the OTC market in credit default swaps is rather imperfect and even inaccurate.\textsuperscript{21}

The most reliable source of market size data on OTC derivatives seems to be the survey data collected by the Bank for International Settlements (BIS), which indicates that the global “credit default swap market was US$6 trillion in 2004, […] $57 trillion by June 2008, and $41 trillion by the end of 2008” in notional terms.\textsuperscript{22} Apart from the staggering growth of the market leading up to the crisis of 2008, what is interesting here is the apparent decline of the CDS market after the crisis, a decline that seems to be confirmed by BIS data indicating that the notional values fell further to $29.9 trillion in 2010.\textsuperscript{23}

This apparent decline is quite interesting precisely because it is simply false. It turns out under closer inspection that the fall in notional values was due not to market diminution, as it was caused by increasing \textit{trade compression}, which is a

\textsuperscript{18} See Braithwaite 2012a.
\textsuperscript{19} Banks, Glantz and Siegel 2007: 33. See also Feder 2002: 708–709 (describing cash-settlement and physical settlement in OTC derivatives generally).
\textsuperscript{20} See Mengle 2007: 7–12.
\textsuperscript{21} Stulz 2010: 79.
\textsuperscript{22} Ibid. 78. More details are found in ibid. 80.
\textsuperscript{23} Dømler 2013: 36.
financial technique of *netting* economically offsetting transactions between two counterparties, so that the notional values of the outstanding contracts are subsequently reduced.\(^{24}\) The practice of trade compression was significantly increased around and after the financial crisis, and Dømler calculates that in its absence, the CDS market “would have reached an estimated amount of US$80 trillion in 2009”.\(^{25}\) In other words, the CDS market actually continued to grow during the crisis.\(^{26}\) One of the problems of increasing trade compression is that it has rendered cross-temporal comparisons difficult, because the real content of the standard notions is not the same at different moments in time.

Indeed, there is a wider question regarding the best way to measure CDS market size. It is widely agreed that notional values of outstanding contracts can give an exaggerated picture of the risks involved. As an alternative, Dømler among others proposes: “A more appropriate measure for the risk exposure is the *gross market value*, as it resembles the replacement costs of all open contracts at mark-to-market prices. […] This amount constitutes only 5.5 per cent (or US$1.67 trillion) of the notional value.”\(^{27}\) It must be noted, however, that if our informational interest concerns the *risk element* of the CDS markets, then gross market value is also an inappropriate measure, because it is based on current mark-to-market prices, which in CDSs may fail to reflect real risks, especially in relation to the systemic aspects of credit risk. In fact, Dømler goes on to make another proposal:

> An even more precise measure is the *current credit exposure and liability value*, as it also takes into account the legally enforceable bilateral netting effect and would therefore constitute an even lower exposure. This value therefore represents the claim for the actual amount changing hands if the contract were settled immediately. Unfortunately, these data sets for CDS are not developed.\(^{28}\)

In conclusion, then, there is presently no entirely satisfactory way of measuring CDS markets. For the purposes of this study, it is not a major issue, but when it comes to the notional value of outstanding contracts, one should keep in mind its limitations and avoid reaching erroneous conclusions.

Another informational imperfection concerns market participation, on which there is even less accurate and reliable data. Survey data by the British Bankers’ Association (BBA) reveals that banks, securities firms, and hedge funds are active

\(^{24}\) Ibid. 36–37.

\(^{25}\) Ibid. 37.

\(^{26}\) The same idea emerges from BIS data on notional and gross market values, revealing that between 2007 and 2008, the *notional* values of compressed outstanding CDSs contracted, but *gross* market values more than doubled. See Stulz 2010: 80.

\(^{27}\) Dømler 2013: 37.

\(^{28}\) Ibid. 37.
on both sides of the table, and insurers mainly contribute to protection selling. According to Fitch Ratings data, the largest exposures are held by global investment banks. Hopefully more accurate and timely data on market participation will be developed, as this is of great importance for regulatory policy as well as for research.

1.1.2 CDS Uses and Regulatory Implications

Insofar as credit default swaps are exempt for limitations regarding their buying and selling, they can be used for a range of purposes, which raise a number of regulatory concerns. These issues will receive a more detailed reflection later in the study, but a brief introduction to these questions is opportune here so that the principal policy issues and debates can be contextualized.

1.1.2.1 Hedging, Speculation, and Regulatory Arbitrage

In general terms, financial instruments can be used for three primary purposes: (a) hedging, i.e. taking investment positions intended to offset potential losses that may be incurred by a companion investment; (b) speculation, i.e. seeking to profit from an anticipated price movement; and (c) arbitrage, i.e. simultaneously purchasing and selling economically equivalent assets that are differently priced.

In addition to these primary functions, there is another motivation for using derivatives, known as regulatory arbitrage. In the words of Frank Partnoy, this refers to “financial transactions designed specifically to reduce costs or capture profit opportunities created by differential regulations or laws.” André Scheerer defines the regulatory arbitrage opportunities of credit derivatives as providing “access to credit markets which are otherwise restricted by corporate statute or off-limits by regulation.” Derivatives may be used, for example, to reduce taxes,  

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31 See for example Partnoy 1997: 223–227; Feder 2002: 717–721. Financial derivatives are also used for (d) diversification, i.e. reducing overall portfolio risk by investing in a variety of assets that are not perfectly positively correlated; however, diversification and hedging are simply variations on a theme: hedging is a form of diversification in which the assets are negatively correlated.
32 Partnoy 1997: 227. See also Feder 2002: 721, referring to one type of arbitrage as “obtaining indirect exposure to items to which direct access is denied by law.” Importantly, regulatory arbitrage is distinct from the financial concept of arbitrage.
33 Scheerer 2000: 151.
to avoid accounting requirements or investment restrictions, or to obtain government subsidies.\(^{34}\)

As a matter of first impression, the regulatory issues concerning credit default swaps can be simplified by noting that, in strictly functional terms, CDSs are structurally straightforward, insurance-like contracts. This means that their basic structure presents no special novelties, implying that their attraction resides principally in regulatory arbitrage. Indeed, there is substantial agreement that much of the CDS market is related to regulatory arbitrage.\(^{35}\) On the one hand, \textit{covered} CDS transactions are mainly driven by the fact that they enable banks and other lenders to leverage their lending capacity by laying off their loan risks without transferring those loans outright (called \textit{synthetic securitization} or \textit{regulatory capital relief}).\(^{36}\) On the other hand, \textit{uncovered} CDSs enable investors to bet against debtors, as was observed already.\(^{37}\)

Is regulatory arbitrage economically and socially beneficial? It may be, assuming that it enables market participants to engage in activities that otherwise would be unreasonably restricted or prohibited.\(^{38}\) But if the normal restrictions are well founded, the economic and social implications of regulatory arbitrage will be ambiguous or negative.

\subsection{Benefits}

In order to obtain a more accurate picture of the policy issues surrounding CDSs, it is firstly necessary to acknowledge that the economic consequences of these transactions are complex and imperfectly understood, and the opacity of the CDS market makes it difficult to assess their impact.\(^{39}\) The regulatory question also touches upon deeply held convictions relating to the purpose of financial markets.

\(^{34}\) Partnoy 1997: 228–235 (describing these uses of derivatives).

\(^{35}\) See Ayadi and Behr 2009: 186 (describing the principal motivations for using credit derivatives); Shadab 2012: 1022–1027 (discussing motivations for credit risk transfer activities, particularly risk management, regulatory capital relief, and beneficial accounting treatment).

\(^{36}\) For a description and discussion of synthetic securitization, see generally Bell and Dawson 2002.

\(^{37}\) It is opportune to note that the terminology of \textit{covered} and \textit{uncovered} CDSs may be confusing, because the same terminology is used in other contexts to refer to something different. In stock markets, this distinction refers to two different types of short selling, so that a “covered” short position is one where the short seller has borrowed the relevant shares before selling them (thereby ensuring subsequent settlement), whereas in a “naked” position the seller has not borrowed shares to settle the transaction (thereby leaving the position as it were exposed to settlement risk). With CDSs, in contrast, covered positions are \textit{long} positions and uncovered positions are \textit{short} positions.

\(^{38}\) See Goodhart et al. 1998: 63–64.

\(^{39}\) See Partnoy and Skeel 2007: 1035.
and the scope of legitimate intervention. It is therefore natural that the need to regulate CDSs is a matter of ongoing controversy.\footnote{For balanced discussions of the benefits and problems of CDSs, see for example Partnoy and Skeel 2007: 1022–1027, 1032–1040; Johnson 2011: 199–216; Baker 2010: 1303–1309.}

The principal benefits of CDSs derive from an improved ability to manage certain risks and to obtain investment positions that are efficiency enhancing.\footnote{See Ayadi and Behr 2009: 189–191 for a balanced assessment of the risk-management implications of CDSs.} They are more flexible than conventional guarantees or credit insurance, because they can be more easily tailor-made to suit particular risk profiles regardless of asset ownership.\footnote{Rule 2001: 118.} Alfred Steinherr argued this back in 2000, commenting on credit derivatives generally:

To the extent that they provide a more systematic way of evaluating and transferring credit risk, credit derivatives offer financial institutions a flexible tool for the management of risk. […] Credit risk markets are among the last strongholds of non-competitive markets, be it only for asymmetric information. Credit derivatives will, without a doubt, improve credit risk markets. In this sense their economic value cannot be overestimated.\footnote{Steinherr 2000: 166–167.}

There are also indirect benefits due to the positive externalities of the CDS market. One is that there are so-called network externalities that arise as the market develops and attracts more participants.\footnote{Network externalities, or network effects, are also known as demand-side economies of scale. See generally Page and Lopatka 2000.} Given that the CDS market has become more liquid and standardized, it has become easier to trade the instruments and their pricing has probably become more efficient.\footnote{Lack of price transparency in OTC derivatives markets tends to mean that dealers exploit less well-informed end-users: Steinherr 2000: 157 cites evidence that “OTC issuers may charge up to 45% over the theoretical option price.”} Another positive externality is that, as the CDS market grows and begins to be publicly quoted, CDS prices have become a source of timely information on the market’s estimates of credit risk and default probabilities.

\subsection*{1.1.2.3 Risks and Concerns}

But CDSs are not without problems. Firstly, there are firm-level risks, as CDSs may be transacted without fully understanding and controlling the risks.\footnote{Mugasha 2004: 220.} For example, becoming a CDS protection seller is functionally equivalent to selling insurance, which is a highly complicated and risky industry, and firms may not have sufficient managerial understanding or adequate control procedures.\footnote{Ibid.}
Other firm-level issues include liquidity problems, short squeeze risk, and legal uncertainty.\textsuperscript{48} There is a wealth of evidence that traders and entire units in large financial institutions may get carried away by attractive deals that are later converted into extreme losses.\textsuperscript{49}

Secondly, CDSs appear to \textit{negatively influence incentives}. On the one hand, they may harm borrower-lender relationships by reducing screening and monitoring incentives.\textsuperscript{50} On the other hand, it is feared that CDSs misalign incentives in the event of default.\textsuperscript{51} CDS value is determined by credit events, so that bondholders possessing CDS protection may benefit from pushing distressed debtors into bankruptcy (this is called the \textit{empty creditor problem}).\textsuperscript{52} This can be socially costly, given the wider social and economic ramifications of company restructuring and bankruptcy.

Thirdly, the use of CDSs for regulatory arbitrage purposes is problematic insofar as the normal legal restrictions are reasonable: CDSs have enabled financial institutions to take on more risks, and these risks have been highly opaque to both investors and regulators, so that instead of improving the pricing of credit risks, CDSs may make it more difficult to correctly locate and price risks.\textsuperscript{53} In addition, there is evidence that CDSs are used for insider trading.\textsuperscript{54}

Fourthly, credit default swaps may give rise to \textit{negative externalities}, as spreading credit risk more widely has increased systemic risks.\textsuperscript{55} In other words, credit risk transfer may improve risk management in individual cases, but it has exacerbated system-wide instability, because difficulties in one sector have extended to the entire market.\textsuperscript{56} The opacity of the CDS market has also made it possible for huge amounts of risk to be concentrated without the notice of other


\textsuperscript{49} See Partnoy 2003 (describing a series of financial derivatives debacles); FCIC Report 2011: 256–279 (providing evidence of the inability of finance experts to correctly perceive the risks related to subprime mortgages).

\textsuperscript{50} See Ayadi and Behr 2009: 187–189 (describing incentive issues associated with credit derivatives).

\textsuperscript{51} McIlroy 2010: 307–309 (discussing incentive issues of CDSs in the case of default).

\textsuperscript{52} Hu and Black 2008 (developing the theory of “empty voting” and “hidden (morphable) ownership”); Bolton and Oehmke 2011 (demonstrating formally that credit default insurance reduces the incidence of strategic default, but causes an inefficiently high incidence of costly bankruptcy). See however ECB 2009: 72–73, pointing out that “empty creditors” do not necessarily have destructive incentives, and that they are not always able to cause a default.

\textsuperscript{53} McIlroy 2010: 305–307 (discussing the opacity and complexity created by CDSs).

\textsuperscript{54} Acharya and Johnson 2007.

\textsuperscript{55} For a detailed study on the notion of systemic risk in financial markets, see Schwarcz 2008.

\textsuperscript{56} Ayadi and Behr 2009: 189–191.
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market participants or regulators. Before the crisis that started in 2007, many commentators downplayed the issue, but subsequent events—particularly the AIG fiasco—have proven otherwise.

Fifthly, unrestricted opportunities for betting on debtors’ default can be destabilizing in distressed markets. In theory, these opportunities might improve market efficiency—facilitating lower borrowing costs—but in practice, there seem to be little empirical support for this, and many borrowers have suffered from CDS trading. In informationally imperfect markets, CDSs may also be used to generate destabilizing signals, and regulators have been concerned about market manipulation.

1.1.3 The Financial Crisis

1.1.3.1 Criticism and Debate

Many of the aforementioned worries regarding credit default swaps were known to financial market experts before the global financial crisis, which in the eyes of sceptical observers seemed to confirm their worst fears. During the financial turmoil, which began as a banking crisis in 2008 and extended into the European sovereign debt crisis in 2010, credit default swaps “were widely blame for exacerbating the financial crisis on both sides of the Atlantic.”

Although the events in 2008 seemed to be restricted to a special market known as subprime mortgages in the United States, the crisis soon spread much wider both geographically and in terms of institutions and product categories. Ayadi and Behr, for example, note the “huge write-offs” on so-called ABS (asset-backed security) CDSs, which provided “protection against credit events on securitised

57 McIlroy 2010: 309; Shadab 2010: 444–452 (discussing overconcentration of CDS exposure).

58 For example, Weithers 2007 discussed systemic risk and argued that risk dispersion had reduced systemic risk in banking, although he admitted that risk concentration in hedge funds could have been a problem.


60 See Juurikkala 2012a: 325–328 (discussing empirical evidence).

61 Ibid. 325–326. See also Ashcraft and Santos 2009 (finding insignificant benefits overall, and major adverse effects on risky and informationally opaque borrowers).

62 Juurikkala 2012a: 328. See also Cox 2008 (explaining an enforcement investigation and referring to “the significant opportunities that exist for manipulation in the $58 trillion CDS market, which is completely lacking in transparency and completely unregulated”).

These losses, which were linked to the collapse of the mortgage markets, led to huge write-offs on the portfolios of a number of banks including well-known global players such as Citigroup and UBS, but also some not so well-known banks such as the mainly government-owned IKB Bank or the fully government-owned Landesbank Sachsen, both from Germany.

The common view as to why this happened was that, before the post-crisis reforms, CDSs were generally treated as bilaterally negotiated over-the-counter (OTC) financial derivatives, and were largely exempt from regulation. In consequence, market participants could sell and purchase credit risk almost without restrictions, which led some to argue that aggressive CDS speculation had aggravated the situation of troubled banks and sovereign borrowers.

Existing bank regulations also enabled lenders to free up regulatory capital with CDSs by transferring credit risks to non-bank entities, including hedge funds. The OTC character of the transactions made it difficult for both regulators and market participants to know what was going on and who was holding the risks.

Even Alan Greenspan, former chairman of the United States Federal Reserve, underwent something of a change of heart and admitted errors in his earlier, highly optimistic view of credit derivatives. Not all subscribed to the criticism of credit default swaps, however. Among their most radical apologists was the industry-body ISDA, which in the aftermath of the crisis stated that “CDS had nothing to do with the crisis.” More moderate defenders of CDSs denied that there had been sufficient “evidence that unregulated derivatives, and particularly credit default swaps (CDS), was a

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64 Ayadi and Behr 2009: 184.
65 Ibid.
66 In the United States, the explicit deregulation of CDSs was due to the Commodity Futures Modernization Act, Pub. L. No. 106-554, 114 Stat. 2763 (2000) (codified in scattered sections of 7, 11, 12, and 15 U.S.C.) [CFMA], which determined that OTC swaps, including CDSs, were exempt from both federal securities laws and commodity derivatives regulation: see Sjostrom 2009: 984–986; Wynkoop 2008: 3099–3100. For a detailed overview of CFMA, see, e.g., Hazen 2005: 388–395. In Europe, the legal situation has been less clear, as will be seen later.
67 Münchau 2010; Rickards 2010.
68 See Shadab 2012: 1023–1024 (explaining regulatory capital relief); Wynkoop 2008: 3104–3109 (arguing that hedge fund participation in CDSs is problematic).
69 See Partnoy and Skeel 2007: 1046–1048 (proposing more disclosure); Wynkoop 2008: 3123–3125 (proposing compulsory disclosures and transaction reporting).
70 This included even Alan Greenspan: see Greenspan 2008 (written testimony of Alan Greenspan, former Chairman, Federal Reserve Board, admitting defects in his earlier views); Johnson 2011: 201 (describing Greenspan’s change of heart on CDSs).
71 ISDA 2012. ISDA later toned down its rhetoric: see below, chapter 5.2.3, for a detailed discussion.
significant contributor to the financial crisis through ‘interconnections’.”72 Still others pointed to other factors that had contributed to the crisis, including excessively lenient monetary policy and imprudent government policies that had facilitated the development of a housing market bubble.73

1.1.3.2 Post-Crisis Regulatory Reform

There was, then, a growing consensus that something had gone wrong, and that CDSs were possibly implicated, but there was little agreement as to what should be done.74 The political outcome was a mixed bag of modest changes, the CDS-related aspects of which are mainly found in the United States Dodd-Frank Act,75 and, in Europe, in the European Market Infrastructure Regulation (EMIR)76 and the new Short Selling Regulation.77 Some minor consequences for CDSs are also found in other European reforms, firstly the updated version of the Markets in Financial Instruments Directive or MiFID78 (the update is also known as MiFID

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73 On the monetary policy argument, see for example Taylor 2009: 1–14 (investigating the failure of US monetary policy); Greenwood 2009: 37 (charting the recent successes and failures of monetary policy in the UK). On imprudent government mortgage policies, see Nichols, Hendrickson and Griffith 2011: 237; Liebowitz 2008: 4 (blaming the crisis on US government interventions that undermined mortgage underwriting standards since early 1990s); Butler 2009: 51–57 (highlighting ill-advised government policies in the mortgage sector since the 1970s).

74 For example, see Shadab 2012: 1040–1046 (arguing that the existing governance mechanisms are sufficient, even if some CDSs—those used with subprime mortgages—were problematic).


II, and secondly the updates to the Market Abuse Directive (MAD), consisting of the Regulation on insider dealing and market manipulation (Market Abuse Regulation or MAR) and the Directive on criminal sanctions for market abuse (CSMAD). The crisis, finally, led to a meek tightening of international bank capital standards (generally known as the Basel Accords), producing the Basel III framework.

These legislative reforms are highly complex in their totality, but for credit default swaps, they imply three principal changes. First, CDSs will be subject to more disclosures than before, even though we will see that there are limits to both these disclosures and their efficacy. Secondly, many CDSs must be cleared with a registered central counterparty (CCP). Thirdly, CDSs linked to European government debt can in principle only be purchased for hedging purposes.

1.1.4 CDS and Other Financial Products

One of the challenges in trying to understand credit default swaps is that they embody a curious mixture of the old and the new. Functionally, they resemble

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83 See BIS 2011. Among other things, “Basel III narrows the definition of capital, increases capital requirements, and imposes new requirements in regard to leverage, liquidity, countercyclicality, and counterparty risk” (Shadab 2012: 1024). For more detailed studies, see for example Pausch and Welzel 2012 (providing a technical analysis of the effect of Basel II and III on credit risk transfer with CDSs); Hellwig 2010 (providing a critical analysis of the Basel III reforms); Dowd et al. 2011 (criticizing the Basel regimes generally).

84 See below, chapter 6.2.

85 See below, chapter 4.3.1 and 6.3. For non-centrally cleared contracts, there will be separate collateral standards, in addition to which Basel III rules restricts the use of CDSs for regulatory capital relief if they are not centrally cleared: see Shadab 2012: 1024.

86 See Juurikkala 2012a: 322–338, and below, chapter 6.4.3.
insurance and other financial guarantees, but they are wrapped up in the technical jargon of modern financial derivatives and they are used for purposes that go far beyond traditional insurance products. This section seeks to enlighten this double dimension of CDSs by elaborating on the ways in which they, on the one hand, form part of the larger family of credit derivatives, and on the other hand, are akin to insurance. The derivatives dimension also raises the question of whether CDSs should be seen as one more OTC derivative or whether there is something special about them.

1.1.4.1 Credit Derivatives

It is customary in the finance literature to categorize CDSs as a credit derivative. This is a generic expression that covers a range of novel transactions that are associated with credit markets instead of stocks or commodity markets. Some authors think that there are two principal categories of credit derivatives: those related to credit spreads (forwards or options) and those related to default risk (principally credit default options or credit default swaps).87

Given the vagueness of the notion of credit derivatives, there are however disagreements on its demarcation. According to an expansive view, the credit derivatives family includes a wide range of transactions such as total return swaps, credit linked notes, repackaged notes, and others.88 Of these, total return swaps are essentially an off-balance-sheet sale of an asset.89 Economically speaking, they transfer the entire asset, which is why many experts prefer not to call them credit derivatives in the proper sense.90 Credit linked notes (CLNs), in contrast, are securities “issued as a result of the securitization of credit derivatives.”91 In other words, they are not independent transactions, but products built on CDSs or other credit derivatives: “a CDS is practically

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89 Mugasha 2004: 218. Ibid. 217 provides the following description: “The total return swap seeks to replicate the total performance of a loan asset. The investor assumes the full risk and cash flow of the underlying asset. The bank (originator) passes through all payments of the underlying asset, and in return the investor makes a payment akin to a funding cost.” See also Feder 2002: 711, who describes total return swaps as arrangements in which “the protection buyer, or total return seller, artificially sells a reference asset to the protection seller, or total return buyer.”
90 See Feder 2002: 712 (“because a total return swap synthetically transfers ownership in an asset, some market professionals do not see the transaction as a true credit derivative”); Nelken 1999: 173 (“One definition of a CD [credit derivative] is any contract whose economic performance is primarily linked to the credit performance of the underlying asset. This definition would technically rule out TR [total return] swaps, because their performance is only partially linked to the credit quality of the underlying and is mostly linked to the market risk of the underlying.”).
91 Mugasha 2004: 218.
UNDERSTANDING CREDIT DEFAULT SWAPS

Repackaged notes are similar, tailor-made packages of risk, created by placing a range of “securities (bonds, loans, or cash) and derivatives in an SPV [special purpose vehicle], which then issues customized notes that are backed by the instruments in the SPV.”

According to a narrower view of credit derivatives, credit default risk products are the only credit derivatives in the strict sense. They are also by far the bigger market segment, as CDSs take up more than half of the entire credit derivatives market, broadly defined. Adopting this narrower view, Frank Partnoy and David Skeel reduce credit derivatives into the two principal categories of credit default swaps (CDSs) and collateralized debt obligations (CDOs). The latter category is, however, quite flexible, and it partly coincides with the earlier definitions of CLNs and repackaged notes:

a collateralized debt obligation (CDO) is a pool of debt contracts housed within a special purpose entity (SPE) whose capital structure is sliced and resold based on differences in credit quality. In a “cash flow” CDO, the SPE purchases a portfolio of outstanding debt issued by a range of companies, and finances its purchase by issuing its own financial instruments, including primarily debt but also equity. In a “synthetic” CDO, the SPE does not purchase actual bonds, but instead enters into several credit default swaps with a third party, to create synthetic exposure to the outstanding debt issued by a range of companies. The SPE finances its purchase by issuing financial instruments to investors, but these instruments are backed by credit default swaps rather than any actual bonds.

The multiplicity of different but partially overlapping products is a sign of the desire of the arranging investment banks to introduce new products. For present purposes, the boundaries of the credit derivatives family of products is not of any fundamental importance, but in terms of the bigger picture, it is relevant to know that there are other products with some similarities and some differences.

1.1.4.2 CDSs within the Wider Debate on Financial Derivatives

From a practical point of view, there are many similarities between CDSs and other types of credit derivatives, broadly defined. The main regulatory concern raised by these arrangements is that they all, including total return swaps and credit linked notes, seem to be structured so as to avoid existing investment

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92 Ibid.
93 Ibid. 219.
94 Steinherr 2000: 165 ("where the real growth is expected to come from is the credit-default family of products, the only true credit derivatives").
95 Ayadi and Behr 2009: 181.
97 Ibid. See also Mugasha 2004: 227–233.
There are also transparency issues, and in the case of securitization arrangements, it can be asked whether they truly add economic value, as they involve significant documentation and legal fees.\textsuperscript{99}

The similarities are not limited to other credit derivatives, however, because the question about CDS regulation is closely related to the wider debate on financial derivatives, particularly OTC derivatives that are not publicly traded. Financial derivatives, which René Stulz defines as “financial instruments whose promised payoffs are derived from the value of something else,”\textsuperscript{100} have been subject to continuous debates at least since the 1980s, which is when the market for complex and exotic OTC derivatives took off.\textsuperscript{101}

It is not claimed here that derivatives cannot be beneficial if prudently used.\textsuperscript{102} Yet it cannot be denied that their history is marked by repeated cases of misuse and even abuse. Lynn Stout, for example, highlights the 1994 case of Proctor & Gamble, which “suffered a $157 million trading loss speculating on interest rates through derivatives”, an event “overshadowed only a few months later by the unexpected bankruptcy of Orange County’s pension fund, which lost $2.5 billion.”\textsuperscript{103} It is noteworthy that neither of these losing institutions had a real need for such financial derivatives, at least not in the speculative way in which they were used.

During the US congressional hearing in the aftermath of the 1994 derivatives scandals, investor George Soros argued that the current legal rules for investor protection could not adequately deal with the most complex innovations, the risks of which may not be properly understood even by the most sophisticated of investors.\textsuperscript{104} Litigation following these and other crises also demonstrated that the end-users of ill-suited or poorly understood derivatives instruments would find it difficult to obtain damages.\textsuperscript{105} Catastrophic events are, of course, open to a range of interpretations. One representative of the pro-dealer view concludes that the 1990s cases “highlight some of the challenges ISDA and its members face: large market participants can and do go bankrupt; disgruntled counterparties will challenge contracts in court; and regulators will become involved when problems

\textsuperscript{98} See Mugasha 2004: 218–220. For example, “Credit linked notes are used for a number of reasons. Often it is because the investor (protection seller) has the capacity or authority to invest in notes but not directly in an over-the-counter (OTC) derivatives transaction.” Ibid. 218.

\textsuperscript{99} Mugasha 2004: 218.

\textsuperscript{100} Stulz 2004: 173.

\textsuperscript{101} See Stulz 2004: 176–179; Kuprianov 1995 (discussing the cases of Metallgesellschaft and Barings, and arguing that even relatively simple and regulated derivatives can cause tremendous losses if operational risk management is inadequate).

\textsuperscript{102} See Stulz 2004: 179–180 (describing the potential benefits of financial derivatives).

\textsuperscript{103} Stout 2011: 20.

\textsuperscript{104} Soros 1994.

\textsuperscript{105} See Partnoy 2001: 446–478.
The existence of conflicting interpretations is only natural, but the depth of the division is notable.

Extreme postures on financial derivatives are not mere exaggerations in the blogosphere, but are shared by economists at the top of their profession. For example, Joseph Stiglitz, a Nobel-prize winner in economics, proposed in 2009 that the world’s largest banks should be banned from using derivatives (why not small banks, too, one is inclined to ask). In response, Myron Scholes, another Nobel laureate and a notable intellectual figure behind the development of derivatives, quipped that a ban would be a “Luddite response that takes financial markets back decades.” Stiglitz’ proposal may have been exaggerated, but one also wonders whether it is inappropriate to point out that Scholes happened to be one of the directors of Long-Term Capital Management (LTCM), the biggest hedge fund of the 1990s, which suffered huge leveraged losses in 1998 and almost caused a collapse of the international banking system. Perhaps that makes Scholes only better suited to evaluate the matter.

Scholes has talent for one-liners, moreover, such as this: “Cars cause accidents but we don’t ban them.” The comparison between cars and derivatives is surprisingly fitting, as it demonstrates that the issues that we face in the world of complex finance are not that dissimilar from other fields of regulatory policy. Cars are useful, but their use can cause all kinds of problems: firstly, because of their speed and physical mass, which cause significant damage when accidents occur; and secondly, because people can be drowsy, incompetent, impatient, in bad health, drunk or simply imprudent. As a result, cars can be used, but under a string of conditions, including minimum age, seat belts, speed limits, driving license, no alcohol, compulsory insurance, stopping at lights, a range of other traffic rules, and of course a series of regulations concerning car manufacturing so as to reduce the risks of and the damage caused by accidents.

What makes the analogy all the more intriguing is the fact that there are some experts who question the necessity and usefulness of driving-related regulations. Sam Peltzman famously argued that compulsory seat belts do not reduce accident costs overall, because the increased feeling of safety makes drivers less careful. Subsequent research on traffic accidents shows, however, that this risk homeostasis (or risk compensation) hypothesis should be rejected, because user

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107 The Economist 2009 (citing Scholes).
109 The Economist 2009 (citing Scholes).
110 Peltzman 1975. An analogous argument has been developed in the context of financial regulation: see Juurikkala 2012b: 87–90 (discussing arguments to this effect).
responses are more nuanced and it is rare that the collective response cancels the safety benefits.\textsuperscript{111}

\subsection*{1.1.4.3 Unlike Ordinary Derivatives: CDSs, Credit Risk and Insurance}

Despite these significant similarities between credit default swaps and the wider world of financial derivatives (and indeed of risk regulation generally), it will be argued here that CDSs have peculiar features that distinguish them from other financial derivatives. The principal issue is that CDSs are not concerned with ordinary market price movements, but with \textit{discontinuous} changes in credit risk; this is important, because, as Houman Shadab points out, “[c]redit risk has unique properties that differentiate it from market risk and other types of financial risk.”\textsuperscript{112}

It is in this respect that CDSs are much more like insurance products. Despite the fact that credit default swaps are normally categorized as credit derivatives, it is almost universally acknowledged that they seem very much like insurance. Mark Anson’s \textit{Credit Derivatives} manual notes this plainly: “This type of swap may be properly classified as credit insurance, and the swap premium paid by the investor may be classified as an insurance premium. The dealer has literally ‘insured’ the investor against any credit losses on the referenced asset.”\textsuperscript{113} Frank Skinner agrees: “Credit default swaps […] are actually default insurance.”\textsuperscript{114} So does one of the early credit derivatives specialists, Israel Nelken, who writes that “a credit derivative works very much like an insurance policy. […] The credit swap market is very similar to the insurance and reinsurance markets”.\textsuperscript{115}

Similar statements could be repeated \textit{ad infinitum}. “The CDS is similar to an insurance contract.”\textsuperscript{116} “CDSs […] are a form of insurance.”\textsuperscript{117} “In essence, CDSs function like insurance contracts.”\textsuperscript{118} This insight has been captured in recent times by commentators in the financial media, who have begun to refer to CDSs as \textit{credit insurance} and \textit{default insurance}.\textsuperscript{119} The big question is what, if anything, this means for law and regulation.

\begin{footnotes}
\item[111] Evans 1986.
\item[112] Shadab 2012: 1020.
\item[113] Anson 1999: 44.
\item[114] Skinner 2005: 280.
\item[115] Nelken 1999: 5.
\item[116] D’Souza, Ellis and Fairchild 2010: 484.
\item[117] Dempster, Medova and Roberts 2011: 309.
\item[118] Macey 2012: 598.
\item[119] See for example Goodley 2011; Ng and Burne 2011; Milne and Oakley 2012.
\end{footnotes}
1.2 RESEARCH SITUATION

Later chapters will provide more details on the legal and financial CDS literature, but it is opportune to consider the bigger picture of the CDS research situation at this stage in order to better situate the objectives and scope of the present study. This section provides a summary of the principal features of the research situation on CDSs, firstly in terms of its historical development, secondly with respect to legal scholarship in the proper sense, and thirdly regarding the economic and regulatory-political viewpoints. Finally, the status questionis in Finnish law is summarized.

1.2.1 Historical Perspective: The Growth of CDS Research

In terms of historical development, scholarly research on credit default swaps is a relatively recent phenomenon. This is not surprising considering that CDSs themselves have not been around for much more than twenty years. It is however noteworthy that significant scholarly interesting in these products can only be found in the wake of the global financial crisis starting in 2007. Indeed, Partnoy and Skeel wrote in 2007, just before the crisis begun, that “the academic literature has largely ignored these instruments.”

There are many possible reasons for the relatively slow development of an academic interest in these transactions. Their existence was not widely known outside the banking world until the credit crisis. It may moreover be that many of those who took the trouble of understanding the complex world of financial law soon found themselves more attracted by the rewards available outside academia; in fact, much of the earlier CDS literature was written either by practitioners or by law students. Indeed, the majority of CDS books before the crisis were practitioners’ manuals that focused on the pragmatic side of the financial and legal aspects of CDSs. Today, in contrast, there is a burgeoning scholarly literature on CDSs.

1.2.2 Legal-Doctrinal Scholarship

Despite the growing scholarly CDS literature, there are important limits and lacunae. The area with the greatest limitations in terms of scholarly attention is the legal-doctrinal aspect of credit default swaps. In many publications, CDSs has been commonly situated within the broad category of credit derivatives, and the question concerning their legal status has been treated only in passing, normally referring to the US Commodity Futures Modernization Act (CFMA) of 2000 as

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120 Partnoy and Skeel 2007: 1021.
122 For example Nelken 1999; Banks, Glantz and Siegel 2007; Parker 2007.
authority that they are unregulated OTC derivatives.\footnote{Thus, for example Wynkoop 2008: 3099; Shadab 2010: 419.} The role and scope of CFMA will be critically examined later; at this point it is sufficient to note that these studies rarely entered into the trickier legal issues. A good example of this is Agasha Mugasha’s 2004 article, in which the discussion on legal and regulatory issues is limited to a summary of the few available cases concerning the interpretation and enforceability of ISDA standard form documentation.\footnote{Mugasha 2004: 220–226.}

There is ultimately only one major legal-doctrinal theme that has been debated in the literature: Are CDSs insurance contracts or not? This question, which forms the backbone of the present study, has surrounded CDSs from the beginning—or at least from 1997, when Robin Potts, an English barrister, wrote an influential opinion at the request of ISDA, arguing that these contracts are not insurance under English law.\footnote{Potts 1997: 2–8.} In the CDS literature, this is generally referred to as the \textit{Potts opinion} and cited almost like a definitive legal ruling. In essence, Potts claimed that the contract in question was not insurance, because the obligation triggered by the credit event was not conditional on a loss on the part of the protection buyer, so that he did not need to have an insurable interest.

This argument, and its reception, will be discussed and scrutinized in due course.\footnote{See chapter 3.1.3.} For the moment, let us only note that what surprises one when confronted with the literature on this question is the quantity of unreflective analysis.\footnote{Mugasha 2004: 222–223, for example, mentions the insurance law issue only in passing, and the argument is quite clearly incorrect, because the alleged differences between credit derivatives and insurance are those that depend on whether the contract in question is characterized as insurance or not; therefore relying on it to exclude insurance law is a \textit{petitio principii} fallacy, that is, circular reasoning, Shadab 2012: 1034 commits the same error.} As an exception, Paul Ali and Jan Job de Vries Robbé published two articles in 2005 in which they noted in passing that there was a continuing legal risk that credit derivatives \textit{might} be recharacterized as insurance; they in other words recognized that the legal-doctrinal question was not as clear as was routinely assumed by practitioners.\footnote{Ali 2005: 308 (“Notwithstanding the tremendous growth of the global credit derivatives market, there remains a critical legal risk [...] that a court will treat the assumption of credit risk by a Protection Seller under a credit derivative as tantamount to the (illegal) provision of insurance by the party.”). See likewise Ali and de Vries Robbé 2005: 181 (“In the absence of a statutory safe harbour for credit derivatives and synthetic securitisations from the insurance laws, those products remain subject to the risk that a regulator or court may characterise them as insurance contracts.”).} Nevertheless, these authors did not analyze the question any further, and it seems that it was only in the wake of the global financial crisis that commentators began to probe into the issue with a critical eye. Writing in 2008 (although the article was written before the full scale of the crisis}
had revealed itself, Kimball-Stanley concluded sceptically concerning the Potts opinion:

The premise of these arguments [that CDSs are not insurance] is that the insurable interest and indemnity doctrines are defining characteristics of insurance contracts. This premise is incorrect. These doctrines are policy responses to the moral hazard that insurance contracts create. Though they have become defining characteristics of insurance in some contexts, distinguishing CDSs from insurance using these requirements is disingenuous and circuitous.129

In conclusion, the question of insurance law and credit default swaps has attracted little sustained attention. Most studies addressing it have provided insufficient analysis, whereas some others, for example those Henderson, Saunders and Schwartz, have focused on the viewpoint of regulatory policy, i.e. focussing on the question of whether CDSs should be regulated as insurance or otherwise.130 There have, in addition, been significant factual errors in the earlier literature (notably in relation to New York Insurance Law).131 There is, therefore, a great need for a careful examination of all the arguments, and for a balanced reflection on the broader legal-doctrinal question.

1.2.3 Studies on Regulatory Issues
The scholarly interest on credit default swaps has been greatest in the fields of finance and regulation, which is not surprising given the attention attracted by these transactions during the financial crisis. This literature can be divided in three principal categories: studies on the economics of credit default swaps generally, policies studies proposing regulatory solutions, and studies evaluating recent reforms.

129 Kimball-Stanley 2008: 248–249. Roberts 2011, writing in The Financial Times, took an even stronger stance, which in substance seems quite correct: “The derivatives lobby obtained a legal opinion some 15 years ago, which said that CDS and similar contracts could not be insurance contracts because there was not necessarily an insurable interest. […] The argument is, of course, poppycock, as is simple to demonstrate. Suppose I attempt to take out an insurance policy on the life of the prime minister. This would be illegal because of the Life Assurance Act 1774, as I have no insurable interest. Using the argument of the derivatives lobby, I can argue that, because I have no insurable interest, it can’t be an insurance contract, and therefore the Life Assurance Act doesn’t apply. As it’s not an insurance contract, an insurance company can’t transact the business. So I can go to a derivatives provider and effect ‘a traded financial product’. Hey presto! CDS contracts provide a sum insured in return for a premium. They are insurance contracts; res ipsa loquitur. But they are insurance contracts without an insurable interest.”

130 See, in particular, Kimball-Stanley 2008 and Saunders 2010 (favoring insurance regulation); Henderson 2009a and Schwartz 2007 (opposing insurance regulation). The specifically legal question is addressed in Juurikkala 2011, but only with respect to the Potts opinion.

131 See below, chapter 2.2.4.3.
1.2.3.1 Financial and Economic Scholarship

The number of publications is the largest in the field of finance and economics, where there are both theoretical and empirical studies. As Ayadi and Behr point out, though, the majority of these studies are theoretical (i.e. model-based) “because of the lack of data in this area.” These theoretical studies have especially focused on “how CRT [credit risk transfer] transactions can change incentive structures, what the implications of these changes are and how the real economy might be affected by the introduction of CRT transactions.” These issues and the relevant literature will be examined later in detail.

There is, nevertheless, a slowly growing body of empirical studies, and the post-crisis legislation will no doubt facilitate this line of research by rendering the market somewhat more transparent and subject to certain disclosure requirements. Some of the existing studies have sought to empirically test and quantify the theoretical models by studying the effect of credit risk transfers on lending activity. But perhaps the issue where the greatest empirical development has taken place is the question concerning the effects of CDSs on the underlying bond markets.

For the present study, the financial and economic CDS scholarship is more like a tool than an object of direct investigation. It will be seen that it is of great practical relevance when it comes to the examination of the regulatory policy issues, because we cannot make well-established policy evaluations if we do not know what the real issues are and how important they are. These studies are also important for estimating the practical effects that may be caused by different regulatory policies.

1.2.3.2 Regulatory Policy: Issues and Proposals

Based on these and similar studies, several authors in the fields of economics and law have contributed to our understanding of the regulatory policy concerns related to credit default swaps. A frequent theme in this literature is the description of the benefits and costs created by CDSs. A representative example is the seminal article by Partnoy and Skeel, published on the eve of the financial crisis. Among the benefits of CDSs, these scholars include reducing lenders’ risk exposure, facilitating access to capital, and providing market-based information about credit risks. Among the problems, they mention reducing

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132 Ayadi and Behr 2009: 189.
133 Ibid.
134 For example, Goderis et al. 2007. See further below, chapter 5.2.2.
135 For example, Delatte, Gex and López-Villavicencio 2012. See further below, chapter 5.2.5.
136 Partnoy and Skeel 2007.
137 Ibid. 1022–1027.
incentives for banks to monitor, creation of incentives to affirmatively destroy value, opacity, industry self-protection, and systemic risk in the CDS market due to high leverage and interconnections.\textsuperscript{138}

There is today a large literature on these issues. Among the more interesting contributions one should specifically mention Houman Shadab’s 2012 article on credit risk transfer governance, which examines governance problems in credit risk transfer markets broadly, distinguishing between “funded” and “unfunded” credit-risk transfer transactions (mainly securitization and CDSs, respectively).\textsuperscript{139}

In addition to its contribution to theoretical systematization, Shadab’s analysis is interesting in that he is not excessively naive about CDSs, but he still goes on to argue that the existing (largely self-regulatory) governance mechanisms are sufficient.\textsuperscript{140}

Many authors have proposed regulatory reforms. Some of these proposals are now partially outdated given the legislative changes that have taken place after the financial crisis. It is nevertheless useful to look at some examples of the directions taken in the literature. In the seminal study by Partnoy and Steel, there is only a sketch of “preliminary ideas” for reform;\textsuperscript{141} these include more disclosure regarding transactions and ISDA documents, a reform of credit ratings (this is relevant for CDOs), and a limitation of the privileges of derivatives in bankruptcy.\textsuperscript{142} The first and last of these ideas will be discussed later in detail, whereas the second is only relevant for CDOs, which fall outside the scope of this study.

David McIlroy mentions a much wider range of regulatory options, without however examining any of them in depth.\textsuperscript{143} They include, firstly, the standardization of CDSs, which is already significant, and is probably not the key issue. Secondly, there is the use of central counterparties and exchange trading, which McIlroy admits requires standardization and significant liquidity, and creates problems due to greater risk concentration. The third proposal is mandatory collateralization, which is an important issue, but probably the key question is not the existence of collateral, but the unhelpful and even destructive dynamics of bilateral collateral management with CDSs.\textsuperscript{144} Fourthly, we have co-insurance and “retaining skin in the game,” which is an interesting proposal for bank risk transfer incentives, but its efficacy is unclear, and McIlroy notes that it would be “difficult to enforce”.\textsuperscript{145} In order to reduce destructive incentives, he

\textsuperscript{138} Ibid. 1032–1040.
\textsuperscript{139} See Shadab 2012: 1037–1040.
\textsuperscript{140} Ibid. 1040–1046.
\textsuperscript{141} Partnoy and Skeel 2007: 1046.
\textsuperscript{142} Ibid. 1046–1050.
\textsuperscript{143} See McIlroy 2010: 310–314.
\textsuperscript{144} See below, chapter 5.2.2.4.
\textsuperscript{145} Ibid. 313.
fifthly discusses negotiations with the defaulting reference entity, like in ordinary insurance.\textsuperscript{146} Finally, there are the proposals for prohibiting uncovered CDS protection and imposing large exposure counterparty limits (both as in insurance regulation), both of which are interesting proposals that will be examined later.

Noah Wynkoop’s 2008 article goes into much more detail in proposing compulsory disclosures and transaction reporting for credit derivatives.\textsuperscript{147} However, this study is not only outdated but it is also limited in its ambition; it acknowledges the systemic risk implications due to liquidity shocks and high leverage, but it rather optimistically assumes that transparency is enough to resolve the problems.\textsuperscript{148}

Kristin N. Johnson’s 2011 article is more up-to-date, and it is also highly interesting in that it offers a more permanent theoretical contribution by comparing CDS markets with traditional “commons” situations, which in this case may give rise to a tragedy of commons due to the externalities of financial risk.\textsuperscript{149} This study has the advantage of systematically highlighting the externality problems, which cannot be reduced to opacity or leverage. Johnson’s policy proposal is also quite original: she advances a so-called community-governance model, which would be based on federally registered self-regulatory organizations.\textsuperscript{150} This is therefore a hybrid or co-regulatory model, which in the case of CDSs would probably involve the International Swaps and Derivatives Association (ISDA) as the likely candidate.

Johnson’s proposal is interesting, because ISDA already wields significant self-regulatory power, and the community-governance model would subject that self-regulatory power to governmental oversight, including authority to alter the self-regulator rules.\textsuperscript{151} Johnson mentions that the Dodd-Frank central clearing rule is an example of this model,\textsuperscript{152} but a hybrid model could be a modest improvement for the situations where clearing is not compulsory.\textsuperscript{153} This proposal will be further discussed later in connection with the ISDA architecture.

Colleen Baker has advanced a related proposal for OTC derivatives generally, focusing on the problem of regulatory cooperation.\textsuperscript{154} Firstly, she proposes domestic

\textsuperscript{146} This is examined later critically. In this connection, McIlroy also notes, and doubts, the proposal of Ayadi and Behr 2009: 194 for demanding physical settlement instead of cash settlement. I would add that this would effectively dismantle ISDA’s dispute resolution regime, which avoids physical settlement. In this respect the proposal would have wider-ranging implications than it seems at first sight.

\textsuperscript{147} See Wynkoop 2008: 3123–3125.

\textsuperscript{148} Ibid. 3105–3107.

\textsuperscript{149} See Johnson 2011: 177–190.

\textsuperscript{150} Ibid. 242–256.

\textsuperscript{151} See ibid. 247.

\textsuperscript{152} Ibid. 250–251.

\textsuperscript{153} Ibid. 253.

\textsuperscript{154} See Baker 2010.
regulatory cooperation (in the United States context) between the SEC and the CFTC, the two principal financial regulators in the US. Baker’s objective is simply to overcome regulatory turf wars, which for decades have plagued the financial regulatory landscape in the United States. She proposes the creation of a specialized OTC derivatives super-regulator, which “would have regulatory jurisdiction over all major market participants, all currently unregulated OTC derivative products, and all significant market infrastructure institutions such as CCP clearing facilities and trade repositories.” Secondly (and this is relevant more generally), Baker proposes international regulatory cooperation in the form of public-private partnerships between states and private actors such as ISDA. She does not enter into great detail on this, but it is another example of the co-regulatory direction found in the post-crisis literature.

Some authors, including Timothy Lynch, have recommended more radical changes such as the prohibition or non-enforcement of purely speculative (non-hedging) OTC transactions. This perspective receives inspiration from the traditional approach of American law, whose leading scholarly advocates include Lynn Stout. In some respects, this proposal coincides with the view advanced in the CDS debate that uncovered CDSs should be prohibited, although Lynch would extend it to other OTC transactions that fall outside the present study.

This perspective will be discussed later in detail, but it can again be noted already that this proposal alone is not sufficient, because it fails to address other issues, including the stability and systemic risk problems associated with the use of CDSs for hedging purposes (transfer of real credit risks). Moreover, if the proposal were limited to mere non-enforcement of purely speculative transactions, then the contracts could be enforced through extra-legal means by way of a central counterparty, for example. Thus the regulatory logic would largely coincide with the obligation of clearing with a central counterparty, which turns out to be problematic, particularly for CDSs. Therefore, regardless of what one thinks of the overall direction proposed by Lynch and Stout, it should be understood that the regulatory consequences are very different depending on whether it is prohibition or non-enforcement that is adopted.

The viewpoint that has attracted perhaps the least systematic attention in the scholarly literature is the idea that CDSs are essentially similar to insurance. This is probably because the general tendency is to view that as an OTC derivative and to search for regulatory solutions from that ambit. The perspective of insurance

155 Ibid. 1338–1349.
156 Ibid. 1294.
157 Ibid. 1294.
158 Ibid. 1369–1376.
160 See for example Stout 1999; 2009.
regulation nevertheless receives brief positive observations from David McIlroy, as already mentioned; Robert Jarrow likewise proposes insurance-like regulations such as higher collateral and capital charges for CDS traders. The most explicit defence of the insurance perspective has come from Benjamin Saunders, who advocates the prudential regulation of CDS protection sellers. He also provides a brief comparison of prudential regulation as opposed to compulsory clearing. Nevertheless, Saunders’ article is quite short and does not examine the arguments against it, nor does it provide any detail on the possible adaptation of the regulatory regime for the peculiarities of credit risk insurance.

It should finally be pointed out that the review of the literature on regulatory issues uncovers some factual inaccuracies. Among them is the following claim regarding the position of CDS market participants in the current UK regulatory system:

Because derivative dealing is categorized as a regulated activity in the UK, all persons dealing in derivatives must be duly authorized by the FSA. This in turn subjects them to the conduct of business rules foreseen in the FSA Handbook (under COBS). Therefore, despite the absence of direct product regulation, participants in the OTC derivative market are as tightly regulated by the FSA as any authorized firm.

I mention this because it seems not to be an isolated view. The flaw in this argument is quite evident. Although the fact of being a so-called authorized firm in UK financial markets does have some regulatory implications, the rules governing all authorized firms are generic and not especially demanding. These authorized firms include all the hedge funds that are (or were) broadly considered largely unregulated. In fact, the troubles of AIG were precisely due to the CDS activities of its (largely unregulated) London-based hedge fund. Where more demanding rules kick in is at the level, not of general authorization, but of permission to conduct specific financial activities.

1.2.3.3 Studies on Recent Regulatory Reforms
The post-crisis financial market reforms included some changes to CDS markets, as was mentioned earlier, and these reforms naturally sparked a lively debate. This is especially the case with respect to the requirement of compulsory

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162 See Jarrow 2011.
164 Ibid. 448–450.
166 See similarly Jones 2009: 10.
167 See further below, chapter 5.2.3.2.
168 See for example, Benjamin 2007: paras. 10.17–10.20. It is admitted that the terminology of this double regime of the current UK financial regulatory system can be misleading.
centralized clearing for OTC derivatives, which forms the backbone of the post-crisis approach to derivatives regulation, and which presumably applies to CDSs, too. This literature highlights the ways in which the compulsory clearing of these transactions has both benefits and dangers, as it facilitates counterparty risk management but creates larger risk concentrations than before.\textsuperscript{169}

In contrast to the centralized clearing rules, less scholarly attention has been given to the new European rules, which restrict short selling and uncovered positions in sovereign-debt related credit default swaps.\textsuperscript{170} It is briefly criticized by Frederik Dømler on the grounds that the restrictions make sovereign-debt CDSs “less liquid and traded less frequently.”\textsuperscript{171} However, the issue is not analyzed there in any detail, which is understandable, because Dømler’s article focuses on central counterparty regulation.

1.2.4 Institutional Studies

A name that has already appeared repeatedly is that of the International Swaps and Derivatives Association (ISDA). This organization has played a fundamental role not only in the development of standardized contracting in OTC derivatives (CDSs inclusive) but also in the political and legislative process surrounding these markets. Regarding the first of these roles, financial derivatives lawyer Schuyler Henderson observed already in 2002 that the “ISDA master agreement is perhaps the most successful financial form document ever, anywhere. There cannot be any other standard document which governs as many transactions, with as much credit exposure among as many different parties.”\textsuperscript{172} Agasha Mugasha further notes that this has become “a form of self-regulation or ‘soft’ law.”\textsuperscript{173} The ISDA regime is therefore of great interest for legal scholarship, too.

Regarding ISDA’s political role, one might cite among others the following observation by Annelise Riles: “In the United States, intensive lobbying on the part of ISDA has resulted in important revisions of New York state law, the UCC (Uniform Commercial Code), and the national bankruptcy law, and has averted other proposed regulation opposed by ISDA.”\textsuperscript{174} The organization’s political influence is similarly noted in the sociological, interview-based study of Isabelle Huault and Hélène Rainelli-Le Montagner, who note its importance in


\textsuperscript{170} The most complete study seems to be Juurikkala 2012a. Another article on this is Payne 2012, which however only discusses the non-CDS related aspects of the Regulation.

\textsuperscript{171} Dømler 2013: 50. He also argues that there is no evidence that uncovered sovereign CDSs cause negative externalities, but this is merely based on a non-scholarly policy comment by the industry lobby organization ISDA: see ibid. citing ISDA 2010.

\textsuperscript{172} Henderson 2002: 543.

\textsuperscript{173} Mugasha 2011a: 435.

\textsuperscript{174} Riles 2008: 615 n.32.
channelling the voice of the banking sector: “At the international level, banks again chose to put their weight against the regulators within the ISDA. The ISDA had very significant means at its disposition: ‘At a global level the ISDA has colossal clout, they pay lawyers worldwide, all the profession joins, and they lobby the regulators.’ (A trader).”

In legal scholarship, ISDA attracted hardly any attention before the global financial crisis. Among the earliest studies on ISDA was the 2001 article by Sean Flanagan, who offered a pro-ISDA perspective to its history and activities. In the pre-crisis literature, one should also mention Frank Partnoy’s extensive study on financial derivatives scandals, in which ISDA receives much (and less positive) attention.

After the financial crisis, there has been a growing interest in the organization. Joanna Braithwaite has studied ISDA’s Master Agreement regime and its interaction with the courts. Anna Gelpern and Mitu Gulati have examined ISDA’s dispute resolution system. Other scholars have focused on its political role; these include Colin Scott and John Biggins on ISDA’s relations with nation states; Huault and Rainelli-Le Montagner on ISDA’s influence strategies; Glenn Morgan on its activities following the 2008 crisis; and Heather McKeen-Edwards and Tony Porter on ISDA’s role in global finance. In addition, one cannot fail to mention Gillian Tett’s best-selling work of post-crisis financial journalism in which ISDA plays an important role.

### 1.2.5 Credit Default Swaps in Finnish Legal Scholarship

#### 1.2.5.1 General Issues and Insurance Law

Credit default swaps have so far received only limited attention in Finnish legal scholarship, but there are sufficient contributions to render them worthy of a discussion in the present study. The first Finnish contribution is by Miki

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175 Huault and Rainelli-Le Montagner 2009: 564.
178 Braithwaite 2012a; Braithwaite 2012b.
179 Gelpern and Gulati 2012.
180 Scott and Biggins 2012.
181 Huault and Rainelli-Le Montagner 2009.
184 See Tett 2009. Tett is an editor of the Financial Times and has followed ISDA closely over several years.
Kuusinen, dating from 2005, that is from the time before the financial crisis.\textsuperscript{185} This is an LLM thesis, entitled \textit{Luottoriskinvaihtosopimuksen sisältämästä sitoumuksesta erityisesti varallisuusoikeuden kannalta}, in which Kuusinen studies CDSs from the viewpoint of general contract law and property law.

An entire chapter of Kuusinen’s study is dedicated to the broad description and discussion of CDSs.\textsuperscript{186} Most of the discussion remains at an abstract level without getting into legal specifics,\textsuperscript{187} but even at this level some interesting points are raised, for example that credit risk as such cannot be the precise object of contractual transfers; what can be transferred is specific legal rights such as those embodied in a loan contract, which of course is economically subject to risk.\textsuperscript{188} Thus the \textit{transfer of credit risk} is the \textit{economic effect} of the contract, but its specific legal content must be characterized differently. This is a worthy point that has hardly been mentioned anywhere else in the literature.\textsuperscript{189}

Regarding the contractual characterization of CDSs, Kuusinen dedicates some attention to the similarities between CDSs and insurance.\textsuperscript{190} The discussion is only preliminary, and the author acknowledges that more research is needed.\textsuperscript{191} I will later return more specifically to what he proposes. The study in any case reveals that Finnish law presents many interesting legal-doctrinal questions for credit default swaps.

After the financial crisis, there have been some more studies, among which we can firstly note an article by Juho Kivi-Koskinen, who analyzes the securitization of sub-prime mortgages and their role in the financial crisis.\textsuperscript{192} However, the article only marginally touches upon credit default swaps, as it is more concerned with the economic-legal dynamics generally than with the implications in terms of Finnish law.

Of much greater interest is the LLM thesis of Lauri Ahokallio, entitled \textit{Luottoriskinvaihtosopimuksen oikeudellinen luonne erityisesti vakuutusoikeuden näkökulmasta}.\textsuperscript{193} Ahokallio dedicates particular attention to the relationship between CDSs and insurance law, but he also touches upon several other points,

\textsuperscript{185} See Kuusinen 2005. He has later published an article on structured finance products and consumer protection: Kuusinen 2008. This includes also an overview of some issues related to credit derivatives, including CDSs and CDOs (see especially pp. 260–261). However, most of the attention is given to structured finance and its implications for consumer protection (pp. 262–265).
\textsuperscript{186} Kuusinen 2005: 38–61.
\textsuperscript{187} See especially ibid. 38–47.
\textsuperscript{188} Ibid. 44–45.
\textsuperscript{189} One possible reason is that the Anglo-American financial law scholarship is characterized by an eminently practical, non-theoretical methodology.
\textsuperscript{190} Ibid. 57–61.
\textsuperscript{191} Ibid. 61.
\textsuperscript{192} See Kivi-Koskinen 2010.
\textsuperscript{193} Ahokallio 2011.
including the contractual nature (sopimusluonne) of CDSs, the differences between CDSs and loan agreements generally (velkakirja), the differences between CDSs and property securities (esinevakuudet) and what Finnish law calls personal securities (henkilövakuudet), such as third-party guarantees (takaus) and letters of credit (reimburssi). Another point of great interest is the difference between CDSs and financial securities (arvopaperi). The most important contribution, however, pertains to the insurance law question, which will be studied later in a critical dialogue with Ahokallio.

1.2.5.2 Translating Credit Default Swaps

There is one practical question that both Kuusinen and Ahokallio raise: how should credit default swaps be called in Finnish? This term was translated as luottoriskinvaihtosopimus by the Finnish Financial Services Authority back in 2004, and this has stayed as the standard expression in Finnish. Kuusinen notes, however, that the word vaihto (i.e. exchange or swap) is descriptively ill-suited for this purpose, because CDSs economically transfer credit risk instead of exchanging or swapping them.

Ahokallio shares this terminological critique, arguing that CDSs should be called credit risk transfer contracts, not swaps, because a swap implies an exchange of related interests (here, of credit risks), so that a credit risk swap properly speaking would be an exchange of two different credit risks. I entirely agree with both Kuusinen and Ahokallio. Perhaps we should adopt the expression

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194 Ibid. 70.
195 Ibid. 71–73.
196 Ibid. 73.
197 Ibid. 73–82.
198 Ibid. 82–83.
199 Ibid. 88–110. See below, chapter 3.3.
200 Kuusinen 2008: 47.
201 "Mielestäni termin vaihto käyttäminen on jossain määrin harhaanjohtavaa tai epätarkkaa tarkastelun alaisena olevan instrumentin yhteydessä. Varsinaisessa sopimusjärjestelyssä ei nimittäin vaihdeta mitään vaan luottoriski siirretään toiselle osapuolelle. Tästä syystä soveliaampi termi olisi luottoriskinsiirtosopimus. [...] Katsoisin esitetyn kaltaisen terminologisen detaljin uudelleenmäärittelyn olevan paikallaan ja myös perusteltua." Ibid. 47–48. I would further sustain that it is grammatically incorrect to write luottoriskinvaihtosopimus or luottoriskinsiirtosopimus without the space in Finnish.
202 Ahokallio 2011: 57 n.123: "todellinen ‘swap’ olisi pikemminkin sopimus, jossa velkoja B vaihtaa referenssientiteettiin liittyvän luottoriskin johonkin suojauksen myyjän C nimeämän viiteytyksen luottoriskiin, jolloin voitaisiin todeta vaihdetun ‘yhtiöriski X yhtiöriski Y:hyn’."
OBJECTIVES AND SCOPE

I will later argue that CDSs should not be called swaps in English, either.203

There may be scope for further terminological precision, however. Ahokallio refers to CDSs as credit risk swaps, possibly as a consequence of retranslating back into English the original Finnish translation luottoriskinvaihtosopimus. This is inaccurate, because the original English expression refers to credit default (in Finnish, luottotappio), which is narrower than the generic concept of credit risk. Some examples of non-default credit risk are market risk (e.g. price changes in secondary credit markets, and asset liquidity risk) and legal risk (e.g. the risk that an agreement is deemed illegal or unenforceable). CDS contracts provide no protection against these risks; they are specifically triggered by default events specified in the agreement. Secondary price movements, of course, influence CDS markets, and the default payments under CDSs are normally determined according to post-default prices in secondary markets, but without a specific default event, there is no compensation whatsoever under CDSs. It follows that the best translation would seem to be luottotappioriskin siirtosopimus.

1.3 OBJECTIVES AND SCOPE

The previous discussion on the research situation has unearthed a range of important research needs. This section outlines and explains the objectives and scope of the present study. It starts by considering the principal research questions, which are divided into legal-doctrinal and regulatory-political questions. It then explains the choices of legal jurisdiction that have been made for purposes of limiting the scope of legal material. Finally, a brief comment is provided on some of the issues that have been specifically excluded from this study.

1.3.1 Research Questions

The present study is built around two general questions: What are credit default swaps legally, i.e. how should they be legally categorized (the legal-doctrinal question) and how should they be regulated (the regulatory-political question). Each of these bigger questions implies several smaller questions, the principal of which are outlined next.

1.3.1.1 Questions concerning Legal Doctrine

There are at least four sets of questions concerning the legal classification of credit default swaps. The first question concerns the fact that there remains significant

203 See below, chapter 3.1.4.3.
uncertainty and confusion regarding the legal characterization of CDSs. Before attempting to clarify the legal question itself, it is asked what factors have contributed to this uncertainty, and why the question is supposedly difficult. One obvious explanation is that CDSs are historically novel financial instruments, and they are contracted using a terminology that greatly differs from the terminology of traditional legal categories. This would explain, at least in part, why these products may be lacking clarifying legislation and why they cannot be easily fitted into traditional legal categories.

It will be argued, however, that this is really not a sufficient explanation. Given the tremendous growth of CDS markets globally, the lack of legal sources, whether statute or case law, is very surprising. The question is, Why is this so? Is it a mere coincidence or are there institutional factors pushing in that direction? The lack of specific legal sources implies that the question will have to be studied in terms of general sources and academic literature. The latter, as we have already seen, may be somewhat skewed when it comes to financial markets law. That raises the question of how that literature should be evaluated.

It will be argued that there is a further reason for the confusing situation, namely that CDSs fall in the intersection of a range of transactions that are legally different but that economically resemble each other. This leads to the second research question: What are the principal potential legal categories, and what are the arguments in favour and against applying each category to credit default swaps? The categories examined here are gambling, securities, letters of credit, guarantees, insurance, and derivatives. The last two will receive more detailed attention, but the other alternatives are not without interest either (except gambling, which is easily excluded in most jurisdictions). The category of securities is especially interest insofar as that seems to be the preferred option in important circles, but it will be argued that this view is fundamentally mistaken; this conclusion follows from an examination of the way in which secondary-market trading is conducted in CDS markets. In contrast, tripartite arrangements such as letters of credit and third-party guarantees cannot be easily excluded; the question here will focus on the distinction between two-party and three-party arrangements.

The subsequent chapters focus on the two principal alternatives advocated in the existing literature: one is the insurance-based understanding of CDSs, whereas the other is the derivatives-based understanding according to which CDSs are essentially options or swaps. The overall argument in the present study is that both views can be supported, but for different reasons.

Therefore, the third set of questions concerns the application of insurance law to CDSs. What are the arguments for applying or not applying it, and what would the insurance recharacterization of CDSs imply? This is one of the biggest and

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204 See Kimball-Stanley 2008; Saunders 2010; Juurikkala 2011.

most complex questions, as it implies a range of smaller questions, as will be seen in due course (see chapter 3). These questions may be separated into two principal groups. On the one hand, there are questions concerning the application of general insurance law principles (general demarcation criteria, the doctrine of insurable interest, and loss indemnification) to credit default swaps. On the other hand, there are specific questions surrounding recent documents and interventions, including the influential Potts opinion and the fluctuating position of leading regulatory authorities (mainly the New York insurance regulators, but some statements by the UK Financial Services Authority are also of interest).

The fourth set of questions concerns the derivatives-based view of CDSs (chapter 4). This view has attracted much attention in the US, which is where the most relevant legislative reforms have taken place. Nevertheless, it will be seen that there relevant legal sources are both scarce and conceptually confusing. In fact, the current legal and regulatory environment is a puzzling mixture of conflicting elements. In order to make more sense of the situation, attention is here given to the legislative history of derivatives regulation (mainly in the US, which has marked the pace globally). In addition to the legislative outcomes, one wishes to understand the principal factors that have shaped those outcomes. Among the various influence factors, the greatest attention here is given to the activities of the International Swaps and Derivatives Association (ISDA), which has been identified as the principal behind-the-scenes driver of the current legislative framework. The post-crisis Dodd-Frank legislation is also carefully examined, not only because it sets one of the main contexts for current policy evaluation, but also because it embodies intriguing tensions concerning the legal classification of credit default swaps. It will also be seen that this question, which reflects a kind of political interpretation of the derivatives classification of CDSs, in a sense closes the circle of the legal-doctrinal perspective, as it sheds further light on the first question that was posed at the beginning, namely why there is such confusion surrounding this issue.

1.3.1.2 Questions Concerning Regulatory Policy
The questions regarding the regulation of credit default swaps are here grouped into two categories. There is firstly the preliminary question regarding the regulatory motive or justification of regulation, i.e. whether there is any need for regulating CDSs or changing the way in which they are regulated. This is a highly complex question, because it is connected to a range of broader issues surrounding corporate governance, financial markets and financial innovations. The present study seeks to identify and critically examine the principal regulatory concerns, which form as it were the necessary background material for the evaluation of different regulatory policy alternatives (see chapter 5). This question is given great attention here, because the issue of CDS regulation cannot be considered in the abstract without taking the existing regulatory situation into
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cornerstone, including its weaknesses that go beyond the problems posed by
CDSs.

The second set of questions concerns specific regulatory approaches and
alternatives (chapter 6). The present study focuses on the four following
approaches: industry self-governance led by the International Swaps and
Derivatives Association (ISDA), disclosure and transparency regulation,
compulsory central counterparty (CCP) clearing, and heavier interventions along
the lines of insurance regulation. The first three of these are the principal
governance regimes currently in place for CDS markets, and the last one is
partially reflected in the European short selling regulation.

More specifically, the section on ISDA-led self-regulation provides an
introduction to the current ISDA architecture, and it seeks to identify its
advantages and disadvantages. The latter can be distinguished into two types of
disadvantages, namely doubts concerning the functionality of the architecture,
and legitimacy problems. Possible reform avenues are also considered within the
self-regulatory approach. The section on transparency regulation summarizes the
principal post-crisis reforms in Europe and the US, and evaluates their sufficiency
for resolving problems surrounding credit default swaps. The importance of
transparency can hardly be overstated, but it will be argued that there are
significant limits to what it can achieve. Central counterparty clearing forms the
principal novel element in the post-crisis legislative framework, which is why it
merits careful evaluation. It will however be criticized in light of the doubts
concerning its applicability and safety for CDS markets.

Special attention is given here to the possibility of insurance-based regulation
of CDS protection selling, because, as we saw earlier, the existing literature has
largely neglected this possibility even though it is a central issue from an
economic point of view.206 The approach chosen here is to examine whether there
is scope for a targeted regulatory scheme that would adapt the relevant insurance
regulation principles to the peculiarities of credit default swaps (as is already
done in some other insurance categories). It will also be asked whether these
principles might be developed within the existing regulatory frameworks
without the necessity of new legislative reforms.

If we compare these regulatory approaches that form the core of this part of
the study, we may observe a kind of progression between them, ranging from
practically no regulation towards relatively intrusive intervention. They are also
broadly related to the three archetypical regulatory strategies, namely self-

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206 See Jarrow 2011 (analyzing CDSs from the viewpoint of insurance economics). This
perspective has only been given modest attention by Kimball-Stanley 2008 and Saunders 2010,
who fail to address the practical difficulties and weaknesses of this approach. On the other
hand, the zealous critique of insurance regulation of CDSs by Henderson 2009a is excessive,
and it has not received an adequate response.
regulation, co-regulation, and command-and-control regulation.\textsuperscript{207} This progression towards heavier intervention is analytically important, because the mode of analysis here is holistic and comparative; in other words, the question is not so much whether one or other strategy might be the perfect solution (which is highly unlikely) as what their advantages and disadvantages are. There is a great need for such comparative analysis, because each approach has its strengths and weaknesses, yet the existing literature has tended to focus on specific proposals without paying attention to the alternatives.\textsuperscript{208}

Importantly, the four regulatory strategies considered here must not be considered as mutually exclusive, because they may complement each other. For example, the first three of them are together currently applicable to most CDS contracts; moreover, if the contract references European sovereign debt, then the restrictions imposed by the European short selling regulation may be relevant. A possible exception to this cumulative logic would be the imposition of insurance-like regulation on CDS protection selling—for example by way of compulsory loss reserving and large counterparty limits—but in fact even in that case the other regimes would not necessarily be excluded. Moreover, insurance-based principles might be employed to further develop the regulation of institutions acting as central counterparties for CDSs.

1.3.2 Jurisdictional Choices

The choice of jurisdictions has here been made in light of pragmatic considerations, so that both the practical importance and the theoretical interest implied in the choices has been taken into account. In the present study, there are a range of different factors and dimensions to consider.

1.3.2.1 Legal-Doctrinal Questions: England and the United States

With respect to the practical importance of different jurisdictions, the guiding principle here has been the fact that London and New York are by far the biggest centres of CDS transacting, and indeed the majority of CDS contracts are based

\textsuperscript{207} In the theoretical literature, there are many different classifications; see for example Baldwin and Cave 1999: chapter 4, which discusses these strategies (their notion of enforced self-regulation is close to the notion of co-regulation adopted here) as well as many other ones that are mostly irrelevant for the present issue, and indeed are not found in the existing CDS literature.

\textsuperscript{208} Alternatively, some authors have briefly commented on different policy alternatives, but have not attempted a detailed examination of the issues: see McIlroy 2010: 310–31 (briefly discussing different regulatory reform options); Saunders 2010: 448–450 (briefly comparing prudential regulation with other proposals such as compulsory clearing); Henderson 2009a: 34–39 (arguing that moral hazard concerns can be resolved through self-regulatory mechanisms).
on either English or New York law.\footnote{Parker 2007: 13 notes that London is the leading credit derivatives market. Metcalfe 2006 writes that London is the global leader in the CDS market.} Therefore the legal-doctrinal aspect of the study is focused on English and United States law.

The relative importance of England and the United States is not equal, however, when it comes to different dimensions of the legal question. In the ambit of insurance law generally, it is English law that is the most important context here, not only because it forms the basis of the greater part of United States insurance law principles, but also because the famous Potts opinion was written in the context of English law. United States insurance law is naturally also covered here in a limited manner insofar as it differs from the general common law insurance principles.

On the question of financial derivatives law, on the other hand, it turns out that English law has relatively little of interest to say regarding credit default swaps specifically, whereas it is the United States that the most intriguing legislative developments have taken place. The question regarding the evolution of financial derivatives legislation, therefore, focuses largely on United States, because it was there that the novel category of largely unregulated swaps was created and later extended to these transactions which, since then, have been called credit default swaps.

United States law, however, has the added complication that some of the issues—financial derivatives law in particular—pertain to the sphere of federal law, whereas others—including insurance law—are subject to state law. On the latter, then, the analysis is largely restricted to New York State law, because New York is the location of the leading CDS market and it is also the jurisdiction that offers the greatest amount of legal material on the question, whereas most of the other US states have not addresses the CDS question explicitly.

There are some minor additions beyond English and United States. One of them is, in the context of the demarcation of the scope of insurance law, a brief discussion on Finnish law, which has been included for comparative purposes, naturally taking into account the institutional location of the research project. Another addition is a brief comment on Australian insurance law in the context of the question of the requirement of insurance interest; Australia has been included here, because the doctrine of insurable interest is one of the big questions raised by CDSs, and the audacious Australian reform in this field is widely cited.

1.3.2.2 Regulatory Policy Analysis: United States and European Union

On the normative question of regulatory policy, the jurisdictional choices have been made with some similarities and some differences, taking into account the different legislative reforms that took place after the global financial crisis. United States continues to be a focal point in this respect, especially due to the Dodd-
Frank Act, which is of great importance for the development of CDS regulation and which has been widely commented in the academic literature. Some further material has been offered by the pre-Dodd Frank legislative project of the US state insurance legislators, which has the further advantage for research purposes that it was a common project of the coordinating body of US state insurance legislators.

In Europe, on the other hand, the principal reforms of interest took place not in the UK but at the level of the European Union. These include the EMIR regulation, which broadly coincides with the Dodd-Frank Act’s requirement of compulsory centralized clearing for most OTC derivatives, so that these two reforms are studied here as a unified policy strategy. The same is broadly true of new disclosure requirements. In Europe, however, there is an additional project of great interest for CDS policy analysis, namely the new short selling regulation, which is an entirely novel phenomenon in CDS regulation without precedent or comparison in other jurisdictions.

Naturally the policy analysis pertaining to CDSs goes beyond specific jurisdictions. The analysis of policy issues raised by CDSs is here done with a view to the leading jurisdictions under study, but the results are broadly applicable to other jurisdictions. The policy evaluation of the self-regulatory governance mechanisms of ISDA is also independent of specific jurisdictions, although it remains in the power of different jurisdictions to determine whether and to what extent the ISDA architecture will be legally enforceable.

1.3.3 Exclusions

1.3.3.1 Other Regulatory Approaches
There are many interesting and important questions that have not been included in the present study. Some of them merit a brief comment, including the perspective of consumer protection, which is one of the principal objectives of modern financial regulation. This perspective is not wholly missing in this study, because in a certain sense the regulation of CDS protection selling is also a form of consumer protection.\(^{210}\) What has been excluded entirely is the notion of unsuitability, which is an important issue in financial services law generally and may be relevant for the sale of derivatives, particularly as some financial products are so complicated that it may be difficult even for experts to understand them.\(^{211}\) In practice, the courts (especially but not only in England) have usually taken the view that, where consumers are not involved, clients must bear the responsibility

\(^{210}\) This is the argument of Morrison 2004 with respect to life insurance.

\(^{211}\) Benjamin 2007: para. 5.117.
for voluntarily entering into contracts carrying significant risks. Therefore, the issue is not of much legal-doctrinal relevance when it comes to products like CDSs; this can also be said of policy concerns for the most part.

Another issue that is here examined only partially is the new compulsory clearing regime in Europe, commonly known as the European Market Infrastructure Regulation (EMIR). This Regulation is here discussed principally with respect to the policy issues, i.e. whether central clearing is a suitable and adequate mechanism for reducing problems associated with credit default swaps. Legal-doctrinal issues are, therefore, largely left aside, but they might be a fruitful field for future research.

Another field of recent European reforms that influence CDSs is the new Market Abuse Regulation (MAR). In its preparatory impact assessment, the European Commission explicitly noted that the earlier Market Abuse Directive (MAD) failed to cover OTC transactions, creating a significant regulatory loophole. It may be, though, that national rules in some cases were already more demanding. In any event, the new Regulation would merit its own, detailed examination, given the significant practical challenges involved in applying these principles to OTC transactions.

1.3.3.2 The Problem of Collateralized Debt Obligations

One topic that is closely related to credit default swaps and that has aroused heated debate is the product category known as collateralized debt obligations (CDOs). These are discussed briefly here in connection with the role of CDSs in the financial crisis, but in large measure they are not given detailed attention because they involve entirely different issues. Some observations are opportune,
however, to show how these products are situated with respect to the present study.

CDOs are notorious for creating complex and opaque risks. According to Partnoy and Skeel, CDOs share many of the problems associated with CDSs, but they also have some unique problems due to the exploitation of modern mathematical finance methods in order to artificially reduce the credit ratings of the relevant CDO tranches. Given that the creation of CDOs involves very high transaction costs, and that CDOs do not create new loans but merely repackage their risks among different parties, it is quite doubtful that the real net value outcome of this process could be positive.

In brief, then, the principal problem in the process of CDO creation is that these methods of mathematical finance are often based on flawed models that incorporate erroneous assumptions and fail to adequately reflect all the risks involved. In itself, the existence of such model imperfections is hardly surprising, not only because all modern finance is subject to imperfections, but also because the models for CDO valuation have been developed by investment banks (in collaboration with credit rating agencies) that are eager to sell these products and hence also to build them so as to make them as attractive as possible.

Economically, this critique of CDOs implies that these transactions are paradoxical, because instead of creating “arbitrage opportunities” by identifying and exploiting price imperfections found in the underlying credit markets, the CDOs themselves are incorrectly priced. In other words, the apparent arbitrage opportunities provided by CDOs are due to the underestimation of the real default probabilities embedded in these products. In terms of value added, CDOs are attractive only insofar as their buyers only care about (or only pay attention to) ratings and yields, and care less about real financial risks. But this means that, economically, CDOs do not help to correct existing price imperfections, but in contrast they are create price imperfections and thereby add confusion in the credit risk market.

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217 A good description of how CDOs function can be found in Ayadi and Behr 2009: 183–184, as well as in Partnoy and Skeel 2007: 1041–1044.


219 Ibid. 1041 (“if a trillion dollars of CDOs have been sold, financial intermediaries have earned billions of dollars in fees.”).

220 Ibid. 1040–1041.

221 Ibid. 1040–1046.

222 Ibid. 1044 (“Perhaps surprisingly, it is the investment bank structuring the CDO—not the rating agency—that typically performs these complex calculations. The process of rating CDOs becomes a mathematical game that smart bankers know they can win. A person who understands the details of the model can tweak the inputs, assumptions, and underlying assets to produce a CDO that appears to add value, even though in reality it does not.”).

223 Ibid. 1043.
In terms of law and regulation, in any event, the questions raised by CDOs are related to, on the one hand, to the use of mathematical modelling in the risk-regulation of financial institutions (as, for example, in bank capital regulation), and on the other hand, the regulatory reliance on credit ratings. Both of these are practical issues of major ongoing concern: after the global financial crisis, these problems have been widely acknowledged, but only limited progress has been made in improving the regulatory system in this respect. Importantly, the problems associated with CDOs cannot be resolved merely by insisting on disclosures; as far as the purchase relationship is concerned, the limitations of CDO models are already widely known, and in terms of disclosure for corporate governance purposes, it is doubtful whether so complex risks can be effectively communicated. From a scholarly point of view, though, these problems have already been extensively discussed in the academic literature, so that the remaining questions are of a more practical and technical nature.

1.4 METHODOLOGY

The research objectives outlined in the previous section raise a range of methodological issues, which are now examined firstly in relation to legal-doctrinal questions and then concerning regulatory-political questions. Both categories raise specific issues, so that in some respects it is possible to speak of different legal-doctrinal and regulatory-political methodologies. There is, however, also an issue that concerns the relationship between these ambits; this is here included in the discussion on legal doctrine.

1.4.1 Legal-Doctrinal Issues

The present study is situated methodologically within the common law tradition of legal thought in which law is predominantly studied as a social phenomenon that can only be fully understood in light of its broader context. The notion of legal doctrine, as it is used here, should not be fully identified with what Continental jurisprudence calls legal dogmatics, that is, the analysis and systematization of the existing system of legal norms and principles. Such a task forms part of this study, but principally as a preliminary stage for the evaluation of the present legal situation in terms of economic and regulatory concerns. It is not appropriate here to enter into the philosophical discussion concerning the nature of law, but it is necessary to confront certain underlying issues that influence the way this study has been formulated.

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224 See further below, chapter 5.1.2.
225 See particularly Partnoy 1999 and Partnoy 2006a on the history and functioning of credit ratings.
1.4.1.1 Is There One Right Answer?

One of the issues that are always present, at least implicitly, in legal interpretation is whether or not there is an answer to every legal question that may be posed, or a correct solution to every legal problem that may arise. The approach taken to this issue obviously leads to further questions: if an answer always exists, whether there may be one only, or more; if an answer cannot sometimes (or indeed ever) be provided, what can be done, then. This methodological question concerning the existence of correct solutions is, for the present study, more than vain speculation, because the question concerning the legal characterization of the transaction known as a CDS in a given jurisdiction is confronted with two major challenges. First, there is a remarkable lack of normative legal material dealing with CDSs explicitly, and the norms and principles that may be relevant implicitly (general insurance law, for example) are at times ambiguous. Second, there are in some contexts more or less relevant norms that are in clear tension if not outright contradiction with each other. These two challenges correspond quite precisely to the two sources of legal incompleteness: gaps and ambiguity, on the one hand, and tensions and contradictions, on the other.226

The general issue has obviously been debated for centuries. To mention just some representative positions, there is the tradition that defends the existence of a right legal answer, ranging from ancient Roman jurisprudence to the traditional English idea that judges find law not make it; it is equally found in the ideals of the Enlightenment philosophy that pictured courts as automatic enforcers of legislation, and more lately in the legal philosophy of Ronald Dworkin among others.227 Dworkin was however reacting to the growing current of sceptical views that dominated much of the 20th century; these views included American legal realism and critical legal studies as its extreme variants, but it can be said that there are today few who subscribe to the strong version of the one-right-answer thesis, according to which there is always a unique correct answer and it is knowable to us.228

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226 For a discussion of the notion and problem of legal incompleteness in the ambit of financial law, see Pistor and Xu 2003.


228 On the evolution of the debate, with special attention to Finnish jurisprudence, see for example Kaisto 2005: 482–499. Aarnio 1989a: 266 distinguishes between three modes of the one-right-answer thesis (strong form: the answer exists and it can always be found; weaker form: it exists and it may or may not be found; weak form: it exists, but it cannot be found). Kaisto 2005: 143–160, 465–499 defends a rather audacious view of the one-right-answer thesis.
The view followed here is a middle position, which on the one hand acknowledges the insurmountable difficulties faced in the search for a unique right answer; specifically, these difficulties include both our epistemological limits (Dworkin’s Hercules is not to be found) as well as the genuine underdetermination of the legal order.\textsuperscript{229} On the other hand, this view defends the search for a right answer as something necessary and purposeful, because it expresses the fundamental sense of the principle of legality, understood as a dynamic aspiration for the ordering of society according to justice and reason, which also implies predictability and internal coherence.\textsuperscript{230} This view has certain important points of contact with the other issues discussed next.\textsuperscript{231}

1.4.1.2 Refutations and Paradigms

The view adopted here is, in other words, that the search for correct answers to legal questions is theoretically sound, but at least in so-called hard cases it may be impossible to find a unique right answer. That does not mean, however, that in those cases nothing meaningful can be said. The matter can be clarified in two respects by way of reference to analogous categories in philosophy of science generally.

The first category of relevance is the notion of falsification developed by Karl Popper.\textsuperscript{232} Without undue references to the complexity of the question, the point

\textsuperscript{229} This view of the relative (not absolute) underdetermination of law—and indeed of morality—is developed in more detail for example in Kramer 2008, who rejects both extremes of strict moral skepticism and the absolute determinacy of Dworkin, and Rentto 1988: 161–162, who argues that there are sometimes several “right” (good) answers, and several wrong (bad) ones. In moral philosophical terms, see likewise Finnis 1980: 284–290.

\textsuperscript{230} A more systematic exposition of my view can be found in Juurikkala 2010. A broadly similar position is that of Rentto 1988, 1990. In terms of the theoretical existence of a unique right answer, I am probably more optimistic, whereas Rentto 1988: 161–162 favors the existence of several right/good answers in some questions, although Rentto 1990: 156 expresses certain openness to the possible theoretical existence of a unique right answer: “[Y]leisellä tasolla voidaan arvoista olla aina monta mieltä, mutta jossakin konkreettisessä ratkaisutilanteessa on mahdollista selvittää, mikä konkreettinen menetelytapa ratkaisee ongelman järkevällä tavalla. […] [V]oidaan teoriassa ajatella, että jokaisessa ratkaisutilanteessa ehkä on oma ainutkertainen oikea ratkaisuna. Mutta me emme milloinkaan kykene arvioimaan jokaista relevanttia ratkaisuperustetta.” On the notion of law and legality in the sense described here, see especially Finnis 1980: 269–273 (describing the features of the specifically legal order and the notion of the Rule of Law). On the notion of law as intrinsically ordered towards justice and reasonableness, see also Finnis 2002: 1–23, 26–30; Fuller 1958: 638–648; Fuller 1964; Klami 2001.

\textsuperscript{231} Indeed, I argue in Juurikkala 2010: 124 that the theoretical ideal of a unique right answer is not without practical consequences, contrary to the claim of Aarnio 1989b: 606, who invokes Occam’s razor as a basis for forgetting about the notion of one right answer. In favor of my position, see likewise Alexy 1989.

\textsuperscript{232} See Popper 2002.
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here is the principle that although it will often be difficult to conclusively verify any specific theory, it will often be possible to advance our knowledge by ruling out certain other theories and thereby limit the scope of plausible ones. This ruling out of certain alternatives will implicitly strengthen (or corroborate) other theories even when their correctness cannot be irrefutably proven. Applying this perspective briefly to the legal arguments that follow, we can say that most of the arguments move at the level of falsification, that is, at the level of ruling out certain legal-doctrinal understandings of credit default swaps. In some cases, the refutation is conclusive (for example, in the case of the widely misquoted New York Insurance Law), whereas in other cases the conclusion is more nuanced but nevertheless highly probable (for example, with respect to the loss indemnity aspect of CDSs). These arguments are not sufficient for definitively establishing the correct legal doctrine of CDSs, but they are steps forward in a process in which we are advancing towards a correct understanding of the relevant legal issues.

It is obvious, however, that no argument can be considered in isolation. Therefore, the second category that is of great relevance for the present study is Thomas Kuhn’s notion of paradigms, or Imre Lakatos’ related notion of scientific research programs. Again, the details and possible differences between these notions are not of great importance here; what matters is the recognition of the holistic nature of any scientific enterprise. This means that any argument must be considered as interconnected to other arguments, forming as it were broader paradigms or research programs, which should be assessed in a holistic manner. Applying these notions to the present study, it can be said that there are two principal paradigms regarding credit default swaps, the insurance paradigm and the derivatives paradigm. The main objective of the legal-doctrinal part of the study is precisely the study of these paradigms. The contribution of the arguments and findings is more accurate understood when considered in this light, as strengthening or weakening the broader paradigms.

Importantly, these paradigms are not restricted to strictly legal questions, but also encompass views and attitudes concerning broader policy issues. In particular, the advocacy of one paradigm or the other is rarely detached from broader considerations of financial regulation. Thus, advocacy of the derivatives-characterization of CDSs tends to coincide with a policy outlook that is sceptical of financial regulation, and that highlights the benefits of CDSs and the disadvantages of insurance law, favouring self-governance or (at most) central counterparty clearing of CDSs. In contrast, the insurance-based view is usually related to arguments in favour of reserves regulation and the insurable interest

233 See below, chapter 2.2.4.3.
234 See below, chapter 3.1.6.
235 See Kuhn 1970; Lakatos 1977.
requirement for CDSs. Thus the paradigm perspective enables us to situate the individual arguments in a broader context. It also reveals that there is an unavoidable connection between the is and ought of legal policy, which is considered next.

1.4.1.3 The Is and Ought of Positive Law: Distinction and Interrelation
In the search for answers to legal questions, hard cases can be divided into two broad categories: on the one hand, there are cases and situations in which the formal (positive) legal sources are ambiguous or incomplete; on the other hand, there are cases in which there is a tension or outright conflict between positive law and the requirements of justice. The latter category is traditionally known as the problem of unjust law, which implies a range of difficult questions such as how to conceptualize and how to meaningfully resolve the conflict. In the present study, such questions are not directly relevant, because it is difficult to argue that the doctrinal problems of CDSs would raise concerns of manifest injustice; what is of relevance, however, is the more modest challenge concerning the distinction and interrelation between what the positive law is and what it presumably ought to be.

In the legal-doctrinal part of the study, the analysis starts with the presupposition that the positive legal order can be taken as a given, but as we proceed in the analysis, it will become clear that there are, quite naturally, other questions of great interest that must inquire beyond the lex lata. As was just mentioned, the contrasting insurance and derivatives paradigms of CDSs are connected to regulatory and economic views in ways that are by no means arbitrary. This also entails an important challenge, because one should see to what extent those broader paradigm connections are truly necessary. For analytic purposes it is helpful to distinguish between the legal-doctrinal and the regulatory-political issues. Even if one thinks that CDSs are to be classified as insurance as a matter of law, it does not logically follow that insurance law is necessarily the optimal way of regulating CDSs. It could be argued, for example, that insurance law is based on archaic principles that are not fully applicable in the context of modern financial markets, or that subsequent institutional evolution has more efficient forms of tackling problems such as moral hazard and counterparty risk.

Let us illustrate this further by posing two different questions. The first question (the legal-doctrinal question) is: Are credit default swaps insurance contracts as a matter of legal doctrine? In other words, taking the state of financial regulation and insurance law as given, do CDSs fall within the scope of insurance regulation? The second question (the regulatory-political question) is: Should

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credit default swaps be regulated as insurance? In principle, there are four possible answer combinations. The simplest ones are (a) yes to both: CDSs are essentially insurance contracts and should so be regulated; and (b) no to both: CDSs are distinct from insurance and should not be so regulated. But the other combinations are also plausible. One is that (c) as a matter of current law, CDSs fall within the legal category of insurance, but as a matter of policy, insurance regulation is not the best way of dealing with the issues; this may be so, for example, because insurance law has been designed for other concerns and would not deal with some of the problems specific to CDS contracts. The last option is the converse: (d) CDSs cannot be classified as insurance presently (for example because that have been expressly excluded), but insurance regulation would be a good way of tackling the problems created by CDSs.

Each of these four answer combinations can be plausibly defended. On the one hand, the answer to the first question varies from one jurisdiction to another, and in many countries the question is entirely open to debate. On the other hand, there are strong arguments both ways to the policy question; ultimately the matter must be decided by considering the issue in light of all the policy options, because there may not be a perfect solution.

Distinguishing these different but related questions is necessary for another reason. The complexity of the underlying issues is such that it is easy to confuse one question with the other, even to the point of mistaking the first question for the second. For example, it will be argued that, as a matter of current English law, CDSs cannot be meaningfully distinguished from insurance. A possible reaction to such a claim is that CDSs are valuable risk-management tools, and regulating them as insurance would be absurd. Perhaps so—but that must be investigated separately, because it is a different question. On the other hand, the two questions influence each another. A question of legal doctrine cannot always be addressed without considering the policy issue, especially if the first question yields an uncertain answer.

There is a more subtle error, which is to mistake the latter question for the first. For example, one may hold that insurance regulation is appropriate for CDS contracts and, on that basis, conclude that CDSs must be legally defined as insurance contracts; but of course, that is a different issue. Further, it may be that something like insurance regulation is the appropriate way of dealing with CDS contracts, but it does not necessarily mean that insurance law in its entirety is the optimal solution, because the relevant regulatory objectives may be better achieved via targeted regulation that addresses the specific issues raised by CDSs.

1.4.1.4 Formal and Substantive Legal Reasoning

The relationship between is and ought merits a further clarification in the present study, because it turns out that the ought-dimension is sometimes present in CDS-related legal argumentation in subtle ways that are related to the classical
notions of formal and substantive reasoning. It will be argued in later chapters that perhaps the best argument against recharacterizing CDSs as insurance is that insurance law should not apply for practical reasons. This should-not-argument has some defenders in the general theory of insurance law: the difficulties of determining the scope of insurance law have led some to suggest that the ultimate question ought to be “whether certain activity should be subject to regulation or not.”238 As a decisive legal test, this is far too vague and at least “there is no real support for it in the American cases,”239 but it remains a factor to consider in the practical application of insurance law.240 In the case of credit default swaps, the ought-dimension has obtained unusual prominence in legal debates, because the scarcity of statute and case law concerning CDSs has implied that the existing sources of positive law do not supply obvious and undisputed answers to all the questions, and greater importance must be attributed to general principles and regulatory motives. In other words, there is more scope for substantive as opposed to formal argumentation.

This distinction merits a closer examination, because it is more complicated than it may seem. Its acceptability as a matter of legal principle varies between jurisdictions, and this must be taken into account if substantive arguments are advanced as a matter of positive law. The conceptual distinction between substantive and formal legal reasoning has been famously developed by Patrick Atiyah and Robert Summers, who explain it as follows:

A substantive reason is a moral, economic, political, institutional, or other social consideration. Thus the fact that D has intentionally harmed P is a reason of substance for deciding that D ought to be required by law to pay damages to P. [...] A formal reason is a legally authoritative reason on which judges and others are empowered or required to base a decision or action, and such a reason usually excludes from consideration, overrides, or at least diminishes the weight of, any countervailing substantive reason arising at the point of decision of action.241

Each form of reasoning has its appeal. Substantive reasoning focuses on the merits of the parties and seeks fairness and justice in the particular case, but it can result in expensive evidentiary inquiries and unpredictable outcomes. Formal reasoning can be legalistic and foreign to common sense, but it guarantees quicker judgments and greater predictability. In their comparative study, Atiyah and Summers argue that “the American and the English legal systems, for all their superficial similarities, differ profoundly: the English legal system is highly ‘formal’ and the American highly ‘substantive’.”242 This point is of great relevance

238 Hellner 1963: 504 (discussing this view).
239 Ibid.
240 See ibid. 532–543 (discussing the relevance of the need to regulate).
here, because the legal-doctrinal part of the study includes both English and American law. As a first impression, therefore, it would seem that substantive reasoning against the application of insurance law to CDSs should be more likely to succeed in the United States than in England.

Yet that is not the whole story, because the conclusion of Atiyah and Summers is only a generalization concerning legal culture. It is true that English insurance law has some aspects that are highly formalistic, perhaps more than in other jurisdictions, but in some respects English law and legal reasoning is highly attentive to substantive arguments, even if sometimes in subtle ways. This can be seen at least in two ways that are relevant for the present study. The first is that English insurance law is insistent on the primacy of substance over form in the determination of whether insurance law applies.243 Of course, the notion of substance and form of a contract is not quite the same as the distinction between modes of legal reasoning, but they are closely related. This is clear in the famous English case of Fuji Finance v. Aetna Life Insurance,244 which on the surface seemed to reflect a strictly formal mode of reasoning even to the point of regarding the consequences of reclassification as irrelevant, but at the deeper level, the logic of the Court of Appeals was entirely substantive, in that the objective was precisely to obtain an equitable solution in a peculiar case that involved the masking of life insurance product as an investment transaction.245 The second example is the modus operandi of English judges in commercial and financial law cases, which, as will be seen later, is extremely attentive to the practical consequences of their decisions.246

These two examples suggest an interesting tension. In general commercial and financial law, English courts tend to respect not only to the intentions of the transacting parties but also the pragmatic expectations of the wider commercial community, whereas in insurance law they are less hesitant to intervene and override the intentions of the parties. This is not a logical contradiction; it is a tension between competing principles, namely between the interests of international commerce, and the public interest in regulating certain activities including insurance. This tension is at the heart of the present study, because credit default swaps are found precisely at the interjection of insurance and international finance. This tension also reveals the inadequacy of simplistic arguments based on consequences, because those consequences are complicated and must be seen from many different viewpoints.

243 See further below, chapter 3.1.4.1.


245 See below, chapter 3.1.4.1.

246 See below, chapter 4.2.5.2.
1.4.1.5 Political-Institutional Criticism and Legal Interpretation

As was explained previously in the section on research objectives, the present study is not limited to the question of correctly interpreting and applying the existing legal norms, as it also seeks to understand the peculiarities of contemporary financial law through what might be termed a political-institutional interpretation. This approach is connected to the ongoing discussion, however, because such an interpretation can be seen as having two distinct objectives: on the one hand, to improve our understanding of the underlying logic of the current law, and on the other hand, to provide tools for a critical evaluation of the law in terms of political and institutional legitimacy. The methodological question that follows is whether and to what extent this approach should influence legal interpretation itself.

Conceptually, the possibility advanced here is precisely one type of substantive argument concerning the political and institutional circumstances surrounding the law. The extension of these considerations to the interpretation of legal doctrine should naturally be done with caution, because law making is never without imperfections. Yet these considerations cannot be excluded entirely, and what makes them particularly opportune here is the fact that the critical observations concerning the evolution of financial law pertain to the United States, which also happens to be the jurisdiction in which substantive legal reasoning is more widely permitted.

The perspective here advanced should also be seen in terms of the broader paradigms, not as an isolated argument. It is not claimed that the clear meaning of a positive law can be set aside merely on the basis of concerns surrounding its drafting process. Rather, what is of interest here is the relationship between the two principal CDS paradigms, i.e. the insurance and derivatives paradigms, and the way in which these depend on the definition of the key terms and, further, on the way in which those terms have been influenced through legal-political activities. Regarding the derivatives paradigm, of particular significance is the United States Commodity Futures Modernization Act of 2000 (CFMA), which not only advanced a novel concept of swaps but also was passed in circumstances that merit critical evaluation. It may then be argued that the credibility of the derivatives paradigm overall is weakened if it turns out that key pieces of legislation were passed in a way in which the authentic representatives of the legislative body most likely did not make a conscious decisions concerning the question at hand here, in the sense that it is unlikely that some of the legal implications of the legislation had been truly intended by the legislature.\textsuperscript{247}

\textsuperscript{247} By legal implications I do not refer to subsequent economic consequences such as the financial crisis, which in itself cannot be the proper object of a legislative act. Rather I refer to the legal consequence that a fundamentally insurance-like product, which involves a range of regulatory concerns, was defined by the United States Commodity Futures Modernization Act of 2000 as a strictly unregulated financial transaction, and this happened through a technical definition the full meaning of which was probably unclear even to many corporate
1.4.2 Regulatory-Political Issues
The regulatory-political research questions are framed in this study in such a way as to focus on the future development of financial regulation. The previous discussion shows that these questions are in certain ways connected to the legal questions, but the analysis is here distinguished, reflecting the idea that the notion of *regulatory policy* refers to the choice of general legal solutions—principally by legislators, but in limited degree by judiciaries and regulatory bodies—in response to specifically identified social problems, which turn are not questions of justice in the strict sense but mainly of convenience and suitability.248

1.4.2.1 Economic Analysis of Law: The Principal Approaches
The social context of the regulatory concerned raised by credit default swaps is constituted by financial markets, which means that the general analytical viewpoint and theoretical framework adopted here is economic analysis of law (also called Law and Economics).249 This is however a complex framework, so that some clarifications are needed. Firstly, the notion of economic analysis of law can mean many different things as regards its formal object. Anthony Ogus has made a helpful distinction between three types of economic analysis of law:250 (a) *positive law and economics*, which is “the application of economic methodology to predict the impact of law and legal institutions on behavior”;251 (b) *normative law and economics*, which gives guidelines for the improvement of law and legal institutions, following the criterion of allocative efficiency; and (c) “interpretive” or “explanatory” *law and economics*, which examines the prediction that the law—in particular, the common law—has an economic function, i.e. that many legal rules can be interpreted as promoting allocative efficiency even if economic terminology is not explicitly used in legal language.

This last type of analysis is what Richard Posner has, somewhat confusingly, called “positive law and economics”.252 In short, the prediction of Posnerian law and economics is that the law almost always reflects considerations of economic efficiency. This hypothesis is interesting as far as it goes, but it is not of further relevance in the present study. The first two approaches are, instead, both relevant, and they both raise their own methodological issues. In what follows, law experts at the time, because the CDS market only really took off as a consequence of this legislation and because the text of the relevant section of the act is obscure even in retrospect: see below, chapter 4.2.4.2.

248 On this notion of *regulation*, as distinct from *law* in the traditional sense, see for example Baldwin and Cave 1999: chapter 1.
249 See for example Cooter and Ulen 2007.
251 Ibid. 384.
we will first look at the challenges of positive analysis particularly in light of behavioral economics; we will then examine the challenges of normative analysis especially in terms of the application of efficiency criteria for financial stability issues.

1.4.2.2 Positive Analysis: Models and Empirics

Positive economic analysis is of primary importance for the policy analysis of credit default swaps, because it is necessary to carefully examine the ways in which CDSs influence financial markets and also the likely impact of different regulatory alternatives on the uses and effects of CDSs. The first challenge that arises is the fact that these influences and impacts are only imperfectly perceptible; to speak more accurately, they are not directly perceptible at all, as their cognition must be mediated by models and theories, whether simple and informal or complex and formalized ones.

The challenge is that the epistemological value of economic models has always been subject to debate, and is even more so after the financial crisis; one might almost say that the financial crisis ushered in a crisis of economic models. Many commentators argued that the crisis had been caused by bad economics, even if others defended the role of economics and attacked faulty government regulation and monetary policy instead. It may be that both were partly right, as one argument does not necessarily exclude the other. More concretely, some argued that the leading macroeconomic theories were unsound and needed to be replaced by better ones. Others pointed their finger at microeconomics; the followers of behavioral economics particularly argued out that the crisis had proven their claims of investor irrationality. Still others critiqued the

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253 The word model is sometimes restricted to mathematically represented models, but in principle it is also applicable to abstract, conceptual or graphical models. One of the classical problems of the philosophy of science is precisely what role models play in science and how they relate to reality: on this, see generally Frigg and Hartmann 2009. The distinction between models and theories is not fundamental for present purposes, but it may be helpful to think that theory should refer to broader totalities, whereas models form part of theories. In this I concur with Mäki 2005: n.1: “The linguistic practice of economists often does not distinguish between ‘theory’ and ‘model’ but for many purposes it is useful to think of models not only as representing the world but also as representing theories, as their reduced or enlarged representatives. Models in this sense ‘mediate’ between theories and the world or the data.”


255 For example Akerlof and Shiller 2009: xi. Their expression animal spirits comes from the famous saying, attributed to J.M. Keynes, that the markets are moved by animal spirits, and not by reason. The original quotation is much longer, but it accurately expresses the way in which many commentators interpreted the recent financial crisis: “Even apart from the instability due to speculation, there is the instability due to the characteristic of human nature that a large proportion of our positive activities depend on spontaneous optimism rather than on a
simplifying assumptions of modern financial theory that they held to be dangerously misleading and a root cause of faulty regulations.\textsuperscript{256}

Examining these claims has turned out to be a difficult task. John Kay wrote jokingly that “the lesson most people have learnt is that they were right all along.”\textsuperscript{257} This is not only due to professional pride; it is genuinely difficult to establish the truth concerning such general claims. Indeed, it may be asked whether there is any universally accepted philosophy of science—and philosophy of the economic science in particular—that could offer a sufficient basis for theory-evaluation.\textsuperscript{258} The evaluation of empirically-based claims is further rendered difficult by the traditional preference in economics for a deductive approach based on logical and consistent (even if unrealistic) axioms, as opposed to an inductive approach that seeks to reflect and explain what we see happening around us but that cannot be formalized into a self-contained model.\textsuperscript{259}

That is not to say that there is no agreement at all on what sort of criteria should be used to evaluate models and theories: most research relies on a set of commonsensical criteria, so that one asks whether facts are correctly stated; whether other facts are omitted; whether the generalizations are subject to counter-examples; whether one can find competing models or theories that will fit the facts, and so on.\textsuperscript{260} Following these broad criteria, the methodological approach adopted in the present study seeks to combine abstract theory and empirical observation in a way that takes standard economic models as a starting point but is willing to question them when there seems to be a reasonable basis for doing so. It thus rejects both extremes of anti-theoretical empiricism and anti-empirical apriorism, as the former needs reasonable assumptions about economic behaviour in order to avoid becoming useless historicism, whereas the latter must

\textsuperscript{256} This is a key theme throughout Hutchinson and Dowd 2010.

\textsuperscript{257} Kay, 2011a: 7.

\textsuperscript{258} In his famous \textit{Methodology of Economics}, Mark Blaug discusses the near-impossibility of finding a universally accepted philosophy of science today: whereas a certain type of logical positivism was broadly accepted in the early 20\textsuperscript{th} century and classical physics was seen as “the prototype science to which all other disciplines must sooner or later conform”, today things are different, because “the works of Popper, Polanyi, Hanson, Toulmin, Kuhn, Lakatos, and Feyerabend […] have largely destroyed this received view without, however, putting any generally accepted alternative conception in its place” (Blaug 1992: 3).

\textsuperscript{259} See Kay 2011b (advocating the latter approach against the traditional formalism). For a synthesis of the methodology of present-day mainstream economics, see Blaug 1992: 110–111.

\textsuperscript{260} Blaug, 1986: 279.
rely on empirical input in order to be truly applicable to real-world situation.\textsuperscript{261} Empirical input is particularly important in the present study for the reason that the policy questions that concern us are rooted in a range of \textit{empirically contingent} factors, which cannot be fully captured by general theory alone.

We could say, following the insight of John Kay, that the question here is that of choosing the method to fit the question, and not the other way around: “Economic models are no more, or less, than potentially illuminating abstractions. [...] Economics is not a technique in search of problems but a set of problems in need of solution. Such problems are varied and the solutions will inevitably be eclectic.”\textsuperscript{262} Importantly, this means that the further evaluation of the claims made in this study should be done in accordance with the nature of those claims; when they are limited by temporal and other conditions, they cannot pretend to provide universally valid assertions and therefore are always open to re-examination in different conditions.

\textit{1.4.2.3 Positive Analysis: Rationality and Behaviour}

Among the post-crisis methodological debates mentioned previously, the one concerning macroeconomic theories cannot be considered here, and the one on modern financial theory will be examined later in detail, but what merits special discussion is the one on rationality and economic behaviour. This critique is of great practical importance for the present study, but it is also particularly challenging for at least two reasons: firstly, because it touches the heart of most of modern economic theory, and secondly, because its implications for regulation are complicated.

Regarding the first point, it can be said that the \textit{rationality postulate} is among the principal assumptions in modern neoclassical economics.\textsuperscript{263} The exact meaning of this postulate is not always clearly or similarly formulated, but in its essentials, \textit{rational choice theory} postulates that people always act according to personal utility maximization, given a set of stable and unambiguous preferences, exploiting and accumulating all the available information in an optimal manner.\textsuperscript{264} To be sure, many economists are reluctant to extend the rational choice

\textsuperscript{261} By the latter I refer principally to British 19th century economics and some of the later Austrian economics: for a critical overview, see Blaug 1992: 51–82.

\textsuperscript{262} 2011b: 7.

\textsuperscript{263} See generally Sen 1977, 2008 (critically discussing the rationality postulate).

\textsuperscript{264} Gary Becker, one of the leading exponents of the rational choice theory, has summarized it thus: “The heart of my argument is that human behavior is not compartmentalized, sometimes based on maximizing, sometimes not, sometimes motivated by stable preferences, sometimes by volatile ones, sometimes resulting in an optimal accumulation of information, sometimes not. Rather, all human behavior can be viewed as involving participants who maximize their utility from a stable set of preferences and accumulate an optimal amount of information and other inputs in a variety of markets.”
model beyond the realm of material production and exchange in a market setting,\textsuperscript{265} but such boundary-line disputes are irrelevant for present purposes, as the policy questions here are limited to financial markets. We must likewise largely ignore the thorny question of self-interest, a vague concept that in practice is often reduced to selfishness;\textsuperscript{266} it is true that altruistic and ethical motives may be present in financial markets also (and certainly the problems with CDSs are related to their absence!), but there is as of yet no satisfactory framework for the economic analysis of law along those lines.\textsuperscript{267}

\textbf{(Becker 1976: 14). See also Becker 1976: 5: “The combined assumptions of maximizing behavior, market equilibrium, and stable preferences, used relentlessly and unflinchingly, form the heart of the economic approach as I see it.”}

\textsuperscript{265} For example, Coase 1994, who argues that, in different settings, people follow a different logic. See Becker 1993: 3–4 for other references and criticism of this kind of behavioral compartmentalization.

\textsuperscript{266} The leading critic of the notion of economic self-interest is Amartya Sen, who has summarized its importance as follows: “In his \textit{Mathematical Psychics}, published in 1881, Edgeworth asserted that ‘the first principle of Economics is that every agent is actuated only by self-interest.’ This view of man has been a persistent one in economic models, and the nature of economic theory seems to have been much influenced by this basic premise.” (Sen 1977: 317). In another work, Sen 1987: 15 highlights the way in which this has led to an exclusion of ethical discourse in economics: “The self-interest view of rationality involves inter alia a firm rejection of the ‘ethics-related’ view of motivation. […] To see any departure from self-interest maximization as evidence of irrationality must imply a rejection of the role of ethics in actual decision taking.” What Sen finds especially inappropriate in this approach is that, in addition to treating an implausible assumption as fact, it defines rationality as equal to self-interested utility maximization: “Indeed, it may not be quite as absurd to argue that people always actually do maximize their self-interest, as it is to argue that rationality must invariably demand maximization of self-interest. Universal selfishness as actuality may well be false, but universal selfishness as a requirement of rationality is patently absurd.” (Sen, 1987: 16).

\textsuperscript{267} Stout 2010 develops ideas in this direction. More generally, it may be noted that, in theory, rational-choice theorists admit a certain complexity in the notion of preferences; even Becker 1976: 5 writes that preferences “do not refer to market goods and services”, but to “fundamental aspects of life, such as health, prestige, sensual pleasure, benevolence, or envy.” More recently, Becker 1992: 1 states: “The analysis assumes that individuals maximize welfare as they conceive it, whether they be selfish, altruistic, loyal, spiteful, or masochistic.” However, Stigler and Becker 1977: 76 stick to the idea that “tastes [i.e. preferences] neither change capriciously nor differ importantly between people. [Tastes] are there, will be there next year, too, and are the same to all men.” There is a growing literature that seeks to map out the complexity of preferences, but it is not without difficulties: Robert Frank, a leading scholar in this field, argues that it is hardly workable to extend preferences to such a wide range and yet claim that they are stable and unambiguous; but the leading approach towards incorporating morality into economics (implicitly present in the quotes from Becker) takes the cue from Adam Smith’s classic work on \textit{moral sentiments} (see Smith [1759] 1976), which is insufficient, because it ignores the role of moral intelligence and free will in the process of moving from emotions to truly human decisions (see generally Frank 1987, 1988, 2004).
What does interest us here is the assumption that economic actors are always rational in the sense of always making optimal choices with the given information and other resources. It is true that few economists take this to be literally true; rather, like the other axioms of the rational choice model, it is seen as a useful simplification, which facilitates complex, deductive analysis and renders it formally robust. Taking this view to an extreme, Milton Friedman famously argued: “Truly important and significant hypotheses will be found to have ‘assumptions’ that are wildly inaccurate descriptive representations of reality, and, in general, the more significant the theory, the more unrealistic the assumptions”.

Despite the incredible success of this philosophy, it must be admitted that it is quite insufficient. Firstly, even though simplifying assumptions are necessary for science, their realism and conformity to the object of study is one factor in the evaluation of the plausibility of the theory. Secondly, unrealistic assumptions often fail to yield good predictions about the empirical world. Thirdly, as Ronald Coase has insightfully pointed out, the methodological importance of predictive power depends on the nature of the research and the type of knowledge one is aiming at. Applying this to the economic analysis of law, Heico Kerkmeester notes:

If [the goal of research] is only prediction and control, the use of unrealistic assumptions is fine, as long as they indeed predict well. If, however, the goal is explanation, an approach based on unrealistic assumptions is not really helpful in providing insight in what really moves a person and in how legal rules really have effects.

Now, it has been demonstrated that the simplistic rationality postulate does not adequately reflect real human decision-making. Summarizing this research, Douglass North writes that the rational choice model has come under severe attack [...] from experimental economic methods, research by psychologists, and other empirical work, all of which have revealed major empirical

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268 Friedman 1953: 14. A further defense of rational choice theory is that, although it is not true of everyone’s behavior, it may be true generally, because competitive conditions force people to adapt and those who fail to maximize their preferences will fail: see North 1990: 19, 24 for a summary and critique of this kind of argument


270 Kerkmeester 2000: 394. In the words of Paul Samuelson, who jokingly dubbed Friedman’s approach the F-twist: “[Friedman] is fundamentally wrong in thinking that unrealism in the sense of factual inaccuracy even to a tolerable degree of approximation is anything but a demerit for a theory or hypothesis.” (Samuelson, 1966: 1774; cited in Blaug, 1992: 97).


anomalies associated with this approach. Briefly, these fall into the following categories: violations of the transitivity assumptions, framing effect, where alternative means of representing the same choice problem can yield different choices; preference reversals, where the ordering of objects on the basis of their reported valuations contradicts the ordering implied in direct choice situations; and problems in the formulation, manipulation, and processing of subjective probabilities in uncertain choices.274

There is today a growing literature known as behavioral economics, which seeks to enrich conventional economic theory by incorporating insights of behavioral sciences, particularly experimental psychology.275 Although there is strictly speaking no single behavioral theory, the unifying principles of behavioral economics can be summarized in the following two propositions: (1) there are proven and empirically significant departures from the simplistic rational choice model, and (2) these departures are systematic in the sense that they are non-arbitrary and hence (to some extent, at least) predictable and conformable to economic analysis.276

1.4.2.4 Behavioral Economics: Legal and Regulatory Implications

What these principles imply for law and regulation is, however, a surprisingly complex question, which is studied by the growing literature known as behavioral law and economics.277 A common perception is that, whereas the neoclassical economic paradigm emphasizes the rationality of economic actors and values competition and free markets, the behavioral paradigm highlights the limits of human rationality and willpower, and favours paternalism and interventionism.278 Proponents of regulatory intervention into financial markets have often invoked investor irrationality as a basis for existing and further regulation.279 Indeed, the debate on the worth behavioral law and economics generally has been excessively marked by a simplistic division along political lines, so that the advocates of the behavioral paradigm have principally advanced

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274 North 1990: 18.
277 For programmatic overviews, see Jolls, Sunstein and Thaler 1998; Langevoort 1998; Sunstein 1997. See also Sunstein 2001 (a collection of leading articles in this field).
278 See Frerichs 2011: 305 (comparing different economic paradigms) and Rischkowsky and Döring 2008 (discussing the policy implications of different economic paradigms).
279 See Prentice 2001 (defending securities regulation against proposals for deregulation); Cunningham 2002: 770–71 (proposing more regulation); Langevoort 2002: 138–39 (proposing more regulation). Choi and Pritchard 2003: 4–5 argue more generally that the behavioral approach to law and economics has been markedly paternalistic and interventionistic.
pro-regulation arguments and advocates of the neoclassical paradigm have responded with anti-regulation critiques.\textsuperscript{280}

This is evidently not an adequate method for evaluating such complex phenomena. The more important difficulties are, moreover, subtler. There is, firstly, the theoretical problem that our knowledge concerning the \textit{real-life effects} of bounded rationality and limited will power is highly imperfect, and the empirical observations are subject to a range of interpretations.\textsuperscript{281} The mere existence of systematic anomalies and biases is not a sufficient basis for policy-making, because their practical impact may be too marginal to make any difference, and they may not affect everyone equally.\textsuperscript{282} For example, there is empirical evidence suggesting that experienced professionals do not fall into certain behavioral anomalies that are common among the population at large.\textsuperscript{283} In consequence, paternalistic interventions would seem to be more justified in markets like home loans and credit cards, and less justified in relation to financial market professionals.\textsuperscript{284} More generally, the behavioral motive for regulatory intervention must always be empirically verified and critically examined.

Secondly, the legal and regulatory implications of behavioral economics are complicated. There is naturally a relationship between limited rationality and regulatory interventionism, but there are also exceptions. One is that it is possible to develop light-touch regulations, which reduce suboptimal behaviour and may even replace certain heavier regulations.\textsuperscript{285} Moreover, certain effects of bounded rationality may be attenuated by freer markets; for example, permitting short selling in financial markets is commonly seen as reducing asset price bubbles, which in part are due to bounded rationality.\textsuperscript{286} Robert Shiller, a leading advocate of behavioral finance and critic of the efficient markets hypothesis, concludes that instead of increasing regulation, “most of the thrust of our national policies to deal with speculative bubbles should take the form of facilitating more free trade,

\textsuperscript{280} See for example the debate between the fiercely pro-regulation Oren Bar-Gill 2008 (advocating behavioral law and economics) and the anti-regulation Richard Epstein 2008 (defending neoclassical law and economics). See also Epstein 2006, who admits that people make mistakes but prefers the neoclassical approach and argues that competitive markets and the common law are enough to deal with human errors.

\textsuperscript{281} See Choi and Pritchard 2003: 9–10 (reviewing the literature).

\textsuperscript{282} Mitchell 2002: 67 notes that “people are not equally irrational and that situational variables exert an important influence on the rationality of behavior.” Etzioni 2011: 280 likewise points out that behavioral economists often fail to clearly delineate how universal or particular the anomalies are.

\textsuperscript{283} See List 2003; Gneezy and List 2006.

\textsuperscript{284} Juurikkala 2013: 57–59.

\textsuperscript{285} See Camerer et al. 2003 (introducing the notion of \textit{asymmetric paternalism}); Jolls and Sunstein 2006 (developing the idea of \textit{debiasing}); Juurikkala 2012b: 51–59 (proposing examples in financial regulation).

\textsuperscript{286} See Juurikkala 2012b: 69–73.
as well as greater opportunities for people to take positions in more and freer markets.”287 Naturally, the question must be examined in specific markets.

Finally, the behavioral paradigm should, paradoxically, lead us to be more sceptical of regulatory interventions, for at least two reasons. One is that it highlights the error-prone tendencies of lawmakers and regulators;288 more specifically, the findings of behavioral sciences imply that regulators tend to give too much importance to recent and noticeable events such as scandals and crises.289 It is necessary to take distance from recent events in order to acquire a balanced view. Furthermore, the search for regulatory solutions tends to suffer from bounded search or even tunnel vision.290 This explains in part the way in which the regulation of CDSs has been discussed principally in terms of traditional categories of derivatives regulation, which however may be inadequate for these instruments.

Another behavioral motive for regulatory scepticism is that reactive interventionism tends to create a complex patchwork of rules, which reflect many different needs, contexts and regulatory philosophies. This can give rise to conflicting principles and regulatory gaps, as in fact has happened in financial regulation. In light of the behavioral paradigm, such regulatory complexity is not only a cause of greater compliance costs, but also a cause of regulatory failure; seemingly tight regulation in some areas and aspects of financial markets may encourage imprudence on the part of market participants, so that “some investors may come to believe (overoptimistically) that regulatory protections fully insulate them from investment risks. When this is not true […] investors with overconfidence in the power of regulation will then take even less care and may face a greater risk of facing large financial losses as a result.”291 Regulations should therefore be consistent across markets and products, and they should especially ensure that market signalling mechanisms are not distorted.292

289 Choi and Pritchard 2003: 25. Hirshleifer 2008: 3 writes that “regulatory debates are influenced heavily by extreme events, and by heart-rending personal stories.”
291 Choi and Pritchard 2003: 59. Davies and Green 2008: 27 think likewise: “They [financial supervisors] should also be cautious in describing the limits of their ambitions, both in terms of the degree of security they can offer to those who transact with financial institutions, and in terms of the scale or scope of the supervision they undertake. A regulator which claims too much will weaken market discipline, which can often be a more effective tool than regulatory intervention.”
292 See also Booth 2009: 162: “Market signalling mechanisms can also be crowded out by regulation and government guarantees: why does it matter if a bank is trustworthy or has a high level of capital if the regulator exists to look after such things and the government will provide guarantees if things go wrong?”
1.4.2.5 **Normative Analysis: Efficiency or Justice? Efficiency as Justice?**

Normative policy analysis implies a different set of methodological challenges, which in theory are even more complicated than those of positive analysis, but in practice there is something of a shortcut, as will be seen shortly. It is necessary, first of all, to clarify that the notion of normative analysis here does not exactly coincide with what it conventionally means in economic analysis of law. In general terms, normative economic analysis of law may refer to the analysis of legal policy based on the economic analysis of the issues, but more specifically, it tends to mean policy analysis based on the notion of *efficiency*, and in particular, *allocative efficiency*.\(^{293}\) This seemingly simple and intuitive term is, however, filled with ambiguity, which is why there have been endless discussions on different efficiency concepts, principally *Pareto efficiency* and the corresponding *Pareto optimality* (a state in which no one can be made better off without making someone else worse off) and *Kaldor-Hicks efficiency* (an outcome in which those that are made better off could in theory pay compensation to those that are made worse off).

These notions are not entirely useless, but their insufficiency is today widely acknowledged, because among other things Pareto-improving policy changes are practically non-existent, because all (or almost all) policy changes imply some disadvantage to someone somewhere; and because Kaldor-Hicks improvements do not require real compensation for those who lose, which implies that they may be manifestly unjust. Further, there is the more fundamental difficulty that both notions of efficiency rely on interpersonal utility-comparisons, even though such utilities cannot be observed and their interpersonal comparability is in any case doubtful.\(^{294}\) One simple proposal to resolve the endless efficiency debates is the *principle of wealth maximization* adopted by Richard Posner.\(^{295}\) According to this approach, preferences are manifested by *willingness to pay*, so that the normative objective of legal policy would be the promotion of wealth maximization. However, the philosophical problems with Posner’s solution have been all-too-well exposed.\(^{296}\)

The normative principles followed in the present study are somewhat different, and can be explained in two steps, that is, first generally and then specifically concerning financial regulation. At the general level, the guiding idea is the classic principle that the primary goal of law is not efficiency, but *justice*. The notion of justice includes many different dimensions, which in classical

\(^{293}\) Kerkmeester 2000: 386.

\(^{294}\) Kerkmeester, 2000: 387.

\(^{295}\) Posner 2011: chapter 1.

\(^{296}\) See for example Dworkin 1980. For my part, I think that both “maximization” and “utility” are problematic notions in the context of human choosing and acting. Moreover, I decidedly disagree with the principle of *pragmatic economism* according to which people act merely so as to maximize their wealth. It should be no surprise, then, that I do not think that the *normative* objective of legal policy should be wealth maximization as such.
philosophy are categorized as commutative, distributive and general justice. From the viewpoint of law and legislation, the principal objective is general justice, also called “legal” justice by Aristotle, which essentially boils down to favouring and fostering the common good of the political community. The common good is not as some kind of collectivized good, but the set of conditions that enables the members of a community to lead good and fulfilling human lives both individually and in collaboration and communion with others. What these conditions are in practice is a vast question, but at the most basic level they certainly include such factors as a functioning market, access to justice, transparent political institutions, a healthy natural environment, respect for life and bodily integrity, right to private property, freedom of association, a positive moral ecology, and so on. It is the common good, not mere private interests, which forms the principal normative objective of both the general legal institutions and specific regulatory policies, even if these may in fact also advance private interests.

According this understanding of law and justice, considerations of efficiency do in fact form part of the common good and therefore of general justice; the economic perspective is therefore not outside the realm of justice, but is included within in. This means, on the one hand, that Pareto optimality is too restrictive as a universal criterion of law and justice, because it treats all established private interests as trumps, i.e. as overriding rights. On the other hand, efficiency is not an absolute value, but is subject to the wider considerations of justice, including certain fundamental rights of individual persons; therefore, the notion of Kaldor-Hicks efficiency is too expansive as a universal criterion of law and justice, because it gives efficiency undue importance to the exclusion of other values.

Now, as far the present study is concerned, the normative issues are limited to financial markets regulation, which means that these general principles must be specified in that context. This is what, in fact, renders the normative task less controversial, because there is a well-established body of common policy objectives in financial regulation, particularly systemic protection (including financial stability) and consumer protection. These objectives can, therefore, be taken more or less as given, because they do not involve any major controversies. The notion of economic efficiency, which also includes efficient risk allocation, can be seen as a broad objective that must be included but only insofar as the consumer and systemic protection functions are not compromised.

300 Finnis 1980: 111–118.
1.4.2.6 The Challenge of Evaluating Financial Crisis Policies

The challenge of normative analysis is not so much theoretical as practical: it is easy to state the policy objectives at a general level, but it is difficult to evaluate specific policy alternatives, because their efficacy and their dynamic costs are not easy to determine. It is unlikely that any real-world policy alternative could achieve absolute systemic and consumer protection; if such policies exist, they will probably imply unacceptable costs. It is necessary to make some compromises, but which ones? Subsequent chapters will discuss these challenges in more detail, but it is opportune to point out two broader considerations that have influenced the normative analysis of the present study.

The first of these broad considerations is the idea that even though financial markets and financial innovations are generally good things, we should be aware of the very substantial economic and social costs of large-scale financial crises, so that it is correct to seek every reasonably possible means to avoid them. This has been well expressed by Raghuram Rajan:

Unfortunately since we do not know the probability of a potentially catastrophic meltdown of the financial sector […], it is hard to do a precise cost-benefit analysis. […] Nevertheless, I would argue that given the potential costs of the concerns I raise, if we can find low-cost ways of nudging excessive risk taking down, and making it less procyclical, we should use them.302

This implies the rejection of naive cost-benefit policy analyses and arguments that seek to maximize the benefits of financial innovation relying on complex models the outcome of which is uncertain and dependent on the underlying assumptions. This perspective is especially relevant for credit default swaps, which are intimately connected to the banking system and which influence the risk-taking and lending-behaviour of banks in profound ways. Banking crises are particularly costly to deal with, and studies show that their “economic costs go far beyond the direct costs associated with rescuing failed banks.”303 For example, according to Reinhart and Rogoff, in average terms “government debt rises by 86 per cent during the three years following a banking crisis.”304 It would therefore

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303 McIlroy 2010: 304.
304 Reinhart and Rogoff 2009: 142. See also European Commission 2010a: 118–119 (Annex 7) (providing details on the fiscal and wider economic costs of the recent financial crisis by year-end 2009). The report notes (p. 118): “While these direct fiscal costs are by no means trivial, they are but a fraction of the overall costs of the crisis. The bulk of the costs are those related to the economic recession that is usually triggered by the crisis and that manifest themselves in the form of loss of output, increase of unemployment and public debt. […] the current crisis fully complies with this pattern. Since the beginning of the crisis, all the major macroeconomic indicators registered a significant deterioration, most notably those on public finances.” It is also noted that recent studies confirm that these macroeconomic output losses are not recovered over the longer term: see Cerra and Saxena 2008.
be highly unreasonable to seek marginal efficiency benefits from financial activities that can threaten the stability of the banking sector at large.

The other broad consideration is one that may at first sight seem opposed to the first one, although there is harmony at a deeper level: it is the idea that it is not practically possible to eliminate the possibility of financial crises, and we should probably not even seek to do so. The reason is that seeking to make the system absolutely crisis-proof may only create an illusion of security, thereby encouraging reckless risk-taking.

Paradoxically, it may be better to have small problems frequently than huge crises every one or two decades. This is supported by behavioral theory: crises that took place in the more distant past tend to be forgotten by most people; their positive effect on behaviour wares away over time, so that people become more careless and even tend to repeat the mistakes of the past.\textsuperscript{305} In contrast, smaller but more frequently occurring crises would uphold the caution and prudence that should always form part of financial market activity, and there would be faster learning from mistakes on both personal and institutional levels.\textsuperscript{306} The famous financial risk-management expert Nassim Taleb has expressed this as follows:

the idea is not to correct mistakes and eliminate randomness from social and economic life through monetary policy, subsidies, and so on. The idea is simply to let human mistakes and miscalculations remain confined, and to prevent their spreading through the system […]. Reducing volatility and ordinary randomness increases exposure to Black Swans—it creates an artificial quiet.\textsuperscript{307}

Similarly, behavioral theory suggests that it might be better to have many different regulatory systems and policies—not only because that would reduce the harmful effect of behavioral biases among regulators, but also because of positive learning effects. Regulatory variation would promote trial and error, and it would make it easier for boundedly rational people to discover what works and what does not.

It follows, then, that the principal objective of financial stability regulation is not to eliminate all possible error, but to increase the robustness of the financial architecture so that large-scale crises can be avoided. The avoidance of those crises must, moreover, accept the moral and cognitive imperfections of both public and private actors. This was one of the insights of Peter Nyberg in his report on the recent Irish banking disaster:

In designing the constraints and rules for banking in the future, full account will need to be taken of the failure of private and public institutions to appreciate the emerging risks and to take action. If responsible authorities are affected by the prevailing paradigms, they cannot be expected to uncover its risks and weak points. Financial systems should, in that

\textsuperscript{305} See for example Guttentag and Herring 1984: 1363 and Neal 1996: 413.

\textsuperscript{306} See Dowd 1996.

\textsuperscript{307} Taleb 2010: 322.
case, be designed to be as stable as possible even in the absence of unfailingly vigilant and prescient regulators and central banks.\textsuperscript{308}

This perspective has major implications for the normative analysis of credit default swaps. At the general level, it means that we should not be too quick to accept the alleged risk-management benefits of CDSs insofar as they rely on complex risk models, and particularly insofar as the use of CDSs creates complex inter-institutional structures the risks of which are difficult for both private and public actors to understand. The level specific level of policy alternatives, we should be especially critical of policies that will contribute to large risk concentrations, which may prevent small crises from happening but which can create large-scale crises when something goes wrong.

1.5 STRUCTURE

The rest of the study is structured as follows. Chapters 2–4 examine the legal-doctrinal aspects of credit default swaps. First, chapter 2 considers general and preliminary questions, including the reasons that complicate the legal characterization of financial derivatives. It also looks at some of the alternative characterizations that can be easily excluded. Chapter 3 scrutinizes the characterization of credit default swaps as insurance contracts. It summarizes the consequences of insurance regulation, discusses the different ways of demarcating insurance law, and examines the arguments that CDSs are not insurance. In addition to clarifying and correcting misinterpretations of insurance law, this chapter sheds further light on the economic functioning of CDSs. Finally, it analyzes the evolution of US state insurance regulators’ thinking on this matter.

Chapter 4, finally, analyzes the derivatives characterization CDSs, exploring the way in which CDSs came to be considered deregulated swap transactions. Tracing the history and evolution of derivatives law, the chapter pays special attention to the legal and political influence activities of the International Swaps and Derivatives Association (ISDA), demonstrating how ISDA skilfully obtained exemptions to the regulations and manipulated key concepts such as swaps in order to widen the space of unregulated activities. Finally, it critically summarizes the Dodd-Frank Act reforms, showing that they paradoxically consolidated ISDA’s regime of deregulated derivatives.

The second main part of the study consists of chapters 5–6, which cover the regulatory-policy aspects of credit default swaps. Chapter 5 provides an overview of the regulatory issues of CDSs, highlighting first then overall challenges of financial regulation that provide the framework for CDS activities, and then critically examining the specific regulatory issues posed by these transactions. Chapter 6 studies the principal regulatory strategies for tackling

\textsuperscript{308} Nyberg Inquiry 2011: iv.
CDSs, namely self-regulation based on the ISDA architecture, transparency regulation, compulsory central counterparty clearing, and insurance-type regulation of protection selling and protection buying. Within each main section, the current situation and recent reforms are explained and critically evaluated, after which some proposal for development are presented. Chapter 7 closes the study by summarizing the principal findings and contributions. It also evaluates the limitations of the study and proposes avenues for further research.
2 THE LEGAL CHARACTERIZATION OF CREDIT DEFAULT SWAPS

2.1 THE CHALLENGE

Credit default swaps are frequently described as derivatives, but a closer look reveals that their legal characterization has never been very clear. For one thing, the notion of financial derivatives is based on finance theory instead of law, and even in that context its demarcation is filled with difficulties. Moreover, commentators have actually proposed a range of legal characterizations for credit default swaps, which reveals that there has never been a consensus on the question. In terms of legal sources, the question has been largely open to debate, because legislation touching upon the question has been scarce and subject to misinterpretation; case law on the matter has also been very limited indeed.

This chapter examines these preliminary problems associated with the legal characterization of CDSs. It first looks at the notion of financial derivatives in terms of modern financial theory, and then evaluates the lack of case law and the consequent implications that it may or may not have for the legal status of CDSs. The second section looks at the principal alternative legal categories for CDSs, including gambling, securities, letters of credit, third party guarantees, and insurance. Several general issues are also examined, including the notion of CDS trading, the distinction between two-party and tripartite relationships, and the limits of existing legislation with respect to insurance law.

2.1.1 Modern Finance and Legal Categories

According to Frank Partnoy, “the pace and breadth of financial innovation have been so extraordinary that they require a fundamental rethinking of basic corporate law concepts.”¹ The question we are addressing here—the legal definition of credit default swaps—forms part of a broader problem, which is that modern finance has revolutionized not only the practical reality of corporate governance but also the conceptual framework of corporate and financial law.

2.1.1.1 The Notion of Derivatives

There is substantial terminological ambiguity in the field: terms like derivatives, swaps, and insurance are frequently used without accuracy and specification. The linguistic challenge has its roots in the fact that modern finance and financial

¹ Partnoy 2006b: 801.
institutions—often ignorant of legal nuances\(^2\)—have developed a peculiar terminology that does not necessarily match the legal characterization of the transactions.

In the wake of the 1994 derivatives scandals, Henry Hu joked that derivatives were “metastasizing to refer to any complex financial product that causes a loss”.\(^3\) This was an exaggeration, of course, but it may nevertheless come as a surprise that there really is no satisfactory way of accurately defining financial derivatives. The conventional definition is that derivatives are contracts, the value of which is derived from another asset; but this is unworkable or entirely useless: “conceptually, all derivatives are redundant because they can be replicated with a bundle of straightforward basic operations. […] Any contingent claim, such as a bond, share or guarantee, can be looked upon as an option”.\(^4\)

### 2.1.1.2 Options, Forwards, and Swaps

Some scholars have sought to clarify the question by distinguishing between different types of derivatives, which can functionally be brought down to three fundamental types: options, forwards, and swaps.\(^5\) Basically, “an option is the right to buy or sell something in the future, a forward is the obligation to buy or sell something in the future, and a swap is an exchange of periodic payment obligations in the future.”\(^6\) More complex derivatives are combinations of these basic categories. However, this categorization has its limits: according to some scholars, swaps should not be seen as a fundamental category, because they can be reduced to combinations of forward transactions.\(^7\) Ultimately, even forward transaction can be functionally reduced to combinations of put and call options.\(^8\)

If a swap is an exchange of periodic payment obligations, it may be asked whether CDSs can be meaningfully described as “swaps.”\(^9\) In the language of finance, CDSs are more like put options.\(^10\) But legally, this does not suffice to prove that they are not insurance transactions: in financial theory, insurance transactions are reducible to options, and “non-lawyers regularly liken options to

\(^2\) See McCormick 2010: paras. 18.04–18.23 (discussing the “limited legal awareness” of financial institutions).

\(^3\) Hu 1995: 998.


\(^5\) Feder 2002: 691.

\(^6\) Ibid.

\(^7\) McLaughlin 1999: xxiii.

\(^8\) Feder 2002: 691 n.24.

\(^9\) This question will be discussed in detail below, chapter 3.1.4.3.

\(^10\) Feder 2002: 711 (“it may be more accurate to think of credit default swaps as options”); Steinherr 2000: 18 (“[a] guarantee is nothing but a put option, or in most recent terminology a ‘credit derivative’.”).
insurance.”\textsuperscript{11} The lesson is that the language of finance is useful for its own purposes, but not for settling legal questions; otherwise we would even have to give up the notion of shares, because they too are “options.”\textsuperscript{12} Legal and financial terminologies have different origins and functions, and legal categories are based on political and regulatory reasons, which tend to be more complicated than the abstract notions of finance.\textsuperscript{13}

2.1.2 Scarcity of Case Law
Legal uncertainty and confusion has been further fuelled by the surprising lack of case law on derivatives, particularly of case law dealing with the legal characterization of CDSs. We will see later some institutional reasons for this situation, but it is also a fact that legal disputes on financial derivatives are almost always settled out of court.\textsuperscript{14} Analyzing the situation in 2001, Partnoy lamented:

Although the OTC derivatives market is among the largest markets in the world and is chock full of disputes, judges only rarely have decided even narrow issues in derivatives disputes, and they almost never write detailed opinions. The vast majority of cases settle before trial in most areas of law, but the derivatives area is striking for the near total absence of judicial opinions and decided cases on important issues.\textsuperscript{15}

The situation has changed little thereafter; if anything, the extrajudicial dispute resolution mechanisms of ISDA have only been reinforced, as will be seen later. There have been some filed (and fewer decided) CDS cases over the years, but they “have typically involved issues of contract interpretation (e.g., a dispute over whether a credit event has occurred or not) and related allegations (e.g., breach of obligation of good faith and fraud).”\textsuperscript{16}

2.1.2.1 Tacit Acceptance of Market Consensus?
This situation merits some reflection. One consequence is that, in order to determine the legal nature of CDSs correctly and adequately, it is necessary to go

\textsuperscript{11} Feder 2002: 692.
\textsuperscript{12} See Black and Scholes 1973: 649–650 (“Stockholders have the equivalent of an option on their company’s assets. In effect, bondholders own the company’s assets, but they have given options to the stockholders to buy the assets back.”)
\textsuperscript{13} Even within insurance law, certain varieties of insurance are regulated under special rules. For example, there is a well-established distinction between marine and non-marine insurance, the former being regulated separately due to its special characteristics: see for example Clarke 2007: 109–110.
\textsuperscript{14} Partnoy 1997: 254.
\textsuperscript{15} Partnoy 2001: 450.
\textsuperscript{16} Aicher, Cotton and Khan 2004: 956. See also Schwartz 2007: 173 (citing data on the scarcity of CDS litigation).
back to principles. Another is that the argument might be made this should be interpreted as tacit acceptance of the derivatives-based view advanced by the market. This argument is not entirely mistaken, because in Anglo-American financial law there is a principle of deference towards market practices. However, there are limits to this, because silence is not legally binding, and customary business practices are rarely enforced beyond the realm of contractual freedom.

2.1.2.2 Institutional Reasons for the Lack of Case Law

Moreover, the silence of the courts on CDS characterization is less impressive when it is seen in proper context. In fact, the scarcity of cases is so closely linked to financial interests that one cannot take it at face value. Firstly, lack of case law is in large part due to the standardized ISDA documentation, which has specifically sought to keep the cases out of courts. Secondly, many derivatives disputes are settled out of court precisely because financial institutions wish to avoid uncertainty, negative publicity, and the risk of court rulings finding their activities legally dubious. Thirdly and perhaps most interestingly, it has been argued that “the pool of accountants, lawyers and bankers who truly understood how [the credit derivatives world] worked was always extremely small,” so that it has been hard for investors to find financiers who could offer independent advice on products since they were usually working for the banks. It has also been hard for investors to find good lawyers if they wanted to sue a large investment bank over, say, a CDO. When investors have tried to contact top law firms in London, to launch litigation, the lawyers have often refused to act due to “conflicts” (that is, they were already working for the banks.) It is little wonder, then, that there have been so few successful lawsuits. The near-stranglehold of banks over the legal world has been impressive.

This view is supported by the experience of Satyajit Das, who, describing his involvement as expert witness in a derivatives dispute, points out that the big law firms “had all declined to act on [the client’s] behalf, claiming a conflict of interest” which, in many cases, was a merely potential conflict: “they would not at against a major investment bank as it might prejudice future opportunities for lucrative work.”

If this is a correct assessment of the situation, it is a grave institutional challenge for the development of financial law. Certainly, it implies that one

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17 See further below, chapter 4.2.5.2.
19 See Partnoy 1997: 254 (explaining why almost all derivatives disputes are settled); Das 2006: 15–18 (describing counsel’s argumentation against an investment bank and noting how the bank settled in order to avoid negative publicity).
20 Tett 2010.
21 Das 2006: 11.
THE LEGAL CHARACTERIZATION OF CREDIT DEFAULT SWAPS

should at least be sceptical about according legal authority to the silence of the courts. Indeed, one group of credit derivatives experts notes that judges are afraid to touch upon the question, because the “consequences of a recharacterisation would simply be too far-reaching for any court to contemplate.”

That does not preclude academic analysis, fortunately. It is to be noted, moreover, that the practical difficulties of recharacterization can always be overcome by settling the matter through legislation with adequate provisions on the coming into force of the new rules.

2.2 CLASSIFYING CREDIT DEFAULT SWAPS: PRINCIPAL ALTERNATIVES

A broad derivatives-based view was advanced by the Potts opinion of 1997, which argued that these transactions were not insurance in English law. That view will be examined carefully later, but even supposing it to be correct, it did not really explain what CDSs are, then. In order to obtain a balanced and complete view of the characterization problem, therefore, let us briefly analyze the principal alternatives suggested by legislation, case law and scholarly literature. It will be seen that some of the alternatives are easily excluded, whereas others leave scope for debate. It will also be show that not only has the legal question been subject to uncertainty, but also that there have been persistent myths circulating in the literature that must to be rectified.

2.2.1 Gambling

There have been passing comments that likened CDSs to gambling. However, this has not been advanced as a legal argument, because the potential characterization of financial contracts as gambling (and therefore illegal or unenforceable) is mainly one of historical curiosity. From the 1980s onwards, gambling and wagering laws have been systematically liberalized. In the UK, the Gambling Act 2005 did a drastic liberalization, but even earlier, it was held that bona fide commercial or financial transactions would not be classified as wagering contracts.

22 Ali and de Vries Robbé 2004: 25.
24 For example, New York Governor David A. Paterson called CDSs “gambling” in a New York Times interview: see Hakim 2008: C10. Partnoy and Skeel 2007: 1021 also state that in, a CDS, “private parties bet on a debt issuer’s bankruptcy”.
25 See Hazen 2005: 396 (with respect to the United States, where gambling laws vary from state to state); Scott and Biggins 2012: 318–319 (with respect to the UK).
26 See for example Morgan Grenfell v Welwyn Hatfield District Council [1995] 1 All ER 1.
2.2.2 Securities

According to one US attorney, “[u]ntil December 2000, the prevailing opinion among practitioners was that CDSs were securities under the Securities Act” because “a CDS was viewed as a put on an evidence of indebtedness.” That expression is not entirely accurate, because economically a CDS is definitely not a put on an evidence of indebtedness. Moreover, many CDSs were probably transacted as unregulated swaps rather than securities. Nevertheless, the view in question merits attention, because securities are a fundamental category of financial regulation that covers a very wide range of transaction, and “[t]here is substantial uncertainty surrounding the definition of ‘security.’”

2.2.2.1 Novations: Are CDSs Tradeable?

There are fundamental reasons why CDSs should not be treated as securities. The key feature of financial securities is their tradeability in secondary markets, and this feature is generally not found in CDSs. It might be argued, though, that in practice CDSs are highly standardized and furthermore traded in secondary markets. The question is whether it is legally correct to speak of trade in CDSs. In strictly legal terms, the rights and obligations of CDSs cannot be transferred to third parties without the consent of the remaining counterparty. In practice, concerns have been expressed that “secondary trading of CDS positions was being undertaken by assignments without the consent of the remaining party.”

However, the legal validity of these assignments requires the novation of the agreement, i.e. that a new contract is made to replace the original contract.

Since 2005, secondary market “trading” in CDSs has been facilitated by the ISDA Novation Protocol. But this only confirms that, technically and legally, CDSs are strictly bilateral agreements rather than securities. The matter has been explained with precision by ISDA’s David Mengle, who expressly distinguishes these contracts from financial securities:

27 Sjostrom 2009: 984. The source of this opinion is Glass 2001: 1.
28 Evidence of indebtedness may influence CDS prices, but payments under CDSs are determined by specific credit events.
29 To be sure, there is no hard data on the early development of the market.
31 Ahokallio 2011: 82–83. In Finnish, the notion of financial securities translates as arvopaperi, and tradability as vaihdantakelpoisuus.
32 BIS 2008: 22.
33 See Mengle 2007: 18–19. CDS novations are mainly practiced by hedge funds, and what has caused problems is that participants have failed to follow the novation procedure established by ISDA, so that in many cases consent was not asked, and/or counterparties failed to provide timely information of consent to the back-office.
34 BIS 2008: 22.
OTC derivatives do not trade in the same way as securities, that is, by means of transfer of ownership. Instead, they trade “synthetically” by three different means, each of which involves payment by one party to the other of a transaction’s mark-to-market value. First, the parties can agree to a termination (or tear-up), under which they agree to extinguish the original obligation following payment. Second, one party can enter into an offsetting transaction, which leaves the original transaction in place but effectively cancels out its economic effect. Finally, a party can enter into a novation, also known as an assignment, under which the party (transferor) transfers its rights and obligations under the transaction to a third party (transferee) in exchange for a payment. Following the novation, the parties to the transaction are the transferee and the remaining party. The ISDA Master Agreement requires a transferor to obtain prior written consent from the remaining party before a novation takes place.\(^{35}\)

It follows that CDSs clearly should not be characterized as financial securities, and that it is inaccurate to speak of CDS trade in secondary markets.

### 2.2.2.2 Extension of Securities Regulation to Non-Security Derivatives

That does not exclude the possibility of some influence of securities regulation. At least with respect to Finnish law, Ahokallio notes that the Finnish Securities Markets Act regulates financial derivative agreements even if they do not conform to the definition of “securities”.\(^{36}\) The legal consequences for transaction counterparties include, among others, rules on misleading marketing, conduct with clients, reporting requirements, certain rules on market abuse, etc.\(^ {37}\) According to Ahokallio, these apply to CDS counterparties.\(^ {38}\)

This conclusion can be problematized, however, because the argument relies on defining CDSs as derivatives. As has been noted earlier, the notion of derivatives is not at all clear, and if, as will be shown later, CDSs rather fall within the scope of insurance law, it is unlikely that they should be regulated as derivatives at the same time.

### 2.2.2.3 Exclusion in the US: Commodity Futures Modernization Act

With respect to United States federal law, the securities question has been clarified by the Commodity Futures Modernization Act (CFMA) of 2000, which is the first piece of US legislation touching explicitly upon CDSs and which will be examined later more carefully. For present purpose, it is only necessary to note

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\(^{35}\) Mengle 2007: 18–19.

\(^{36}\) Arvopaperimarkkinalaki 495/1989 (AML), § 1:2.3 (1517/2001).


\(^{38}\) Ahokallio 2011: 58.
that it determined that swap agreements, which were expressly extended to credit default swaps, are not securities under United States federal securities laws.\textsuperscript{39}

\section*{2.2.3 Letter of Credit and Third Party Guarantee}

\subsection*{2.2.3.1 The Two-Party Nature of CDSs}

Another view, advanced by Schuyler Henderson in terms of English law, is that CDSs are analogous to letters of credit or third party guarantees.\textsuperscript{40} However, even if some similarity cannot be denied, this is not an accurate classification. The fundamental difference is that letters of credit and third party guarantees are fundamentally \textit{tripartite} relationships, whereas CDSs are structured as \textit{two-party} relationships where payment depends on external and flexibly negotiable credit events.\textsuperscript{41} In this respect, CDSs are clearly more like insurance than tripartite credit enhancement:

At its heart, the insurance business concerns the relationship between two parties, and not a relationship involving three parties. It is radically different from the tripartite guaranty and letter of credit relationships [...]. The insurer, through the issuance of an insurance policy, promises to pay the insured for losses that the insured incurs for a covered risk. In return for this protection, the insured pays a premium to the insurer. Note that no third party lies at the core of the insurance relationship.\textsuperscript{42}

This is rendered graphically clear with the figures below.

\begin{figure}[h]
\centering
\includegraphics[width=0.5\textwidth]{insurance_policy_diagram.png}
\caption{A traditional (two-party) insurance policy.\textsuperscript{43}}
\end{figure}

\textsuperscript{39} Sjostrom 2009: 984–985; Wynkoop 2008: 3099.
\textsuperscript{40} See Henderson 2009b: 481–482.
\textsuperscript{42} Aicher, Cotton and Khan 2004: 921.
\textsuperscript{43} Adapted from Aicher, Cotton and Khan 2004: 921.
The difference is not merely terminological, but it is rooted in the economic structure of the contract obligations. The credit events of CDSs may include a wide range of events—including “a rating downgrade of the reference entity”—that are not covered by letters of credit or third party guarantees, and that do not imply a three-party relationship. Moreover, the compensation under CDSs is, in principle, not based on the value of non-payment as such, but on the consequent loss of value of the reference assets following a credit event (which may be other than

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46 Ayadi and Behr 2009: 181.
47 See Ayadi and Behr 2009: 184 (describing different credit event possibilities). Shadab 2012: 1045 writes: “CDSs that reference asset-backed securities, including CDOs, define credit events, such as default and failure to pay, differently than corporate CDSs by including a distressed ratings downgrade.”
non-payment). Structurally, CDS compensation more resembles damage to property in property insurance.

2.2.3.2 Credit Enhancement and the Independence Principle

The question merits further clarification, however, because there is long-standing confusion regarding the legal differentiation of different forms of credit enhancement. There are a range of forms, but insurance and non-insurance, which have developed in different circumstances and with a view to responding to different needs. One factor that merits particular attention is the independence principle, which is applied to letters of credit, whereas third party guaranties are strictly secondary obligations:

This is the essential characteristic of the letter of credit, the so-called “independence principle.” The letter of credit is a primary obligation of the issuer to honor the beneficiary’s demand for payment separate from the terms and satisfaction of the underlying transaction for which the credit was issued. This independence principle distinguishes the letter of credit, even the so-called “standby letter of credit,” from a guaranty, which is a secondary obligation by the guarantor.

For present purposes, it is important to see that this different between letters of credit and guarantees is not a different between two-party and three-party arrangements, because they are both three-party arrangements. In other words, the difference is one internal to tripartite agreements, however with the difference that a letter of credit is structured so as to exclude defences such as unenforceability, illegality or invalidity of the underlying obligation. It could be argued that in this respect a letter of credit is somewhere between third party guarantees and credit default swaps; yet it remains a fact that it is structured as part of a tripartite relationship, whereas CDSs are structured to compensate for flexible negotiable credit events beyond non-payment in another credit relationship.

2.2.3.3 Tripartite Arrangements in Finnish Law: Reimburssi and takaus

The question has been analyzed similarly by Ahokallio with respect to Finnish law. He distinguishes between CDSs and property securities (esinevakuudet) and what Finnish law calls personal securities (henkilövakuudet), such as third-party guarantees (takaus) and letters of credit (reimburssi). According to Ahokallio, a credit default swap is not a takaus in Finnish law, because this is a non-

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50 Ahokallio 2011: 73.
51 Ibid. 73–82.
independent, secondary obligation, and it includes the guarantor’s right to reclaim the money from the principal debtor (regressioikeus). These key features that are absent in CDSs.

2.2.4 CDS and Insurance Law: Preliminary Clarifications

Before a detailed examination of insurance law principles in the next chapter, it is helpful to clear the ground with some general clarifications. One issue is that there are categories of insurance that have been proposed as appropriate for CDSs, but in fact present some difficulties. Another issue is whether and to what extent the application of insurance law to CDSs may have been already excluded by case law or legislation.

2.2.4.1 Credit Insurance and Financial Guaranty Insurance

According to one representative of United States insurance legislators, credit default swaps are a form of financial guaranty insurance. The evolving attitude of insurance regulators will be examined later, and it will be argued that this view is broadly sound; it is nevertheless opportune to clarify the issue already at this stage, because financial guaranty insurance is a novel and peculiar form of insurance.

Financial guaranty insurance is related to credit insurance, but it is, in the United States, a separately regulated activity that must be conceptually distinguished from ordinary credit insurance. According to the Geneva Association, credit insurance refers to agreements that form part of tradition or core insurance activities and that are generally based on small amounts such as trade insurance (similar to trade finance offered by banks). In regulatory terms,
traditional credit insurance does not imply major systemic risks, because the connections to the banking and financial sector at large are small.\(^57\) Financial guarantees or guaranty insurance, in contrast, is principally offered as a means of providing credit enhancement to bond issuers. This implies larger amounts and significant connections to the financial sector and banks (also because bank capital regulation gives importance to the insurers’ credit ratings).\(^58\) These regulatory concerns are the main reason why financial guaranty insurance is regulated separately, and insurance companies offering this type of insurance are called “monolines” or “monoliners” because regulations require that they specialize in this activity in order to reduce linkages to other types of insurance.

Importantly, however, financial guaranty insurance is (at least normally) a tripartite arrangement, akin to a letter of credit written by an insurer.\(^59\) Analogously to what was argued earlier, therefore, it seems inaccurate to try to fit all CDSs into the category of financial guaranty insurance (see also Figure 5). To be sure, the statutory definitions of financial guaranty insurance are quite broad,\(^60\) so some CDSs might be caught.

![Figure 5](image_url) The financial guaranty insurance triangle.\(^61\)

### 2.2.4.2 The Limits of United States Case Law

Regarding the possible exclusion of insurance recharacterization of credit default swaps, let us first briefly examine existing case law. Even in the United States,
where most decided CDS cases are based, there are few judicial pronouncements on the matter, but there are some obiter dicta on the nature of CDSs. In one case, Judge Jed Rakoff described credit default swaps as essentially an insurance contract, and employed the language of insurance repeatedly: “A credit default swap is an arrangement similar to an insurance contract. The buyer of protection [...] pays a periodic fee, like an insurance premium, to the seller of protection […], in exchange for compensation in the event that the insured security experiences default.”62

In another case, the court in contrast sought to differentiate CDSs from insurance, claiming that “CDS agreements are thus significantly different from insurance contracts.”63 However, neither decision was concerned with the classification issue, but like most CDS cases, they were concerned with whether a credit event had occurred within the meaning of the terms of the contract.64

The latter case nevertheless included some interesting details. Namely, the court cited an ISDA amicus curiae brief, which claimed that CDSs “do not, and are not meant to, indemnify the buyer of protection against loss. Rather, CDS contracts allow parties to ‘hedge’ risk by buying and selling risks at different prices and with varying degrees of correlation.”65 However, this generic description evades the question of how CDSs are structured, and it does not actually differentiate them from insurance. Moreover, the court adopted a different definition of CDS, which was rather plainer: “Credit default swaps are a method by which one party (the protection buyer) transfers risk to another party (the protection seller).”66 This definition is more akin to an insurance characterization.

2.2.4.3 New York Insurance Law: The Misquoted Article 69

Regarding United States legislation, there is a surprisingly common but erroneous belief that the insurance classification of CDSs was excluded in New York State in 2004, when Article 69 of the New York Insurance Law (dealing with financial guaranty insurance) was amended to define some aspects of credit default swaps.67 Several commentators have claimed that the amendment definitively excluded CDSs from insurance regulation, citing the following:

63 AON Financial Products, Inc. v. Societe Generale, 476 F.3d 90, 96 (2d Cir. 2007).
64 Mugasha 2011b: 557–558, who is opposed to the insurance-characterization of CDSs, seems to incorrectly rely on the AON case as having decided the matter, ignoring the fact that it was an obiter dicta that did not form part of the legal decision proper.
66 Ibid.
sentence in § 6901(j-1): “the making of [a] credit default swap does not constitute the doing of an insurance business.” Thus Shadab writes that New York “in 2004 codified that position [that CDSs do not qualify as insurance contracts] in Article 69 of the New York Insurance Law.” Schwartz states that “New York updated its insurance laws to exclude CDS in 2004” and that this “permanently quelled the worries of those who feared insurance treatment for CDS.” Kimball-Stanley comments: “The statute is hardly a convincing analysis of the legal issues involved in such a statement; but it is effective nonetheless.”

But this is all a gross misunderstanding, because the statutory sentence has been taken out of context. The original paragraph defines the meaning of “credit default swaps” for the purposes of New York Insurance Law, and adds a caveat to highlight that the definition only applies on the condition that the agreement is not recharacterized as an insurance contract:

“Credit default swap” means an agreement referencing the credit derivative definitions published from time to time by the International Swap and Derivatives Association, Inc. or otherwise acceptable to the superintendent, pursuant to which a party agrees to compensate another party in the event of a payment default by, insolvency of, or other adverse credit event in respect of, an issuer of a specified security or other obligation; provided that such agreement does not constitute an insurance contract and the making of such credit default swap does not constitute the doing of an insurance business.

The underlying logic of this statutory definition is that products known as “credit default swaps” were being used by New York-based financial guaranty insurers and the legislature sought to add some legal clarity, without however wishing to definitively determine the problem of insurance demarcation, because these novel products functionally resembled insurance. The purpose of the often-partially quoted last sentence was to warn that the application of insurance law to CDSs had not been settled. This interpretation has been emphasized by Insurance Superintendent Eric R. Dinallo, who clarified the meaning of the paragraph in September 2008:

Thus, provided that the making of the CDS itself “does not constitute the doing of an insurance business,” Insurance Law […] permits FGIs [financial guaranty insurance

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68 Kimball-Stanley 2008: 252 (citing exactly this).
69 Shadab 2010: 429.
70 Schwartz 2007: 173. Relying on this, Sjostrom 2009: 988 asserts: “This [that CDSs have not been subject to insurance regulations] was made crystal clear by the state of New York in 2004 when it amended its insurance laws specifically to exclude CDSs from coverage.”
71 Schwartz 2007: 183. See also Whitehead 2010: 34 (“In York New […] most of AIGFP’s [credit default] swaps were expressly excluded from insurance regulation.”)
73 New York Insurance Law, § 6901(j-1) (emphasis added).
companies] to issue insurance policies that guarantee payments by transformers or other parties pursuant to such a CDS.\textsuperscript{74}

In other words, Article 69 stated that insurers could sell financial guaranty insurance guaranteeing non-insurance CDSs (supposing, of course, that there are such things), which implies that some CDSs could be insurance and their differentiation would have to be determined independently.

\subsection*{2.2.4.4 US Federal Derivatives Legislation: CFMA and the Dodd-Frank Act}

The United States is also the jurisdiction that most attention has given to CDSs in federal legislation. It was mentioned above that the Commodity Futures Modernization Act of 2000 (CFMA) expressly excluded their regulation as securities. It also excluded their regulation as commodity derivatives, treating them as exempted swap transactions for this purpose.\textsuperscript{75} Importantly, however, the CFMA did not exclude the application of state insurance laws if and when the transactions resemble insurance.\textsuperscript{76} The underlying principle here is that the CFMA was not concerned with the insurance question, but with the question of whether certain financial products (mainly other OTC derivatives, to which CDSs were added) would be caught by the existing federal regulatory schemes. Insurance law, in contrast, is a state matter in the United States, and the legislation in question did not address it.

In contrast, the Dodd-Frank Act of 2010 expressly excluded the characterization and regulation of CDSs as insurance under state law.\textsuperscript{77} The Dodd-Frank reform will be examined later in detail, but even regarding the insurance law issue it must be noted that, apart from failing to satisfy policy concerns, the Dodd-Frank insurance pre-emption is legally confusing, because it depends on a paradoxical concept of “swap” that departs from financial definitions and may end up covering many insurance contracts.\textsuperscript{78} Moreover, it does not determine the question in other jurisdictions.

\footnote{\textsuperscript{74} Dinallo 2008a: 7. See likewise Venokur, Magidson and Singer 2008: 5, writing that “if the CDS itself does not constitute an insurance contract or the doing of an insurance business, then an FGI is permitted to issue an insurance policy that guarantees payments by a transformer or other party pursuant to such CDS.”}

\footnote{\textsuperscript{75} Sjostrom 2009: 986; Wynkoop 2008: 3100.}

\footnote{\textsuperscript{76} Dinallo 2008b: 4 explains the effects of CFMA and highlights that the insurance issue was left open. Schwartz 2007: 173 also notes that “the state of insurance regulation remains unsettled in many places”.}

\footnote{\textsuperscript{77} See below, chapter 4.3.3.}

\footnote{\textsuperscript{78} See further below, chapter 4.3.3.}
2.2.4.5 **European Union Legislation: The Limits of EMIR and MiFID**

In contrast to the United States, the legal characterization of CDSs, particularly with respect to insurance law, has received little legislative attention in Europe. To be sure it is commonly assumed that CDSs are derivatives, but the legal foundation for this assumption is rarely or never clarified.

For example, the new EU regulation imposing mandatory clearing for many OTC derivatives—commonly known as the European Market Infrastructure Regulation or EMIR—is normally assumed to cover CDSs, but in fact it makes no explicit reference to credit default swaps. In fact, it defines “derivative” or “derivative contract” by referring back to a list of instruments attached to the MiFID Directive.\(^\text{79}\) This list, however, does not mention credit default swaps, but simply refers generically to “Derivative instruments for the transfer of credit risk”.\(^\text{80}\) If this is the legal basis for holding that CDSs are not insurance, on reflection it is frankly quite inadequate: the non-specific expression in MiFID does not provide any demarcation criteria, and it simply presupposes prior legal classification as a derivative; invoking it as a statutory classification would therefore be circular.

Naturally, to say this is not to deny that it is probably very common to suppose that CDS are “financial derivatives” and that the notion of financial derivatives is legally and economically clear and uncontroversial, so that the application of MiFID, EMIR and so on to credit default swaps would also be uncontroversial.\(^\text{81}\) It is precisely in order to problematize this assumption that I have sought to highlight the conceptual difficulties underlying the notion of financial derivatives. For the same reason, the following chapters will carefully analyze not only the problem of demarcating insurance law, but also to the issue of how the notion of financial derivatives, and more specifically, the notion of “swaps”, has arisen and evolved in financial regulation.

### 2.3 CONCLUSION

The foregoing analysis has sought to demonstrate that certain legal categories are quite inappropriate for credit default swaps. There are two broad alternatives that seem more appropriate: on the one hand, insurance, and on the other hand, financial derivatives. These are both relatively broad notions, and the underlying legal principles are also complex. Both alternatives will therefore be analyzed carefully in the next two chapters.

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79 EMIR, Art. 2(5).
80 MiFID, Annex 1, Section C(8). This remains unchanged in MiFID II.
81 See for example Ahokallio 2011: 57.
3 CREDIT DEFAULT SWAPS AS INSURANCE CONTRACTS

Credit default swaps seem very much like insurance, as many credit derivatives experts also admit: “This type of swap may be properly classified as credit insurance”.¹ In the words of another: “Credit default swaps […] are actually default insurance.”² The question here is whether they are legally so. This chapter starts with an outline of the practical implications of insurance regulation. It then proceeds to a detailed analysis of insurance law principles and a critical examination of the diverse arguments advanced in the literature with respect to CDSs and insurance law. The chapter ends with an assessment of the evolution of the thinking of United States insurance regulators on the matter, and a brief analysis of the question in terms of Finnish insurance law.

3.1 CDS IN LIGHT OF INSURANCE LAW PRINCIPLES

3.1.1 The Legal and Economic Implications of Insurance Regulation
Insurance regulation is of major practical significance. Firstly, selling insurance without a proper license may render protection sellers civilly and criminally liable.³ The rules vary between jurisdictions, but generally, “if credit default swaps are deemed insurance by an insurance regulator, a protection seller could be subject to criminal prosecution, substantial fines, and forfeiture of its corporate charter unless it maintained the requisite licenses.”⁴ The protection buyer may also be able to recover the money paid or any loss sustained.⁵

Secondly, authorization to sell insurance implies a range of regulatory burdens including loss reserves, capitalization, compulsory disclosures, and investment restrictions.⁶ Therefore firms may wish to avoid the application of insurance law.⁷

¹ Anson 1999: 44.
⁴ Ibid. See for example New York Insurance Law, § 1101(a)(2). In the UK, the regime of the Financial Services and Markets Act 2000 is complicated, because a person may be authorized by the Financial Services Authority (FSA), but the permission does not extend to insurance, in which case the breach is only subject to FSA sanctions which though include criminal penalties: see Benjamin 2007: paras 10.17–10.20.
⁵ Clarke 2007: 60 (describing UK rules); Benjamin 2007: para. 10.18.
⁶ See for example Jerry 2002: 112–123 (describing statutory controls in the United States); Clarke 2007: 61–65 (describing a range of duties falling upon insurers in the UK).
⁷ Hellner 1963: 494.
Thirdly, insurance law limits the freedom of protection buyers by imposing, in most jurisdictions, the requirement of insurable interest, which limits speculative risk-taking. Fourthly, insurance contracts are normally subject to the principle of utmost good faith, which requires both parties to disclose all information that would influence the judgment of a prudent insurer. In practice, the application of this principle varies greatly between jurisdiction and types of insurance. In the United States in particular, there is “a substantial consumer protection element of the law governing insurance.”

### 3.1.2 Demarcating Insurance

#### 3.1.2.1 Legal Definitions

The scope of insurance law cannot be definitively demarcated by definitions, but they are necessary as a matter of first impression. Although there is some variation among the conventional legal definitions of insurance, two things are without doubt: the definitions agree on the fundamentals, and those fundamental elements embrace all or many credit default swaps. In the United States, a standard definition by Black’s Law Dictionary states that insurance is a “contract by which one party (the insurer) undertakes to indemnify another party (the insured) against risk of loss, damage, or liability arising from the occurrence of some specified contingency.” A more elaborate definition is provided by New York State Insurance Law:

> “Insurance contract” means any agreement or other transaction whereby one party, the “insurer,” is obligated to confer benefit of pecuniary value upon another party, the “insured” or “beneficiary,” dependent upon the happening of a fortuitous event in which the insured or beneficiary has, or is expected to have at the time of such happening, a material interest which will be adversely affected by the happening of such event.  

_A fortuitous event_ means, according to the New York statute, “any occurrence or failure to occur which is, or is assumed by the parties to be, to a substantial extent beyond the control of either party.”

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8 See Clarke 2007: 98–116 (discussing this principle critically).

9 Ibid.


11 This discussion is largely limited to United States and English law, which are the leading jurisdictions for CDS markets; the demarcation of insurance law does not appear fundamentally different in other jurisdictions, although there are differences in the details of insurance regulation.


13 New York Insurance Law, § 1101(a)(1).

14 New York Insurance Law, § 1101(a)(2).
In the UK, there are some statutes dealing with insurance law, but the demarcation of insurance continues to be determined by common law and the regulators’ interpretation thereof. In the landmark case of *Prudential v IRC*, Channell J described insurance as follows:

A contract of insurance, then, must be a contract for the payment of a sum of money, or for some corresponding benefit such as the rebuilding of a house or the repairing of a ship, to become due on the happening of an event, which event must have [...] some degree of uncertainty about it and must be of a character more or less adverse to the interest of the person effecting the insurance.

In summary, there are three fundamental elements of insurance contracts: *payment, uncertainty* and *adverseness* (interest). It is evident that the broad definitions would include CDSs, at least in some cases, as many commentators acknowledge: “A CDS certainly appears to fall within this definition [of *Black’s Law Dictionary*].” Even Schwartz, who is critical of insurance law, agrees: “Viewed on their face, these [New York] statutes define insurance contracts such that CDS—at least those with exogenous credit events—could be subject to insurance regulation.” He also notes that guidelines issues by the United States National Association of Insurance Commissioners “defined insurance in such a way that CDS clearly qualify as insurance contracts.”

Some have attempted to downplay the issue by referring to non-legal definitions of insurance, such as those highlighting the risk-pooling aspect of insurance. But, while risk pooling is an important aspect of the economic logic of ordinary insurance business, it is not a legal criterion for demarcating insurance law.

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15 See FSA 2012: para. 6.3.2, 6.5.2; Clarke 2007: 349 (explaining that the Regulated Activities Order “does not attempt an exhaustive definition of contracts of insurance” and that the “FSA will still consider each case on its merits, in the light of the FSA’s interpretation of the common law.”). In fact, many countries do not have statutory definitions of insurance; for example, Australia’s Insurance Contracts Act 1984, s. 10(1), simply refers to what “would ordinarily be regarded as a contract of insurance”.

16 *Prudential Insurance Company v IRC* [1904] 2 KB 658, 663. According to FSA 2012: para. 6.5.1, *Prudential* is the best statement of the common law.

17 English and Scottish Law Commissions 2008: para. 7.19. For similar definitions, see for example Ivamy 1993: 3–4; Leigh-Jones, Birds and Owen 2003: para. 1–1.


20 Ibid. 174.

21 For example Henderson 2009a: 16.
3.1.2.2 Borderline Cases

Definitions are not the final word: demarcations must be determined by courts and regulators, which are sceptical of generic definitions, “because definitions tend sometimes to obscure and occasionally to exclude that which ought to be included.”

Even when a definition is provided by statute, it should not be blindly relied upon, as “the approach through formal definition leads to innumerable difficulties and, if taken seriously, unfortunate results.”

There is no simple way of determining borderline cases. Courts at common law have developed a range of criteria based on the peculiarities of new cases. These seem to have little to add to the present discussion, as many of these criteria are trivial and easily fulfilled in CDSs.

There are only two criteria that raise questions with respect to CDSs. One is that “the insured event must be one that is adverse to the policyholder”; but this is only relevant for some (so-called uncovered or “naked”) CDSs, and will be discussed later in detail.

Another potentially relevant criterion is the “major or primary purpose test” developed in some United States cases, according to which “where the major purpose of a contract is other than to indemnify the promise, there is no insurance.” However, the validity of this test is doubtful, as it is contradicted by some cases and “cannot prevail as a general test”. In the UK, the regulators have expressly abolished it: “The contract must be characterised as a whole and not according to its ‘dominant purpose’ or the relative weight of its ‘insurance content’.” Moreover, in any case this test might not matter for CDSs, because it can be argued that the purpose—in fact, the only purpose—of CDSs is precisely...
to indemnify, or to recover the loss of reference asset value due to default or other credit event.\textsuperscript{31}

Some authors have argued that “attempts at evasion of insurance regulation should not be tolerated,” giving rise to a kind of positive presumption in favour of regulation.\textsuperscript{32} This is relevant with respect to CDSs, because the very language of “swaps” may be interpreted as a camouflage.

\textbf{3.1.2.3 UK Financial Services Authority (FSA) Guidelines}

In the UK, the difficulty of delineating the boundaries of insurance law has prompted the Financial Services Authority (FSA)—which supervised both securities and insurance industries—to provide further guidance.\textsuperscript{33} This guidance is not conclusive and does not explicitly discuss CDSs, but it corroborates the impression that English insurance law covers CDSs.

Firstly, the FSA lists transactions that are \textit{unlikely} to be regarded as insurance: these include contracts which appear to be “pre-payment for services to be rendered in response to a future contingency”,\textsuperscript{34} contracts of “periodic maintenance of goods or facilities”,\textsuperscript{35} and contracts under which “the provider stands ready to provide services on the occurrence of a future contingency, on condition that the services actually provided are paid for by the recipient at a commercial rate”.\textsuperscript{36} CDSs resemble none of these transactions.

Secondly, in terms of affirmative criteria, the FSA highlights the “assumption of risk” by the insurer as “an important descriptive feature of all contracts of insurance.”\textsuperscript{37} For the FSA, the assumption of risk has the same meaning as the “transfer of risk”.\textsuperscript{38} This is precisely the fundamental element of CDSs. Note that it does not matter if the provider “trades without any risk”,\textsuperscript{39} as may be the case with an investment bank acting as a CDS intermediary.

With respect to borderline cases, the FSA notes that insurance law is more likely to apply “if the amount payable by the recipient under the contract is

\begin{footnotesize}
\begin{enumerate}
\item This will be discussed in detail below, chapter 3.1.6.1. The point of the major purpose test is not to scrutinize the \textit{motivations} of the insured party (which in CDS transactions may be speculative), but to distinguish contracts which have only a marginal \textit{insurance element}: see Hellner 1963: 502–503.
\item See Hellner 1963: 503–504 (discussing this argument).
\item The original document is FSA 2004, which has been published in updated form in FSA 2012: chapter 6.
\item FSA 2012: para. 6.6.3.
\item Ibid. para. 6.6.4.
\item Ibid. para. 6.6.5.
\item Ibid. para. 6.6.2.
\item Ibid. para. 6.6.2(1).
\item Ibid. para. 6.6.2(3).
\end{enumerate}
\end{footnotesize}
calculated by reference to either or both of the probability of occurrence or likely severity of the uncertain event.”

With CDSs, this is the case, at least in practice, because CDS premiums or spreads reflect expectations of probability and severity of credit events. Also, the FSA states that a contract is less likely to be insurance “if it requires the provider to assume a speculative risk (ie a risk carrying the possibility of either profit or loss) rather than a pure risk (ie a risk of loss only).”

CDSs transfer the risk of loss only, because credit events are always downside risks in terms of reference asset value.

In the FSA guidance, the only factor against the insurance characterization of CDSs is that a contract is more likely to be insurance if it “is described as insurance and contains terms that are consistent with its classification as a contract of insurance, for example, obligations of the utmost good faith” (which is not the case with CDSs). However, the guidance goes on to note that what matters is the substance, and the contract “does not cease to be a contract of insurance simply because the terms included are not usual insurance terms.” This is a fundamental point of principle, which Jan Hellner clarifies as follows:

Although there are good reasons for submitting anything that is frankly called insurance to insurance regulation, since the public might otherwise be misled, the test is clearly unsuitable when applied to business which is not called insurance for then an easy way to avoid the burden of regulation would be to use another name.

It may be concluded that the characterization issue is asymmetric in nature. The use of insurance language renders insurance characterization more likely, but its avoidance does not, in and of itself, make insurance characterization unlikely.

3.1.3 The Argument against Insurance

3.1.3.1 The Potts Opinion

The argument for insurance recharacterization seems strong, then, but there is a persistent belief that CDSs are not insurance. This belief goes back to a legal
opinion on credit derivatives penned in 1997 by Robin Potts QC in London for ISDA. After examining the principles, Potts concluded:

I think that credit default options [sic] plainly differ from contracts of insurance in the following critical respects:

(a) the payment obligation is not conditional on the payee’s sustaining a loss or having a risk of loss;

(b) the contract is thus not one which seeks to protect an insurable interest on the part of the payee. His rights do not depend on the existence of any insurable interest.

Potts went on to admit that “the economic effect of certain credit derivatives can be similar to” insurance, but argued that “economic effect is not the test to be applied to the characterisation of the transaction.” Instead, the question depends on the intended rights and obligations specified in the contract. Potts also recommended that the contract include a clause insisting that the parties wish the obligations to exist regardless of whether the protection buyer suffers or is exposed to a loss, and “therefore this transaction is not a contract of insurance.”

### 3.1.3.2 The Importance of the Potts Opinion

Before analyzing Potts’ reasoning critically, it is worth highlighting its practical importance. In the words of an anonymous ISDA representative, “there would have been no market at all” in CDSs in the absence of the Potts opinion. The core of Potts’s argument has also been repeated on numerous occasions by ISDA. The rhetorical weight of the Potts opinion has been so impressive that in a 2006 letter to the English Law Commission, ISDA Senior Policy Director Richard Metcalfe

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46 Potts 1997: 1 (para. 1).
47 Ibid. 7 (para. 5).
48 Ibid.
49 Ibid.
50 Ibid. 8 (para. 6).
51 Cited in interview by Huault and Rainelli-Le Montagner 2009: 560.
52 See for example Pickel 2004 (arguing on similar grounds that weather derivatives are not insurance). See likewise Strupp and Darras 2009: 2, which is a joint letter by ISDA and SIFMA and asserts among other things the following: “Whereas insurance requires an insurable interest, credit default swaps are often purchased by protection buyers that are not hedging a specific underlying risk. Insurance contracts generally are purchased and held by the buyer, whereas CDS are frequently bought and sold. And finally, insurance contracts only pay out when the insured party actually incurs a loss. CDS provide for payments to protection buyers upon the occurrence of a credit event, which frequently occurs before any loss is incurred. We believe each of these factors marks a significant difference between CDS and insurance.”
invoked the authority of the “widespread acceptance of the so-called ‘Potts opinion’” which had come to represent “current market consensus.”\textsuperscript{53}

In reality, though, such “widespread acceptance” was driven by a group of London-based banking lawyers repeating the Potts opinion in a range of publications. For example, a group of Allen & Overy solicitors—connected with the Potts opinion itself—made the same argument in 1997.\textsuperscript{54} In 2001, Norton Rose lawyers advanced essentially the same argument,\textsuperscript{55} and in 2003, ISDA documentation expert Paul Harding referred to the Potts opinion as definitive.\textsuperscript{56}

### 3.1.3.3 Mixed Reception

Yet there are obvious problems with the Potts opinion. This subsection highlights some general issues, which will be followed by a detailed analysis of the legally more complex issues—form and substance, insurable interest, and loss indemnification—in separate sections below. The Potts opinion is famous, but legally it is only a private opinion. Its acceptance by the market—that is, a market keen to be freed from the shackles of regulation—is hardly surprising, and certainly does not render it legally binding. Its repetition by many a bank counsel must also be read in context, as the literature on credit derivatives law is sparse and dominated by banking interests.

Moreover, the acceptance of the Potts opinion has been hugely exaggerated. Joanna Benjamin in 2007 wrote—while expressing doubts about the accuracy of Potts’ analysis—that “given the degree of authority commanded by the Potts opinion in the financial markets, and given also the importance of commercial expectations in characterising financial contracts, the opinion may now be regarded as conclusive.”\textsuperscript{57} But in fact, already in 1998 Professor Hudson wrote that credit derivatives basically provide “a form of insurance policy for the buyer”\textsuperscript{58} and that they imply “a number of areas of potential liability where dealers are, in terms, providing insurance to their clients”.\textsuperscript{59} In 2000, John Jakeways also advanced a more nuanced position on the insurance question.\textsuperscript{60} In his view, there was no definite answer to the question, as it depended on the specific terms of each contract; he felt that most of the time credit derivatives were

\begin{itemize}
\item \textsuperscript{53} Metcalfe 2006.
\item \textsuperscript{54} Benton, Devine and Jarvis 1997: 30–31. Benton was one of the two Allen & Overy Instructing Solicitors acting for ISDA in requesting the Potts opinion: see Allen & Overy 1997: 10.
\item \textsuperscript{55} Ross and Davies 2001.
\item \textsuperscript{56} Harding 2004: 18–19.
\item \textsuperscript{57} Benjamin 2007: 142 (para. 5.142) n.426.
\item \textsuperscript{58} Hudson 1998: 5.
\item \textsuperscript{59} Ibid. 14.
\item \textsuperscript{60} See Jakeways 1999.
\end{itemize}
probably not insurance, but nothing certain could be said. In his opinion, the basis for avoiding the application of insurance law is that the principal object of the transaction is other than to insure. Ali and de Vries Robbé in 2005 likewise highlighted the continuing risk that credit derivatives might be recharacterized as insurance. Finally, Benjamin Saunders in 2010 argued that at least some CDSs—“for example a bank entering a CDS to protect against borrower default”—are “a form of indemnity insurance.”

If, in reality, the academic opinion has diverged from Potts on many points, the reception of the Potts opinion by regulators has been even more sceptical. In the UK, the Potts opinion was explicitly discussed by the FSA in a 2002 study on cross-sector risk transfers, and was found incorrect in several respects (although the FSA refrained from pronouncing expressly on whether it considered CDSs to be insurance). The FSA listed four reasons why the Potts opinion should not be heavily relied upon: (i) some contracts may not have “no intention to insure” clauses; (ii) the reference event may have been defined in such a way that it is conceptually impossible for the event to occur without the protection buyer suffering a loss; (iii) there are also contracts of insurance that do not provide indemnity against actual loss; and (iv) “no intention to insure” clauses may not be definitive if there is evidence of a different true intention.

The Potts opinion was also discussed by the English and Scottish Law Commissions’ 2008 study on insurable interest, and not without scepticism. Paradoxically, the authors of the report seemed bent on avoiding the conclusion that CDSs are insurance, but nowhere did they give clear reasons for this objective. The only explanation offered was industry pressure: “In response to

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61 Ibid. 51–53.
62 Ibid. 54–55. But this seems mistaken, because the major or dominant purpose test has been shown to be incorrect. With respect to speculative intent using insurance-like transactions, these are limited by the doctrine of insurable interest.
63 Ali 2005: 308 (“Notwithstanding the tremendous growth of the global credit derivatives market, there remains a critical legal risk […] that a court will treat the assumption of credit risk by a Protection Seller under a credit derivative as tantamount to the (illegal) provision of insurance by the party.”). Ali and de Vries Robbé 2005: 181 (“In the absence of a statutory safe harbour for credit derivatives and synthetic securitisations from the insurance laws, those products remain subject to the risk that a regulator or court may characterise them as insurance contracts.”).
64 Saunders 2010: 435.
65 In addition to the sources cited here, see the discussion on United States insurance regulators below.
67 Ibid.
68 See English and Scottish Law Commissions 2008: paras 7.10–7.17 (mainly citing the FSA publications).
69 See id. summary paras 1.20, 1.40; main text paras 7.3, 7.5.
our scoping paper, the ISDA wrote to us describing Robin Potts QC’s opinion and said that ‘any review of the boundary between contracts of insurance and other types of contract risks damaging [market] consensus and undermining confidence in these economically significant products’.”70 In the United States, as will be seen later in detail, insurance regulators initially accepted ISDA’s Potts-like argumentation, but it was scrutinized more carefully after the financial crisis, and rejected.

3.1.4  Form and Substance in Insurance Law and CDSs
Let us now examine the arguments of Potts and other critics of insurance recharacterization in detail. The easiest issue to tackle concerns the relationship between the legal form of a transaction and its so-called substance. Given that CDSs are functionally very much like insurance, the question is whether their legal recharacterization can be avoided by shunning the language of insurance, or by inserting “no intention to insure” clauses. The brief answer is negative, but the matter merits a closer look, as it reveals some fundamental points about insurance law and CDSs.

3.1.4.1  The Primacy of Substance over Form
Insurance regulation is not voluntary, and it cannot be avoided simply because the parties wish to do so. This is why form—contracting language and terms—is not the final word in insurance law, as Hellner has aptly summarized:

Although there are good reasons for submitting anything that is frankly called insurance to insurance regulation, since the public might otherwise be misled, the test is clearly unsuitable when applied to business which is not called insurance for then an easy way to avoid the burden of regulation would be to use another name.71

It is therefore generally established that, in insurance law, substance matters more than form. Summarizing the position of US states, Hellner writes: “Directly or indirectly this [formal] test is rejected almost universally. It is not the term used, but the characteristic features of the activity that are held decisive.”72 In England, the FSA guidelines state explicitly: “more weight attaches to the substance of the contract, than to the form of the contract.”73

Of course, the question that arises is what is meant by substance. In English law, the notion of substance refers fundamentally to the obligation(s) of the

70 Id. para. 7.11.
71 Hellner 1963: 500.
72 Hellner 1963: 500.
73 FSA 2012: para. 6.5.4(1).
insurance provider. In CDS transactions, the obligation of the protection seller is to compensate for the loss of reference asset value following a credit event: a CDS effects precisely the assumption, by the protection seller, of credit risk in return for periodic consideration.

Substance, therefore, does not mean merely the “economic effect” of the contract. For example, a farmer may enter into a commodity futures transaction for hedging purposes, but the agreement does not thereby become an insurance contract. Contrary to Potts and his instructing solicitors, the substance of the transaction does not refer to the intentions, motivations or investment strategies of the parties; the FSA specifically states that it “is unlikely to treat the provider’s or the customer’s intention or purpose in entering into a contract as relevant to its classification.”

The case law in the United States and England reveals that insurance law has been applied to many transactions in which the parties may have been unaware of effecting insurance, but the rights and obligations were essentially those of insurance. Of special interest for present purposes is the English case of Fuji Finance v. Aetna Life Insurance. The case concerned the legal nature of a financial transaction, which consisted of a single premium capital investment bond that was used as a form of life insurance. At first instance, the court ruled that the contract was not insurance, because there was no sufficiently close connection between the benefit and the adverse event. However, the Court of Appeals

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75 Henderson 2009a: 4.
76 See Allen & Overy 1997: 8 (referring to prior discussions in which, according to Potts, the construction of a contract depends on “the rights, obligations and intentions of the parties” at the time of contracting); Potts 1997: 6 (para. 4) (arguing that construction must depend on “the object of both parties” because “otherwise some non-disclosed desire” by one party might turn the transaction into an insurance contract).
77 FSA 2012: para. 6.5.4(2).
78 In the United States, consider for example the numerous burial contract cases: see Hellner 1963: 509–510. In England, an amusing example is Department of Trade and Industry v. St. Christopher Motorists’ Association Ltd. [1974] 1 All ER 395, where a motorists’ association promised to provide chauffeur services to its members if they lost their driving licence as a result of being convicted of having too much alcohol in the blood; this was considered insurance.
80 See English and Scottish Law Commissions 2008: para. 7.25 n.21 (summarizing the case and its history).
81 Fuji Finance Inc. v. Aetna Life Insurance Co. Ltd [1994] 4 All ER 1025. According to English and Scottish Law Commissions 2008: para. 7.25 n.21, “there was uncertainty about when the money would become payable and it did not chiefly depend on the length of the insured life.”
reversed the ruling and held that the transaction constituted insurance, following a broad definition of life insurance.\(^{82}\)

Care should be exercised when drawing analogies from Fuji, because the facts of the case were peculiar and it involved life insurance. It is clear, however, that the earlier Fuji decision cannot be relied upon to argue that a contract cannot be insurance simply because it has an investment element.\(^{83}\) In fact, it has been suggested that the logic of the Court of Appeals was that “the contract was both an investment product and a life insurance”\(^{84}\). Now, it might be suggested that CDSs should be construed as a similar combination of insurance and investment products; but this would be inaccurate, because CDSs are like insurance in a simpler way: in Fuji, the transaction that was basically an investment product that was structured in a particular way so as to function as life insurance; in CDSs, in contrast, the transaction is structurally just like an insurance contract, but it may be used for speculative purposes by persons not having insurable interest in the covered assets.

### 3.1.4.2 Transformers: Insurance and CDSs

In order to perceive more clearly that the rights and obligations in CDS transactions are essentially those of insurance, it is useful to consider so-called transformer arrangements, whereby CDSs are sometimes explicitly transformed into insurance contracts in order to exploit differences between regulatory regimes in banking and insurance (e.g., regulatory capital, tax and accounting differences).\(^{85}\) In a typical arrangement, a transformer company would first write the original CDS, and an authorized insurer would then insure the transformer company by way of traditional insurance or financial guaranty insurance (see Figure 6).\(^{86}\)

This arrangement is especially revealing when the insurance leg incorporates the CDS terms “back to back”.\(^{87}\) Some lawyers have discouraged the incorporation of ISDA’s CDS documentation into the insurance contract, because it risks a court holding that the insurance policy written through the transformer

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\(^{82}\) Fuji Finance Inc. v. Aetna Life Insurance Co. Ltd [1996] 4 All ER 608, at 618 (finding that the essence of life insurance is that “the right to benefits is related to life or death”).

\(^{83}\) See Allen & Overy 1997: 8 (arguing this). The interpretation of the Fuji cases is more nuanced in Potts 1997: 6 (para. 4).

\(^{84}\) Benjamin 2007: 139.


\(^{86}\) FSA 2002: Annex B, p. 3.

\(^{87}\) FSA 2002: Annex B, p. 3
was a sham. However, writing independent terms and different provisions creates unwanted risks, and the FSA in 2002 estimated that the standard approach had been to incorporate ISDA documentation.

The existence of transformers—and the incorporation of CDS terms—highlights the difficulty of claiming that CDSs differ from insurance in terms of the rights and obligations. Such a claim would imply that two contracts, that have exactly the same terms, are governed by entirely different legal rules and regulatory regimes, even though insurance law is supposed to be determined by substance rather than form.

There is also another paradox: the prudent lawyers argued that the insurance leg of the transformer arrangement might be construed as a sham, i.e. an illicit derivatives transaction (which an insurance company would be prohibited from entering) masked as an insurance contract. Yet it could be argued that it is the CDS leg that is a sham, i.e. an illicit insurance contract masked as a derivative. These two prospects cannot both be true at the same time, and it is submitted that the latter view is better.

![Figure 6](image_url)  
**Figure 6** A CDS–insurance transformer arrangement.

### 3.1.4.3 Where Is the Swap in a Credit Default Swap?

The confusing distinction between insurance and derivatives leads us back to the fundamental problem that, over time and in different contexts, different terminology has developed to describe activities that are at least partially overlapping. The hard question is what legal effect should be given to this linguistic confusion. On one hand, it was already mentioned that the FSA is a more likely treat a contract as insurance if it uses terms and obligations typical of insurance, but different terminology does not suffice to prove it is not insurance. On the other hand, it has been argued that the deliberate avoidance of insurance-

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89 FSA 2002: Annex B, p. 4, and para. 3.77.
type language might be interpreted in the opposite manner if there is evidence that it is motivated by the evasion of insurance regulation.

It is important to understand that the likeness between insurance and CDSs is not merely one of economic effect, as seems to have been assumed by Potts. He was certainly right that mere economic consequences are inconclusive; a farmer may enter into a commodity futures transaction for hedging purposes, but the agreement does not thereby become an insurance contract. Instead, as Potts correctly stated, legal construction depends on the rights and obligations specified in the contract. And a CDS effects precisely the assumption, by the protection seller, of credit risk in return for periodic consideration.

The issue may be further clarified by asking: Where is the swap in a credit default swap? There may be disagreement on what derivatives are, but not so with swaps: it is widely agreed in finance that, in the words of Partnoy, “a swap is a private agreement between two parties to exchange cash flows at certain times according to a prearranged formula.” Feder writes similarly that a “swap is an exchange of cash flows. A cash flow is a series of future cash payments.”

In contrast to swaps, a CDS is not an exchange of cash flows—and it definitely is not an exchange of credit defaults (as the name literally suggests). It bears no functional resemblance to genuine swap agreements. This has been acknowledged by some commentators, including Banks and others: “Because the transaction is unilateral […], it does not take the form of a standard OTC swap contract, which is always bilateral.” Ayadi and Behr concur: “Unlike other types of derivatives such as interest rate swaps, the risks assumed by the protection buyer and the protection seller in a CDS transaction are not symmetrical.”

So there clearly is no swap in a CDS. In this respect, Potts was more accurate in writing about “credit default options”—as the products were called at the time—rather than credit default swaps. Others have made the same point: “it may be more accurate to think of credit default swaps as options” or “binary default

91 Partnoy 1997: 219 (emphasis added).
92 Feder 2002: 701 (emphasis added). See likewise Henderson 1993: 349: “In broad terms, a swap is an exchange of cash flows between two parties, each of which cash flows is, in the eyes of the respective parties, equal to the other at the start of the agreement. Specifically, the standard swap is an agreement between two parties in which each party agrees to pay the other an amount of interest calculated on a principal amount over several specified periods of time. If the principal amount is the same for both parties, the rate bases of calculation will be different and it is called an interest rate swap. If the principal amounts are expressed in different currencies, it is called a currency swap and, in addition to cross-payment of interest in the different currencies, there is usually an exchange of the principal amounts at the beginning and end of the swap.”
93 Banks, Glantz and Siegel 2007: 33.
94 Ayadi and Behr 2009: 182.
95 Feder 2002: 711.
options”. Naturally, this does not resolve the legal question, because all insurance contracts are, in modern financial theory, put options of a peculiar type. Yet it would be ludicrous to claim that insurance law has suddenly become inapplicable because finance theorists have defined insurance contracts as options.

3.1.5 Insurable Interest
Potts correctly stated that legal construction depends on the rights and obligations specified in the contract. Yet, if the parties specify that they wish the contract to be valid even if the buyer has no insurable interest, does the contract thereby become a non-insurance contract? In other words, the question to be addressed is how to assess those cases in which a CDS has not been bought with the intention of gaining protection against an adverse event; for example, when the “protection buyer” is really short-selling the reference entity, seeking to profit from its downfall. That implies the legally complex questions of insurable interest and loss indemnity, which are discussed in this and the following section.

3.1.5.1 Insurable Interest as a Requirement of Validity
There is much debate about the notion of insurable interest, but it is certain that, contrary to the Potts opinion and the claims of ISDA, insurable interest is not a demarcating factor of insurance law, but a requirement of validity in insurance law: “Every contract of insurance requires an insurable interest to support it; otherwise, it is invalid.” In other words, “insurable interest […] is a requirement for a valid contract of insurance and not itself a defining feature of the contract.”

The FSA writes explicitly against the Potts opinion on this point:

For a contract of insurance to be valid, there must be an insurable interest, i.e. the insured must be able to show both an economic and a legal connection with the subject matter of the risk. In some credit default swaps it will be possible to show that the protection buyer has such an interest. However in, for example, a speculative swap, where the protection buyer has no connection with the reference entity the protection buyer is unlikely to have an insurable interest.

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96 Banks, Glantz and Siegel 2007: 43. See also Steinherr 2000: 165–166 (concluding that, financially, a CDS is really a “put option” or a credit “default put”).

97 See Steinherr 2000: 17–18 (noting that “any contingent claim, such as a bond, share or guarantee, can be looked upon as an option” and that “[a] guarantee is nothing but a put option”).


99 FSA 2004: 8 (para. 2.10).

The standard explanation for the doctrine of insurable interest is that it reduces the risk of contracts that tempt the insured to bring about the loss insured against.\textsuperscript{101} This rationale may be debated,\textsuperscript{102} but this much is clear: the requirement of insurable interest is \textit{imposed by law}, not by the contracting parties; when the protection buyer has no insurable interest, the contract does not thereby become a non-insurance contract, but an invalid insurance contract.\textsuperscript{103}

3.1.5.2 \textit{The Relationship between Adverseness and Insurable Interest}

Perhaps the misunderstanding of Potts and others is due to the belief that insurable interest merely means that “an insurance contract must be a contract against the risk of loss.”\textsuperscript{104} This formulation would merge insurable interest with the notion of \textit{adverseness}. There are some \textit{obiter dicta} in support of this view,\textsuperscript{105} but they seem to be due to unintended inaccuracy.\textsuperscript{106} The normal view is that adverseness is a wider notion than the legal requirement of insurable interest: “If the insured has an insurable interest in the subject matter of the insurance, the event will indeed be adverse to him, but the reverse is not true.”\textsuperscript{107}

Yet, could it be argued that CDSs are not insurance when the default of the reference obligations is not adverse to the protection-buyers? The answer must be negative, because it would simply confuse adverseness with insurable interest. Although the notion of an uncertain and adverse event tends to be underdefined,\textsuperscript{108} it essentially refers to the \textit{nature} of the event, which must constitute a risk of loss for there to be insurance, whereas insurable interest refers to legal restrictions on \textit{who is permitted} to purchase insurance on that event.\textsuperscript{109}

In property insurance, the existence of a transferable risk can normally be determined objectively, and credit default is \textit{a risk of loss only}, much like fire accident or other property damage. It is not insignificant that standard CDS

\textsuperscript{101} See Hazen 2005: 420–422 (describing the origin of the doctrine).
\textsuperscript{102} See Clarke 2007: 36–37 (critically discussing the traditional doctrine).
\textsuperscript{103} Kimball-Stanley 2008: 248–249. See also FSA 2002: Annex B, p. 1 (noting this and pointing out that some CDS buyers lack insurable interest).
\textsuperscript{104} Potts 1997: 5 (para. 4).
\textsuperscript{105} In the English case \textit{Medical Defence Union Ltd. v Department of Trade} [1979] 2 All ER 421, 423–424, Megarry VC used the notion of “insurable interest” as a defining element of insurance law.
\textsuperscript{106} Megarry was referring to \textit{Prudential}, where the third element was adverseness, not insurable interest.
\textsuperscript{107} Clarke 2002: para. 1-1E. See also English and Scottish Law Commissions 2008: paras 7.20–7.23 (summarizing literature to this effect).
\textsuperscript{108} See English and Scottish Law Commissions 2008: paras 7.20–7.23 (citing different expressions).
\textsuperscript{109} See ibid. para. 7.23.
terminology refers to “protection buyer” and “protection seller”. Of course, adverse events may be viewed positively by persons standing to benefit from their consequences (someone may benefit from a fire at a competitor’s premises), but that does not affect the point: a fire insurance policy taken by an arsonist is not a permitted non-insurance contract (for want of subjective adverseness) but as an invalid insurance contract (for want of insurable interest). Conflating adverseness and insurable interest would effectively abolish the requirement of insurable interest, and that cannot be the meaning of the law.110

3.1.5.3 Applying the Doctrine to Credit Default Swaps

Applying insurance law to CDSs implies that some contracts might be invalid for lack of insurable interest. Which ones? Leaving aside the difficulties related to insurable interest in life (they are not relevant here), the general rule in property insurance is that the insured must have an “economic interest” in the property, which broadly means a “factual expectation’ of loss.” Similar notions are found in several sources, including New York insurance law:

No contract or policy of insurance on property made or issued in this state, or made or issued upon any property in this state, shall be enforceable except for the benefit of some person having an insurable interest in the property insured. In this article, “insurable interest” shall include any lawful and substantial economic interest in the safety or preservation of property from loss, destruction or pecuniary damage.112

United States courts have applied the doctrine liberally: “Consistent with the general trend to deregulate gambling and to favour freedom of contract, courts generally have taken a broad view of insurable interest.”113 Thus, for example, “Missouri courts ‘make every effort to find an insurable interest and to sustain

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110 Perhaps a contrary argument might be advanced by relying on accounting rules, such as the IFRS 4, in which “the insured party must be exposed to and not speculating on the insured risk, and the insured event specified in the contract must pertain directly to, not simply be correlated with, that exposure” (Acharya et al. 2010: 276). This definition clearly “encompasses various credit-risk-transfer products that are structured as derivatives or other financial instruments. [...] For example, a written credit default swap that pays off in the event of default on a financial asset held by the purchaser of the CDS is an insurance policy under this definition.” However, Acharya et al. 2010: 276 argue that “[t]he same swap would not be an insurance policy if the purchaser did not hold the financial asset.” Yet, even supposing that this conclusion is correct as a matter of IFRS interpretation, it would only determine the accounting treatment of those transactions, and not how they would be characterized and regulated in insurance law.

111 Clarke 2007: 31 (citing Lucena v Craufurd (1806) 2 Bos & Pul (NR) 269 (HL)).

112 New York Insurance Law, § 3401.

113 Hazen 2005: 425.
coverage.’”¹¹⁴ In most other common law countries, the only requirement is factual expectation of loss, or economic interest.¹¹⁵ In many other countries, the only requirement is proof of loss at the time of claim.¹¹⁶

What this would mean for CDSs is not entirely clear. On the one hand, insurable interest is clearly wider than the notion of covered CDS transactions (in which protection buyers hold the underlying debt): there are many parties who may have an indirect economic interest without being legal creditors.¹¹⁷ On the other hand, the protection-buyer must demonstrate this interest, and purely speculative positions clearly do not satisfy the interest requirement.

This question was, interestingly enough, explicitly discussed in an expert hearing during an early stage of the legislative process that led to the Dodd-Frank Act, because section 16 of the draft bill sought to prohibit speculative CDSs, causing fierce criticism from ISDA.¹¹⁸ In response, Joseph D. Morelle of National Conference of Insurance Legislators (NCOIL) proposed a change precisely along the lines of existing insurance law principles:

Section 16 of the draft bill makes it a violation of the Commodity Exchange Act to enter into a “naked” credit default swap. The language establishes that a party could not enter into such a contract unless it has a direct exposure to financial loss should the referenced credit event occur. Furthermore, it defines the term “credit default swap” as a contract which insures a party to the contract against the risk that an entity may experience a loss of value as a result of an event specified in the contract, such as a default or credit downgrade.

Again, NCOIL agrees that credit default swaps are insurance […] Speaking for myself, however, I would respectfully suggest a broadening of the definition of clothed or covered swaps to include those that provide a legitimate hedge against negative credit events. In the domain of naked swaps, there is a critical need to delineate between those that are purely speculative and those in which some “stream of commerce” ties the buyer to the insured [8] asset. In other words, if a CDS were used for hedging rather than speculative purposes, we should consider that the economic utility of such transactions as more than

¹¹⁴ Dimmitt v. Progressive Cas. Ins. Co., 92 S.W.3d 789, 792 (Mo. banc 2003) (citing G.M. Battery & Boat Co. v. LKN Corp., 747 S.W.2d 624, 626 (Mo. banc 1988)).


¹¹⁶ See Clarke 2007: 32 (citing Code d’assurances (c.ass.), Art. 121–1 (France) and VVG 1908, Art. 55 (Germany)).


¹¹⁸ See Pickel 2009: 143, stating that “section 16 makes it unlawful to enter into a credit default swap unless the person entering into the transaction would experience a financial loss upon the occurrence of a credit event. This provision would effectively eliminate the credit default swap business in the United States. This provision would mean that a dealer could not hedge its risks. Therefore, the only participants in the CDS market would be counterparties which each had perfectly matched risk which they had sought to hedge. The number of such persons is likely to be extremely small.”
mere speculative activity. For example, an owner or investor of Ford dealerships may want to hedge their exposure to a negative credit event by purchasing a credit default swap on Ford.

The point of demarcation, then, is not so much one of “clothed” v. “naked” swaps, but rather “speculative” v. “hedged.”

In England, courts have traditionally taken a narrow approach, requiring that the insured “stand in ‘a legal or equitable relation’ to the property insured.” This has been criticized, and applying it to CDSs would significantly reduce the pool of potential protection buyers, because an indirect interest would not suffice. More recently, however, English courts have moved towards broader definitions of insurable interest.

There is a separate question about timing, because the application of the insurable interest requirement traditionally differs between indemnity and non-indemnity insurance: in indemnity contracts, insurable interest must exist at the moment of actual loss, whereas for non-indemnity insurance, it must exist at the moment of contracting. Applying this distinction to CDSs presents some difficulty insofar as there is no agreement on whether they should be characterized as indemnity or non-indemnity contracts. However, it will be argued below that CDSs are normally indemnity transactions, and requiring insurable interest at the moment of actual default would be consistent with the intended incentive implications of the insurable interest doctrine.

### 3.1.5.4 Should Insurable Interest Be Abolished?

The doctrine of insurable interest has been criticized for exaggerating the moral hazard concern. The narrow English doctrine in particular has also been blamed for creating inordinate legal uncertainty. In one country—Australia—

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119 Ibid. 149.

120 Clarke 2007: 31 (citing Macaura v Northern Assurance Co. [1925] AC 619. See also English and Scottish Law Commissions 2008: paras 5.12–5.15 (describing the early development of the doctrine); Benjamin 2007: para. 4.24 (“There is authority that a mere economic exposure is not sufficient […] There must also be a sufficient legal connection between the policyholder and the insured risk.”).

121 Clarke 2007: 31–32.


123 Clarke 2007: 27. This distinction follows from the incentive issues inherent in indemnity and non-indemnity insurance.

124 See Hazen 2005: 422–424 (arguing that the moral hazard or deterrence rationale for insurable interest is questionable).

125 See Clarke 2007: 36–38 (arguing that “the impact of moral hazard can be overrated” and that the English doctrine is uncertain). See also English and Scottish Law Commissions 2008:
the doctrine has been abolished in relation to non-life insurance in 1984 and life insurance in 1995. Abolition or reform has been debated elsewhere, but “few other countries have dared to be as bold as Australia.”

For the CDS market, the Australian approach means that uncovered CDSs are permitted even if they are recharacterized as insurance. However, the protection seller would still have to be an authorized insurer. Given the confusion about the role of insurable interest in defining insurance, the abolition might also make it easier to recharacterize CDSs as insurance.

Should the doctrine be abolished, then, either generally or for CDSs only? In the current law, legal uncertainty is a problem: even a liberal application must draw the line somewhere, but it cannot be done very precisely. As to the English doctrine, it should be noted that the insurance market has developed novel constructions such as “consequential loss (or business interruption) insurance” that have avoided the difficulties with an overly strict application of insurable interest in life insurance. This approach could be followed if CDSs were recharacterized as insurance.

Moral hazard is a tougher question: the jury is still out on whether default-betting using CDSs is socially desirable. It has been suggested that the generic “requirement of fortuitousness” in insurance law could be sufficient to rule out intentionally caused damages. However, that is not a workable solution with CDSs, because in this context, it is practically impossible to prove intentional causation.

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paras 3.64–3.68 (noting significant uncertainties in the application of the insurable interest requirement to non-life, non-indemnity insurance).


128 The English and Scottish Law Commissions felt that it would be especially difficult to distinguish credit derivatives from insurance if the doctrine of insurable interest were abolished: English and Scottish Law Commissions 2008: paras 3.68, 7.9, 7.14, 7.15, 8.25.

129 See Juurikkala 2012a: 328–330 (discussing different approaches).

130 Clarke 2007: 30.

131 See Juurikkala 2012a: 325–328 (discussing empirical evidence).

3.1.6 Loss Indemnification

3.1.6.1 Does CDS Payment Require Actual Loss?

A closely related source of confusion is the notion of loss indemnity. Several different issues can be distinguished here, one of which the factual question whether CDS payment requires actual loss. At least since the Potts opinion, a frequent argument of the anti-insurance view of CDSs has been that payments in these contracts are not conditional on an actual loss and therefore they are not insurance.

This claim, however, does not really fit the facts; even a quick review of the literature reveals that commentators (many of them advocates of the anti-insurance view) routinely describe CDS payments in terms such as actual loss, incurred loss, or compensation. Jonathan Macey notes that usually precisely “an actual loss of principal will result in payment”. Even ISDA writes to this effect: “If the reference entity defaults or declares bankruptcy or another credit event occurs, the protection seller is obligated to compensate the protection buyer for the loss by means of a specified settlement procedure.” It therefore seems to be a plain error of fact to claim that no actual loss is required in CDSs.

3.1.6.2 Are CDSs Indemnity or Non-Indemnity Contracts?

In law, the matter can be analyzed in more detail by asking whether CDSs are structured as indemnity or non-indemnity transactions. The difference between indemnity and non-indemnity (also called contingency) insurance refers to the way in which compensation is calculated: in indemnity insurance, payment is made according to “actual measurable loss”, whereas in non-indemnity insurance it is “a pre-determined sum”. The differentiation is determined by contract terms. Non-indemnity contracts are common in life and personal accident insurance, because in these cases is difficult to translate actual harm into

\[\text{133 For example, Shadab 2012: 1034 writes: “If a credit event occurs, the party making the periodic payments (the risk seller) is entitled to receive a cash payment in an amount equal to the loss incurred due to the credit event, such as the diminished market value of the reference debt obligation” (emphasis added). See likewise Mugasha 2004: 215 (“The protection seller agrees, in exchange for the payment of a fee, to make a ‘compensatory’ payment if a credit event occurs.”); Chander and Costa 2010: 643 (“the seller commits to make the buyer whole on the notional value of the amount protected in the event of a credit event within that term.” Emphasis added.).}\]

\[\text{134 Macey 2012: 598.}\]

\[\text{135 ISDA 2014a (emphasis added).}\]

\[\text{136 Clarke 2007: 27.}\]
monetary terms, so a pre-determined compensation reduces costs and uncertainty.\(^{137}\)

Which type is a CDS? To some, it seems like non-indemnity insurance, because the payment amount is calculated without reference to personal loss.\(^{138}\) But this is inaccurate: the legal distinction is not based on the requirement of personal loss, but on whether compensation is determined \textit{ex ante} or \textit{ex post}; and CDS payments are calculated \textit{after the event}, according to the loss of value of the reference obligations, not according to a pre-determined lump-sum amount.\(^{139}\)

It is true that CDSs make no reference to personal loss by the protection buyer, but they do require objective proof of loss, and the compensation amount depends on the loss of value of the reference assets. This is the case in both physical and cash settlement procedures: physical settlement implicitly provides full compensation, whereas cash settlement is based on an approximation of the loss of value.\(^{140}\) Therefore CDSs function like any indemnity transaction, and differ essentially from non-indemnity insurance.\(^{141}\)

A different interpretation has been proposed by Saunders, who claims that \textit{covered} CDSs, which “\textit{are} designed to indemnify the protection buyer against loss suffered due to default […] for example a bank entering a CDS to protect against borrower default […] are in essence a form of indemnity insurance.”\(^{142}\) In contrast, \textit{uncovered} CDSs would be contingency transactions.\(^{143}\) But this analysis confuses two different questions: the distinction between covered and uncovered transactions refers to the \textit{risk position of the protection buyer}, which depends on extra-contractual factors and is relevant for determining whether the purchaser has insurable interest; the distinction between indemnity and contingency insurance refers to the \textit{calculation of the payment amount}, and depends on contract terms. Even \textit{covered} CDSs are non-indemnity transactions if the payment amount is pre-determined rather than calculated after the fact; similarly, \textit{uncovered} CDSs are indemnity transactions if the payment amount is calculated by reference to a loss of value. Therefore Saunders’ proposal must be rejected.

\(^{137}\) Ibid.

\(^{138}\) See English and Scottish Law Commissions 2008: para. 7.9 (“In essence they [credit derivatives] “fulfil many of the common law definitions of non-indemnity insurance.”). Unfortunately the reasons for that view are not elaborated.

\(^{139}\) On the level of principle, there is agreement: Ibid. para. 7.14 (“non-indemnity contracts […] pay a lump sum regardless of the amount […] that is lost.”).

\(^{140}\) See Ayadi and Behr 2009: 184–185 (describing the payment determination in physical and cash settlement).

\(^{141}\) See Medical Defence Union, at 422 (noting that in indemnity insurance, “the measure of the loss is the measure of the payment”, whereas in contingency insurance, “[t]he sum to be paid is not measured by the loss but is stated in the policy.”).

\(^{142}\) Saunders 2010: 435.

\(^{143}\) Ibid.
3.1.6.3 Non-Indemnity Insurance in Property

There remains a third issue, which is whether it matters whether CDSs are characterized as indemnity or non-indemnity transactions. There seem to be certain practical implications, but they are not fundamental. There is confusion here, too, as some commentators have supposed that if CDSs are non-indemnity transactions, they cannot be recharacterized as insurance.

This is incorrect, because non-indemnity insurance is a recognized category of non-life insurance, too. In addition to personal accident insurance, there are non-indemnity contracts in property insurance, such as “insurance policies on land, buildings, ships, goods and merchandise” paying “a fixed sum on the destruction of these items”. These policies “do not require the policyholder to have suffered a loss.”

3.1.6.4 Deliberate Damage and the Indemnity Principle

As an aside, insurance law principles might provide a solution to the empty credit problem. If CDSs are classified as indemnity insurance, they are subject to the indemnity principle, which is that the protection buyers can only recover what they have lost. This has important policy implications. As mentioned earlier, many observers have expressed concern that CDSs may distort incentives, because investors may over-protect their portfolio using CDSs and consequently “have an incentive to push debtors into default and even outright bankruptcy.”

This concern is not automatically resolved by the insurable interest requirement, because in these cases CDS holders have an economic interest: the perverse incentives are due to over-insurance. In contrast, the indemnity principle could be invoked to limit compensation beyond actual loss. However, the question arises whether it might be difficult to apply this to cash-settled CDSs, because their compensation is paid without delivery of the reference assets. In principle, this might be resolved by requiring physical settlement.

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144 For example, the timing of the insurable interest requirement is different: see Clarke 2007: 27.
145 Saunders 2010: 435. (“As there is not generally recognised category of contingency insurance, and these types of CDS are not contracts of life insurance, they escape regulation as insurance products.”).
146 See English and Scottish Law Commissions 2008: paras 1.17, 3.64–3.68, 7.42 (discussing non-life, non-indemnity insurance).
147 Ibid. para. 7.42.
148 Ibid. para. 7.14.
149 English and Scottish Law Commissions 2008: paras 5.4–5.10.
150 Triana and Subrahmanyan 2012.
151 See Clarke 2007: 219–220 (discussing recoverable loss and finding that “a contract of indemnity cannot […] promise policyholders more than their actual loss”).
If CDSs are deemed non-indemnity transactions, protection buyers may get more than actual loss. However, in some cases courts have invoked the insurable interest principle to limit compensation: “if the interest of the insured is less than the whole of the property, “[the insured’s] right is limited, not by the value of the property, but by the value of [the insured’s] interest.” But this does not seem to be an absolute or universal rule, and its application to CDSs needs elaboration.

There is also a third possibility, name the rule against voluntary destruction. This rule might in principle be applied to damaging shareholder activity. However, raising such a claim would imply major evidential difficulties.

3.1.7 Substantive Arguments: Is There a Regulatory Motive?
Perhaps the best argument against recharacterizing CDSs as insurance is that insurance law should not apply for practical or policy reasons. The policy question will be examined later in much more detail, but let us briefly address the issue here also, because critics of insurance law have advanced practical motives as reasons to oppose the recharacterization of CDSs.

For example, it has been claimed that CDSs should not be subject to insurance law, because the “fundamental objectives of many CDS transactions set them apart from garden-variety insurance contracts”. However, the fundamental objective of covered CDSs is precisely an insurance objective. And the rest (uncovered CDSs) are speculative bets on borrower default, which raise important policy concerns similar to those that historically gave rise to the insurable interest requirement.

According to another argument, the parties to CDSs are such that regulation is not needed: “virtually 100% of both the protection buyers and sellers are institutional investors, with the public having no exposure, or virtually none, to

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152 Clarke 2007: 220 (stating that policyholders may get more than actual loss “in the case of the ‘valued policy’, where […] the policy fixes an agreed value”).


154 See Delk v. Markel Am. Ins. Co., 81 P.3d 629, 639 (Okla. 2003) (finding that the insured could recover more than the value of its interest, because under Oklahoma Statutes, title 36, § 3605 (2001), “‘the measure of an insurable interest in property is the extent to which in insured might be damnedified by the loss’ [and] indemnification is measured by the extent to which the insured has been economically impacted.”)

155 See Clarke 2007: 255 (“generally, loss or damage inflicted deliberately by policyholders themselves is not [insurable]”).

156 Schwartz 2007: 182.

157 This is acknowledged even by Henderson 2009a: 4.
these contracts.”¹⁵⁸ But the second part of this claim is manifestly untrue. In the words of Frank Partnoy: “The current crisis is proof that although most people do not trade derivatives, everyone is subject to their risks.”¹⁵⁹ For one thing, the public has an interest in the stability of the financial system, which recent experience shows can be fundamentally devastated by sizable CDS contracts sold without sufficient loss reserves.¹⁶⁰ For another, uncovered CDSs enable investors to take directional bets that otherwise would be prohibited and that can have an adverse effect on borrowing costs.

A third argument is that CDSs have become so commonly treated as unregulated derivatives that it would be destabilizing for financial markets to recharacterize them. However, recharacterization could be accomplished without disrupting markets by legislative reform that includes a convenient transition period.

A fourth argument is that insurance law would impose unnecessary costs without solving problems.¹⁶¹ That calls for further investigation, but for the time being, it is important to avoid exaggerations. For example, Todd Henderson seeks to undermine insurance regulation by declaring that “[c]redit derivatives help complete these [loan] markets by allowing the bank to offload the risk to investors who can more efficiently bear it”¹⁶²; in reality, the risks are often sold to investors who are simply more lightly regulated, such as unregulated hedge funds.¹⁶³ Moreover, the suitability of insurance regulation could be improved by creating a targeted regulatory regime for CDSs.¹⁶⁴

¹⁵⁸ Nirenberg and Hoffman 2001: 15. See also Schwartz 2007: 182 (supporting this argument); Henderson 2009a: 45–46 (arguing that, with CDSs, there is no need for consumer protection).

¹⁵⁹ Partnoy 2009.

¹⁶⁰ See for example Saunders 2010: 445–447 (presenting reasons why CDSs create systemic risks).

¹⁶¹ See Henderson 2009a: 46–55 (arguing to this effect).

¹⁶² Ibid. 29.

¹⁶³ See Wynkoop 2008: 3105–3107 (explaining how hedge funds are involved in credit derivatives and create systemic risks).

¹⁶⁴ For example, see Saunders 2010: 441–442 (proposing CDS issuers be subject to prudential regulation, without subjecting CDSs to the regulation of insurance contracts generally).
3.2 THE EVOLVING POSITION OF UNITED STATES INSURANCE REGULATORS

Insurance regulation in the United States is principally determined at state level. The discussion of US state insurance regulators has been proposed until now, because it has been far from consistent, having evolved over time from timidity in 2000 to a growing assertiveness after the financial crisis. This evolution also reveals the complex interplay of legal, financial and political forces at state and federal levels, as will be seen in what follows.

3.2.1 The New York Opinion of 2000

The question of credit derivatives was first touched upon by United States insurance regulators in 2000 when, responding to an inquiry from the banking industry, the General Counsel of the New York State Insurance Department (NYSID) took the opinion that credit default options are not insurance contracts if the contractual payment is not dependent upon the protection buyer’s having suffered a loss: “Indemnification of loss is an essential indicia of an insurance contract which courts have relied upon in the analysis of whether a particular agreement is an insurance contract under New York law. Absent such a contractual provision the instrument is not an insurance contract.”

Strictly speaking, the opinion was non-binding. Moreover, it did not necessarily reflect the thinking of other insurance regulators, and its generalizability was open to doubt. Nevertheless, it was heavily relied upon—particularly as New York is one of the leading centres of CDS trade—and, as a matter of fact, New York insurance regulators did not interfere with the CDS market until 2008. Moreover, NYSID published in 2000 an essentially similar non-

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165 Based on the McCarran Ferguson Act of 1945, which has been criticized: see Macey and Miller 1993.

166 General Counsel, New York State Insurance Department (NYSID), Re: Credit Default Option Facility, (unnumbered), June 16, 2000; cited in Kimball-Stanley 2008: 247. See also Campbell and Choi 2009: 20 (discussing the opinion and summarizing it as follows: “a CDS transaction is not an insurance contract where: (i) the reference obligation is a portfolio of corporate bonds; (ii) the Seller will make payment to the Buyer upon the happening of a negative credit event including bankruptcy, failure to pay, obligation acceleration or restructuring; and (iii) such payment is not dependent upon the Buyer’s having suffered a loss”).

167 Yeres 2007: 561–562 (“In 2000, the New York Insurance Department released a non-binding opinion stating that derivatives that do not require a party to sustain actual losses are not insurance contracts.”).

168 Bloink 2011: 618 (“The NYSID’s first major action with respect to CDSs was to issue a private opinion letter excluding some CDSs from regulation as insurance contracts.”). See also Campbell and Choi 2009: 20 (providing details).
binding opinion on weather derivatives, so their position seemed to be clear and consistent.169

3.2.2 The 2003 White Paper on Weather Derivatives
The first signs that the opinion of NYSID General Counsel might not be shared by all appeared in 2003, when the United States National Association of Insurance Commissioners (NAIC) drafted a White Paper inquiry into weather derivatives.170 The draft, entitled Weather Financial Instruments (Temperature): Insurance or Capital Markets Products?, took the view that weather derivatives appear to be disguised as “non-insurance” products to avoid being classified and regulated as insurance products. In fact, there is evidence that the promoters of these products go to great lengths to be sure that the energy companies involved do not use terms that naturally describe what is taking place—namely the transfer of risk from a business to another professional risk taker.171

The draft White Paper thus argued that weather derivatives are insurance contracts and should so be regulated. Although it only covered weather derivatives, it has been noted that the position and reasoning of NAIC would have been “equally applicable to credit derivatives”.172 The derivatives industry was extremely worried about the White Paper, and commenced an intense lobbying effort headed by ISDA.173 It argued that the “Draft White Paper’s logic could extent to a broad array of derivatives and would create substantial and disruptive regulatory uncertainty.”174 Soon after, NAIC not only shelved the regulatory plans but also withdrew the White Paper from publication.175

169 General Counsel, New York State Insurance Department (NYSID), Re: Weather Financial Instruments (derivatives, hedges, etc.), Opinion No. 00-02-05, February 15, 2000, available at http://www.dfs.ny.gov/insurance/ogco2000/rg000205.htm (“Neither the amount of the payment nor the trigger itself in the weather derivative bears a relationship to the purchaser’s loss. Absent such obligations, the instrument is not an insurance contract. However, it should be noted that there may be unique circumstances, not mentioned here, where the character of the specific financial instrument and/or the interest and obligations of the parties are such that the transaction would be an insurance contract.”).


173 See Cohn 2004 (explaining that “ISDA is extremely concerned” about the draft white paper); Pickel 2004 (arguing that weather derivatives are not insurance).


3.2.3 A Reconsideration: The Financial Crisis of 2008–09

3.2.3.1 New York Insurance Regulators

New interest in the matter was generated by the financial crisis. In September 2008, New York Insurance Superintendent Eric Dinallo wrote a Circular Letter, essentially reversing the position of the NYSID: “the making of the CDS itself may constitute ‘the doing of an insurance business’ within the meaning of Insurance Law § 1101, [in which case] the protection seller should be licensed as an insurer”.176

Dinallo’s argument was not entirely clear at this stage. Trying to avoid overruling the 2000 non-binding opinion, the Circular Letter reasoned that the opinion “did not grapple with whether […] a CDS is an insurance contract when it is purchased by a party who, at the time at which the agreement is entered into, holds, or reasonably expects to hold, a ‘material interest’ in the referenced obligation.”177 In a testimony before a Senate Committee, Dinallo also argued that the 2000 opinion had been given in response to “a very carefully crafted question” that did not cover the CDS market as a whole.178 Dinallo’s view was that covered CDSs were insurance contracts, but “naked” (uncovered) CDSs were not.179 Yet, as we have seen, this does not correspond to the conventional understanding of the insurable interest doctrine, according to which insurable interest is not a demarcating factor, but a requirement of validity.

On the same day that the Circular Letter was published, New York Governor David A. Paterson announced that the state of New York would begin to regulate CDSs as insurance as of January 1, 2009.180 In a New York Times interview, Paterson called credit default swaps “gambling” and added that they were at the heart of the AIG fiasco.181 This caused a barrage of criticism from the financial


177 Ibid.

178 Dinallo 2008c: 5. The exact question was: “Does a credit default swap transaction, wherein the seller will make payment to the buyer upon the happening of a negative credit event and such payment is not dependent upon the buyer having suffered a loss, constitute a contract of insurance under the insurance law?”

179 Ibid. 3 (“We believe that the first type of swap, let’s call it the covered or “sartorial” swap, is insurance.”). See also Dinallo 2008b: 5 (“Clearly, the question was framed to ask only about naked credit default swaps. Under the facts we were given, the swap was not insurance, because the buyer had no material interest and the filing of claim does not require a loss. But the entities involved were careful not to ask about covered credit default swaps. Nonetheless, the market took the Department’s opinion on a subset of credit default swaps as a ruling on all swaps.”).

180 Hakim 2008.

181 Ibid. (“When we peeled back the onion, we found out that A.I.G. had so many credit-default swaps that we couldn’t calculate how much money they probably had wasted”).
lobby and its legal representatives, with one structured finance and derivatives partner stating: “Let’s hope this ill-considered proposal can be promptly squelched, allowing the Insurance Department to go back to regulating something it understands—insurance.”182

The question, however, was not whether insurance supervisors understood derivatives, but whether CDSs were insurance—something that the supervisors presumably did understand. It turned out that state insurance legislators were increasingly prepared to answer the question in the affirmative.183 Thus Joseph D. Morelle, Chairman of the Financial Services and Investment Products Committee of the National Conference of Insurance Legislators (NCOIL), stated in February 2009: “1) credit default swaps are a species of insurance; 2) naked swaps are more akin to gaming than insurance since they lack ‘insurable interest’; and 3) [...] the states are best suited to regulate this type of financial guaranty.”184

3.2.3.2 Legislative Plans to Regulate CDSs as Insurance

The banking industry wasted no time: criticism and lobbying must have been intense, given that already in November 2008 Superintendent Dinallo suddenly announced that “New York will delay indefinitely its application of New York Insurance Law to CDS” in anticipation of federal regulation.185 That seems to have been the last intervention of the NYSID in the matter.

The insurance movement was not so easily thwarted, because, in the words of Joseph Morelle, there was a “rising conviction on the part of many observers that credit default swaps constitute a species of insurance, and should be regulated as such.”186 Therefore, steps were taken in 2009 by the National Conference of Insurance Legislators (NCOIL) to prepare legislation that would regulate covered CDSs—defined as those whose buyers have a material interest in the reference entity—as credit default insurance, and its providers would be subject to regulation by state insurance regulators as credit default insurance corporations; moreover, naked CDSs would be banned entirely.187

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182 Glass 2008: 5. See also Kramer, Harris and Ansehl 2009: 23 (“The NYID’s claim of regulatory jurisdiction over covered CDSs was met with substantial skepticism and intense criticism.”).

183 See Morelle 2009: 3 (describing the movement to regulate CDSs as insurance).

184 Ibid. 4 (emphasis added). He added: “What is a credit default swap? Simply put, a credit default swap is a financial guaranty against a negative credit event. A negative credit event triggering a credit default swap payment certainly meets the definition of a ‘fortuitous’ event, one occurring by chance, under New York statute [New York Insurance Law, § 1101].”

185 Dinallo 2008a. See also Bloink 2011: 619 (noting that the plan was dropped under pressure from the banking industry).

186 Morelle 2009: 3.

187 NCOIL 2009a (draft model legislation), 2009b (press release). See also Davis Polk & Wardwell 2009: 3 (providing an overview of the draft model legislation).
The NCOIL “Model Bill” was largely based on New York insurance laws regulating financial guaranty insurance, so that it “in most places simply substitutes the phrase, ‘credit default insurance’ for ‘financial guaranty insurance.’”188 The notion of “credit default insurance” was defined broadly,189 and was potentially extensible to “substantially similar” transactions.190 There was debate on whether the notion of “material interest”191 should be defined more precisely, but this was rejected, just like the proposal to use the term “insurable interest” instead.192

In the Model Bill, the capital requirements of credit default insurers were similar to those of financial guaranty insurers in New York law.193 There were likewise, among other things, rules on contingency, loss and unearned premium reserves,194 aggregate risk limits,195 and single risk limits.196 Moreover, licensed credit default insurers were only be allowed to transact—in addition to credit default insurance—residual value insurance, surety insurance, credit insurance, and financial guaranty insurance.197

Although the NYSID had in November 2008 decided not to apply insurance law to CDSs, state legislators were determined to go ahead, so that in April 2010, New York State introduced a bill seeking to explicitly regulate CDSs as financial guaranty products under New York Insurance Law, and ban naked CDSs.198 The bill was essentially similar to the NCOIL Model Bill, except that it excluded certain types of insurance, such as traditional credit insurance, from the definition of credit default insurance and mortgage guaranty insurance, which are already subject to separate regulation.199

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188 Davis Polk & Wardwell 2009: 2.
189 NCOIL 2009a: § 1(a)(1).
190 NCOIL 2009a: § 1(a)(2).
191 See NCOIL 2009a: § 4(b)(1).
192 Davis Polk & Wardwell 2009: 4.
193 Ibid. 4.
194 NCOIL 2009a: § 3.
195 NCOIL 2009a: § 4(c).
196 NCOIL 2009a: § 4(d).
197 NCOIL 2009a: § 2(a)(1). See also Davis Polk & Wardwell 2009: 4–5 (discussing establishment as separate business).
199 Sidley Austin 2010: 1. Apart from those exclusions, the definition for credit default insurance in the New York Bill is broad: “‘a surety bond or other contract, and any guarantee which is payable upon occurrence of financial loss, as a result of the failure of any obligor on or issuer of any debt instrument or other monetary obligation to pay when due to be paid by the obligor or scheduled at the time insured to be received by the holder of the obligation, principal, interest, premium, dividend, or purchase price of or on, or other amounts due or payable with respect to, such instrument or obligation, when such failure is the result of a financial default or insolvency, or other credit event, or provided that such payment source is
3.2.4 Counterattack: Federal Pre-emption

The reaction of the banking lobby was—to say the least—critical. ISDA and the Securities Industry and Financial Markets Association (SIFMA) argued that CDSs provide useful functions, and claimed that “applying the capital regimes, concentration limits and the other specific requirements borrowed from the New York financial guaranty insurance law would create regulatory ambiguity and inconsistency with respect to other state and federal regulatory regimes,” and that it “might have unintended consequences such as applying to financial instruments or transactions that were not meant to be captured.” They also threatened that the proposed regulations “might cause financial institutions to move their CDS businesses out of state or offshore. These consequences are likely and they would harm local economies.”

Indeed, one of the weaknesses of the plans to regulate CDSs as insurance was the fact that insurance in the United States is regulated at state level. This implied uncertainty regarding jurisdictional reach, as it was unclear on what basis state regulators would enforce the proposed legislation: one option is to enforce it “based on the location of the credit default insurer or the situs of the credit default insurance contract,” but this “might lead to the relocation of CDS businesses to non-adopting states or offshore.” However, transaction location could alternatively be defined according to the location of the CDS buyer, in which case the legislation would be more powerful.

There was another problem, which definitively destroyed the plans of state legislators: federal pre-emption. Already before the passage of the Dodd-Frank Act, some argued that the Office of the Comptroller of the Currency (OCC), the principal federal banking regulator, “could seek to preempt the Model Bill […] by arguing that credit derivatives are authorized banking products under its regulatory jurisdiction.”

But more importantly, it became increasingly clear that the Obama administration was determined to pass federal regulation of CDSs as derivatives investment grade, any other failure to make payment, regardless of whether such obligation is incurred directly or as guarantor by or on behalf of another obligor that has also defaulted.”

(See ibid.)

200 See Strupp and Darras 2009.
201 Ibid. 1–2.
202 Ibid. 1. It is not clear why the NCOIL Model Bill definitions would have applied too broadly; in reality it would have removed the regulatory inconsistency currently existing between financial guaranty insurance and CDSs.
203 Ibid.
204 Davis Polk & Wardwell 2009: 5.
205 Ibid.
206 Ibid. 6.
207 Ibid.
and pre-empt their regulation as insurance.\textsuperscript{208} There were some Senators who tried to get an insurable interest requirement into the Dodd-Frank Act itself, but this was rejected.\textsuperscript{209}

\section*{3.3 CDS AND INSURANCE LAW IN FINLAND}

With respect to the status of credit default swaps in terms of Finnish insurance law, I will mainly focus on the studies of Miki Kuusinen and Lauri Ahokallio, which are both excellent but merit some further comments.\textsuperscript{210} Kuusinen, who provides only a brief discussion of this question, seems to have a mixed opinion. On the one hand he thinks that CDSs are essentially like insurance, at least when the protection buyer retains ownership of the reference assets.\textsuperscript{211} On the other hand, he outlines the argument—treating it as working against the insurance characterization—that compensation under CDSs is usually not strictly dependent on actual loss:

\begin{quote}
luottoriskisuojan myyjän ehdollinen sitoumus ei yleensä ole sidottu todelliseen vahinkotapaukseen ja siitä aiheutuneeseen taloudelliseen vahinkoon vaan luottoriskisuojan ostaja saa ennalta sovitun ja usein kiinteämääräisen korvauksen, jota voisi verrata vaikkapa sopimussakkoon.\textsuperscript{212}
\end{quote}

We have already seen that this is not quite precise, because practically all CDSs are objectively linked to the actual loss of reference asset value. Moreover, contrary to what Kuusinen writes, the amount of compensation is not pre-agreed and fixed, it is calculated according to the post-default asset value.\textsuperscript{213} In any event, Kuusinen himself goes on to note that this argument may fail because, in Finnish insurance law, the notion of actual loss is only the general rule, not a necessary condition of insurance:

\begin{quote}
vakuutuskorvauksen saaminen pääasäntöisesti edellyttää todellisen vahingon ilmenemistä ja siitä aiheutunutta vahinkoa. Toisaalta voidaanpa todeta, että vakuustustapahtuman ei aina tarvitse olla vahinko tai edes muu epämiellyttävä sattumus. Oleellista lienee, että se on epävarmasti tulevaisuudessa ilmenevä.\textsuperscript{214}
\end{quote}

\textsuperscript{208} Ibid.

\textsuperscript{209} See Orol 2010 (discussing the Senate’s rejection of Senator Dorgan’s amendment, which would have imposed an insurable interest requirement under the Act).

\textsuperscript{210} See Kuusinen 2005: 57–61; Ahokallio 2011: 88–110.

\textsuperscript{211} Kuusinen 2005: 59–60.

\textsuperscript{212} Ibid. 59.

\textsuperscript{213} See further below, chapter 3.1.6.1.

\textsuperscript{214} Ibid. 59, citing Häyhä 1996: 77. In any case, it will be argued later that CDS compensation always requires actual loss, so the issue is not only legal but also factual.
Ahokallio provides a more extensive analysis of the question, and of special interest is his attempt to compare CDSSs and insurance based on six characteristic features of insurance. This merits more detailed analysis.

3.3.1 Yleiset tunnusmerkit: Demarcation or Common Characteristics?
This list of common characteristics (yleiset tunnusmerkit) is based on legal scholarship, as Finnish insurance law (like insurance law in many other countries) does not offer a definition of insurance. In brief:

Rantala ja Pentikäinen määrittelevät vakuutuksen keskeisimmiksi ominaisuuksiksi: (1) riskin sattumanvaraisuuden, (2) vakuutusmaksun ja riskin vastaavuuden, (3) vakuutusantajan riskin tasauksen suuren joukon kesken, (4) vakuutusantajan erillisyyden vakuutusantajan välissä, (5) itse riskin vakuuttamiskelpoisuuden sekä (6) vahingonmahdollisuuden.

Ahokallio correctly notes, however, that the list of common characteristics has its limits for the purpose of demarcating insurance law, because it is based on existing insurance contracts and has evolved over time—at least partly in reaction to practical problems presented by those contracts—so that one may ask whether some of the characteristics are more fundamental than others for delineation purposes. For example, the sixth characteristic has been interpreted by some commentators as a policy limitation on insurance agreements—motivated by moral hazard concerns—instead of a demarcating factor.

Indeed, my understanding is that the list of common characteristics, produced by Rantala and Pentikäinen, is not even intended to be an attempt to resolve the demarcation problem; for example, the third item in the list (risk pooling or diversification) is precisely a common characteristic due to the ordinary economic logic of insurance, but it does not follow that a “rogue insurer” selling isolated insurance contracts without properly diversifying or taking prudent measures can escape insurance law by claiming to sell non-insurance; indeed, there are cases showing that even a single agreement may be characterized as insurance, regardless of whether the protection seller was otherwise involved in insurance.

The same could be said about the second criterion, i.e. the relationship between insurance premiums and risk. There will normally be a logical relationship, but an insurer that underprices its products is merely doing badly (or perhaps seeking to benefit from the externalization of the risk of failure). This

215 See ibid. 95–110.
216 Ibid. 95–96.
218 Ibid 96 n.309.
219 Ibid. 107 n.365.
critique could be extended to Ahokallio’s argument that CDS premiums are not always based on credit default risk alone, potentially implying that in those cases CDSs differ from insurance.\textsuperscript{220} Such an argument seems to assume that the theoretically correct price of CDS premiums can be calculated with precision, when in reality there is substantial uncertainty in the relevant pricing models. Moreover, Ahokallio notes that there are other factors that influence CDS premiums—including counterparty default risk and liquidity risk—but somehow he seems to assume that they are not relevant for correctly pricing individual CDS contracts.\textsuperscript{221} Of course, one may also argue that CDS prices tend to be \textit{inefficient}, but even then it does not follow that the premiums are \textit{unrelated} to default risk.

3.3.2 \textit{Rikastumiskielto}: Scope and Application

Perhaps the most interesting questions concern the last factor, which Ahokallio identifies with the principle of loss indemnity, which limits compensation to actual loss (in Finnish, the principle is literally called \textit{rikastumiskielto} or “prohibition of enrichment”), and with the closely-related principle of insurable interest (\textit{vakuutuksellinen intressi}).\textsuperscript{222} As we have seen, this is the central issue in English and United States discussions on the insurance character of CDSs. Ahokallio notes that the theme is complicated and requires further research on the exact meaning and current standing of the indemnity principle in Finnish law.\textsuperscript{223} Accepting that caveat, some comments are in order regarding his preliminary analysis, especially given that the question has received so little attention in Finnish scholarship.

The first and most fundamental question is whether \textit{rikastumiskielto} is a demarcating factor of insurance, or a legal restriction imposed by insurance law. At one point of the analysis, Ahokallio seems to opt for the latter view:

\begin{quote}
Sinällään nimittäin ylivakuuttaminen on luovallista vakuutuksissa, kuten on edellä todettu, jolloin rikastumiskielollalla voidaan katsoa pelkästään rajoitettavan vakuutetun oikeutta saada korvauksia vakuutuksen perusteella. Tällöin vakuutettu on tosin maksanut liikaa vakuutuspreemioiden muodossa, mikä ei kuitenkaan tee vakuutetun tekemää sopimusta päteväksi \textit{per se}, eikä missään nimessä joksikin muksin kun vakuutussopimukseksi. Vakuutussopimuksen voi nimittäin katsoa olevan oikeustoimi, joka luo tietyn tunnusmerkistön, johon oikeusjärjestys liittää oikeusvaikutuksia.\textsuperscript{224}
\end{quote}

\textsuperscript{220} Ahokallio 2011: 98.
\textsuperscript{221} See ibid. 98 n.319.
\textsuperscript{222} Ibid. 102–103.
\textsuperscript{223} Ibid. 108. See also ibid. 105 n.353, citing Norio-Timonen 2008: 1187–1188 to the effect that \textit{rikastumiskielto} no longer seems to be a central principle in Finnish insurance law.
\textsuperscript{224} Ibid. 104. He also refers to Häyhä 1996: 73–80, who does not include \textit{rikastumiskielto} as a characteristic feature of insurance.
On the other hand, he later seems to treat *rikastumiskielto* as a demarcating factor, suggesting that uncovered CDSs are probably not insurance at all. In my view, this would be incorrect, and that the matter is even plainer in Finnish law than in English law: *rikastumiskielto*—literally, *prohibition of enrichment*—is intended to function as a restriction imposed by law for policy purposes, and this function would be entirely lost if in over-insurance cases the contract would be automatically recharacterized as a non-insurance contract into which the prohibition of enrichment would not apply.

Another question concerns the application of *rikastumiskielto* insofar as it is still a binding norm in Finnish insurance law. I wish to make two clarifications to Ahokallio’s analysis. One is that the relevant distinction is not between covered and uncovered CDSs (where covered means that the protection buyer holds the underlying reference debt), but between positions that have an *economic exposure* to the underlying debt. A protection buyer may be economically exposed to the default of the reference entity even without holding the reference debt of the CDS (for example due to close business ties and subsequent trade debt). In such situations, the principle of *rikastumiskielto* is probably not an obstacle to claiming the compensation, even if the actual losses of the protection buyer might not exactly mirror the CDS payments.

The second clarification concerns the relevant calculations. Ahokallio notes that the general rule in Finnish *rikastumiskielto* is that overcompensation will be considered significant if it exceeds actual loss by more than 20%, so that over-insurance would be permitted up to that level. The author then seems to interpret this as meaning that uncovered CDS holders (who presumably have no economic exposure to the risk) could be paid up to a 20% default on the underlying credit. This seems improbable, because if a CDS buyer is not exposed to any economic loss at all, then any compensation would be significant over-insurance (mathematically approaching infinity). The correct way of applying the principle seems to be that if a CDS protection buyer has an indirect exposure to the reference entity, he may validly claim compensation up to 20% excess with respect to *actual loss*. This rule of flexibility would be important for CDSs, because it is often difficult to exactly measure the actual loss if it has been caused by indirect economic exposure. Indeed, one could argue that this measurement uncertainty should be interpreted in favour of the protection buyer, so that undue legal uncertainty is avoided.

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225 See ibid. 107–110. It should be noted however that he seems to hesitate.

226 See ibid. 107–110, distinguishing between “katetun position CDS-sopimus” and “kattamattoman position CDS-sopimus”.

227 Ibid. 103.

228 Ibid. 108.
3.4 CONCLUSION

This chapter has sought to advance several clarifications to our legal understanding of CDSs. It has carefully examined the principal demarcation criteria, particularly the notion of insurable interest, proposing how the doctrine should be applied to CDSs. Further, it has explained why the no-intention-to-insure argument is defective both in law and in fact, also demonstrating that the term *credit default swaps* is quite misleading because they really are economically not swaps at all.

With respect to the notion of loss indemnification, the chapter has cleared up several misunderstandings, showing that CDSs may be either indemnity or non-indemnity insurance transactions. The correct characterization does not depend on whether the protection buyer is exposed to default risk or not, but on the specific terms of the contract, which normally are such that CDSs are indemnity transactions. It has also been demonstrated that statements claiming “CDSs are not conditional upon loss” are either untrue or misleading, and that both indemnity and non-indemnity CDSs can be insurance contracts.

The section on the evolution of US state insurance regulation has revealed some of the practical reasons why insurance law was initially not applied to credit default swaps, and why doing so later turned out to be complicated. This strictly legal implications of this evolution are limited, but understanding this history helps us to grasp the political and institutional context of the legal issues. It also shows why some arguments invoking the opinion of insurance regulators must be excluded or at least put in context.

The last section, dedicated to Finnish insurance law, concluded with essentially similar findings as in relation to English and US insurance law. The chapter mainly sought to advance the important findings made by Ahokallio in an earlier study, arguing that a correct interpretation of the demarcation criteria probably leads to the recharacterization of CDSs as insurance at least in many cases. Of special interest for further clarification is the notion of *rikastumiskiello* (literally meaning “prohibition of enrichment”), the status and application of which could be studied further.
4 CREDIT DEFAULT SWAPS AS DERIVATIVES

The findings of the previous chapter raise many follow-up questions. How is it possible that the application of insurance law to some or all CDSs was so widely ignored and so easily avoided? How could CDSs be globally established as unregulated “swaps” if they are economically not swaps at all? Why did the Dodd-Frank Act pre-empt insurance regulation with so little public debate? One might suggest that it simply took time for insurance regulators to grasp what these transactions really consisted of, but such an answer is far from complete.

It will be argued that the issue can only be understood in light of a longer historical evolution marked by two opposing forces: anti-speculation and pro-regulation initiatives, on one hand, and anti-regulatory and regulation-evasive initiatives, on the other. This chapter provides, first, a brief outline of the historical background of more recent developments. It then describes the leading role played by the International Swaps and Derivatives Association (ISDA) in the creation of an unregulated space for OTC swaps. Finally, it analyzes the reforms introduced by the Dodd-Frank Act, finding that, while it seeks to rein in the excesses of modern finance, it paradoxically ends up consolidating ISDA’s largely unregulated swaps regime.

4.1 HISTORICAL BACKGROUND: LAW VERSUS FINANCE

According to Thomas Lee Hazen, there are four categories of financial products that in many cases overlap in substance but the regulation of which is increasingly disparate: securities, derivatives, gambling, and insurance.1 CDSs are at the heart of this intersection, and indeed different commentators have placed them in each of these categories.2 Now, it must be remembered that the terminology is far from exact, and there are major differences between the language of finance and the language of law; in fact, the four aforementioned categories are legal, not functional. Moreover, the language adopted by market participants may be deliberately misleading, as it arguably is in the case of credit default swaps, which are not swaps according to standard definitions in finance.

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1 Hazen 2005.

2 They have been mostly classified as either derivatives or insurance contracts, but as we saw earlier, some have defined them as securities, and still others have called them “gambling” (for example New York State Governor Paterson: see Hakim 2008).
4.1.1 Strategies for Influencing the Regulatory Environment

The attitude of the law to different types of financial activity has been tense throughout history: legislators have placed various restrictions on financial activity, ranging from limits on interest taking to a marked hostility towards speculative activities. The attitude of the law to different types of financial activity has not, however, been stable over time. Securities regulation, for example, has been getting more stringent as legislatures have responded to perceived misconduct. In contrast—for good or ill—gambling and the market for derivatives have been increasingly liberalized. Insurance law alone has remained broadly similar over long periods of time, and—as we have seen—it is highly restrictive: the sell-side is subject to a demanding system of regulation and supervision, whereas the buy-side is limited by such doctrines insurable interest and loss indemnification.

Within this complex framework, activities favouring financial liberalization have taken a variety of forms, ranging from lobbying for legal reform to subtle rule-avoidance strategies. For purposes of analysis, it is useful to distinguish between two generic strategies. One is that of changing the fundamental rules governing a legal category. An example would be the abolition of gambling restrictions in some jurisdictions. Normally, however, this is hard to achieve, because it involves large-scale legal reform. For example, the doctrine of insurable interest has been criticized, but it has proved difficult to abolish it.

The other strategy is to influence the application of legal categories in concrete cases, seeking to reduce the application of restrictive categories (e.g. securities and insurance) and to widen the application of more permissive categories (e.g. derivatives). These activities are subtler and therefore more likely to succeed; for example, before gambling laws were liberalized, they were frequently sidestepped by avoiding their application.

The rise of credit default swaps was heavily rooted in the second strategy. CDSs were appealing because they enabled market participants to take financial positions that were functionally similar to insurance but were (seemingly) not legally so restrictive. But the permissive regime was achieved precisely by subtly persuading the authorities not to apply insurance laws: firstly, by promoting a private legal opinion (the Potts opinion) that gained widespread acceptance through repetition, and secondly, by generalizing favourable responses from regulators to narrowly formulated questions.

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3 Stout 1999: 703.


5 Ibid. 396.

6 One might also speculate that the erroneous interpretation of New York Insurance Law may have been influenced by liberalizing objectives: in their respective articles, Shadab, Sjostrom and Schwartz are all firmly opposed to the application of insurance law to CDSs.
In the process of determining which set of legal principles should apply, an important role is played by *definitions*; and definitions are inherently imperfect. Therefore influencing the definitions has been a leading issue in the tension between finance and its regulators: for example, commentators favouring the non-application of insurance law to CDSs have proposed their own definitions or demarcations of insurance.\footnote{For example, Todd Henderson’s use of a non-legal definition. See also Juurikkala 2011 (finding problems in Potts’ definition of insurance); Kimball-Stanley 2008: 262–266 (criticizing the distinctions made by Schwartz, and Nirenberg and Hoffman).}

However, the influence strategy is not limited to definitions, as it includes the introduction of *novel concepts* in order to replace (at least partially) earlier concepts associated with unwanted legal consequences. This explains the sudden appearance of *swaps* in the 1980s and their extension to an increasing number of transactions, including CDSs: not only was it novel and therefore susceptible to redefinition, but it also acquired a special meaning in law, combined with a permissive regulatory regime, as will be seen shortly.

Despite the success of the conceptual influence strategies, the matter of CDSs and insurance law continued to be a source of legal risk in the United States until the Dodd-Frank Act, and it potentially is still so elsewhere. The solution adopted in Dodd-Frank is hard to understand unless it is seen as part of a longer legal-institutional evolution reaching back to the 19th century. What follows is a sketch of that evolution, followed by an analysis of the novelties of Dodd-Frank.

4.1.2 **Antispeculation Law and the Rise of Private Orderings**

The law of many countries traditionally viewed gambling as a socially undesirable activity, either prohibiting or heavily regulating it.\footnote{See for example Stout 2011: 12–13 (discussing the traditional common law approach); Hazen 2005: 377 (“gambling is not generally viewed as a productive activity or one that provides any benefit to society beyond its entertainment value [which] is generally seen as outweighed by the social costs of gambling”).} The law’s disdain of gambling was not limited to cards and casino, but also “investing, hedging, and insurance have been compared with gambling and, to varying degrees, social distaste for gambling has been used as a rationale for regulation of these other activities.”\footnote{Hazen 2005: 377.} Thus, for example, common law courts frequently refused to enforce commodity forward contracts—often called *difference contracts*—if they were perceived as speculative wagers instead of hedging transactions.\footnote{See Stout 2011: 11–12 (discussing cases); Stout 1999: 712–734 (discussing a range of United States “antispeculation” laws, both in common law and statute). However, according Clarke 2007: 36, early common law opposition to gambling was to considering it as “nuisance” and “distraction” from worthier cases.} In many
jurisdictions, the unenforceability of difference contracts was supplemented by laws prohibiting gambling.\textsuperscript{11}

Insofar as the only problem was the refusal to enforce, market participants found a way to avoid the restrictions by way of \textit{private orderings}, i.e. by creating extra-legal arrangements for enforcing contracts without resort to courts.\textsuperscript{12} The leading example is the commodity exchanges founded since mid-19\textsuperscript{th} century, developing mechanisms for not only trading physical commodities, but also speculating in changes in price in ways that could be enforced without courts.\textsuperscript{13} Over time, the exchanges created a self-regulatory system consisting of “membership standards, collateral (‘margin’) posting requirements, capital requirements, and standardized contract terms”.\textsuperscript{14}

One interesting aspect of the legal evolution is that the success of respectable exchanges also attracted secondary business—so called “bucket shops”—that copied the betting opportunities without imposing membership requirements.\textsuperscript{15} These contracts were in many ways analogous to what now are called “over-the-counter” (OTC) derivatives.\textsuperscript{16} However, many US states criminalized these OTC activities with the so-called “antibucketshop” laws; the exchanges started their parallel attacks against price quotation stealing, and were backed by the courts.\textsuperscript{17}

In summary, speculative derivative contracts were permitted, but only within self-regulatory spaces.

4.1.3 The 1930s Regulatory Regime and Its Erosion

The self-regulatory regime for speculative contracts was shattered following the Great Crash of 1929, which reawakened the traditional antispeculative attitudes.\textsuperscript{18} This led to a new wave of federal legislation that still forms the backbone of United States financial regulation.\textsuperscript{19} In relation to financial derivatives, the 1930s legislation had two principal effects. Firstly, in line with earlier common law and state antibucketshop statutes, it—particularly the Commodity Exchange Act of 1936\textsuperscript{20}—reinforced the prohibition of OTC speculative activities by requiring that

\textsuperscript{11} See, for example, Gaming Act 1845 (c. 109) (UK); Gaming Act 1892 (c. 9) (UK).

\textsuperscript{12} See the seminal paper by Bernstein 1992.

\textsuperscript{13} See Stout 2011: 14–15 (describing this development).

\textsuperscript{14} Stout 2011: 16.

\textsuperscript{15} Ibid. 16–17.

\textsuperscript{16} Ibid. 17.

\textsuperscript{17} Ibid. 16–17.

\textsuperscript{18} See Hirshleifer 2008: 861 (noting how the Great Crash caused an attack on speculators).

\textsuperscript{19} See for example Partnoy 2001: 429–433 (discussing the federal regime and its general problems with respect to derivatives).

\textsuperscript{20} Commodity Exchange Act, ch. 545, 49 Stat. 1491 (1936) (as amended).
all transactions take place in regulated exchanges (called “contract markets”).

Secondly, it subjected the exchanges to public supervision under a hybrid regulatory system that combines elements of self-regulatory and command-and-control regulation, headed by the Securities and Exchange Commission (SEC, for securities options) and the Commodity Futures Trading Commission (CFTC, for commodity futures and options).

Over time, however, this regime of contract-market monopoly was eroded by three principal factors. Firstly, market participants began to design novel contracts in order to fit them into exemptions to the regulated markets (a form of regulatory arbitrage). Secondly, turf battles between the two regulators tended to widen the regulatory gaps, as difficulties emerged in fitting new instruments into the traditional categories of “securities” and “futures.” Thirdly, especially from the 1980s onwards, the rule-book was increasingly liberalized: on one hand, many financial contracts were excluded from the ambit of gaming laws, and gambling itself was gradually legalized; on the other hand, OTC derivatives were expressly deregulated by way of a process that is next described in detail.

4.2 ISDA AND THE ROAD TO A SPECIAL OTC SWAPS REGIME

Deregulated OTC derivatives have their roots in the 19th century, but their spectacular growth and global consolidation is a more recent phenomenon, which cannot be understood without reference to the International Swaps and Derivatives Association (ISDA). The role of one organization should not be

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21 Stout 2011: 18 (“federal law, like state antibucketshop statutes, went beyond the common law by making off-exchange futures illegal as well as judicially unenforceable.”).

22 See for example Johnson and Hazen 2004: § 2.02 (describing the system of contract market monopoly).

23 Hazen 2005: 390. See also Johnson and Hazen 2004: § 1.02[8] (describing the deterioration of the exchange monopoly).


25 Hazen 2005: 396 (noting the liberalization of gambling laws). In the United States, many states continue to have restrictive gambling laws, whereas in the UK, gambling was drastically liberalized by the Gambling Act 2005 (UK). However, it had been emphasized earlier that bona fide commercial or financial transactions will not be held to be wagering contracts: Morgan Grenfell v Welwyn Hatfield District Council [1995] 1 All ER 1.

26 On the process in the United States, see Stout 2011: 18–22; on the UK, see Scott and Biggins 2012: 318–319 (2012) (explaining that the enforceability of purely speculative OTC derivatives was guaranteed first by section 60 the Financial Services Act 1986 (UK), and then by section 8 the Financial Services and Markets Act 2000 (UK)). See also Biggins 2012: 1304–1306.

27 ISDA has only lately has attracted scholarly interest: see Braithwaite 2012a (discussing ISDA’s Master Agreement regime); Gelpen and Gulati 2012 (discussing ISDA’s dispute
exaggerated, but there is no reason to be dismissive about ISDA which, according to Frank Partnoy, has been “the most powerful and effective lobbying force in the recent history of financial markets.” According to Scott and Biggins, “[t]he influence of ISDA is undoubtedly a key factor in the public deregulation of OTC derivatives trading by legislators in the latter 20th century, especially in the US.” Flanagan agrees that “ISDA has played a key role in keeping the OTC derivatives industry self-regulated.” This section describes ISDA’s origins and objectives, followed by a description of its lobbying victories as well as other activities influencing law and regulation.

4.2.1 ISDA’s Origins and Activities

In the 1980s, Wall Street investment banks began to develop a range of over-the-counter (OTC) derivatives transactions such as swaps. A leading motivation was regulatory arbitrage, as “swaps were unregulated and immune from most securities-law disclosure requirements.” They were also apparently subject to “off balance sheet” accounting treatment, which made their risks less transparent and enabled banks to offer products that are functionally equivalent to positions that client institutions were not permitted to take. Besides, as OTC transactions, many swaps were customized and therefore highly profitable to the dealers.

It seems that at first the investment banks largely ignored the fact that the new OTC derivatives may have been void under the common law and illegal under resolution system); Scott and Biggins 2012 (discussing ISDA’s relations with nation states); Huault and Rainelli-Le Montagner 2009 (describing ISDA’s influence strategies); Morgan 2010: 32–40 (discussing ISDA’s activities following the 2008 crisis); Biggins 2012 (analysing ISDA’s post-crisis dispute resolution regime); McKeen-Edwards and Porter 2013: 43–46 (describing ISDA’s role in global finance). One of the early studies on ISDA’s activities is Sean M. Flanagan: see Flanagan 2001 (providing a pro-ISDA perspective to its history and activities).

28 Partnoy 2003: 47.
29 Scott and Biggins 2012: 323.
31 See Partnoy 2003: 38–45 (describing early swaps and other derivatives transactions).
32 Ibid. 47–48.
33 Partnoy 2003: 48. Avoiding regulations was a motivating factor even before the 1980s: see Flanagan 2001: 223 (“Some simple swap-like agreements were developed in the late seventies to bypass certain United Kingdom currency restrictions”).
34 Partnoy 2003: 45–46 (describing banks’ arguments and activities in favor of this accounting treatment of swaps, and noting that the arguments were dubious, because high value fluctuations would have legitimately concerned shareholders); Partnoy 2001: 426–428 (describing regulatory arbitrage uses of early derivatives).
35 Partnoy 2003: 49; Partnoy 2001: 427–428 (noting that customized swaps are more profitable than “plain vanilla” swaps); Flanagan 2001: 234 (“Banks [in the 1980s] received large fees and substantial spreads for arranging interest-rate and currency swaps”).
the Commodity Exchange Act. But the first source of worries was the Financial Accounting Standards Board (FASB, the United States accounting self-regulatory body), which in February 1985 started asking difficult questions about the new products. This lead, within weeks after the inquiry, to the formation of the International Swap Dealers’ Association, by the leading swap dealers. The name was changed into the International Swaps and Derivatives Association in 1993, seemingly “in an attempt to show ISDA was more than just a lobbying vehicle for the top swap dealers.”

ISDA’s principal objectives were “to establish standardized documentation and practices, to lobby against new regulations, and to determine how big the swaps market really was.” In the words of one of the leading members, the goal was to “organize before any problems arise”, although ISDA’s first press release merely stated that it sought to “advance general market practices and to discuss issues of relevance to the financial community.” It has been claimed that “everyone involved understood that the primary role would be to lobby against regulation of swaps”, although it seems that a parallel motivation was to coordinate the ownership and development of the standard documentation that the leading swap dealers had developed informally since 1984. In practice, these two activities were mutually reinforcing, as “it could be argued that the ISDA Master Agreement project was highly successful in assuring public actors that the OTC derivatives industry was in fact capable of largely self-regulating.”

It is widely agreed that ISDA has gained a significant degree of power and influence. ISDA’s credibility as a lobbying organization and self-regulator rests on its substantial expertise, with over 800 member organizations in 2012 and offices with considerable staff in New York, Washington, London, Brussels,
Tokyo, Singapore, and Hong Kong. It has numerous committees and task forces, and organizes high-profile conferences on topical issues; it is also well represented on expert panels, produces independent research, and actively cooperates with regulators and legislators around the world—often even drafting legislation.

Naturally, expertise does not guarantee non-partisanship, and ISDA does not represent the financial community as a whole, let alone the wider economy. Neither is it correct to picture ISDA as merely an expert organization. ISDA has over the years acquired a reputation for its aggressive lobbying methods, which have been described as “both condescending (saying officials couldn’t possible understand derivatives) and reassuring (saying Wall Street had everything under control).” According to one testimony from the 1990s, “ISDA came to Washington telling everyone they’re stupid. Their message was that everything is okey [in derivatives]—a blanket statement, boom.” This rhetoric has been backed up by threats that campaign donations would suffer, as financial firms spend large amounts of money in political contributions and lobbying, and “ISDA’s members were major political contributors.”

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48 Scott and Biggins 2012: 342; see also Flanagan 2001: 228–229 (describing the earlier situation).
49 See Flanagan 2001: 229 (describing activities).
51 See Mengle 2007 (ISDA’s head of research explaining CDS markets and defending them against critics).
52 See for example ISDA 2009: 31 (“ISDA’s Accounting Committee was actively involved throughout the consultation process” of FASB); ibid. 39–40 (describing ISDA’s legislative involvement in Ukraine, United Arab Emirates, and Mauritius; in Mauritius, “a new draft bill on insolvency […] includes a chapter drafted by ISDA.”). See also Scott and Biggins 2012: 329–332 (describing ISDA’s role in the 1995 financial netting law reform in Ireland); Riles 2000: 29-30 (describing the assistance of ISDA’s Japanese associates in the drafting of the 1998 law reform in Japan).
53 See Huault and Rainelli-Le Montagner 2009: 562–564 (arguing that, in the CDS market, ISDA has represented the interests of investment banks).
54 See Partnoy 2003: 142 (describing Mark C. Brickell, vice president at J.P. Morgan and ISDA’s “top lobbyist” in the 1990s).
55 Ibid.
56 Tett 2009: 38 (citing Christopher Whalen).
57 Ibid.
4.2.2 Lobbying Victories: Widening the Regulatory Exemptions

If the dealers and investment banks were at first dismissive of legal risks, this did not last long: before the end of the 1980s, they were actively trying to change the rules.\textsuperscript{58} Indeed, throughout the 1990s a key input for legal reform came from the banking industry.\textsuperscript{59} ISDA played a lead role in this activity.\textsuperscript{60} The rhetorical keyword was legal certainty.\textsuperscript{61} What this meant was certainty that the regulators would not apply the rules—especially the exchange-trading requirement of the Commodity Exchange Act (CEA)—to the new OTC transactions, which clearly had been made in violation the rules.\textsuperscript{62}

4.2.2.1 The 1989 CFTC Safe Harbor

The modest victory was gained already in 1989, with the CFTC issuing a “safe harbor” policy statement, “declaring that [it] would not attempt to regulate swap transactions.”\textsuperscript{63} However, this had at least two limitations. One was that the CFTC policy statement listed five criteria for applying the safe harbor: “(1) individually tailored terms; (2) absence of exchange-style offset; (3) absence of clearing organization or margin system; (4) the transaction is undertaken in conjunction with a line of business; and (5) prohibition against marketing to the public.”\textsuperscript{64} Partnoy has argued that “[f]or many swaps at least one of the criteria—often several—were not satisfied.”\textsuperscript{65}

The second limitation of the 1989 safe harbor was that it did not change the fundamental rules, because the CFTC had no authority to re-write the rule-book; however, following intense lobbying, Congress in 1992 passed the Futures Trading Practices Act,\textsuperscript{66} granting the CFTC authority to exempt derivatives from the application of the CEA, and determining that “federal law now preempted any state laws that made OTC derivatives unenforceable, whether as gambling contracts or otherwise.”\textsuperscript{67} This was promptly followed by the CFTC in 1993 formally exempting OTC swaps from the ambit of the CEA, as well as from state

\begin{itemize}
\item \textsuperscript{58} Stout 2011: 19; Stout 1999: 780.
\item \textsuperscript{59} Stout 2011: 18–20 (describing banking industry initiatives in the 1990s).
\item \textsuperscript{60} See Flanagan 2001: 245–246 (highlighting ISDA’s growing involvement in politics in the 1990s).
\item \textsuperscript{61} See Stout 2011: 19.
\item \textsuperscript{62} Ibid.
\item \textsuperscript{64} Partnoy 2001: 436; see CFTC, Policy Statement, 30,696–97.
\item \textsuperscript{65} Partnoy 2001: 438; see ibid. 439–442 (providing a detailed analysis).
\item \textsuperscript{66} Pub. L. No. 102-546, 106 Stat. 3590.
\item \textsuperscript{67} Stout 2011: 19. See Futures Trading Practices Act, §§ 502(a) (amending 7 U.S.C. 6), 502(c) (amending 7 U.S.C. 16(e)(2)(A)).
\end{itemize}
gambling and antibucketshop laws.\textsuperscript{68} However, the 1993 exemption “did not provide nearly the certainty it could have.”\textsuperscript{69} In particular, it must be noted that the exempted “swap agreements” did not include “credit default swaps”,\textsuperscript{70} and given that CDSs are financially very unlike other swaps, there is no reason to suppose that they were covered by the exemption.

4.2.3 Managing the Image: Derivatives Scandals

4.2.3.1 The 1994 Derivatives Debacle

Ironically, the granting of some “legal certainty” to OTC swaps was almost immediately followed by a series of major losses and scandals involving OTC derivatives.\textsuperscript{71} While these events are open to a range of interpretations,\textsuperscript{72} they certainly caused a political backlash, which had already been brewing for some time.\textsuperscript{73} A year earlier, Representative Jim Leach had begun “asking some uncomfortable questions of Mark Brickell and the ISDA lobby.”\textsuperscript{74} This led to the publication, by House Banking Committee staff, of a 900-page report on derivatives in November 1993, condemning the unregulated market.\textsuperscript{75} When the crisis hit the market in 1994, new debates were fuelled, as the General Accounting Office (GAO) produced a report highly critical of the lack of derivatives regulation,\textsuperscript{76} and Leach introduced a derivatives bill based on his staff report.\textsuperscript{77}


\textsuperscript{69} Partnoy 2001: 437.

\textsuperscript{70} See ibid. (describing the exemption).

\textsuperscript{71} See Stout 2011: 20 (“Just as a nineteenth century judge might have predicted, the near-immediate result was a series of swapsfueled speculative disasters.”); Partnoy 2003: 112–138 (describing the events leading to the derivatives scandals of 1994); FCIC Report 2011: 46–47 (discussing swaps scandals after 1993).

\textsuperscript{72} See Flanagan 2001: 226–227 (presenting a pro-dealer view of some of the cases).

\textsuperscript{73} See Partnoy 2003: 147 (describing growing skepticism already in 1992, including a Congress request to the Government Accounting Office to consider the necessity of regulating derivatives).

\textsuperscript{74} Ibid. Partnoy speculates that one possible reason for Leach’s activism was he “did not receive financial support from Wall Street and members of the ISDA” (ibid. 147–148).

\textsuperscript{75} Ibid. 148.

\textsuperscript{76} GAO 1994. See Partnoy 2003: 150 (describing the report).

\textsuperscript{77} See Partnoy 2003: 152. There were also three other bills: see for example Tett 2009: 38.
ISDA’s response was highly effective.\footnote{According to Tett 2009: 38, “behind the scenes, Brickell and other ISDA officials furiously leapt into lobbying action, determined to block the bills before Congress. Brickell paid a frenetic series of visits to Republican and Democratic congressmen. He also relentlessly called journalists, trying to persuade them to stop writing about derivatives in such a negative light. He then met regulators around the world, preaching the gospel that the industry was capable of cleaning up its act on its own.”} Among other things, ISDA skilfully influenced the media, persuading journalists to use the word “securities” instead of “derivatives” when reporting derivatives scandals.\footnote{Partnoy 2003: 151 (providing examples and citations from personal correspondence between ISDA and Byron E. Calame, then-deputy managing editor of the Wall Street Journal).} Brickell also attacked Leach in the media resorting to “serious misstatements of fact”,\footnote{Ibid. 152} claiming for example that Leach’s bill would impose a suitability standard “not applied to any other area of finance”, when in fact it was similar to the already-existing suitability standards in other areas.\footnote{Ibid.} He also “complained about the Leach bill’s supposed capital standards for swaps, when in fact the bill contained no such provisions.”\footnote{Ibid. According to Partnoy, on July 12, 1994, at hearing on the bill, Leach “lost his patience with Brickell […], accusing him of lying about provisions of the derivatives bill” (ibid., citing Hume 1994: 6).}

ISDA was not fighting alone, as it was backed up by high-profile figures including Gerald Corrigan (former head of New York Fed, then at Goldman Sachs) and Wendy Gramm (former CFTC chair, then board member at Enron).\footnote{Partnoy 2003: 153–154.} In the end, the public lost interest in these complicated issues, and all the legislative initiatives died down; the result was a surprise even to industry members, according to the \textit{Institutional Investor} magazine, which “gave the credit to ISDA”.\footnote{Ibid. 154 (citing Michael Peltz, \textit{Congress’s Lame Assault on Derivatives}, \textit{INSTITUTIONAL INVESTOR}, Dec. 1994, at 65). See also Tett 2009: 39–40 (describing ISDA’s victory).}

\subsection*{4.2.3.2 The Collapse of Long Term Capital Management in 1998}

Another publicity challenge came in 1998, when the massive hedge fund Long Term Capital Management nearly collapsed, threatening the stability of the entire banking sector and leading to an almost-$4 billion bailout.\footnote{See FCIC Report 2011: 57 (discussing the LTCM case); Stout 2011: 20. \textit{CFTC} 1998. See Scott and Biggins 2012: 319; Stout 2011: 20 (noting that “[t]his a dramatic shift in policy, as it implied OTC derivatives might be treated as illegal off-exchange futures.”)} Only weeks before, the CFTC—now headed by derivatives-critical Brooksley Born—had suggested it would reconsider OTC derivatives regulation.\footnote{CFTC 1998. See Scott and Biggins 2012: 319; Stout 2011: 20 (noting that “[t]his a dramatic shift in policy, as it implied OTC derivatives might be treated as illegal off-exchange futures.”)} However, having learned from
the previous crisis, the derivatives industry was well prepared, and “besieged Congress with appeals to stop any federal regulatory effort.” Now the industry was strongly represented in key government organizations, which reacted the very same day of CFTC’s pronouncements to prevent any changes to the rulebook. In fact, new laws were enacted, this time only limiting the powers of CFTC to determine OTC derivatives rules.

4.2.4 The Silent Revolution: The CFMA of 2000
If the 1990s derivatives debacles did not lead to re-regulation, they made the banking lobby increasingly aware of the precarious status of OTC derivatives. Therefore, in 1999, a Presidential Working Group of high-profile figures in the administration with close ties to the investment-banking lobby was formed in order to “modernize” derivatives regulation. The Working Group complained about the “cloud of legal uncertainty [that] has hung over the OTC derivatives markets in the United States in recent years [and] could discourage innovation and growth of these important markets.” Instead of re-examining the need to regulate OTC derivatives, the objective was to provide legal certainty to the enforceability of off-exchange derivatives.

This was duly accomplished the following year with the passage of the Commodity Futures Modernization Act (CFMA) of 2000, which “faced intense opposition” as it drastically expanded the scope of largely unregulated derivatives markets. As a piece of legislation, it is “long, complex, technical, and difficult to understand,” which may explain why its “passage went relatively unnoticed and unremarked by anyone outside the derivatives industry.” Yet its significance can hardly be overstated: according to Hazen, “[t]he increased regulation of the securities markets in the wake of the late 1990’s corporate governance scandals […] stands in sharp contrast to the massive deregulation of the commodities and non-securities derivatives markets that was ushered in by the Commodity Futures Modernization Act.” Moreover, it has been claimed that ISDA was heavily involved in the drafting process: “Instead of seeing members

89 Stout 2011: 21. See also Stout 1999: 768.
93 Partnoy 2001: 444.
94 For a detailed overview of the CFMA, see for example Johnson and Hazen 2004: § 1.18; Hazen 2005: 388–395.
95 Stout 2011: 21.
96 Hazen 2005: 382.
of Congress at work, you would have seen Mark Brickell, the lobbyist from ISDA, writing important pieces of the legislation."

4.2.4.1 Restriction of Regulatory Jurisdiction

Whatever the details of the process may have been, the CFMA had at least two important consequences. One, it “restricted the capacity of the SEC and CFTC to directly intervene in OTC trading between sophisticated market participants.”\(^98\) In terms of the CFTC and the CEA, the CFMA excluded OTC derivatives made between eligible contract participants and subject to individual negotiation.\(^99\) Thus it “granted OTC derivatives contracts, including purely speculative instruments, an enforceability guarantee in the courts.”\(^100\) With respect to the SEC, the CFMA ensured that the notion of “securities” would not include any “security-based swap agreement.”\(^101\) It also reduced the powers of the SEC to investigate fraud, manipulation or insider trading in security-based swap agreements.\(^102\)

4.2.4.2 A Wider Definition of Swap Agreements

The second important point is that these exclusions along would have been insufficient for CDSs, so the CFMA extended the notion of swap agreements to explicitly include credit default swaps.\(^103\) The CFMA definition of swap agreements is complex, but what makes it interesting is that it departs radically from standard financial definitions of swaps: instead of referring to an exchange of cash-flows, it extends swaps to an agreement that “transfers […] the financial risk associated with a future change in any […] value or level [of securities or other financial or economic interests] […] known as […] credit default swap.”\(^104\) This definition suggests that the drafters were aware of the awkward status of CDSs as swaps, but they were determined to exploit the fact that OTC swaps had

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\(^97\) Partnoy 2003: 295.

\(^98\) Scott and Biggins 2012: 320.


\(^100\) Scott and Biggins 2012: 320.

\(^101\) See CFMA, § 302(a), § 303(a) (codified at 15 U.S.C. § 77b-1, § 78c-1 (2006)); Sjostrom 2009: 984. A “security-based swap agreement” is a swap “of which a material term is based on the price, yield, value, or volatility of any security […]” (15 U.S.C. 78c note (2006)), so that it is not regulated as a security (Sjostrom 2009: 985)—supposing that it is a swap agreement in the first place.

\(^102\) Sjostrom 2009: 985.

\(^103\) See ibid. 984–985 (discussing the definition of “swap agreement” in CFMA).

become the least regulated legal category, so that the most effective strategy was to widen its application.

4.2.4.3 The Paradox of Legal Certainty
Another paradox of the CFMA is that its official objectives included “reduc[ing] systemic risk by enhancing legal certainty.”105 The apparent justification for this claim was that the uncertain enforceability of OTC derivatives might cause disruptions.106 This reasoning was optimistic in retrospect, as the passage of CFMA was followed by a spectacular growth of OTC derivatives trading—especially of a speculative nature—as anyone could have predicted.107 Stout has gone so far as to argue that “the [2008] credit crisis was not primarily due to ‘innovations’ in the markets or the legal system’s failure to ‘keep pace’ with finance. The crisis was caused, first and foremost, by changes in the law.”108

4.2.5 Beyond Politics: A Friend of the Legal Profession

4.2.5.1 Fostering Consensus
ISDA’s law-shaping activities have not been limited to lobbying. From the beginning, it has worked closely with leading law firms, and over the years it has developed a network of cooperating lawyers around the world.109 The leading example of ISDA’s influence among lawyers is the Potts opinion, which “was unanimously acknowledged as one of the great successes of the organization.”110 Moreover, as the recharacterization of CDSs as insurance continued to be a major risk, ISDA and its allies skilfully created the appearance of a legal consensus. One reason for this was that, even though some commentators have doubted the accuracy of the Potts opinion, ISDA has firmly repeated to the same argument as the established position. It also has been backed by law firms, which have

105 CFMA § 2(6). See also PWG Report 1999: 6 (noting the same objective).
106 Stout 2011: 22.
108 Stout 2011: 3.
109 See for example Flanagan 2001: 233 (“ISDA has hired law firms around the world to research the potential enforceability of close-out netting in their jurisdictions”), 235 (describing long-standing cooperation with Cravath, Swaine & Moore), 240 (showing how several key ISDA figures came from Cravath). Later, Adam W. Glass of Linklaters has been an active collaborator with ISDA.
appeared in the discussion without disclosing their ties to ISDA.\textsuperscript{111} Given the links between ISDA and investment banks, it has been natural for ISDA to harness the support of leading financial lawyers.

\textbf{4.2.5.2 Judicial Parallelism}

Another factor supporting the ISDA-dominated legal consensus has been the logic of courts in international finance disputes, particularly in London and New York. As Mugasha has explained, courts resolving international finance disputes are highly sensible to the practical consequences of their decisions, applying “laws or ideas from several different jurisdictions in order to reach a commercially sensible result” and attempting to “make decisions that will facilitate international finance.”\textsuperscript{112} This decision-making is shaped by \textit{judicial parallelism},\textsuperscript{113} whereby courts are reluctant to break an apparent consensus among leading jurisdictions; or as one English judge put it:

It would be highly regrettable if the English courts were to refuse to give effect to such prevalent provisions while the courts of New York are prepared to enforce them. For there to be a disparity between the law applicable in London and New York on this point would be of great disservice to international banking.\textsuperscript{114}

This implies in the present case that, as soon as an appearance of consensus is obtained, courts are unlikely to challenge it.

\textbf{4.2.6 ISDA Architecture: Governing Contracts and Disputes}

\textbf{4.2.6.1 From Standardization to an Industry Constitution}

There is still another factor, which is that ISDA has created a skilful infrastructure for not only influencing legal opinion, but also for governing derivatives contracts and avoiding disputes reaching the courts. If ISDA’s original mission included both political lobbying and contract standardization, this latter aspect has implications that are only beginning to be recognized by legal scholars. In the absence of specific regulation, any market is essentially governed by private

\textsuperscript{111} For example, Flanagan 2001: 233, reveals that “Allen & Overy functions as ISDA’s primary European counsel.” Allen & Overy was involved in the Potts opinion (see Allen & Overy 1997); their associates subsequently published a seemingly independent article on the question (see Benton, Devine and Jarvis 1997); Robert Schwartz also turns out to be an Allen & Overy Associate at the time of writing his article (Schwartz 2007: 167).

\textsuperscript{112} Mugasha 2011a: 392.

\textsuperscript{113} Goode 1998: 92.

\textsuperscript{114} Lordsvale Finance Plc v Bank of Zambia [1996] 3 All ER 156 (per Coleman J.), cited in Mugasha 2011a: 443.
contracting, and in the OTC derivatives market, private contractual governance has been heavily dominated by ISDA through an intricate system of contractual governance that has come to be called the “ISDA architecture”.

ISDA’s project of contractual self-governance started with ordinary contract standardization, but over time it has become increasingly difficult for others to provide competing contractual governance, given ISDA’s “first mover advantage” as well as the network effects and scale-economies of widely-used standard forms. According to Braithwaite, today ISDA’s “standard form documentation enjoys a near-monopoly in the vast ‘over-the-counter’ derivatives markets”, governing “an estimated 90 per cent of all OTC derivatives”. Although each derivatives contract is in theory bilateral, the nearly universal use of the ISDA architecture implies that “in some respects it resembles an industry-wide constitution.”

4.2.6.2 The ISDA Master Agreements
The principal aspect of the ISDA architecture is the system of standardized documentation. The first ISDA Master Agreement related to swaps was published in 1987, and generic OTC derivatives Master Agreements have been published in 1992 and 2002. The Master Agreements are, however, only the tip of the iceberg, as the ISDA architecture of standardized documentation includes confirmations, definitions, credit support documentation, annexes, protocols, bridges, netting and collateral opinion, novation agreements, and user’s guides.

4.2.6.3 Amicus Curiae Briefs
ISDA has not merely sought to befriend the legal profession; it has also assumed an active relationship with the courts through its amicus curiae briefs in OTC derivatives litigation. These interventions form an important part of ISDA’s project of contractual self-governance, as they seek to persuade courts of “ISDA’s

114 Benjamin 2007: para. 5.77.
117 Ibid. 784.
118 Gelpern and Gulati 2012: 357.
120 See Benjamin 2007: para. 5.77; Gelpern and Gulati 2012: 357–358 (describing different parts and the contract-making procedure).
preferences” regarding the interpretation of the standardized documents.\textsuperscript{124} Given ISDA’s expertise and its role as the originator of the contracting scheme, it is likely to yield significant interpretative power in courts.

The dominance of ISDA’s standardized documentation has been facilitated by the importance of English and New York law in international financial transactions.\textsuperscript{125} In fact, another aspect of ISDA’s relationship with courts is the choice of law and jurisdiction, as the Master Agreement of 1992 and 2002 do not include arbitration clauses, but instead propose exclusive jurisdiction to either English or New York courts.\textsuperscript{126} This is not accidental: these courts are famed for “even-handed adjudication of disputes in the interests of global commerce and finance” and “recognizing and facilitating financial innovation”.\textsuperscript{127} The choice-of-law rules can be sidestepped, but parties are warned that “extreme care should be exercised in doing so since the ISDA master agreement has not been prepared with a view to enforceability under other legal systems.”\textsuperscript{128} This warning is important, because choice of law and jurisdiction is an important technique for managing legal risk related to “conflicting views as to the true nature, the contractual obligations, or the consequences of the financial transaction.”\textsuperscript{129}

### 4.2.6.4 Dispute Resolution and Dispute Reduction

Naturally, the attractiveness of the ISDA architecture would be limited if disputes could only be resolved in London or New York. Therefore, one of ISDA’s key lobbying activities around the world has been to seek “supporting legislation and regulatory opinions confirming the enforceability of certain provisions.”\textsuperscript{130} According to Scott and Biggins, numerous national governments have, perhaps unwittingly, supported ISDA’s self-governance system, “taking it beyond a merely private regulatory regime and affording it a strong public dimension.”\textsuperscript{131}

In spite of ISDA’s prestige, courts may not always yield to its preferences: even in England there have recently been some decisions refusing to uphold expected interpretations of ISDA documents.\textsuperscript{132} However, it seems that this was principally because “the contractual language left room for disagreement”\textsuperscript{133} and the relevant

\textsuperscript{124} Scott and Biggins 2012: 326.
\textsuperscript{125} Mugasha 2011a: 443.
\textsuperscript{126} Braithwaite 2012a: 789; Partnoy 2002: 11.
\textsuperscript{127} Mugasha 2011a: 397.
\textsuperscript{128} Henderson 2010: 838.
\textsuperscript{129} Mugasha 2011a: 393; see also ibid. 408–409.
\textsuperscript{130} Partnoy 2002: 5.
\textsuperscript{131} Scott and Biggins 2012: 311.
\textsuperscript{132} See Braithwaite 2012a: 799–800 (discussing these cases).
\textsuperscript{133} Ibid. 800.
portions of the Master Agreement will be amended accordingly.\textsuperscript{134} Moreover, the courts expressly recognized “the status of the ISDA documents”.\textsuperscript{135}

Nevertheless, it is obvious that ISDA’s preference is for as few disputes as possible, and the ISDA architecture has been astonishingly successful in reducing litigation.\textsuperscript{136} According to one count, “trials involving the ISDA documentation occurred no more that once a year in the English courts” before 2009.\textsuperscript{137} This is good news for market participants, and advocates of CDSs have praised the fact that they are “virtually unsullied by the foul touch of litigation”, as ISDA’s standardized documentation has reduced the incidence of disputes, “keeping the market ‘pure as the wind-driven snow’.”\textsuperscript{138}

This is not wholly unproblematic: dispute-avoidance relies heavily on netting provisions, which enable counterparties to terminate all mutual transactions quickly,\textsuperscript{139} but they also violate normal priority rules in bankruptcy law, which is why ISDA has been keen to get its privileged netting provisions accepted around the world.\textsuperscript{140} Since 2009, dispute-avoidance has been enhanced by the Big Bang Protocol, which is an auction settlement procedure for determining whether a credit event has occurred;\textsuperscript{141} this increases efficiency, but for regulation it represents self-governance at the fringes of the legal system.

\subsection*{4.2.6.5 Criticism of the ISDA Architecture}

The ISDA architecture has benefits, but its leading criticism is opacity, as “ISDA has actively resisted disclosure of credit default swap documentation, insisting that this information is proprietary.”\textsuperscript{142} Regulators also complain that “banks keep their ‘secret of fabrication’ close to their chest.”\textsuperscript{143} Others point out that ISDA is not an impartial body, as its power is used to advance the interests of major

\begin{footnotesize}
\begin{enumerate}
\item \textsuperscript{134} Ibid. 803.
\item \textsuperscript{135} Ibid. 801.
\item \textsuperscript{136} Kimball-Stanley 2008: 251 (“ISDA has been highly successful in standardizing derivative contracts and managing potential disputes that arise between parties to a trade.”); see similarly Flanagan 2001: 229–234.
\item \textsuperscript{137} Braithwaite 2012a: 790. The financial crisis increased cases somewhat, but mainly due to the Lehman Brothers bankruptcy (ibid. 792–793). Other recent cases involved the forward freight agreement market, which is not a normal financial derivatives market; it had adopted ISDA forms, which were not designed particularly for that purpose (see ibid. 794–797).
\item \textsuperscript{138} Schwartz 2007: 173.
\item \textsuperscript{139} See Braithwaite 2012a: 787–788 (describing self-help remedies in ISDA architecture).
\item \textsuperscript{140} See ibid. 785; Scott and Biggins 2012: 328–332; Flanagan 2001: 233.
\item \textsuperscript{141} See Gelpen and Gulati 2012: 362–365 (describing ISDA’s “Big Bang Protocol”).
\item \textsuperscript{142} Partnoy and Skeel 2007: 1036.
\item \textsuperscript{143} Huault and Rainelli-Le Montagner 2009: 563.
\end{enumerate}
\end{footnotesize}
banks.  And “[i]n providing information, ISDA strongly favors its dealer members over the public and end users,” Some United States court decisions may also be interpreted as finding “that ISDA’s approach benefited dealers to the detriment of their customers.” It may likewise be asked whether it is sensible to accept the privileged position of derivatives dealers in counterparty bankruptcy, as the close-out netting provisions benefits dealers at the expense of other creditors. In spite of these criticisms, the ISDA standard forms and the contractual architecture created around them continue to dominate CDS markets globally. We will return to evaluate them more carefully later in terms of specific regulatory policy issues.

4.3 THE GLOBAL FINANCIAL CRISIS AND THE DODD-FRANK ACT

The lack of regulation was challenged at least temporarily by the global financial crisis, and in addition to the steps taken by state insurance regulators, bills were introduced at federal level to prohibit uncovered CDSs or all CDS trading. But the industry, led by ISDA, fought back. At first it denied any problems, but soon a cooperative mode was adopted that would prove to be highly effective. Although the Dodd-Frank Act of 2010 takes a step in the direction of more regulation, a closer look reveals a mixed picture with respect to OTC derivatives.  

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144 Partnoy and Skeel 2007: 1037.
146 Ibid. 188 (citing Eternity Global Master Fund Ltd. v. Morgan Guar. Trust Co. of N.Y., 375 F.3d 168, 178 (2d Cir. 2004) and Caiola v. Citibank, N.A., 295 F.3d 312, 328–329 (2d Cir. 2002)).
147 Partnoy and Skeel 2007: 1048–1050.
148 Respectively H.R. 2454, 111th Cong. § 355(h) (2009) and H.R. 3145, 111 th Cong. § 4 (2009); see Shadab 2010: 425 (describing federal bills). Even the Derivatives Markets Transparency and Accountability Act of 2009 (H.R. 977) initially proposed a ban on uncovered CDSs, but this was subsequently reduced to regulatory authority to prohibit “abusive swaps” and finally abandoned altogether: see Saunders 2010: 448 n.151; Moshinsky and Kirchfeld 2010.
149 Arup 2010: 371.
150 See Marshall 2009: 165 (Senator James C. Marshall, GA, getting impatient with ISDA’s Robert Pickel for “just stonewalling,” and proposing “that the industry start considering compromises instead of just blowing through all of this”).
4.3.1 New Restrictions and Requirements
For CDSs, the Dodd-Frank Act increases regulation at least in four ways. Firstly, it abolishes the CFMA prohibition of regulating OTC derivatives by affirming the jurisdiction of CFTC over “swaps” and SEC over “security-based swaps”. With respect to CDSs, this leads to a dual regime in which single-name CDSs are security-based swaps under SEC oversight, whereas CDS indices come under CFTC jurisdiction. Secondly, the Dodd-Frank Act subjects “swap dealers” and “major swap participants” to SEC and CFTC registration and swap transaction reporting to these regulators. Thirdly, it prohibits federal bailouts of these so-called “swaps entities”. Fourth, it imposes a clearing requirement for most speculative swaps.

The definition of “swap entities” is rather complicated. An entity is qualified as a swap dealer according to subjective tests if it “(a) holds itself out as a dealer in swaps; (b) makes a market in swaps; (c) regularly enters into swaps for its own account; or (d) engages in activities causing it to be commonly known as a dealer or market maker in swaps.” The Dodd-Frank Act however provides exclusions including “entities that enter into swaps on their own account ‘either individually or in a fiduciary capacity, but not as a part of its regular business’” as well as “entities that have engaged only in a ‘de minimis quantity’ of swap dealing over the preceding twelve months.”

The definition of major swap participants is in contrast based on objective criteria that seek to identify “systemically important buy-side users.” Swap market participants are included in this category if they “maintain a substantial position in any of the major swap categories, excluding positions held for hedging or mitigating commercial risk” as well as if their swap activities create “substantial counterparty exposure that could have serious adverse effects on the financial stability of the U.S. banking system or financial markets.” The principal interest seems to be that of targeting speculative positions, but the definition can be extended to highly leveraged non-bank institutions if they have

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152 Dodd-Frank Act, §§ 722(a)–(b), 762(a); see Bloink 2011: 607–608; Cadmus 2010: 208–209.
155 Dodd-Frank Act, § 716; see Bloink 2011: 610–612.
156 Dodd-Frank Act, §§ 723(a)(2), 763(a); see Bloink 2011: 608–609; Cadmus 2010: 213–214.
159 Ibid. (citing the codified 7 U.S.C.A. § 1a(49)(C); 15 U.S.C.A. § 78c(a)(71)(C) and 7 U.S.C.A. § 1a(49)(D); 15 U.S.C.A. § 78c(a)(71)(D)).
160 Ibid. 517.
“a substantial position in any major swap category even if its positions are held for hedging or mitigating commercial risk.” 162 Although the underlying criteria are objective, it is evident that there is plenty of discretionary scope here for the regulatory bodies to engage in prudent judgment.

The inclusion of a financial entity into these definitions of swap dealer and major swap participant is important for regulatory purposes, because in addition to the aforementioned requirements of registration and transaction reporting, the Dodd-Frank reforms dictate that “swap entities will be subject to new minimum capital standards and will be required to post and maintain margin on all uncleared swaps.” 163 The idea is to encourage the centralized clearing of swaps, given that the requirement of compulsory clearing is subject to important exceptions, as will be seen later in detail. It remains to be seen how these margin and capital standards will be set; if the swap entity is a bank, these standards will be set by its prudential regulators, whereas if it is an entity not subject to prudential regulation, they will be established by the SEC or the CFTC. 164

4.3.2 Limitations of the New Regulations

There are, however, several reasons why the outcome is far from onerous for market participants. For one thing, SEC and CFTC jurisdiction is limited to what is expressly admitted. 165 Similarly, the bailout prohibition—known as the “swap pushout rule” 166—is watered down in various ways: it does not apply to insured depository institutions, 167 and does not prevent them from establishing affiliates that function as swaps entities. 168 Thus it has been estimated that the “exceptions to the general prohibition threaten to swallow the rule, and the exposure of many financial institutions to CDS risk will continue.” 169

The principal regulatory solution offered by the Dodd-Frank Act for the problems of OTC derivatives is the imposition of a mandatory central counterparty-clearing requirement for many of these transactions. 170 The principle is the same as in the old Commodity Exchange Act, which required

164 Ibid.
165 Dodd-Frank Act, § 712(b).
166 Nazareth 2010.
167 Dodd-Frank Act, § 716(b)(2)(B).
168 Dodd-Frank Act, § 716(c).
169 Bloink 2011: 611.
170 Dodd-Frank Act, § 723(a)(2) (swaps); § 763(a) (security-based swaps).
“that speculative commodity futures be traded only on organized exchanges.”

The objective is to promote transparency and reduce counterparty risks. However, the question is how much will be achieved. For one thing, it turns out that there will be important exceptions to the requirement of mandatory clearing. One of them applies when swaps are used by a non-financial entity “to hedge or mitigate commercial risk.” Other transactions may also be exempted from clearing, because this is ultimately subject to SEC and CFTC determinations. Some commentators have been worried that the regulators might yield to the enormous pressure of the financial industry. This concern is especially pertinent in relation to customized CDSs, which cannot be cleared so easily.

The second concern is that “the clearinghouse requirement might inadvertently concentrate systemic risk in the clearinghouses themselves.” According to one expert, “it is plausible that central clearing would raise systemic risks greatly when another crisis occurred and perhaps even raise the likelihood of a crisis.” While it is true that clearinghouses have rarely failed, one should not rely too much on history. Recent decades have witnesses several clearinghouse failures, and there is a danger that complex OTC derivatives would create substantial difficulties, especially if clearinghouses are forced to accept them. It has also been argued that the current resolution system is highly vulnerable to systemic risk in derivatives clearinghouses. These issues will be discussed in more detail in chapter 0.

4.3.3 Pre-emption of Insurance Regulation
For the present study, one of the key aspects of Dodd-Frank is that the derivatives industry obtained an exclusion of insurance regulation. This was a surprise, because the original draft did not address the question of CDSs and insurance,

171 Stout 2011: 34.
174 Dodd-Frank Act, §§ 723(a) (CFTC), 763(a) (SEC); Bloink 2011: 608 (SEC); Cadmus 2010: 214 (CFTC).
175 Stout 2011: 36.
179 Spatt 2012: 6; Culp 2010: 125.
181 See especially 6.3.2.3.
182 Cadmus 2010: 208.
and in fact sought to impose an insurable interest rule on uncovered CDSs. The banking lobby was able not only to block this but also to obtain an express exclusion of insurance law, which was added to the final version of the law seemingly without careful examination. Thus Section 722 (amending the Commodity Exchange Act) states laconically: “A swap—(1) shall not be considered to be insurance; and (2) may not be regulated as an insurance contract under the law of any State.” Similarly, Section 767 adds (amending the Securities Exchange Act): “A security-based swap may not be regulated as an insurance contract under any provision of State law.”

One might question the applicability of these exclusions to CDSs, given that it is difficult to see how CDSs could be functionally labelled swaps. Therefore the definition of “swaps” in Section 721 has been rendered so broad that it is almost

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184 See Damron and Morelle 2010.
185 Dodd-Frank Act, § 722(b).
186 Dodd-Frank Act, § 767. This statement is strangely found under the heading “State Gaming and Bucket Shop Laws,” suggesting that it was added late in the drafting process.
another label for any derivative.\textsuperscript{187} It also expressly includes a “transaction commonly known as […] a credit default swap”.\textsuperscript{188}

As an ironic consequence of this anti-functionalist approach to classifying financial products, concerns have subsequently been raised that the new rules are creating legal uncertainty to insurers, because such contracts as financial guaranty insurance might come under the regulation of swaps (which insurers are not permitted to trade).\textsuperscript{189} This absurdity is the logical consequence of artificially creating different regulatory regimes for transactions that have exactly

\begin{quote}
\textsuperscript{187} Stout 2011: 33. See Dodd-Frank Act, § 721(a)(21), which extends to several pages, but the principal part (A) of which includes a list of non-exclusive characteristics: “the term ‘swap’ means any agreement, contract, or transaction—(i) that is a put, call, cap, floor, collar, or similar option of any kind that is for the purchase or sale, or based on the value, of 1 or more interest or other rates, currencies, commodities, securities, instruments of indebtedness, indices, quantitative measures, or other financial or economic interests or property of any kind; (ii) that provides for any purchase, sale, payment, or delivery (other than a dividend on an equity security) that is dependent on the occurrence, nonoccurrence, or the extent of the occurrence of an event or contingency associated with a potential financial, economic, or commercial consequence; (iii) that provides on an executory basis for the exchange, on a fixed or contingent basis, of 1 or more payments based on the value or level of 1 or more interest or other rates, currencies, commodities, securities, instruments of indebtedness, indices, quantitative measures, or other financial or economic interests or property of any kind, or any interest therein or based on the value thereof, and that transfers, as between the parties to the transaction, in whole or in part, the financial risk associated with a future change in any such value or level without also conveying a current or future direct or indirect ownership interest in an asset (including any enterprise or investment pool) or liability that incorporates the financial risk so transferred, including any agreement, contract, or transaction commonly known as—(I) an interest rate swap; (II) a rate floor; (III) a rate cap; (IV) a rate collar; (V) a cross-currency rate swap; (VI) a basis swap; (VII) a currency swap; (VIII) a foreign exchange swap; (IX) a total return swap; (X) an equity index swap; (XI) an equity swap; (XII) a debt index swap; (XIII) a debt swap; (XIV) a credit spread; (XV) a credit default swap; (XVI) a credit swap; (XVII) a weather swap; (XVIII) an energy swap; (XIX) a metal swap; (XX) an agricultural swap; (XXI) an emissions swap; and (XXII) a commodity swap; (iv) that is an agreement, contract, or transaction that is, or in the future becomes, commonly known to the trade as a swap; (v) including any security-based swap agreement which meets the definition of ‘swap agreement’ as defined in section 206A of the Gramm-Leach-Bliley Act (15 U.S.C. 78c note) of which a material term is based on the price, yield, value, or volatility of any security or any group or index of securities, or any interest therein; or (vi) that is any combination or permutation of, or option on, any agreement, contract, or transaction described in any of clauses (i) through (v).” For an analytical explanation of the definition, see Cadmus 2010: 209–210. The amended definitions merely exclude some derivatives as non-swaps (see section (B) within § 721(a)(21)). Overall, the definition of “swaps” is therefore not only extremely broad (and quite unrelated to the financial notion of swaps) but also practically unreadable.

\textsuperscript{188} Dodd-Frank Act, § 721(a)(21). For our purposes, the definition of “security-based swap agreements” in the Securities Exchange Act refers back to this revised definition of swaps: see § 761(a)(6).

\textsuperscript{189} See Shadab 2011a (describing insurance industry concerns).
the same content, and legal uncertainty can only be avoided by giving strict primacy to form over substance, in contradiction with insurance law tradition.

4.4 CONCLUSION

In order to explain the derivatives-characterization of CDSs, this chapter has argued that the financial sector has skilfully exploited the increasingly disparate treatment of functionally similar transactions. On one hand, the restrictive regime of insurance regulation was avoided in subtle ways such as by promoting a private legal opinion (the Potts opinion) to this effect, obtaining favourable responses from regulators to narrowly formulated questions, and proposing novel definitions or demarcation criteria of insurance. On the other hand, the banking lobby introduced the novel concept of swap, which was first used to exploit regulatory exemptions, and later extended to an increasing range of transactions, including CDSs.

It is certainly a simplification to describe the derivatives-based view as anti-regulation and the insurance-based view as pro-regulation, but it is a useful simplification that sheds light on some of the thinking behind the rhetoric. The powerful yet imprecise notions of swaps and derivatives have played a major role as a rhetorical device in the highly successful attempt of the financial industry to sidestep what it considered primitive and old-fashioned prejudices against speculation in financial risk.

The fittingness of this result as a matter of policy must be discussed separately. In terms of legal doctrine, however, the situation has become increasingly confusing. The current regulatory landscape present tremendous inconsistencies, particularly as securities regulation is being more and more heavily regulated, while financial derivatives have been systematically deregulated. According to Thomas Lee Hazen, “It is difficult to point to anything other than political pressure to account for this divergence in regulation.”

The arguments presented here imply several questions for scholars and policymakers. In terms of legal doctrine, the present situation is uncomfortable, as it moreover remains unclear on what basis CDSs can be meaningfully described as swaps. This raises the question of whether the terminology was but a trick for avoiding regulation. In consequence, functionally identical transactions may now be insurance, derivatives, or even both. In the United States, the confusion is only exacerbated by Dodd-Frank Act’s pre-emption of insurance law, which is coupled with an all-encompassing notion of swaps that extends this deregulated category to CDSs on a purely formalistic basis. There is no synthesis or compromise between the different views, which merely seem to co-exist side by side, at best agreeing to disagree.

190 Hazen 2005: 382.
191 Ibid. 411–412.
In terms of financial regulation, the recent reforms are a modest step forward—but very modest indeed, as they are also filled with problems. Firstly, the Dodd-Frank compulsory clearing rule is likely to apply only to some CDSs, leaving others largely unregulated. Secondly, there are serious worries regarding the concentration of systemic risks in derivatives clearinghouses, which may sow the seeds of a new crisis. Thirdly, many concerns associated with CDSs remain largely unaddressed. Thus there is an urgent need for critical investigation on the real costs and benefits of CDSs and their regulatory options.
This chapter provides an extensive discussion of the issues concerning the regulation of credit default swaps. It serves as a basis for a detailed examination of the various regulatory alternatives in the following chapters. As was already emphasized earlier, it is fundamental to approach the regulation of CDSs in a holistic and comparative manner, because there are advantages and disadvantages in all the different regulatory alternatives. Moreover, the complexity of the financial regulatory architectures in the principal jurisdictions implies that there is a danger of getting losing sight of the big picture.

The chapter is divided into two principal parts: a general and a specific one. The general part provides a discussion on the challenges of financial regulation generally, focussing especially on risk management and risk allocation in the global financial markets of today. This forms the broader framework within which the specific regulatory concerns posed by credit default swaps must be analyzed. The specific part, then, seeks to identify and critically evaluate the various regulatory issues concerning CDSs.

5.1 THE CHALLENGE OF FINANCIAL REGULATION

According to some scholars, there are two fundamental objectives of financial regulation: systemic protection and consumer protection. Naturally, this is a simplification, but precisely as a simplification it serves for the purpose of clarifying the analysis when the practical reality of financial regulation is so complex. It will be seen later that CDSs pose some other concerns, too, but almost all the concerns can be reduced to these two: the stability of the financial system as a whole, and the protection of financial market participants including investors. This section provides an overview of these challenges, focussing on risk management issues, because CDSs are functionally credit risk transfer agreements so that their impact has always to do with risk management, broadly understood.

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1 Davies and Green 2008: 191. See generally Taylor 1995 (defending this model).
5.1.1 Managing and Mitigating Financial Risk

5.1.1.1 Risk, Uncertainty, and Risk Aversion
Risk and uncertainty are pervasive in economic life. In ordinary language, risk refers to any possibility of some harm or loss, while in finance it is usually understood as any quantifiable uncertainty, whether negative (downside risk) or positive (upside risk). Often a distinction is made between risk proper (understood as measurable uncertainty, with an observable probability distribution) and pure uncertainty.

Most people are risk-averse, although they may also enjoy specific types of uncertainty for its own sake (e.g. in gambling). The common explanation for risk-aversion is the diminishing marginal utility of wealth, although there may be additional explanations also. The general assumption of risk-aversion only holds for individual persons. As will be seen later, organizations may operate as if they were risk-neutral or risk-loving, depending among other things on how their profits and losses will in practice influence their stakeholders.

5.1.1.2 Ways to Reduce Risk and Uncertainty
There are two principal ways to manage risk and uncertainty so as to reduce their negative effects. One is to transfer risks to a person or organization that is less risk-averse than the original risk-holder, so that the welfare loss due to the risk is diminished. This happens in insurance if the insurer is a risk-neutral party, or more generally in risk spreading among a sufficiently large group of persons so that the overall effect approaches risk-neutrality even if the participants are risk-averse. This potential effect of risk spreading is known as the Arrow-Lind Theorem.

The other and more important way is to reduce the aggregate risk by risk pooling and diversification. Technically, pooling refers to situations where two or more individuals come together to combine their risks, whereas diversification means

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2 On this section, see any microeconomics textbook discussing risk and uncertainty, for example Begg, Fischer and Dornbusch 2005: chapter 13. A more extensive treatment is, for example, Gollier 2004 and Seog 2010.

3 See for example McNeil, Frey and Embrechts 2005: 2–3.

4 This “Knightian” distinction goes back to Frank Knight 1921: chapter 7. However, some have questioned the workability of the distinction, on grounds that real-life measurement of risk is itself subject to a range of uncertainties: see Taleb 2010: 122–134.

5 See for example Gravelle and Rees 2004: chapter 19, for a detailed discussion. I am using the expression risk management in a broad sense that encompasses any activity aimed at minimizing the welfare-reducing effects of risk and uncertainty.

6 See Arrow and Lind 1970.
the same done by an individual actor. The principle in both risk pooling and diversification is essentially the same, and is summarized by the old adage: "Don’t put all your eggs in one basket." Aggregate risk is reduced by pooling or diversification if the different risks are independent (or at least not strongly positively correlated). In insurance business, aggregate risks are usually reduced by pooling and diversification, and the condition of non-correlation is a basic requirement of insurability.

5.1.1.3 Hedging, Speculation and Risk Management

It is not infrequently assumed that, in terms of social welfare, hedging is good and speculation is bad. Lynn Stout, for example, writes that “insurance [i.e. hedging] can leave both the insurance buyer and the insurance seller better off. In contrast, betting for speculation is not a mutually beneficial exchange [because] betting reduces risk-averse speculators’ welfare”. In another article, she argues that this view is reflected in both the public square and the legal norms: “The public disapproves of speculators. So, traditionally, does the law.”

This view is not entirely accurate, however, because it essentially assumes that hedging means reducing risks and speculation means accumulating risks. The reality is more complicated and the efficiency consequences are more varied. From a social point of view, the transfer of a risk from one party to another cannot make that individual risk disappear, so that every hedging transaction implies a corresponding speculative transaction by someone else. However, the risk-transfer increases the efficiency of risk allocation (in the sense of reducing the negative welfare effects of risk) if one of the following conditions holds: (a) the risk-acquirer is less risk-averse due to a better ability or willingness to bear the risk, or (b) it is able to pool or diversify the risk with other risks, so as to reduce the aggregate risk.

For credit default swaps, this has a range of implications. If we seek only to highlight some key points at this stage, one is that both of these conditions are normally present when risks are transferred to insurance companies. However, even a seemingly speculative transaction by a non-insurer may be efficiency-enhancing in terms of risk allocation, because some risks are not merely independent, but in fact are negatively correlated with each other. The ideal example is that of the speculator in forward markets who is able to match each buy with a corresponding sell, so that there is practically no residual risk. This

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7 See Gravelle and Rees 2004: chapter 19.
8 See for example Stout 2011: 8.
9 Stout 1999: 703.
10 For a detailed discussion of these issues, see for example Lynch 2011.
11 See for example Gravell and Rees 2004: 507–530 (discussing insurance, risk spreading and risk pooling).
seems to be quite common in highly liquid forward and futures markets, as is demonstrated by the fact that the risk premiums of the intermediaries are minimal, covering basically just the administrative costs.\textsuperscript{12}

In theoretical terms, this kind of perfectly closed position of a speculator represents the special case of risk diversification, one in which the different risks cancel each other out completely. It must be understood, however, that this kind of perfect matching is highly unlikely in CDS markets, because the discontinuous nature of credit defaults is such that there is usually no perfectly offsetting transaction available: “default is a one-off, often unanticipated event, for which there is no correlated, offsetting position with which to hedge”.\textsuperscript{13} Nevertheless, the benefits of portfolio diversification imply that the seemingly speculative use of CDSs may be risk-reducing if CDSs are combined with other risks that correlate negatively with those speculative risks.

A second important point to consider is that being less risk-averse is not always a good thing from a social point of view, because it may be due to perverse incentives. Market participants may be risk-loving because they anticipate that if everything goes wrong, the society will come to rescue and bear some share of the costs. This is a form of negative externality, which will be discussed shortly in more detail, can have the effect of encouraging speculative transactions that are not socially welfare-enhancing.

It is to be noted, finally, that while every hedging transaction implies a corresponding speculative transaction, the converse is not necessarily the case. Gambling is a purely speculative activity, which represents the artificial creation of a new kind of risk, as opposed to the transfer of a pre-existing risk. This may also happen with derivatives such as CDSs, because trade in derivatives is not tied to the ownership of the underlying asset or risk. Therefore, a CDS transaction is not necessarily a form of risk-transfer at all, but it can also be pure risk creation, when neither party was originally in possession of the underlying risk.

5.1.1.4 Limits of Markets

Financial markets play a fundamental role in facilitating the management and reduction of risk and uncertainty, not only by providing opportunities for transferring risks between market participants, but also by supplying information that transforms uncertainties into identifiable risks, and by increasing trading liquidity that reduces uncertainty concerning the sale and purchase of financial instruments. Indeed, in a world of perfect markets, the wide range of services provided by financial markets, including insurance, derivatives and other methods of risk management, is always socially beneficial. Assuming perfect

\textsuperscript{12} See Begg, Fischer and Dornbusch 2005: chapter 13.

\textsuperscript{13} Steinherr 2000: 166.
informational symmetries, unlimited brainpower and no transaction costs, market-based solutions will yield an optimal allocation of risks.\footnote{This follows from the so-called First Theorem of Welfare Economics, which states that if there are markets for all goods (and, by implication, all kinds of risks) and all markets are competitive, then the equilibrium of the economy is Pareto efficient. See for example Gravelle and Rees 2004: chapter 13.}

But of course we do not live in such a world. Informational asymmetries abound, no human being is capable of making perfect choices with the information available, and transaction costs are pervasive. These real-world constraints of risk management have numerous practical consequences. Many risks are not efficiently transferable due to transaction costs, and even when risk transfer is possible, it may give rise to indirect costs due to informational asymmetries and principal-agent problems.\footnote{For an extensive treatment of these issues, see Bolton and Dewatripont 2005.}

This implies, among other things, that the optimal allocation of risks is not necessarily one that reduces risks to a minimum, because each risk-reallocating transaction gives rise to costs.\footnote{This is analogous to the idea in Law and Economics that the \textit{optimal level of crime} is not necessarily zero: for purposes of legal policy, the supply of criminal activity is determined exogenously, so that legal policy can only decide measures to combat it, and given that crime-prevention activity is costly, there is a limit to how much of it is worthwhile.}

As is widely acknowledged in insurance economics, the pervasive problems of hidden action and hidden information impose limits to economically feasible insurance. Due to hidden action problems, it is not socially optimal to provide insurance for all possible risks, because many risks can be better controlled and avoided by the insured than the insurer, and insurance tends to reduce incentives to reduce primary risks, giving rise to \textit{moral hazard} problems.\footnote{See, for example, Seog 2010: chapters 9–10, and Shavell 2004: chapter 11.} Similarly, due to hidden information, insurance tends to create \textit{adverse selection}, rendering insurance unfeasible for some market participants and creating additional costs.\footnote{See for example Seog 2010: chapters 7–8.}

Another limit of markets is that the risk-management failures that happen in financial markets tend to have wider economic and social ramifications. When there is excessive build-up of financial risk for one reason or another, in theory it could be rewound without influencing the real economy, but in practice, this tends to be more difficult. Uncertainties and transaction costs lead into lengthy bankruptcy procedures, shutdowns and forced liquidations, which destroy real economic resources. Most importantly, the search for new employment is time-consuming and uncertain, giving rise to a significant loss of productive capacity and often tremendous human suffering.
5.1.2 Corporate Governance and Its Breakdown

One of the principal challenges in modern financial markets is the often staggering distance between those who make the actual decisions and those who are influenced by those decisions. This is essentially the common principal-agent problem writ large. The challenge of corporate governance in today’s financial markets is arguably one of the key issues for understanding both the present state of finance and the challenges of regulating credit default swaps.

Corporate governance in the broadest terms refers to the “the reconciliation of conflicts of interest between various corporate claimholders and the resolution of collection action problems among dispersed investors.” It follows from the principal-agent problems of hidden action and hidden information, which are widely accepted in business and company law scholarship. It is important to understand why the problem is especially serious in today’s financial markets, particularly in large financial institutions, as this problem has a major impact on the practical implications of credit default swaps.

5.1.2.1 The Opaqueness of Financial Firms

There are several reasons why corporate governance is especially difficult in the world of financial firms. One of them is that banks and other financial institutions are highly opaque, which results in greater informational asymmetries than in most industries. Ross Levine explains this as follows:

When outcomes are difficult to measure and easy to influence in the short-run, managers will find it easier to manipulate pay-offs from “compensation” packages. Bankers who are interested in boosting their compensation in the short run can give a high interest loan to a borrower in trouble, thereby boosting interest income. And by controlling significant pools of resources, bankers can move asset prices that trigger payments to themselves under incentive contracts.

One reason for the substantial informational asymmetries is that financial assets are intangible in nature and that financial market outcomes are subject to a pervasive inference problem. In other words, the measurement and valuation of financial assets is subject to significant uncertainty, and the short-term volatility of market prices makes it difficult to ascertain whether success and failure were due to endogenous or exogenous causes (i.e. skill or sheer luck). This makes it difficult to correctly judge the competence and integrity of managers based on their past performance.

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20 The academic literature goes back at least to the notion of separation of ownership and control, identified by Berle and Means 1932.
22 See Taleb 2001 for an extensive discussion of this problem and its consequences.
5.1.2.2 The Impact of Financial Innovation

The second reason exacerbates the first one: financial innovations, especially financial derivatives, have made it increasingly difficult for outsiders (including shareholders and debtors) to know what is really happening inside financial institutions. Traditional financial reporting was designed for an entirely different context, and financial derivatives cannot be fully measured and reported using the traditional concepts of cash flows and assets. It is also widely noted that the financial models that are commonly used for valuing derivative positions are too simplistic, failing to incorporate systemic risks and so-called tail risks, which can be substantial.23

Apart from opaqueness, derivatives have magnified the problems resulting from weak corporate governance. They provide previously inexistent opportunities for leverage, enabling individual employees to engage in significant risk-taking, which is often hidden even from senior management (and, sometimes, incomprehensible to them). All of this provoked the famous investor Warren Buffett to write in his famous 2008 letter to shareholders:

"Derivatives are dangerous. They have dramatically increased the leverage and risks in our financial system. They have made it almost impossible for investors to understand and analyze our largest commercial banks and investment banks. They allowed Fannie Mae and Freddie Mac to engage in massive misstatements of earnings for years. So indecipherable were Freddie and Fannie that their federal regulator, OFHEO, whose more than 100 employees had no job except the oversight of these two institutions, totally missed their cooking of the books."24

Naturally, there are also useful financial innovations, and the question that must be studied carefully is to what extent these problems are actualized in concrete cases. Nevertheless, these are serious problems that deeply challenge the social efficacy of corporate governance and that cannot be ignored.

5.1.2.3 Unintended Consequences of Regulation

Thirdly, greater government regulation of financial institutions (for example, the prudential regulation of banks) seems to exacerbate the failure of corporate governance.25 Certainly, that regulation may be justified for other reasons, but it has the negative effect of reducing incentives to monitor (especially for depositors due to deposit insurance), and it creates a false sense of safety that induces investors to rely on public oversight, which is often quite superficial and less effective than it appears to the public.26

26 See for example Levine 2004: 10–11.
5.1.2.4 Risk-Loving Behaviour

The weakened corporate governance of financial firms increases the danger of risk-loving behaviour by individual employees, who have a limited downside risk and a significant upside risk, especially when a generous bonus scheme is in place. Raghuram Rajan points out that the way bankers are compensated—combined with the fact that their performance is usually evaluated relative to their peers—induces “a variety of perverse behavior”:

One is the incentive to take risk that is concealed from investors—since risk and return are related, the manager then looks as if he outperforms peers given the risk he takes. Typically, the kind of risks that can be concealed most easily, given the requirement of periodic reporting, are risks that generate severe adverse consequences with small probability but, in return, off generous compensation the rest of the time. These risks are known as tail risks.\footnote{Rajan 2005: 316; see also ibid. 334–339.}

Rajan’s point about tail risks is of fundamental importance for understanding the nature and corporate governance implications of CDSs and other credit derivatives. Investment strategies involving credit derivatives and other products with large tail risks

have the appearance of producing very high alphas (high returns for low risk), so managers have an incentive to load up on them. Every once in a while, however, they will blow up. Since true performance can be estimated only over a long period, far exceeding the horizon set by the average manager’s incentives, managers will take these risks if they can.\footnote{Rajan 2005: 337 (emphasis added).}

To understand the seriousness of the problem, it is helpful to bear in mind the fact that, although corporate governance scholarship normally focuses on the conflicts of interest between owners and top management, in large financial institutions there are numerous levels of principal-agent problems. These go all the way from top executive level through middle-level managers to traders and other ordinary employees.

5.1.2.5 Imperfect Risk Models

It is also important to understand that despite the mathematical and statistical sophistication of modern risk management, mainstream risk-modelling methods are highly imperfect and subject to important caveats that can become critical in times of crisis, so that risk management transactions like credit default swaps may fail to behave in the expected manner precisely when they are needed. There is a famous earlier case, the colossal failure of the giant hedge fund Long-Term
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Capital Management, which reveals how historical correlations may change dramatically when the underlying market conditions change. 29

The LTCM risk is not a mere isolated historical curiosity. According to Raguram Rajan, there is a dangerous parallel between LTCM risk arbitrage failure and the later use of credit derivatives:

If firms today implicitly are selling various kinds of default insurance to goose up returns, what happens if catastrophe strikes? [...] The lessons of summer 1998 following the default on Russian government debt is that correlations that are zero or negative in normal times can turn overnight to one [...]. A hedged position can become unhedged at the worst times, inflicting substantial losses on those who mistakenly believe they are protected. 30

That, in fact, is precisely what happened to numerous counterparties of AIG during the 2008–09 crisis. 31 More generally, one hopes that the difficulties of corporate governance in large financial institutions would attract wider scholarly attention. 32 Unfortunately, the general genre of risk management literature takes good governance for granted, simply going through abstract theories, structures and measures that take no account of the practical challenges related to their implementation, supervision, and functioning in moments of crisis. This is to the detriment of developing risk management methods and procedures that are genuinely workable in the real world—both in normal times and in times of crisis. For it is during crises that the value of risk management techniques is tested.

5.1.2.6 Failure of Corporate Governance, or Externalization of Risk?

Financial crises in recent years and decades have brought to light numerous cases of corporate governance failure in large financial institutions. Not surprisingly, in most of the cases, financial derivatives played a key role. Famous examples include scandals involving such institutions and individuals as Bankers Trust (Andy Krieger), Orange County (Robert Citron), Piper Jaffray (Worth Bruntjen), David Askin, Kidder Peabody (Joseph Jett), Barings Bank (Nick Leeson), Long-Term Capital Management, Enron and World.com (which were heavily involved

29 See Lowenstein 2000.
31 See further below, chapter 5.2.3.2.
32 Much of the evidence for the failure of corporate governance in modern finance is anecdotal in nature. That does not mean, of course, that anecdotal evidence is without importance. Indeed, in the world of finance one might suppose that investors, ex-bankers and other practitioners are often better equipped than ivory-tower academics for understanding the nature of the game. Excellent general-audience books include Bogle 2008, Bookstaber 2007, Das 2006, Dowd and Hutchinson 2010, Lewis 2011, Partnoy 2003 and Stein herr 2000.
33 I am grateful to Kevin Dowd for pointing this out. See generally Dowd and Hutchinson 2010 and Hubbard 2009.
in financial derivatives), and a vast array of more recent cases such as AIG, Bear Stearns, Lehman Brothers, Merrill Lynch, Northern Rock, HBOS etc.\textsuperscript{34}

In some cases, the blame has been directed to an individual “rogue trader”, but it seems likely that they only account for a small part of the problem. According to one group of experts, “the most difficult and intractable institutional problem […] is the fact that risk managers report to senior management and, in most modern financial institutions, senior managers have an interest in risks being underestimated.”\textsuperscript{35} In other words, top management is often complicit in the dubious risk-taking, and may active encourage it.

There is now an on-going debate on the extent to which excessive risk-taking by financial institutions has been driven by short-term gain seeking by corporate executives, traders and other decision makers.\textsuperscript{36} The standard view, represented by authors such as Lucian Bebchuk, highlights the intra-institutional moral hazard problem.\textsuperscript{37} This is supported by empirical evidence that executives in firms like Bear Stearns and Lehman Brothers made significant personal profits even when shareholders lost everything.\textsuperscript{38}

However, a simplistic interpretation of these facts—picturing shareholders as victim—has been challenged by a competing view, led by Rene Stulz, arguing that shareholders actively encouraged excessive leverage and risk-taking by financial institution executives, presumably because they also stood to benefit from it.\textsuperscript{39} This would be explained by the fact that, even if risk-taking benefits executives disproportionately, it also benefits shareholders disproportionately relative to the broader public if an important part of the social cost of risk-taking is externalized. Thus, what we have is (at least) a two-level moral hazard problem due to risk-taking externalities, and on both levels disproportionate risk-taking is encouraged.

This view is supported by Andy Haldane, Bank of England’s Director for Financial Stability, who in the wake of the global financial crisis told the following story, which is worth quoting at length:

A few years ago, ahead of the present crisis, the Bank of England and the FSA commenced a series of seminars with financial firms, exploring their stress-testing practices. The first meeting of that group sticks in my mind. We had asked firms to tell us the sorts of stress which they routinely used for their stress-tests. A quick survey suggested these were very

\textsuperscript{34} Partnoy 2003 is an entertaining yet well-documented account of these and many other cases, going back to the early 1980s and finishing with a warning concerning the growing credit derivatives market; see also Steinherr 2000: chapter 3. Lewis 2011 is a celebrated insider story of the subprime mortgage fiasco and the role played by credit derivatives in almost destroying the banking sector.

\textsuperscript{35} Dowd et al. 2011: 18.

\textsuperscript{36} See Coffee 2011: 809–813 (summarizing research).

\textsuperscript{37} Bebchuk and Spamann 2010: 249–50.

\textsuperscript{38} Bebchuk, Cohen and Spamann 2010: 261.

\textsuperscript{39} Beltratti and Stulz 2009; Fahlenbrach and Stulz 2009.
modest stresses. We asked why. Perhaps disaster myopia—disappointing, but perhaps unsurprising? Or network externalities—we understood how difficult these were to capture?

No. There was a much simpler explanation according to one of those present. There was absolutely no incentive for individuals or teams to run severe stress tests and show these to management. First, because if there were such a severe shock, they would very likely lose their bonus and possibly their jobs. Second, because in that event the authorities would have to step-in anyway to save a bank and others suffering a similar plight.

All of the other assembled bankers began subjecting their shoes to intense scrutiny. The unspoken words had been spoken. The officials in the room were aghast.  

There are probably numerous cases of corporate governance breakdown that will never become public. Many cases are known, however, including the following story reported by Kevin Dowd and others, which reveals the failure of both internal and external risk management:

The weakness of [the regulatory] system was highlighted by the FSA’s handling of the big bank, HBOS. In the years before the crisis, its head of regulatory risk, Paul Moore, had warned his bosses—including then-CEO James Crosby—that the bank was heading for problems. The bank, he said, was “going too fast, had a cultural indisposition to challenge, and was a serious risk to economic stability and consumer protection.” He subsequently likened his experience to being “like a man in a rowing boat trying to slow down an oil tanker.” His superiors dismissed his concerns, although they turned out to be amply justified. He also raised his concerns with the FSA, but they apparently wanted an easy life and did nothing. HBOS senior management eventually decided that Mr. Moore “didn’t fit in”—he clearly didn’t—and fired him; for his part, Crosby was subsequently rewarded with a knighthood for his services to the finance industry and became a key financial adviser to the government.  

These anecdotes may seem incredible in retrospect, and one might be tempted to suppose that they are merely rare exceptions rather than the rule. However, the famous Nyberg Inquiry into the causes of the systemic banking crisis in Ireland suggests the opposite: it seems to be that weak governance is the rule, while good governance is very much the exception. Peter Nyberg is scathing in his criticism of both the banking sector and the regulatory authorities, highlighting numerous examples of bad governance, herding behaviour, groupthink, uncontrolled risk-growth and failure to properly implement effective risk management procedures. Summing up the reckless behaviour of management in several Irish banks, Nyberg writes: “It appears now, with

40 Haldane 2009a: 12.  
42 See Nyberg Inquiry 2011.  
43 See ibid., especially 26–29 (“2.5 Governance and Procedures”) and 44–47 (“2.9 Risk Management”).
hindsight, to be almost unbelievable that intelligent professionals in the banking sector appear not to have been aware of the size of the risks they were taking.”

5.1.2.7 **Externalities and the Too-Big-to-Fail Problem**
The tragedy is that there seems to be no sign of significant learning from past failures. The first famous financial derivative debacles took place in the early 1980s, but the number of derivatives scandals has only been increasing, especially in the run-up to the most recent crisis. Some institutions did react to the early cases by adopting some forms of risk management, but the evidence suggests that the overall problem has been growing, not diminishing, over time. This suggests that the breakdown of effective corporate governance is not due to the absence of risk management, but to the lack of genuinely effective risk management and supervision.

Further, it is not only about corporate governance. There is also the problem that the size and systemic connectivity of many banks has made them “too big to fail.” This is an issue of negative externalities and credible commitments, and the behaviour of governments around the world in recent years has proved that it is much more than a theoretical hypothesis. This goes far beyond corporate governance, as Marco Becht points out: “Corporate governance was never designed to internalize contributions to systemic risk.”

On the other hand, the externality problem of modern financial markets exacerbates the failure of corporate governance, creating a vicious circle. Given the expectation—confirmed by recent experience—that public authorities will provide generous support to financial institutions that are systemically important, moral hazard problems are increased and top management may even feel pressured to take on more risks so as not to be run over by competitors. Thus investors, particularly shareholders, may not have incentives to restrain managers who focus on generating short-term returns at the expense of long-term risks.

The serious problems of systemic externalities in banking—at least given its general operating framework today—have led some commentators to conclude that banking is a special kind of business in which fierce competition is not always socially optimal, because competition seems to cause lower standards of screening and monitoring, and a large part of the cost of failure is borne by taxpayers. In the oft-repeated words, “Banking should be boring.”

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44 Ibid. 49.
45 Becht 2009: 166.
47 For technical models on bank competition and credit standards, see for example Kannaiinen and Stenbacka 1998, and Ruckes 2004.
5.1.3 The Dilemma of Financial Innovation

These challenges of financial regulation and risk management at financial firms led to the famous question of Raghuram Rajan (then Professor of finance at Chicago University): “Has Financial Development Made the World Riskier?” Rajan pointed out in his famous article that many factors in recent decades have increased financial risk taking, which in his view was likely to translate into real economic risks: “excessive risk tolerance leads to an excessive willingness to finance real investment, with the potential for overcapacity and a waste of real resources to society.”

Since then, and especially after the global financial crisis, Rajan has not been alone among prestigious economists taking a critical view of financial innovation. In another famous paper, Simon Johnson and James Kwak asked whether financial innovation is good for the economy, finding that there is little convincing evidence that recent financial innovation has contributed to real economic growth, particularly as much of it has merely facilitate excessive leverage and opaque risk transfers by financial institutions.

Others have taken an even more critical stance, among the ex-chairman of the US Federal Reserve, Paul Volcker:

We hear about these wonderful innovations in the financial markets, and they sure as hell need a lot of innovation. I can tell you of two—credit-default swaps and collateralized debt obligations—which took us right to the brink of disaster. Were they wonderful innovations that we want to create more of? [...] I mean: Wake up, gentlemen. I can only say that your response is inadequate. I wish that somebody would give me some shred of neutral evidence about the relationship between financial innovation recently and the growth of the economy, just one shred of information.

In itself, this statement is perhaps not surprising; what makes it significant is its source. The same is true of a similar critique expressed by Satyajit Das, a leading derivatives expert since the 1970s and a long-time advocate of credit derivatives, at least until recently:

The unpalatable reality that very few, self interested industry participants are prepared to admit is that much of what passed for financial innovation was specifically designed to conceal risk, obfuscate investors and reduce transparency. The process was entirely deliberate. Efficiency and transparency are not consistent with the high profit margins

49 Rajan 2005.
50 Ibid. 342.
51 Johnson and Kwak 2012. See similarly Hill and Painter 2010: 1198, arguing that “in the financial services area, perhaps we have had enough innovation for the time being. We do not need more new products that investors do not understand, particularly when so many investors are institutions run by bankers who respond not by shunning unfamiliar products but instead by succumbing to a herd mentality of doing whatever other investors do.”
52 Volcker 2009.
53 See Das 2005, which was a leading practitioner’s manual from a financial point of view.
that are much sought after on Wall Street. Financial products need to be opaque and priced inefficiently to produce excessive profits or economic rents.\textsuperscript{54}

Naturally, there are also those who defend financial innovation. A balanced view in this direction can be found, for example, in Robert Litan, who has sought to demonstrate that “there has been more socially useful financial innovation over the past several decades” than socially harmful innovation, even if there have also been abuses.\textsuperscript{55} The jury is still out on the issue (probably there is no unequivocal answer), but there certainly has been a change in the general climate of opinion, particularly in comparison with earlier times when prestigious economists touted the benefits of financial innovation on the grounds that it enabled financial firms to avoid burdensome regulations.\textsuperscript{56}

For present purposes, it is however essential to distinguish between thoughtful criticism of financial innovation and the proposition of regulatory solutions. There are a range of obstacles to purposeful and effective regulation, including the dynamics of democratic decision-making, as highlighted by public choice theory,\textsuperscript{57} and the bounded rationality of lawmakers and regulators.\textsuperscript{58} It is therefore essential not to jump directly from criticism to regulation without a careful consideration of the advantages and disadvantages of alternative solutions. These questions will be discussed carefully later, before which it is however necessary to take a closer look at the regulatory issues surrounding credit default swaps.

5.2 SPECIFIC POLICY ISSUES RAISED BY CREDIT DEFAULT SWAPS

5.2.1 The Peculiarities of Credit Default Swaps

It has been repeatedly emphasized that although CDSs are often classified as over-the-counter derivatives, they are essentially different. CDSs therefore may raise regulatory concerns related to other OTC derivatives, but they also raise different concerns, precisely because economically they are credit default insurance.

\textsuperscript{54} Das 2009.
\textsuperscript{55} Litan 2010: 47.
\textsuperscript{56} See the famous article by Miller 1986.
\textsuperscript{57} See the seminal work by Olson 1971.
\textsuperscript{58} Juurikkala 2012b: 79–83.
5.2.1.1 The Dynamics of Credit Risk

What credit default swaps transfer is credit risk, i.e. “the risk that a creditor will not be repaid in whole, in part, or on time.”59 Understanding the peculiarities of credit risk is essential for understanding CDSs, because what makes them complicated in practice is not the structure of CDSs (which is quite simple), but the fact that credit risk is complicated.

One peculiarity of credit risk is that it subject to somewhat unusual properties at the level of individual contracts. This has been clearly explained by Shadab (who, nevertheless, firmly defends a relatively free market for CDSs), who emphasizes the difference between credit risk and other types of financial risk:

Credit risk has unique properties that differentiate it from market risk and other types of financial risk. First, the typical credit risk payoff distribution is asymmetric and often reflects a binary “default” or “no default” outcome, which leads to losses from credit risk having the potential to be large relative to other risks. In addition, changes in credit risk and the correlation between different credit risks are generally difficult to measure, observe, and hence predict.60

As a consequence, credit risk transfers imply generally larger and more unexpected risks than other forms of financial risk. This inherent characteristic is exacerbated by contractual uncertainties and insufficient data:

Credit losses depend upon relatively infrequent data about defaults, the value of collateral, contractual support mechanisms such as third party guarantees, and uncertainties relating to legal enforcement of creditors’ rights. Credit risk relationships are also often intended to last several years, which results in credit instruments being relatively illiquid and requires credit risk models to attempt to predict cash flows over a long period of time.61

In addition to these challenges at the level of individual contracts, credit risk has other problematic characteristics at the macroeconomic or systemic level. It is observed, for example, that during a stable macroeconomic environment, financial markets tend to underestimate credit risks, particularly in relation to dynamic risks such as the knock-on effects of liquidity erosion.62 In large part, these estimation errors are rooted in insufficient long-term data, and in the difficulty of modelling macroeconomic dynamics.

The systemic or macroeconomic dynamics are further amplified in credit default swaps, which tend to be systematically correlated with each other, because they “pay off rarely, but when they pay off, they pay off in a highly correlated fashion, since they are tied to the same or similar indexes.”63

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59 Shadab 2012: 1020.
60 Ibid. 1020–1021.
61 Ibid. 1021.
63 Acharya et al. 2010: 276.
of policy, this is a major concern, because it means that CDS protection sellers are relatively likely to fail when a macroeconomic crisis hits: not only are CDS compensations large, but protection sellers will be subject to correlated payment calls, and their internal risk models will—at least according to our present knowledge—tend to underestimate these systemic risks.

5.2.1.2 The Social Costs of Default
Credit risk is also special in that it is inherently linked to costly economic and social processes. For example, consumer mortgage defaults (which were the basis of many problematic index CDSs) do not merely imply losses to lenders; they also mean that people lose their homes, often with devastating consequences for individuals and families. Similarly, company bankruptcies and restructurings are more than investment losses: large numbers of people lose their jobs, causing social insecurity, rising social assistance expenses, and falling tax revenues. Bankruptcies also lead to the liquidation of relationship-specific investments, causing deadweight economic losses. Sovereign (i.e. government) default is especially problematic socially, often leading to disruptions in public finances and dramatic cuts to social services such as including health and education.

Credit risk is furthermore inherently connected to the banking system, which is inherently fragile and crisis-prone. To be sure, commodity and stock market crashes hurt investors and should be avoided, too, but they do not compare with the public and social costs of banking crises, which, according to one estimate, cause an average 86% increase in government debt in the following three years.

For these reasons, regulation should use all means available to reduce the probability of banking crises, just as it should be wary of activities that may increase credit defaults. Both concerns are discussed next in detail.

5.2.2 Credit Default Swaps and Financial Stability

5.2.2.1 Synthetic Securitization
It is widely believed that CDSs contribute to systemic risk in financial markets, which “is in truth but one form of the classic externality problem.” In the


65 See Reinhart and Rogoff 2009: 142. In contrast, Stulz 2004: 186 argues that usually “the deadweight costs of derivatives losses are small or nonexistent.”

66 Coffee 2011: 809. See also McIlroy 2010: 304–305 (arguing that CDSs impose external costs); Johnson 2011: 177–190 (noting the the externalities of financial risk, and comparing
simplest terms, it is argued that CDSs fail to internalize their contribution to systemic risk.\textsuperscript{67} Systemic risk concerns are especially important for CDSs, because they are inherently connected to fundamental credit markets where shocks will be easily transmitted to the wider economy.\textsuperscript{68}

A leading motivation is that CDSs enable banks to lay off risk from their balance sheet, thereby freeing up regulatory capital.\textsuperscript{69} This activity, called \textit{synthetic securitization}, may in theory be socially beneficial: for one thing, it facilitates access to capital, like mortgage securitizations, which have increased home mortgage lending.\textsuperscript{70} For example, pre-crisis research has found that banks, which adopted advanced credit risk management techniques, experienced around 50\% permanent increase in their target loan levels.\textsuperscript{71}

For another thing, it has been claimed by ISDA that “CDS strengthen the financial system”.\textsuperscript{72} This is because they enable markets to disperse default risk more widely, thereby softening the costs of default, as Alan Greenspan argued already in 2002:

\begin{quote}
[These episodes] suggest a marked increase over the two or three decades in the ability of modern economies to absorb unanticipated shocks […]. [T]his has doubtless been materially assisted by the recent financial innovations that have afforded lenders the opportunity to become considerably more diversified and borrowers to become far less dependent on specific institutions or markets for funds.\textsuperscript{73}
\end{quote}

In reality, these benefits are subject to significant caveats, including the presence of less-rigorously regulated entities, the limits of diversification, and the existence of liquidity shocks. These caveats will be discussed next.

\subsection{5.2.2.2 Shifting Risks to Less Regulated Entities}

One problem with CDS risk transfers is that they normally imply that risks are being shifted from tightly regulated entities such as banks to lightly regulated CDS markets with traditional “commons” situations, which give rise to a tragedy of commons).\textsuperscript{67} See Johnson 2011: 212–216.

\textsuperscript{68} On this, see also King and Maier 2009: 289 (noting that some markets are systemically more important than others due to their interconnections).

\textsuperscript{69} Shadab 2010: 411; ECB 2004: 17 (describing motivations for banks to engage in credit risk transfer activities).

\textsuperscript{70} Partnoy and Skeel 2007: 1024–1025.

\textsuperscript{71} Goderis et al. 2007.

\textsuperscript{72} ISDA 2014c.

\textsuperscript{73} Greenspan 2002.
entities such as insurers and hedge funds. Hedge funds in particular have been identified as a problematic participant in CDSs. There is no reason to judge hedge funds *en masse*, but they do raise a number of regulatory concerns, because they are essentially less-regulated or unregulated financial entities that are subject to limited disclosure requirements and may engage in more aggressive trading strategies. Unsurprisingly, “the rate of hedge fund failure is considerably higher” than that of other financial actors, and their size and leverage raise systemic concerns.

Insurers selling CDS protection may appear less alarming, but in practice they often seem to act in conjunction with hedge funds: according Shadab, what has normally happened is that CDSs were “written on mortgage-related securities by [the] unregulated affiliates” of monoline insurance companies, which in turn wrote financial guaranty insurance on the CDSs. In fact, the disastrous CDS business of the insurance giant AIG was conducted by “a financial products division which was very lightly regulated” and was “a hedge fund basically that was attached to a large and stable insurance company”. One should therefore not be too naive about insurer participation in CDSs. Moreover, it is unclear whether traditional insurance regulation adequately addresses concerns related to credit risk.

Shifting risks from tightly regulated to less regulated entities is a form of regulatory arbitrage, and it may be the principal reason why precisely CDSs have become so popular in recent years, far beyond traditional credit insurance or financial guaranties. This creates externality costs, because financial entities (and their employees) have a limited downside risk in the event that things goes bad. In consequence, “a protection seller has an incentive to sell too much protection”.

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74 Whitehead 2010: 4–5, for example, points out that “banks relied on new instruments—like credit default swaps—to outsource risk management to less-regulated entities, including hedge funds”.

75 See Ayadi and Behr 2009: 192 (raising concerns about hedge funds in credit risk transfer markets); Wynkoop 2008: 3104–3109 (describing the systemic risk concerns arising out of hedge fund participation in the CDS market).


77 Ibid. 285.

78 Ibid. 285–289 (critically discussing regulatory concerns related to hedge funds); Davies and Green 2008: 227–239 (discussing problems associated with hedge funds, including systemic risk, leverage, and market abuse).

79 Shadab 2011a.

80 Acharya et al. 2010: 280 (citing congressional testimony of Ben Bernanke).

81 See further below, chapter 6.4.2.3.

82 Shadab 2012: 1037.
This is not socially helpful. Already in 2002 Howard Davies, then-director of the UK Financial Services Authority, argued that with credit derivatives, “we may be creating, not reducing market instability.” Whether the issues can be reduced by better hedge fund regulation raises questions that exceed the scope of this study, but it is clear that merely shifting risks to less regulated entities is likely to create social costs. According to Viral Acharya and Matthew Richardson, the use of CDS for regulatory capital relief was also an important contributor to the increasing leverage of regulated financial institutions before the crisis.

5.2.2.3 Risk Diversification: More Robust—or Less?

The picture gets more complicated when there is the possibility of risk diversification, which CDSs presumably facilitate. According to standard insurance theory, better diversification reduces overall risks. Pre-crisis research seemed to confirm this view, suggesting “that risk diversification had been pushed so far as to reduce systemic risk to a negligible level.” It has also been argued that transferring credit risk from banks to the non-banking sector may increase financial stability, because banks are relatively fragile institutions.

Subsequent events revealed that something fundamental had been ignored. There are several interacting factors, one of which is that credit risk transfers may

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84 See King and Maier 2009: 292–296 (critically discussing hedge fund regulatory options); Wynkoop 2008: 3114–3118 (discussing pros and cons of regulating hedge funds).
85 See Acharya and Richardson 2012: 8–9, who describe the AIG fiasco in following terms: “On page 122 of AIG’s 2007 annual report, well before they were brought down, AIG describes the AIGFP’s now infamous $527 billion of credit default swap (CDS) positions. AIGFP’s CDSs were written on AAA-rated securities and thus could only ever fail if extreme aggregate risk was realized. Why did AIGFP write such contracts? As stated in the document, ‘approximately $379 billion of the $527 billion in notional exposure of AIGFP’s super senior CDS portfolio as of December 31, 2007 represents derivatives written for financial institutions, principally in Europe, for the purpose of providing them with regulatory capital relief rather than risk mitigation’ (AIG 2008). If financial institutions held AAA-rated securities and bought protection on those securities from a AA- or AAA-rated insurance company, then these institutions could hold zero capital. Such rules possibly explain the huge leverage positions of UBS; ABN Amro; and investment banks, such as Merrill Lynch, among others (UBS 2008). This example shows clearly that a purely capital-based regulation, when required capital is not appropriately tied to systemic risk of financial risk-taking, can have adverse unintended consequences. Additionally, it can endogenously make certain asset classes preferred for the financial sector precisely because they do not have a high capital requirement but offer substantial carry in normal times.”
87 Ibid. 139.
88 Wagner and Marsh 2006 (arguing this with a formal model).
89 Battiston et al. 2012: 139.
reduce each institution’s individual probability of failure, but make systemic crises more likely due to interconnectedness. According to John Coffee, “although it is commonly said that major financial institutions are ‘too big to fail,’ it is more accurate to say that they are ‘too correlated to fail.’” This is a fundamental point, that has not received sufficient attention in public policy: it is not size but interconnectedness that is the fundamental problem, so that regulation that merely targets large financial institutions is unlikely to be effective and may even encourage risk-shifting towards smaller but highly interconnected institutions that are more difficult to observe and supervise.

A second problem is that when banks face idiosyncratic liquidity risk, credit risk transfer increases contagion problems between banking and non-banking sectors. This danger was identified already in 2006 by Francis Allen and Elena Carletti: “Although credit risk transfer may not pose a systemic problem at the moment, it may do in the future as it continues to grow in importance. […] Hedge funds have become increasingly important in many markets. They potentially provide a conduit for contagion across many illiquid markets.”

CDS markets also foster instability because of their size: it has been noted that in 2005, the downgrading of General Motors’ credit rating “sent shock waves through the credit derivative market because of the huge volume of General Motors credit derivatives.” This suggests that widespread participation in CDS markets may, paradoxically, be destabilizing in times of tension, because major defaults will affect a larger number of market participants in ways that are difficult to anticipate. Investor Warren Buffett understood this as early as in 2003:

Many people argue that derivatives reduce systemic problems, in that participants who can’t bear certain risks are able to transfer them to stronger hands. […] [O]n a micro level, what they say is often true. […] We] believe, however, that the macro picture is dangerous and getting more so. Large amounts of risk, particularly credit risk, have become concentrated in the hands of relatively few derivatives dealers, who in addition trade extensively with one other. The troubles of one could quickly infect the others. On top of that, these dealers are owed huge amounts by non-dealer counterparties. […] Linkage, when it suddenly surfaces, can trigger serious systemic problems.

ISDA has nevertheless argued that CDSs reduce systemic risk because they “prevent large concentrations of risk that otherwise would occur.” This view seems to erroneously treat risk concentration—that is, size—as the key problem.

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90 See Wagner 2010 (demonstrating this with a formal model); Partnoy and Skeel 2007: 1040 (raising this concern with CDSs).
91 Coffee 2011: 801 n.18.
92 Allen and Carletti 2006 (demonstrating this formally).
94 Partnoy and Skeel 2007: 1034.
96 ISDA 2014c.
whereas it ignores the issue of interconnections: “Instead of redistributing credit risks, CDS have actually contributed to intensifying systemic risk by concentrating exposure on a handful of highly interconnected players that are simultaneously buyers, sellers and underliers.”

Moreover, ISDA’s claim may be empirically mistaken, because it has not in fact reduced large concentrations of risk, as happened not only among dealers, but also among some protection sellers such as AIG.

5.2.2.4 Funding Liquidity Shocks and the Limits of Collateral

One dynamic whereby risk diversification leads to systemic failure is that there may be liquidity shocks due to so-called runs on short-term lenders, causing default cascades in financial networks. To avoid misunderstandings here, it is necessary to distinguish between two different forms of liquidity. One is market (or asset) liquidity, which “refers to the ability to sell or unwind positions quickly without affecting their price”. The other is funding liquidity, meaning “the ability of an investor to raise cash to meet its financial obligations.”

The issue of interest here is not the market liquidity of CDSs, but the funding liquidity of CDS dealers and protection sellers.

The collapse of hedge funds and investment banks is, in fact, typically due to funding liquidity rather than insolvency. Like the problems mentioned in the previous section, funding liquidity is also potentially common to other OTC markets, but in the case of CDSs they are amplified by the unpredictable dynamics of credit risk. Counterparty risk in financial markets is normally controlled through contractual margin or collateral, which is a form of loss reserving, functionally similar to regulatory capital, but based on private agreement.

One concern with CDSs is that collateral practices are incomplete and uneven, and many transactions are made without collateral. But that is not the main concern: the bigger issue how the peculiarities of credit risk affect the dynamics

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97 Duquerroy, Gex and Gauthier 2009: 83. See also McIlroy 2010: 309 (citing evidence on CDS market concentration).
98 See Battiston et al. 2012: 143–148 (demonstrating this with a formal model); Jorion and Zhang 2009 (developing the same perspective).
99 King and Maier 2009: 288.
100 Ibid.
101 Ibid.
102 See Shadab 2012: 1041–1042 (noting this); Chander and Costa 2010: 647–648 (describing the use of margin or collateral in CDSs).
103 Stulz 2010: 81 (noting ISDA survey that “63 percent of derivatives contracts were subject to such [collateral] agreements in 2007, compared to 30 percent in 2003.”).
of CDS collateral.\textsuperscript{104} To understand how this happens, it is convenient to distinguish between initial margin, which is “collected at the onset of the swap,”\textsuperscript{105} and variation margin (or mark-to-market margin), which is determined “to reflect current exposure, or ongoing changes in market value.”\textsuperscript{106}

The problem is that the latter is poorly equipped to deal with credit risk: “because a default is a discrete event, it can lead to large jumps in the value of these contracts. [...] With such jumps to default, collateral will not be enough to protect buyers of protection in the event of a counterparty default”.\textsuperscript{107} According to Hakenes and Schnabel, insufficient collateral and “funding liquidity risk” can lead to a “liquidity spiral”.\textsuperscript{108} All of this implies that bilateral margin arrangements have \textit{systematically procyclical effects}, which are especially unpredictable in the case of credit defaults.

A closely related problem is that, for traders functioning as intermediaries (including centralized counterparties!), it is difficult to neutralize CDS risks:

Unlike interest rate swaps, in which the various risks of a customized transaction can be isolated by traders and offset in liquid underlying money and currency markets, credit default swaps involve “lumpy” credit risks that do not lend themselves to decomposition.\textsuperscript{109}

This moreover implies that large and concentrated dealer positions can cause systemic problems \textit{even if} they are apparently hedged by offsetting CDSs.\textsuperscript{110} As Acharya and others correctly point out, these destructive dynamic are really just peculiar manifestations of \textit{negative risk externalities}:

The main reason for systemic risk in these [OTC derivative] markets is that bilaterally set collateral and margin requirements in OTC trading do not incorporate the counterparty risk externality that concentration of trades with specific counterparties with insufficient liquidity and capital to absorb the potential losses imposes on the rest of the financial system.\textsuperscript{111}

It seems, therefore, necessary to rethink CDS regulation specifically in terms of internalizing these negative externalities.

\textsuperscript{104} See Duquerroy, Gex and Gauthier 2009: 81–82.
\textsuperscript{105} Chander and Costa 2010: 648.
\textsuperscript{106} Ibid. 647.
\textsuperscript{107} Stulz 2010: 82.
\textsuperscript{108} Hakenes and Schnabel 2009: 121–122.
\textsuperscript{109} Mengle 2007: 16.
\textsuperscript{110} Stulz 2010: 82.
\textsuperscript{111} Acharya et al. 2010: 262. See also Morgan 2010: 28–31 (2010) (describing the CDS collateral system and noting its negative externalities).
5.2.3 CDS and the Global Financial Crisis

Due to the aforementioned problems, CDSs have been widely accused for contributing to, and exacerbating, the global financial crisis (GFC) that started in 2007 and caused significant private and public costs.\(^\text{112}\) Not all agree, though; at the other extreme, ISDA for example has claimed that “CDS had nothing to do with the crisis.”\(^\text{113}\) Who is right?

No doubt, the causes of the crisis were complex and it is necessary to avoid simplistic reductionisms. Colin Scott and John Biggins have expressed this complexity thus: “The ultimate roots of the GFC are multifaceted and traceable to a multitude of festering structural and cognitive deficiencies in the international financial system which eventually fused into a catastrophic chain reaction of events.”\(^\text{114}\) This is probably true, and the resulting question is what role was played by credit default swaps in the catastrophic chain reaction of events.

5.2.3.1 Sub-Prime Lending and Collateralized Debt Obligations (CDOs)

It is probably accurate to say that the sudden collapse of the United States mortgage markets, particularly its sub-prime sector, was the key or at least one of the keys that triggered the global crisis. In the words of Scott and Biggins:

> the GFC owes its immediate trigger to accelerating mortgage defaults in the US. This, in turn, led to a collapse of the speculation-dominated market for securitised mortgage products and contingent derivatives. Systemically important institutions such as Bear Stearns, Lehman Brothers and American International Group (AIG) began to realise losses on securities and derivatives portfolios, resulting in a slew of credit ratings downgrades, in turn triggering a crisis of market confidence and freeze in inter-bank lending. This generated a self-reinforcing liquidity crisis which interplayed with a solvency crisis at major institutions, resulting in a full-blown financial crisis.\(^\text{115}\)

There is probably no denying that a major role was played by mortgages and a range of arrangements built around them. This is important, because the relationship between mortgages and CDSs is not absolutely evident. In consequence, “[d]efenders of CDSs maintain that it was sub-prime lending and securitised products that caused the credit crisis.”\(^\text{116}\)

There are at least two problems with this, however. One problem is that, as is widely agreed, CDSs “facilitated the boom in subprime lending that occurred

\(^{112}\) Duffie 2009: 5–6; D’Souza, Ellis and Fairchild 2010: 497–498 (arguing that unregulated CDSs and CDOs contributed to the crisis).

\(^{113}\) ISDA 2012. In a later version of the website (ISDA 2014b): “It’s clear that CDS did not cause the financial crisis.”

\(^{114}\) See Scott and Biggins 2012: 320.

\(^{115}\) Ibid. 321.

\(^{116}\) McIlroy 2010: 304.
after 2000”.117 According to Shadab, they did this in two ways: they “helped to facilitate the growth of mortgage-related securitization by providing banks with protection from the risks involved with securitization. In addition, CDSs enabled the creation of mortgage-related securities by allowing for the creation of synthetic collateralized debt obligations (CDOs).”118 In addition, CDSs played an important role in the end-game phase of the subprime scramble, as they enabled investors to bet against the subprime mortgage market.119

The infamous CDOs no doubt raise additional concerns of their own,120 but they cannot be separated from CDSs, which play an essential role in most CDOs.121 According to McIlroy, “CDSs were often used as part of the enhancement of a collateralised debt obligation (CDO)” and “portfolio CDSs were used to achieve the same economic effect as a CDO in synthetic securitisations.”122

Another problem is that blaming the crisis on sub-prime mortgages only begs the question of how the collapse of a relatively small mortgage market could have such dramatic consequences. This was only possible due to crisis-prone interconnections between high-risk lending and the rest of the financial system. Morgan argues that CDSs were at the heart of the contagion:

Once the value of the sub-prime mortgage-based assets in CDOs began to decline, this triggered a range of changes in the CDS contracts built on and around them. In particular, collateral demands which had been relatively low suddenly rose massively as underlying CDOs began to look more vulnerable to default. Sellers of CDS contracts found themselves unexpectedly having to put up large sums of collateral which they did not have available.123

This concurs with the description of CDS dynamics explained earlier. Therefore, to blame the crisis on sub-prime lending is what detective literature traditionally calls a red herring, something that diverts attention from the real culprit. Sub-prime lending and other economically dubious practices only reflected the perverse incentives created by regulatory arbitrage that enabled market participants to avoid traditional lending regulation. Moreover, the systemic consequences of the mortgage fallout were triggered precisely by the

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118 Shadab 2010: 411. See also ibid. 441–444 (describing the role of CDSs in the growth of mortgage-related securities).
121 See Morgan 2010: 30–31 (describing the connection between CDOs and CDSs); Turner Review 2009: 17 (illustrating the securitized credit model); Dempster, Medova and Roberts 2011: 313 (“The CDOs that caused so much damage to European institutional investors were synthetic and structured around CDSs.”).
122 McIlroy 2010: 304.
destructive dynamics of CDSs, as their collateral agreements could not cope with the large and highly correlated losses that are typical of credit default.

5.2.3.2 The AIG Fiasco

The failure and bailout of the insurance giant American International Group (AIG) in 2008 has been amply documented elsewhere, so here the question is simply what it reveals about CDSs. The events lend themselves to different interpretations. On one hand, New York State Governor David A. Paterson, in a 2008 interview, called CDSs “gambling” and claimed that they were at the heart of the AIG fiasco. In contrast, ISDA maintained after the crisis that “AIG doesn’t prove anything” about CDSs. A total denial is hardly credible, and ISDA has subsequently toned down its rhetoric, stating that “AIG’s Financial Products unit was clearly an outlier in many of its business practices and policies, and its situation reflects failure on many levels. This includes how AIG managed its mortgage risks and exposure, as well as how it managed its collateral and liquidity.” That of course is true, but it avoids the question why it all happened, and assumes that AIG’s mistakes were purely internal, unrelated to the dynamics of CDSs.

ISDA also admits that AIG—along with Bear Stearns, Lehman Brothers and others—took on too much risk, but ISDA denies that this had something to do with CDSs: “Whether they took on the risk by making loans, buying mortgage backed securities, or guaranteeing loans held by others, the risks—and the results—were the same.” But that is clearly untrue: as explained earlier, the reckless growth of mortgage lending was linked to regulatory arbitrage whereby risks where shifted from tightly regulated to lightly regulated entities, so that CDSs contributed to more risk being taken and borne by entities unprepared to manage it.

In reality, the failure of AIG illustrates many of the problems discussed earlier. Importantly, it sold CDS protection not as an insurer, but through “AIG Financial Products (AIGFP), a largely unregulated financial services subsidiary of AIG.” It therefore “was not required to hold capital or reserves against its potential CDS payouts”, and as a matter of fact it posted minimal collateral, because counterparties relied on the parent company AIG that provided guaranties on the

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125 Hakim 2008.
126 ISDA 2012.
127 ISDA 2014b.
128 ISDA 2014b.
129 Shadab 2010: 447.
130 Ibid. 449.
specific policy issues raised by credit default swaps

The resulting arrangement was highly fragile, but this was not visible, because “[i]nsurers are not forced to disclose volume of these subsidiaries’ CDS positions”. It is also worth noting that AIG’s CDS positions were “accounted for as derivatives, not insurance policies”. This made them appear less risky than otherwise would have been the case, given that insurance accounting is generally more conservative as it seeks to discourage excessive growth that can threaten insurers’ solvency.

AIG’s bailout raises further questions. The conventional view is that, given AIG’s size and interconnectedness with the broader world of finance, its failure was seen as threatening financial markets at large. In strict terms, however, the CDS losses of AIGFP did not threaten AIG’s normal insurance business, which was not legally responsible for the losses of the unregulated subsidiary. No doubt, the matter was complicated, and authorities had to act quickly with limited information. Nevertheless, the cynical view, advanced by New York Times in 2008, is that public money was really being used to bail out AIGFP’s CDS counterparties such as Goldman Sachs, which according to the paper stood to lose “as much as $20 billion” from the collapse. Goldman quickly denied this, claiming to have hedged its AIG exposure and calling the report “seriously misleading.” Subsequent evidence, however, belies Goldman’s denial, as “[s]ettlements made to AIG counterparties after its bail-out show how interconnected it was with other major CDS dealers,” with a total payout of $49.5 billion including $11 billion to Société Générale, $8.1 billion to Goldman Sachs, $5.4 billion to Deutsche Bank, and so on. Influential scholars such as Jonathan Macey have adopted this interpretation of the events: “Goldman received even more solace when the US Treasury ensured a further windfall to Goldman when it awarded Goldman 100% of what it was owed on these CDSs despite AIG’s financial collapse.”

If the cynical view of the AIG bailout is correct, the implication is not merely that it was an indirect way of subsidizing the leading investment banks that had made billions as CDS intermediaries; it also means that many problems

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131 Ibid. 450.
133 Acharya et al. 2010: 276.
134 Ibid. 272.
136 See ibid. 977–979; Acharya et al. 2010: 284.
137 Acharya et al. 2010: 283. See also Sjostrom 2009: 979–980.
140 Reuters 2008.
associated with CDSs were effectively concealed by the bailout, because the AIG rescue package effectively rescued the investment banks that otherwise would have suffered huge losses, possibly leading to much more serious problems due to interconnections. In consequence, the problems were attributed to the reckless AIG alone, when in reality, its numerous counterparties—the world’s leading investment banks—had acted equally irresponsibly, and the failure of their CDS positions would have had devastating systemic consequences in the absence of the bailout. Thus, the bailout may have been justified, but it implies that the CDSs were at the heart of the crisis and almost caused a total collapse of global financial markets.

5.2.3.3 Investment Banks, Especially Bear Stearns and Lehman Brothers

Despite the bailouts, some institutions were allowed to fail and the failure of two investment banks in 2008—Bear Stearns and Lehman Brothers—has been partly associated with CDSs. ISDA, however, has argued that Bear Stearns’ failure was due to “a classic liquidity squeeze” and that “CDS did not in any way cause the failure of the firm.” In an earlier statement, it even claimed that “Lehman had no CDS problems.” In fact, ISDA and others assert that Lehman’s orderly failure only proved the resilience of CDS markets. It is certainly true that Bear Stearns failed as a result of a huge liquidity squeeze, but that only begs the question why it suffered such a sudden and unprecedented liquidity squeeze. As we have already seen, this was only the logical consequence of the fact that Bear Stearns was one of the biggest players in CDSs, in addition to being also “a leading prime broker for hedge funds.”

The argument about Lehman Brothers and CDS resilience is more complicated. On one hand, it is correct that Lehman’s failure did not devastate financial markets, although one should not ignore “the severe market disruptions that followed its bankruptcy in mid-September 2008.” CDS markets also momentarily “froze, as Lehman was believed to be counterparty to around $5 trillion of CDS contracts.” The case was, moreover, “the largest bankruptcy in

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143 See Johnson 2011: 170–172 (noting that AIG and Lehman Brothers suffered huge losses due to mortgage-related CDSs); Chander and Costa 2010: 663 (noting that Bear Stearns was one of the leading CDS seller and trader).

144 ISDA 2014b.

145 ISDA 2012.

146 See ISDA 2014b; Stulz 2010: 80–81 (citing the fall of Lehman as evidence that CDSs worked well in the crisis).

147 King and Maier 2009: 289.

148 Ibid.

149 Haldane 2009b: 2. See also Hughes 2008 (providing a detailed discussion of the complex process of Lehman’s winding up).
history.”\textsuperscript{150} If, in the end, Lehman’s net exposure was smaller than expected, the case only demonstrates the degree of artificial uncertainty created by opaque CDS transactions. On the other hand, if Lehman truly was less exposed to CDS risks than expected, it is unclear what its collapse can prove about CDS markets. King and Maier note that “the Fed’s decision to intervene in the rescue of Bear Stearns” was due to “concerns that the failure of Bear Stearns posed for the OTC credit default swap (CDS) market.”\textsuperscript{151} In contrast, Lehman was allowed to fail, because it had a smaller derivatives portfolio, and was less connected to hedge funds.\textsuperscript{152}

We do not know what would have happened if Bear Stearns had been allowed to collapse freely. The standard view seems to be that, without the intervention of the New York Fed in 2008, “the unwinding of Bear Stearns’ derivatives portfolio could have been extremely dangerous.”\textsuperscript{153} The probable conclusion is the same as in the AIG case: if the alleged resilience of unregulated CDS markets during times of crisis fundamentally depends on public rescue packages, then this is hardly a well-designed regulatory regime.\textsuperscript{154}

5.2.4 Perverse Incentives of CDS Hedging

So far, the analysis here has focused on problems associated with CDS protection sellers. They are not the only source of policy concern, because it seems that the protection buying of credit default swaps also influences the incentives and behaviour of credit market participants. The compensation under CDSs is determined objectively regardless of what connection, if any, the CDS protection buyer had to the underlying debt, and critics have argued that this can create incentives “to affirmatively destroy value.”\textsuperscript{155} In what follows, the policy concerns related to CDS protection buying are first discussed in relation to hedging positions, including ordinary hedging and over-hedging. In the subsequent section, the discussion proceeds to purely speculative CDS buying, that is, where there is no hedging function.

5.2.4.1 Lending and Hedging: Distorting Signalling and Monitoring

Already before the crisis, several authors pointed out that loan securitization and CDSs may destroy the signalling value of bank debt,\textsuperscript{156} and reduce monitoring

\textsuperscript{150} Mugasha 2011b: 556.
\textsuperscript{151} King and Maier 2009: 289.
\textsuperscript{152} Ibid.
\textsuperscript{153} Duffie 2008b: 2.
\textsuperscript{154} Morgan 2010: 33–34.
\textsuperscript{155} Partnoy and Skeel 2007: 1034.
\textsuperscript{156} See Morrison 2005 (arguing this and proposing reporting requirements for credit derivatives).
quality. In terms of economic efficiency, this is counterproductive: “since banks are often particularly well-positioned to monitor—due, among other things, to their sophistication and the access they have to the details of a debtor’s finances—the use of credit default swaps can neutralize a very good monitor.”

Indeed, responding to Alan Greenspan’s argument that the relatively contained collapse of Enron demonstrated the benefits of CDSs, Partnoy and Skeel speculated that it may have been precisely the fact that Enron’s bankers had largely shifted their risks to others that made them so careless about Enron’s dubious activities that led to its demise. Whether this was the case is difficult to confirm, however, and there is generally a lack of empirical data on the broader question. Moreover, traditional insurance will have the same incentive effect, so it is not restricted to CDSs. Probably the main issue is whether the hedging transactions are sufficiently transparent so that other market participants can take this into account.

Other proposals have been made to mitigate the monitoring issue. One possibility is that CDS protection sellers might take an active monitoring role in order to control abuse. However, insurance companies and pension funds are unlikely to provide effective monitoring, because “they have no relationship with the borrower and are less skilled and experienced in evaluating risk.” Hedge funds, in contrast, might emerge as active monitors. Yet hedge fund participation in CDSs involves a range of concerns, including the lack of sufficient loss reserving and the use of significant leverage. Moreover, there is a danger that, insofar as an active monitoring role enables hedge funds to acquire more sensitive information about a company’s financial situation, it also provides them with new opportunities to reverse their net CDS position and to profit by attacking the troubled borrower; in the words of some commentators, the result is “a Darth Vader monitor”.

5.2.4.2 Over-Hedging: The Empty Creditor Problem

The incentive problem goes beyond signalling and monitoring, however. The empty credit problem is a term developed to refer to the issue that, if bondholders buy CDS protection beyond their level of ownership, their over-hedged position

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157 See Arping 2004 (showing this in a formal model); Partnoy and Skeel 2007: 1032–1034 (discussing this).
158 Partnoy and Skeel 2007: 1033.
159 Ibid. 1032–1033.
160 Ibid. 1033.
161 Ibid.
162 Partnoy and Skeel 2007: 1035.
makes them benefit from pushing distressed debtors into bankruptcy.\textsuperscript{163} Moreover, even without over-hedging, CDSs will reduce incentives to find a cooperative solution and render creditor negotiations more difficult.\textsuperscript{164} Hedge fund representatives respond that “their stern stance instills financial discipline and doesn’t reward unnecessary profligacy.”\textsuperscript{165} But this is socially costly because of the wider social and economic ramifications of company restructuring and bankruptcy.

The problem should not be exaggerated, given that CDS holders do not necessarily have destructive incentives and they cannot always cause a default.\textsuperscript{166} The opaque and OTC nature of CDSs however makes it difficult to debate the problem for lack of clear empirical evidence.\textsuperscript{167} This serves to highlight the importance of improving transparency. Indirect and anecdotal evidence is not lacking, though. Partnoy and Skeel, for example, cite the Tower Automotive case of 2004 as evidence that hedge funds participating in credit and CDS markets tend to take a more short-term and aggressive approach that renders it more difficult to save ailing companies.\textsuperscript{168} Many CDS and CDO investors also admit “that they have no workout expertise and no intention of participation in any [corporate] restructurings.”\textsuperscript{169}

To resolve the empty creditor problem, one proposal is to require physical instead of cash settlement as this might improve incentives to negotiate with the debtor.\textsuperscript{170} However, it is still unclear how much this would help.\textsuperscript{171} It would moreover effectively dismantle ISDA’s dispute resolution regime, which avoids physical settlement. Another proposal is to require more position disclosure so as to warn the market.\textsuperscript{172} In other words, this is a transparency policy. A longer-term possibility is that “bond covenants may be designed to adjust downwards the voting rights of bondholders who may become empty creditors.”\textsuperscript{173}

\textsuperscript{163} See Hu and Black 2008; Bolton and Oehmke 2011; McIlroy 2010: 308 (describing the problem).

\textsuperscript{164} BIS 2008: 20; Ayadi and Behr 2009: 193–194 (“The lender has fewer incentives in the case of a restructuring to seek a solution that is also acceptable for the debtor when a CDS on the reference entity exists”).

\textsuperscript{165} Partnoy and Skeel 2007: 1035 (describing hedge fund attitudes).

\textsuperscript{166} ECB 2009: 72–73.

\textsuperscript{167} See Hughes 2009 (citing ISDA study that “data could not be found to verify whether overhedging was a significant activity.”); Triana and Subrahmanyam 2012 (citing the restructuring of Greece debt as an example, but without much tangible evidence).

\textsuperscript{168} Partnoy and Skeel 2007: 1034–1035.

\textsuperscript{169} BIS 2008: 20.

\textsuperscript{170} Ayadi and Behr 2009: 194.

\textsuperscript{171} McIlroy 2010: 313 (expressing doubts).

\textsuperscript{172} Triana and Subrahmanyam 2012.

\textsuperscript{173} Ibid.
5.2.5 Purely Speculative CDS Buying

One of the most heated criticisms of CDSs is that they enable purely speculative positions that negatively influence the underlying debt. For example, the European sovereign debt crisis that started in 2010 brought the accusation that aggressive CDS speculation had aggravated the situation of troubled states.¹⁷⁴

5.2.5.1 Uncovered or Naked Short Selling with CDSs

The distinction between covered and uncovered (also known as “naked”) CDSs merits a clarification. This terminology is known from other areas of finance, but the meaning is different. In stock markets, this distinction refers to two different types of short selling, so that a covered position is one where the short seller has borrowed the relevant shares before selling them, whereas in a “naked” position the seller has not set aside any shares to settle the transaction.¹⁷⁵ Covered short selling incurs borrowing fees, but uncovered positions may cause settlement problems, which is why regulators often limit the availability of naked short selling.¹⁷⁶ In contrast, in the CDS ambit the distinction refers to fundamentally different investment positions—namely, hedging and speculating—so that in a covered CDS the protection buyer has an interest in the reference credit, whereas in an uncovered CDS this is not the case and the protection buyer is betting on the debtor’s default.¹⁷⁷

Uncovered CDSs are of great practical relevance: it has been “estimated that as much as 80 per cent of the CDS market is traded by companies that do not own the underlying debt.”¹⁷⁸ It is possible that some of these positions have an indirect hedging motive, but still a majority of CDSs may be used to create risks that did not exist before, and CDS markets are literally filled with speculators hoping for default.

5.2.5.2 The Economics of Short Selling

Is purely speculative short selling desirable from a social point of view? Perhaps surprisingly, there is no simple answer. In financial economics, short selling is generally seen as efficiency enhancing, although both theory and empirical

¹⁷⁴ Münchau 2010; Rickards 2010.
¹⁷⁷ See Juurikkala 2012a: 324–331 (discussing the market for, and regulation of, uncovered CDSs).
¹⁷⁸ McIlroy 2010: 308. This figure may be misleading, however, because it seems to refers to legal ownership rather than economic exposure; there may be hedging positions which nevertheless do not imply ownership of the underlying debt.
Specific Policy Issues Raised by Credit Default Swaps

evidence are more nuanced.\textsuperscript{179} On the one hand, short selling is seen as contributing to \textit{pricing efficiency}, because it transmits contrarian views into market prices and reduces asset overvaluation.\textsuperscript{180} There is some evidence that short sellers are relatively well informed about fundamentals, implying that they help price discovery.\textsuperscript{181} On the other hand, it is found that short selling \textit{aggravates} market crashes and price declines.\textsuperscript{182} For opaque and fragile firms like banks that depend on short-term financing, short selling may also trigger self-fulfilling prophecies, for example due to funding liquidity problems.\textsuperscript{183} Finally, there is evidence that insider information may be used by short-sellers to provoke disorderly price movements.\textsuperscript{184}

Similar benefits and worries have been expressed with respect to uncovered CDSs.\textsuperscript{185} They may potentially reveal new information about borrowers, thereby reducing informational premiums on bonds and bank lending.\textsuperscript{186} In opaque and illiquid credit markets, however, negative price spirals may ensue, and “boundedly rational and liquidity-constrained investors may fall into pricing errors, particularly in turbulent times.”\textsuperscript{187}

There is, fortunately, a growing body of \textit{empirical research} on the effects of CDSs on the underlying credit markets, but the results are mixed.\textsuperscript{188} For example, some studies suggest that CDS trading in normal times is associated with slightly lower borrowing costs and more liquidity, although it unclear whether there is a causal link or mere correlation.\textsuperscript{189} However, the same data set shows that, during crisis, firms included in CDS indices faced higher spreads than their peers, suggesting that CDSs tend to intensify price shocks.\textsuperscript{190}

\begin{footnotesize}
\begin{enumerate}
\item[180] Payne 2012: 419.
\item[181] See Boehmer, Jones and Zhang 2008 (examining studies).
\item[182] See Bris, Goetzmann and Zhu 2007: 1060–1063.
\item[183] FSA 2009: 12.
\item[184] Christophe, Ferri and Angel 2004.
\item[185] See Juurikkala 2012a: 325–328 (discussing arguments and evidence).
\item[186] Ashcraft and Santos 2009: 515.
\item[187] Juurikkala 2012a: 325.
\item[188] See ibid. 325–328; Porters 2012; Delatte 2012.
\item[189] See Shim and Zhu 2010 (studying Asian bond and CDS markets from January 2003 to June 2009). The authors (p. 2) speculate that the results may be due to a “jump-start effect” in underdeveloped Asian bond markets.
\item[190] Ibid. 3.
\end{enumerate}
\end{footnotesize}
5.2.5.3 Price Discovery or Destabilization?

The as-of-yet unanswered question is whether and under what circumstances CDSs contribute to price discovery as opposed to price destabilization. In favour of the discovery thesis, there is research suggesting that CDS prices are more informationally efficient than stock markets, possibly due to lack of restrictions on insider trading.\(^\text{191}\) However, these results are limited to earnings surprises; in contrast, another study found that CDS spreads were significantly overpriced relative to economic fundamentals.\(^\text{192}\)

It has further been observed that CDS prices were efficient in terms of fundamentals before the crisis of 2007–08, but they underreacted to earnings announcements during the crisis, and overreacted after the crisis.\(^\text{193}\) Moreover, it is a common view that the contractual characteristics of CDSs render them informationally inefficient: “They are often demonstrably unrelated to default probabilities […]. Many highly variable factors influence the CDS-bond spread: liquidity premia, compensation for volatility, accumulating counterparty risk in chains of CDS contracts.”\(^\text{194}\)

Perhaps the balanced view is that CDSs do react more quickly and thus contribute to price discovery, but they also tend to overshoot in times of crisis and exacerbate debtor distress.\(^\text{195}\) Thus, for example, CDSs are observed to move before bond spreads in less-developed markets,\(^\text{196}\) whereas in developed economies, CDS spreads dominate only in times of distress.\(^\text{197}\) Some of this effect may be due to faster price discovery, but it is also argued that, during market distress, high-leverage CDSs can be used to “exert a downward pressure on the underlying bond prices.”\(^\text{198}\) More generally, it is probably that, in informationally imperfect markets, uncovered and opaque CDSs can generate destabilizing signals.\(^\text{199}\)

\(^{191}\) Alexopoulou, Andersson and Georgescu 2009; Zhang and Zhang 2013.

\(^{192}\) Aizenman, Hutchison and Jinjarak 2011.

\(^{193}\) Jenkins, Kimbrough and Wang 2011.

\(^{194}\) Porters 2012.

\(^{195}\) Delatte, Gex and López-Villavicencio 2012: 490–492 (analyzing evidence that CDS speculation influences bond markets during distress).

\(^{196}\) Ibid. 482 (citing studies to this effect in emerging economies, but noting that in low-yield countries bond markets move first or contemporaneously).

\(^{197}\) Ibid.483.

\(^{198}\) Ibid. 490.

5.2.5.4 **Overshooting Upwards and Downwards**

There is thus clearly a need for more empirical research, but in policy terms, the current evidence supports at least a moderate case for restricting uncovered CDS positions.\(^{200}\) Assuming that CDSs have a positive effect on underlying credit markets in normal times, that is probably due to hedging positions that facilitate risk management. In contrast, the destabilizing effect is due to the growth of speculative short positions in bad times.\(^{201}\) Therefore, if there is a workable way of restricting purely speculative CDS positions, that should reduce the harm without removing the benefits. Naturally, we will have to investigate in due course whether such restrictions are really workable.

It has been argued against this view that uncovered CDSs have enabled astute investors to profit from market imperfections, for example by short selling the housing market.\(^{202}\) That is correct, but such bets have no clear social benefit, because they do not help to prevent those imperfections. Instead, the current state of CDS regulation facilitates overshooting both ways, that is, upwards and downwards: it facilitates credit bubbles by enabling reckless risk-taking, as explained earlier, and it exacerbates the collapse when things go bad.

5.2.6 **Opacity**

5.2.6.1 **Its Implications for Financial Stability**

The opacity, i.e. lack of transparency, of recent financial innovations such as credit default swaps is a widely cited problem.\(^{203}\) A European Commission working paper in July 2009 identified opacity as the principal reason for the financial crisis, and explicitly mentioned credit default swaps as a particular problem:

> The opaqueness of the market prevented, on the one hand, other market participants from knowing exactly what the exposures of their counterparties were to these three entities [Bear Stearns, Lehman Brothers, AIG], which resulted in mistrust and in the sudden drying up of liquidity. On the other hand, it also prevented regulators from being able to identify early the risks building up in the system, the extent to which risks were being concentrated and consequently the effects that their default would have for financial stability [...] the crisis has highlighted how derivatives in general and CDS in particular created a web of mutual dependence that was difficult to understand, disentangle and contain in the immediate aftermath of a default. Therefore, the crisis has clearly shown that the characteristics of OTC derivative markets—the private nature of contracting with

\(^{200}\) Porters 2012 (supporting a bad); Delatte 2012.

\(^{201}\) Delatte, Gex and López-Villavicencio 2012: 490 (“speculation is a significant driver of activity in the CDS market during distress.”)


limited public information, the complex web of mutual dependence, the difficulties of understanding the nature and level of risks—increases uncertainty in times of market stress and accordingly poses risks to financial stability.204

The Bank for International Settlements likewise wrote that, due to the opacity of CDSs, “the identity of who bears the credit risk that has been transferred out of the banking system is not always clear. It can be difficult even to quantify the amount of risk that has been transferred.”205 In consequence, other market participants “cannot adjust their behavior accordingly.”206

5.2.6.2 Opacity and Market Abuse
Lack of transparency has also enabled insider trading and facilitated market manipulation. For example, concerns were raised in 2008 that the CDS market was being manipulated, but it was and still is difficult to know whether this was truly the case, because regulators had insufficient information on the deals.207 There is, moreover, significant evidence that CDSs have been used for insider trading in markets and instruments that otherwise are subject to insider dealing restrictions.208 This is a major problem—assuming, of course, that insider trading is harmful.209

5.2.7 CDS Benefits: A Reassessment
The ongoing discussion has focused on the problems and concerns created by credit default swaps. Naturally, these contracts may also have benefits, which should not be ignored. But how real are those benefits? This section offers a critical evaluation of the principal alleged advantages of CDSs, namely risk management, liquidity, and risk pricing information. The objective is not to deny that these benefits may obtain, but to seek a more balanced assessment of their extent and applicability.

204 European Commission 2009: para. 2.4.
205 BIS 2008: 20. See also McIlroy 2010: 305–307 (citing evidence that CDSs are making it more difficult to know and locate risks).
206 Partnoy and Skeel 2007: 1036.
207 Stulz 2010: 84.
208 Acharya and Johnson 2007.
209 This, naturally, is the common view, but there is also a long-standing argument that insider trading should be permitted: see Manne 1966, 2005. For a mixed view, see Lambert 2006 (arguing that insider trading should be permitted when shares are overvalued).
5.2.7.1 Risk Management

For the reasons discussed earlier, it is of great social importance that credit risk be properly managed and allocated. In theory, CDSs may contribute to better credit risk allocation, because they enable firms and other risk-takers to better manage certain risks as well as to obtain efficiency-enhancing investment positions. Some claim that CDSs are more flexible than conventional guarantees or credit insurance, because they can be more easily tailor-made to suit particular risk profiles regardless of asset ownership. In efficient financial markets, more efficient risk allocation should also reduce borrowing costs for firms.

We should not be excessively naïve, however, about the risk-management enhancement provided by products such as credit default swaps. There are firstly principal-agent problems within institutions, as already discussed extensively, which imply that complex financial arrangements will not always be employed unequivocally for the benefit of the principals. Secondly, even supposing the absence of corporate governance difficulties, CDSs may be transacted without fully understanding and correctly estimating the risks involved, as Mugasha (a CDS advocate) points out:

The dramatic growth of credit derivatives in recent years has stretched the ability of the market participants to monitor and control the attendant risks. Financial institutions may not fully comprehend the instruments or risk involved, or have the systems in place to mitigate the risk of loss. The specific risks that have been identified include inadequate strategic planning; lack of management accountability and understanding; poor controls over information technology infrastructure; inadequate risk management systems; outdated systems, controls, and procedures; inadequate definition of responsibility; and deficient system selection procedures.

It is worth noting that selling CDS protection is functionally equivalent to selling insurance, which is highly risky business. Traders and entire units in financial institutions may get carried away by the attraction of quick profits that are later converted into extreme losses, as in fact happened in the events that led to the global financial crisis. These problems have been exacerbated by the opaqueness of these transactions, but it has also been argued that there are more fundamental difficulties related to the modelling of complex credit risk. In some cases firms have imprudently relied on inadequate computer models: “AIG

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210 Steinherr 2000: 166–167; Johnson 2011: 199–204. ISDA 2014c: “CDS, like all forms of privately negotiated derivatives, offer unique value to economic activity by enabling participants to better manage their risks”.

211 Rule 2001: 118.

212 Stulz 2010: 75.

213 Mugasha 2004: 220.

214 See FCIC Report 2011: 256–279 (providing evidence of the inability of finance experts to correctly perceive the risks related to subprime mortgages); Lewis 2011: 47–252 (providing an insider account of the CDS market related to subprime mortgages).
senior executives, relying on quantitative risk models, concluded that losses on credit default swap transactions were unlikely and, as a result, viewed the protection buyers' periodic payments as ‘gold’ or ‘free money.’”

According to Whitehead, the seemingly sophisticated quantitative risk models of AIG and its subsidiary AIGFP failed to incorporate the dynamic consequences of “a downgrade in AIG’s credit rating, which was particularly important since AIG was a guarantor of AIGFP’s obligations.” This led to negative spiral: “As AIGFP’s swap contracts moved ‘in the money,’ reflecting the drop in value of the underlying CDOs, AIG was forced—due to its credit downgrade—to post billions of dollars in collateral against the unrealized paper losses, weighing down its credit rating even further.” The apparent sophistication of the computerized model may have even rendered it more difficult for the executives to realize the limits of the model.

One might, again, presume that the problem is limited to a few imprudent operators, but others argue that, in addition to such extreme cases, many market participants are not equipped to personally assess the limits of the methods used in modern financial engineering, or indeed the reliability of the financial advice they receive. This is, first of all, a problem for end-users, who frequently do not have the necessary competence and equipment for making state-of-the-art valuation models, or for understanding their results. Moreover, the results of complex statistical models are often used for forecasting purposes—after all, what truly interests market participants is not the past but the future—but this does not correspond to the way the models are built. This has caused numerous mistakes in recent years:

Ignorance of statistical pricing methods and of how they underlie derivative trading values has exposed numerous town hall treasurers to some highly unfavourable deals. Instruments that were variously presented as “techniques for optimising interest rate payments” and “modern debt management” were, in fact, no more than badly priced wagers on the yield curve. Losses were considerable […] The situation is obviously not helped by the fact that the dealer banks, which dominate the valuation process, frequently seem to provide insufficient or even misleading information to the end-users, as recent cases have once again revealed.

216 Whitehead 2010: 32.
217 Ibid. 32–33.
218 Dempster, Medova and Roberts 2011: 311–313.
219 Ibid. 311.
220 Ibid. 311–312.
221 Ibid. 312.
222 Ibid.
Rene Stulz takes a more optimistic view, arguing that firms now have good methods for understanding risks, such as value-at-risk (VaR) and stress tests. But in fact, both of these methods have been widely discredited in the aftermath of the global financial crisis, if not earlier.

In fact, all of this should lead us to ask a simple question: what exactly is the risk-management contribution of credit default swaps when compared with earlier products such as guaranties and traditional credit insurance? It seems surprisingly common merely to assume that there is a notable difference, but if in fact the real difference is that the selling and purchase of CDSs has been relatively free from regulation, so that they could be sold by hedge funds and other lightly regulated entities, then it is unlikely that we are dealing with a financial innovation that can add value to the society at large.

5.2.7.2 Liquidity

Advocates of CDSs also argue that these products bring indirect benefits, the principal of which is increased liquidity. When plans were revealed to reduce the scope for short-selling sovereign debt through CDSs in Europe, the standard criticism was precisely that banning uncovered CDS positions would reduce market liquidity. We will have to return to the liquidity debate in the context of the new European regulation, but the question also merits a more general assessment.

It is first necessary to clarify what is meant by liquidity in this context. As was noted earlier, there is a distinction between market liquidity and funding liquidity, terms that refer to entirely different issues. If earlier the issue or problem associated with CDSs was the latter (funding liquidity), here the argument is that the benefit of unregulated CDS markets is the former (market liquidity).

There are at least two reasons why the alleged liquidity benefits of unregulated CDSs should not be given undue importance. One is that, as Lynn Stout argues, “the economic value of providing greater marginal liquidity in the spot market for equities has not been empirically established and is easily exaggerated.” The authors of the UK Turner Review are equally sceptical,
pointing out furthermore that liquidity often comes with other costs: “Beyond a certain degree of liquidity and market completion, the additional allocative efficiency benefits of further liquidity and market completion may be relatively slight, and therefore easily outweighed by additional instability risks which increasing liquidity or complexity might itself create.”

The other reason is that one should always ask who is supposed to benefit from further market liquidity. David McIlroy argues concerning liquidity: “Its contribution to the public good is only indirect. The public good is not directly advanced by the increase of liquidity on the financial markets tout court nor by a multiplication of financial markets.” Theodore Margellos advances a view that is more openly critical: “The fundamental question is: liquidity for whom? Liquidity has a legitimate meaning only for the owner or the issuer of the bond. Buying CDS without owning the underlying security actually decreases liquidity for the owner of the bond.”

We will return to the factual debate shortly, but the issue raised by McIlroy and Margellos is fundamental: if unregulated CDS markets merely improve the liquidity of those CDS markets themselves, potentially even damaging primary lending markets, one can legitimately ask whether this sort of liquidity is worth pursuing.

5.2.7.3 Risk Pricing Information

Nevertheless, and in spite of the limits to the liquidity argument, there remains another potential indirect benefit of CDSs, namely their positive informational externalities. Naturally, this connects with the market liquidity argument in that if CDS markets have positive externalities by providing valuable price information, then there are a public benefit flowing from liquidity and pricing efficiency in those very CDS markets.

The alleged informational benefit has been expressed by ISDA as follows: “CDS serve a valuable signaling function—CDS prices produce better and more timely information.” Moreover, ISDA argues, “CDS provide important information about credit conditions, helping bankers and policymakers to supervise traditional banking activities.” The extent to which this CDS information is better may be debated, but as Partnoy and Skeel note, it is in any event “an additional source of marketbased information about a company’s

gets reflected into stock prices hours or minutes faster than it would otherwise may be modest at best.” For more details, see Stout 1988: 695; Stout 1995: 683–88.
financial health.” They further argue that the market-based nature of CDS price information renders it an interesting alternative to the “notoriously flawed” system of credit ratings. Flannery, Houston and Frank Partnoy have indeed developed a detailed, albeit initial, proposal for replacing credit ratings with CDS spreads at least in some cases.

There are numerous doubts, however. Principally, there is the issue of whether and to what extent CDS prices produce better and timelier information. On the one hand, there is a study by Szu-Lang Liao and Jui-Jane Chang arguing that, using credit derivative prices, it was possible to predict the approaching credit crisis already towards the end of 2006. On the other hand, the UK Turner Review is more reserved: “Bank CDS prices before the crash of 2007 did not provide forewarning of the scale of problems ahead.”

Of course, both statements may be true in that CDS spreads did anticipate some of the problems, and probably did so better than public stock market prices (possible in part due to the relatively easiness of using insider information in CDS markets, which would be illegal in stock markets), but the pre-crisis CDS spreads were nevertheless an imperfect estimate of the future events. This is supported by the view of the Turner Review, which is that “CDS prices, far from providing a useful market-based measure of fundamental credit risk, systematically understate risk in the upswing and overstate it in the downswing, in a fashion well familiar in the insurance markets.”

This tendency to understate and overstate risk is supported by many empirical findings. For example, Jenkins, Kimbrough and Wang found that CDS prices underreacted to earnings announcements during the credit crisis of 2007–08 (implying that the implied risk estimates were probably too high), and overreacted to earnings announcements after the crisis (probably implying too low risk estimates). Alessandro Fontana and Martin Scheicher also found that, in European sovereign bond and CDS markets, CDS spreads since September 2008 on average exceeded bond spreads. The Bank of England likewise has claimed that index CDSs “overreacted to the troubles of the subprime market.”

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234 Partnoy and Skeel 2007: 1026.
235 Ibid. 1027. For a detailed critique of the history and present reality of credit ratings, see Partnoy 1999, 2006.
236 See Flannery, Houston and Partnoy 2010.
239 Ibid. 109.
240 Jenkins, Kimbrough and Wang 2011. In a study like this, the analysis centers generally on informational efficiency, so that there is some uncertainty regarding the attribution of the sources of pricing inefficiency.
241 Fontana and Scheicher 2010.
Towards CDS Regulation: Issues and Challenges

Insofar as a similar tendency for cyclical underestimation and overestimation is found in insurance markets, too, this may be due to a range of reasons including the limits of dynamic risk modelling, as discussed earlier. In addition, there are additional reasons why CDSs may be ill suited for providing efficient credit risk information. One is market concentration, as not a long ago the 10 largest dealers accounted for 90% of CDS trading volume in terms of gross notional amounts, which can contribute to pricing inefficiency and short-term volatility in turbulent times.

Another problem is that it is always difficult to accurate price derivative products. If this is difficult for any derivatives, it is even more so when the contract concerns credit risk, which has peculiar characteristics as noted earlier. Indeed, it is generally acknowledged that the calculation of the correct CDS price has been especially difficult in relation to subprime mortgages.

There are, therefore, many reasons to be sceptical about the positive externalities of CDS prices. Over and above these concerns, the proposal for using CDS spreads as a substitute for credit ratings has met with scepticism, not only because CDS prices may be inefficient in themselves, but also because those prices do not in fact provide a reliable estimate of default probabilities: the calculation of implied default probabilities from CDS spreads is not an automatic process, but it requires many further assumptions that render the process complex and subject to significant inaccuracies.

5.3 Conclusion: The Impact of CDS on Risk Allocation

In theory, economic risks will be allocated more efficiently when there are suitable instruments for “a broader range of risk–return combinations and a wider pool of underlying risks.” Assuming that financial market participants are acting efficiently to trade risks, more flexible risk-transfer products will therefore benefit the society as a whole. The question is whether this assumption is always valid.

The present chapter has advanced a range of perspectives and arguments that challenge an excessively naïve view about the economic and societal

243 Cont 2010: 36.
244 European Commission 2010b: 25; McIlroy 2010: 309.
246 Stulz 2010: 75–76.
247 See Jarrow 2012 (arguing this by demonstrating problems associated with the calculation of implied mortality probabilities from life insurance premiums).
248 Ayadi and Behr 2009: 190.
249 See Ayadi and Behr 2009: 189–191 for a brief but balanced evaluation of the arguments pro and contra the risk-management implications of CDSs.
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consequences of CDSs, showing that these transactions create a range of behaviours that may weaken and threaten the stability of financial markets. Before an evaluation of the principal regulatory alternatives in what follows, this concluding section will briefly revisit the big picture in terms of socially efficient risk allocation.

5.3.1 Are Credit Default Swaps Socially Value-Adding?

One question that should be asked is what exactly is the value-adding innovation that renders credit default swaps beneficial for purposes of risk management and risk allocation. It is well known that banks have managed credit risk long before CDSs through such contracts as third party guarantees and letters of credit. While those contracts may raise separate regulatory issues, too, the key point to consider here is that if CDSs have now caused a significant growth in credit risk transfers, this can only be the case if credit risk transfers have become much cheaper than in the past. This in turn can only be explained if (a) the transaction costs of CDSs are much lower than those of functionally equivalent transactions, and/or (b) the risks are being transferred to parties that are willing to take on those risks at a lower price.

The first explanation (lower transaction costs) seems unlikely, because CDSs are, or have been, over-the-counter products and hence highly profitable to dealers, which implies that they are relatively costly for end-users in terms of intermediary fees. The latter explanation is more probable, which raises the question of what might explain the willingness of some parties to sell credit default insurance through CDSs. In this respect, it might be the case that, before the advent of CDSs, the market for credit risk transfers was artificially expensive and inefficient, but there seems to be no evidence to support this. Therefore, the willingness of CDS protection sellers to provide this protection at relatively low prices probably implies that (i) they estimate the real economic risks at incorrectly low levels, and/or (ii) they do not in fact take on all the economic risks.

As has been argued, both of these reasons may obtain in CDS markets. This is also admitted by scholars that take an optimistic view of CDSs, including Houman Shadab, who notes that at present “a protection seller has an incentive to sell too much protection”. Rene Stulz admits likewise, adding that there is evidence that this has been happening:

because of their built-in leverage, credit default swaps may make it possible for investors to take riskier positions than they could otherwise. To the extent that the most optimistic and least risk-averse investors may be those whose investment opportunities are expanded by the availability of these instruments, these instruments may lead to price distortions where risk is underpriced. Before the credit crisis, the compensation required

250 Ayadi and Behr 2009: 185.
251 Shadab 2012: 1037.
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by investors to bear the risk of high yield debt (so-called “junk bonds”) was at historic lows.252

If we analyze the situation from a value-addition viewpoint, CDS trading due to incorrect estimation of real economic risks is not necessarily value adding, because it implies mispricing of credit risk.253 In the second case, where protection buyers do not take on all the risk, the transaction may be positively harmful for social risk allocation, because it means that the risks are being transferred to parties less capable of bearing them. This coincides with the fact that the leading protection buyers have been hedge funds (which are largely unregulated) and insurance companies (which are less heavily regulated than banks).254 The spectacular collapse—and the subsequent public bailout—of AIG and of numerous banks involved in CDSs confirm the fears that these arrangements imply an externalization of credit risks.

Naturally, the role played by CDSs in the recent financial crises should not be exaggerated so as to claim that they automatically cause problems. This does not mean, however, that the problem with CDSs is merely their misuse, as some commentators suggest.255 To speak of misuse implies that problems will be avoided if market participants use CDSs correctly. But what is the correct use of CDSs? If they, or any other financial transactions, provide legally permitted opportunities for avoiding reasonable regulatory restrictions and externalizing their business risks to the rest of society, it is necessary to clarify in what sense that is a misuse of the product. It will be a moral abuse, not an economic misuse. To be sure, certain moral principles are fundamental for the functioning of the economy, but a regulatory policy that creates a glaring opposition between morality and profitability is hardly a constructive proposition for encouraging morally upright behaviour.

5.3.2 Increasing Intermediation and Interconnections

In addition to the foregoing, credit default swaps raise another general problem from the viewpoint of efficient risk allocation, which is that they contribute to the complexity of the financial system as a whole. This is problematic in light of the corporate governance problems as well as the cognitive limitations discussed earlier. In other words, CDSs not only provide opportunities for shifting risks to

252 Stulz 2010: 78.

253 Ayadi and Behr 2009: 193 complain about “over-simplistic approaches to assessing the actual risk profile associated with CRT [credit risk transfer] transactions.”

254 See Ayadi and Behr 2009: 187, providing information on market participants.

255 For example, Ayadi and Behr 2009: 190 seem to be suggesting this when they write that “it appears that one of the reasons for the crisis and its propagation was the misuse of credit derivatives, rather than instrument-inherent features.”
less regulated parties, but they also increase the likelihood of systemic consequences of a failure in some part of the financial system.

In the words of Ayadi and Behr, "the multiplication of layers of intermediation between borrowers and lenders that has characterised the financial system for the past few decades may create new channels for the transmission of shocks within the financial markets and into the economy at a global scale, therewith exacerbating contagion risks." CDSs thus make it more difficult to identify and locate risks in the financial system.

This is a key issue for CDSs, and one that fundamentally hinges on our assumptions concerning the limits of rationality in economic decision-making. The assumption here is not that investors are inherently irrational; it is that there are limits to the way in which human beings can and do correctly obtain and process complex information. The argument is that, even with the best of modern financial mathematics, many aspects of complex economic risk cannot be meaningfully modelled, so that good risk management will ordinarily require not ever more sophisticated risk transfer instruments, but simple and transparent structures that make it relatively easy to tell who is holding the risks and how large those risks are.

5.3.3 CDS and the Transformation of Banking

The effect of CDSs on financial risk allocation may be further illustrated by considering the way in which it has changed the traditional model of banking business. As has been mentioned several times, CDSs have often been seen as facilitating access to capital, and in that sense they have among other things caused an increase in home mortgage lending. Importantly, however, the new availability of capital is not due to the accumulation of more capital in the economy, as that can only be achieved through savings; nor is it due to better information on potential borrowers—in fact, the informational links between borrowers and risk-bearers are weakened in consequence.

Therefore, it seems that this increased availability of capital (or access to capital) is achieved through the relaxation of lending standards and/or greater leveraging of investment capital. In both cases, the practical effect is that lenders are taking more risks than before. In theory that is not necessarily a bad thing, but the relaxation of lending standards makes future crises more probable, and greater leveraging makes them more costly.

We have seen, though, that one of the effects of CDSs is that credit risks are being shifted away from banks and other primary lenders to non-bank financial institutions such as insurance companies and hedge funds. This may mean that, at least formally, the leverage of banks is not being increased. It is, in fact, tied to

256 Ayadi and Behr 2009: 191.
regulatory limits anyway, which is precisely one of the reasons why there is an economic interest in shifting the risks to less tightly regulated institutions. But if it is not necessarily the banks that are becoming more leveraged, it is the financial system as a whole that is becoming more leveraged, as lending risks are being pushed to less regulated, more leveraged institutions.

At the same time, this process of shifting the principal economic risks away from the ordinary lending relationship implies that the incentives to scrutinize and monitor the borrowers will be detached from the interest in scrutinizing and monitoring. It is therefore to be expected that, even if banks do not self-consciously relax their lending standards, nevertheless those standards will be relaxed in fact, given the intense market and workplace pressure to obtain deals and make more business. The problem was well expressed by the Nyberg Inquiry on the Irish banking crisis:

> It could be argued that bank management in Ireland, like many banks elsewhere in the world, had forgotten the very nature of credit. Providing credit is not a sale of bank services; it is the acquisition of a risky asset. […] This apparent inability, some might say unwillingness, of Irish banks to remember this basic principle of banking was a major cause of the banking crisis in Ireland. This problem was further exacerbated as many banks appear to have emphasised and valued loan sales skills above risk and credit analysis skills.\(^{258}\)

The point is that such forgetfulness was not a mere psychological problem; it was the result of the way in which transactions like credit default swaps have effected a hidden but fundamental transformation of the banking business.

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\(^{258}\) Nyberg Inquiry 2011: 50.
6 CDS REGULATION: THE PRINCIPAL STRATEGIES

The previous chapter sought to evaluate the general and specific issues that may justify regulatory intervention with respect to credit default swaps. The existence of problems is of course only the starting point of regulatory analysis, because regulation has its limits and it tends to have unintended consequences. This chapter therefore examines the four leading regulatory approaches: self-regulatory mechanisms, informational regulatory, compulsory central counterparty clearing, and insurance regulation. These approaches should be seen as complementary, and indeed the current regulatory setup embodies some aspects of them all. The analysis proceeds by an overview of the present situation under each regulatory strategy, followed by a critical analysis of its setbacks and finishing with proposals for the future.

6.1 SELF-GOVERNANCE BY ISDA

The most important governance regime in CDS markets globally is the sophisticated contractual architecture developed by the International Swaps and Derivatives Association (ISDA), as was seen earlier. Commentators agree that the practical significance of the ISDA regime “cannot be underestimated.” Even after recent reforms, this self-regulatory regime continues to determine numerous aspects of CDS markets. It is therefore essential to inquire to what extent self-regulation is adequate and appropriate, and what could be done to remedy its weaknesses.

Financial self-regulation is hotly debated, both generally and with respect to CDSs. After the financial crisis, scepticism has increased, but some continue to argue that CDS self-regulation is sufficient and optimal. No doubt, self-regulation has notable benefits. This section explains how ISDA’s CDS regime

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1 Chapter 4.2.6.
2 Scott and Biggins 2012: 322. See also Braithwaite 2012a (studying ISDA’s Master Agreement regime); Flanagan 2001 (describing ISDA’s history and activities).
4 See Wynkoop 2008: 3121–312 (discussing pros and cons).
5 See Coffee 2009: 15–16 (arguing that self-regulation and voluntary compliance are not effective in high-pressure financial markets); Garicano and Lastra 2010: 618–619 (arguing that self-regulation should not be relied upon, because managers and institutions are not sufficiently interested in negative externalities).
functions, critically examines its advantages and disadvantages, and evaluates proposals for light-touch intervention that would respect the self-regulatory regime in its essentials.

6.1.1 The ISDA Architecture
The history and principal features of the ISDA architecture has been explained earlier, so that what interests us here is to critically analyze its practical functioning in light of regulatory issues.

6.1.1.1 The Building Blocks
In their excellent study of the ISDA regime, Gelpern and Gulati summarize the role of the ISDA Master Agreement thus:

The Master Agreement is at the centre of the ISDA framework. [...] the Master operates bilaterally between the parties that adopt it; however, in some respects it resembles an industry-wide constitution. This is because the core terms (representations, covenants, events of default, early termination procedures) apply across the derivatives industry and across all product categories.7

The Master Agreement therefore does not make up the entire architecture, but is a kind of a skeleton around which the other elements are put together. Regarding the principal building blocks of the ISDA architecture, there are firstly the so-called Schedules, which are negotiated and may be used to vary or tailor the standard terms. There are secondly Protocols, “which effect industry-wide changes to the Master; market participants that accede to a protocol are bound by its terms vis-à-vis others that do the same.”8 Through the protocols, participants in the ISDA architecture not only obtain contracting efficiencies but also are enabled to update the framework across a range of transactions in a standardized fashion.

There is thirdly Credit Support documentation, which “establishes the terms on which the contracting parties may obtain collateral from each other to mitigate counterparty credit risk.”9 This documentation is relationship-specific, so that it may cover a range of contracts between two counterparties. It also varies between jurisdictions. At the product-specific level, fourthly, there are Definitions, which “are incorporated by reference in individual transactions. Like the Master, these apply market-wide; unlike the Master, they are limited to particular derivatives products, such as equity, credit, or commodities swaps, and over a dozen

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7 Gelpern and Gulati 2012: 357. For a general description, see also Biggins 2012: 1312–1318.
8 Gelpern and Gulati 2012: 357.
9 Ibid.
“Finally, there is the Confirmation, “the only transaction-specific document in the suite, which sets out the economic terms of a trade and incorporates the relevant Definitions.”

6.1.1.2 Avoiding Disputes: Contract Termination and Close-Out Netting

Financial markets dislike legal disputes, and the ISDA architecture has been astonishingly successful in reducing litigation. One of the secrets behind this phenomenon is that the Master Agreements provides efficient self-help remedies, such as terms stipulating quick transaction termination in the event of counterparty default or other specific Termination Events such as a change of law rendering the contract illegal.

In order to terminate transactions neatly, the Master Agreements include detailed close-out netting provisions, whereby all the outstanding transactions between the parties are summed up to calculate “a single net sum [that] will terminate all the transactions subject to the process.” This is far quicker and more precise than the application of general contract law.

As Joanne Braithwaite explains:

Under English contract law, remedies are only available in limited circumstances, such as on misrepresentation or breach of a contractual term. By contrast, the MA provides parties with a remedy in a far more extensive and finely tuned range of circumstances, which

10 Ibid.
11 Ibid.
13 See Braithwaite 2012a: 787–788 (describing these mechanisms). The Master Agreement makes a subtle distinction into two different contract termination bases: “The first stage of the MA ‘self-help’ remedies classifies events that may disrupt the parties’ dealings as either Events of Default (for example, failure to pay or deliver, or ‘Bankruptcy’) or as Termination Events (for example, the contract becoming illegal because of a change of law in an applicable jurisdiction).” (ibid 787). Distinction has to do with the idea that “Events of Default reflect undesirable behaviour on the part of one party, while Termination Events are beyond the parties’ control.” (ibid). Consequently, the termination mechanism is different: “if an Event of Default occurs, the outstanding transactions between the parties will either terminate automatically (if the parties have provided for this), or the Non-defaulting Party may elect to terminate them by serving notice on the Defaulting Party. By contrast, the consequences of a Termination Event are more nuanced. For example, some Termination Events trigger a Waiting Period, while others require the Affected Party to make reasonable efforts to transfer the contract to avoid the Termination Event. However, a Termination Event can, ultimately, also lead to the contract being terminated early.” (ibid 788).
14 Ibid. 788.
15 Ibid. 789.
reflect the industry’s collective wisdom about the possible types of disruption in these markets.\footnote{Ibid.}

To be sure, some aspects of these mechanisms rely on concessions from national legal rules, as will be seen shortly.

\subsection{Resolving Disputes: Auction Settlement and the Big Bang Protocol}

Another key feature of the ISDA architecture is the mechanism for resolving dispute when they do arise. The background to this mechanism is that the early growth of CDSs caused practical problems, when the unregulated market attracted protection buyers that did not hold the underlying debt, rendering physical settlement difficult and disorderly.\footnote{Mengle 2007: 20–21.} In some cases, the outstanding CDS amount “was in some cases reported to be as much as ten times the amount of bonds actually available to settle trades”.\footnote{Ibid. 21.} This caused the CDS fiasco of 2005 related to a series of corporate bankruptcies, producing a short squeeze on the underlying bonds.\footnote{See ibid., as well as Pollack 2012a (describing the Delphi case).} Cash settlement was possible, but subject to a costly determination by each dealer.\footnote{Mengle 2007: 21.}

The solution was developed in two steps. The first was to introduce in 2005 an auction settlement mechanism, so that cash-settlement obligations would be determined by a market-wide auction.\footnote{Ibid. See also Pollack 2012c (describing in detail the stages of CDS settlement).} This was vital for index CDSs, and facilitated the explosive growth of CDS markets.\footnote{See Pollack 2012b (providing a range of data).} The second step was the Big Bang Protocol adopted in 2009, which is a private procedure for determining whether a credit event has occurred.\footnote{See Gelpern and Gulati 2012: 362–365 (describing Big Bang Protocol).} The objective is to establish uniform interpretation of credit events (a frequent source of disagreements) as well as to avoid physical settlement.\footnote{See Gelpern and Gulati 2012: 362.}

The Big Bang Protocol is especially interesting, as instead of taking credit-event disputes to court, CDS parties submit cases to Determination Committees (DCs) consisting of ten dealers and five end-users, with ISDA serving as secretariat.\footnote{Ibid. 363.} Decisions require an 80\% supermajority, “designed to signal
consensus and non-dealer inclusion. If no supermajority is reached, the question is referred to External Review, which is more like traditional arbitration”.26

In general, however, this is not ordinary arbitration, because Determination Committees only decide upon a limited number of questions, specifically whether a credit event has occurred, without hearing broader contractual disputes.27 Moreover, DC decisions are not issued to individual counterparties, but represent “interpretive rulings at the request of industry members to the industry as a whole.”28 Yet they are contractually binding on parties subscribing to the Big Bang Protocol; parties can opt out, but in practice the Protocol is nearly universally adopted.29

6.1.2 Advantages of ISDA Self-Regulation

6.1.2.1 Efficiency Benefits
ISDA’s self-regulatory system has undeniable benefits. It has created a high degree of standardization, reducing transaction costs.30 The Novation Protocol adopted 2005 has enabled relatively functional secondary markets in agreements that in principle are strictly bilateral.31 Like all good self-regulation, the ISDA regime is also “more market sensitive and more flexible,” and “designed by people more familiar with market practices”.32 For example, the close-out netting regime reflects “the industry’s collective wisdom about the possible types of disruption in these markets” and provides a wider range of remedies than general contract law.33

Likewise, the auction settlement mechanism is fast and done by industry practitioners, “pre-empting uninformed contextualism on the part of the lay judiciary”.34 Evidence of its efficiency is that by mid-2012, “unanimous decisions were reached for 96% of the 900 questions referred to [Determination Committees]; only one case was referred to External Review.”35

26 Ibid.
27 Ibid.
28 Ibid. 350.
29 Ibid. 364.
31 See Mengle 2007: 18–20 (explaining that CDSs cannot be traded like securities, and how novations or assignments function).
32 Davies and Green 2008: 210–211 (noting these as arguments for self-regulation).
33 Braithwaite 2012a: 789.
34 Gelpen and Gulati 2012: 365.
35 Ibid. 363.
6.1.2.2 Systemic Risk Reduction?

ISDA also argues that its self-regulation improves financial stability, because the close-out netting mechanism provides quick resolution of intertwined positions, which otherwise could cause domino effects among interconnected financial institutions.\textsuperscript{36} Other netting practices like trade compression help to display this reduced gross exposure before bankruptcy.\textsuperscript{37}

The Big Bang settlement mechanism may also reduce systemic risk. This is because one way in which dealers control exposure is by entering into offsetting trades,\textsuperscript{38} but this strategy is limited by “basis risk,” i.e. the prospect that hedging transactions might turn out differently in practice, so that a dealer “might find itself paying out on some CDS but unable to collect on the offsetting ones.”\textsuperscript{39} Big Bang does not remove all basis risk, but it reduces it by ensuring uniform interpretation of specific credit event.\textsuperscript{40}

On the other hand, some aspects of ISDA architecture may also create new types of systemic risk. One is the Credit Support Annex, a standard-form contractual annex for counterparty collateral management.\textsuperscript{41} Standardization reduces transaction costs,\textsuperscript{42} but it also creates an artificial uniformity that exacerbates market-wide collateral crises that force institutions to sell assets in unison.\textsuperscript{43}

6.1.3 Doubts

6.1.3.1 Confirmation Backlogs

Even from an efficiency viewpoint, however, the ISDA architecture has its flaws.\textsuperscript{44} A frequent complaint is confirmation backlogs causing confusion in documentary records, particularly in relation to novations.\textsuperscript{45} ISDA has sought to address the problem,\textsuperscript{46} but still during the financial crisis, “after Bear Stearns was acquired by JP Morgan Chase, its new owners discovered a large amount of unconfirmed

\begin{footnotesize}
\textsuperscript{36} See Mengle 2010; Scott and Biggins 2012: 328.
\textsuperscript{37} Shadab 2012: 1041.
\textsuperscript{38} Shadab 2012: 1040–1041.
\textsuperscript{39} Gelpern and Gulati 2012: 362.
\textsuperscript{40} Ibid.
\textsuperscript{41} See Whitehead 2011: 335, 353–356 (describing the ISDA Credit Support Annex).
\textsuperscript{42} Ibid. 354.
\textsuperscript{43} Ibid. 355–356.
\textsuperscript{44} See Johnson 2011: 210–212 (describing operational problems in CDS markets).
\textsuperscript{46} Gelpern and Gulati 2012: 359.
\end{footnotesize}
credit default swaps.”⁴⁷ Some also argue that the development of electronic trade processing may fail to ensure “that the confirmation captures the true agreement between the parties” especially in relation to CDSs, where “not all commercially relevant issues may be dealt with in the documentation.”⁴⁸

### 6.1.3.2 Auction Settlement: Is the Price Reliable?

A second concern is that auction settlement may create uncertainty, at least for CDS buyers that are seeking to hedge existing positions.⁴⁹ In earlier physical settlement, bond-holding CDS buyers automatically obtained the full face value of the debt, whereas in auction settlement, the agreed-upon payment has sometimes been significantly below actual loss.⁵⁰

One reason for the discrepancy is that standardized, market-wide CDS auctions require simplifying assumptions that fail to reflect some of the complexities of real-world credit agreements: “debts have a lot of different features, including but not limited to maturity, coupons, currency, embedded derivatives, and rankings.”⁵¹ Standardization has benefits, but it comes with the cost of sometimes forcing different realities into the same model.

There is, moreover, evidence that the auction settlement mechanism may produce systemically biased results in terms of the settlement amount (biased either upward or downward, depending on the case).⁵² In theory, the CDS auctions are supposed to “discover what loss a bondholder in the defaulted entity would have suffered.”⁵³ This is done by a kind of artificial bond trading session between CDS dealers that provides an estimate of the expected recovery value of the underlying debt.⁵⁴ Without going into too much detail, the key problem seems to be that these CDS dealers have their own CDS positions, and it is their participation in the bond auctions that determines the subsequent CDS payments.⁵⁵

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⁴⁷ Stulz 2010: 87. See also Tett 2009: 224 (providing details).
⁴⁸ Benjamin 2007: para. 5.77.
⁴⁹ See Pollack 2012a.
⁵⁰ Id. (citing Satyajit Das).
⁵¹ Pollack 2012b. For more details, see Pollack 2012c.
⁵² See Pollack 2012e (describing reasons and citing empirical evidence). The study cited by Pollack has been updated in Du and Zhu 2013.
⁵³ Pollack 2012e.
⁵⁴ Pollack 2012e (“To summarise, a bunch of dealers get together for the auction to trade some bonds to determine a clearing price for them, which then goes on to dictate cash payments under CDS.”).
⁵⁵ Pollack 2012e summarizes the key point thus: “conditional on there being a net open interest to sell in the first stage of the auction, the second stage will see an upward bias in the clearing price. The bias is driven by the CDS protection sellers, in whose interest it is to ensure that the final price is high so that they pay out less. It works in the other direction too, of course: conditional on there being a net open interest to buy in the first stage of the auction,
The auction rules dictate that the dealers must have open CDS positions and furthermore that they can only submit requests in the opposite direction of their position, but the details of how this happens are not enforced and the empirical evidence reveals that the participating dealer banks have been highly successful in distorting the auction price.\textsuperscript{56} Of course, ISDA has expressed determination to alleviate the bias by improving the auction mechanism, but it remains to be seen how successful those reform will be.\textsuperscript{57}

6.1.3.3 Big Bang: Is It Suitable for All CDSs?

A third criticism concerns the Big Bang Protocol’s mechanism for deciding upon credit events. The notion of credit event tends to cause interpretational problems, because creditors often seek a compromise with troubled debtors so as to avoid outright non-payment.\textsuperscript{58} Compromises imply losses for lenders, but CDS buyers will be compensated only if there is a credit event within the meaning of the agreement, as interpreted by the Determinations Committee. Uniform, market-wide interpretations are good for CDS dealers, but end-users are more vulnerable: a decision one way or another “can move billions among parties to standard-form contracts in an instant.”\textsuperscript{59}

In order to reduce uncertainty, ISDA’s CDS Definitions have since 2003 tended towards a narrow textualist interpretation, so that there is no credit event without a decision that legally binds all creditors.\textsuperscript{60} This implies problems for compromise arrangements, which are especially common in sovereign-debt troubles that often “end in restructuring operations usually described by oxymoronic euphemisms like ‘quasi-voluntary’, ‘moral suasion’, and ‘Private Sector Involvement’”.\textsuperscript{61} Paradoxically, textualist interpretation increases uncertainty for sovereign-debt CDS holders, which in consequence have an incentive to adopt a hard-line attitude towards troubled borrowers.

A recent test case was the Greek restructuring in March 2012, which triggered the CDS payments, but only after much hassle and uncertainty.\textsuperscript{62} According to

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\textsuperscript{56} Pollack 2012f.

\textsuperscript{57} Pollack 2012f notes critically that “the whole CDS edifice is built on a litany of modifications, due to the disconnect that naturally exists between the complexities of debt and a standardised derivative contract. We don’t expect this to be any different.”

\textsuperscript{58} Gelpern and Gulati 2012: 362.

\textsuperscript{59} Ibid. 349.

\textsuperscript{60} Ibid. 367–369.

\textsuperscript{61} Ibid. 366.

\textsuperscript{62} See Pollack 2012d (describing the Determinations Committee decision on Greece).
critics, future sovereign-debt CDS buyers “are left exposed to most kinds of sovereign credit risk. […] And sovereigns can structure their debt relief operations to affect triggers and payouts on CDS.”63 One might suppose that this is a marginal concern, because sovereign-debt CDSs constitutes a minority of the market; however, it is precisely these CDSs that tend to cause the greater number of disputes.64

6.1.3.4 How Impartial Are the Determination Committees?
The Big Bang mechanism has raised a further criticism, which is that the Determination Committees (DCs) tend to be biased.65 For example, when an ISDA DC voted on an ambiguous default of the Italian company Seat Pagine Gialle, evidence appeared “of committee members voting in a way that would financially benefit their institutions, rather than objectively”.66

One of the paradoxes of the Determination Committees is that, according to ISDA rules, the dealer participation is based on their notional trade volume in the relevant CDSs (buy-side members are chosen differently, but criteria include assets under management and volume of CDS deals).67 Thus instead of impartiality, the mechanism “insures maximum conflicted-ness.”68 At the same time, the rules provide extensive disclaimers,69 making the ISDA architecture an insulated regime that cannot be challenged at court.

ISDA has responded to the criticism, saying it is developing “some kind of best-practice policy to ensure proper Chinese walls are in place, because there can be a perception that sometimes people are voting their book.”70 But according to market participants, this “was an admission that the current process was not independent.”71

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63 Gelpen and Gulati 2012: 349.
64 Ibid. 365–366.
65 See Pollack 2011 (arguing that ISDA DCs are not impartial referees).
66 Ibid.
67 See ibid. (providing details).
68 Ibid.
69 Ibid. (citing rules).
70 Ibid. (citing David Geen, ISDA General Counsel).
71 Ibid.
6.1.4 Legitimacy Problems

6.1.4.1 Dealers versus End-Users and Other Creditors
The accusation of partiality can be extended, as critics argue that ISDA uses its power to advance the interests of major investment banks.\(^\text{72}\) ISDA membership was extended in the late 1980s to diverse professional organizations (e.g. law firms) as Associate Members and end-users as Subscribers,\(^\text{73}\) but Primary Membership is restricted to derivatives dealers, and they alone can vote in elections.\(^\text{74}\)

This is not necessarily wrong, but it can be if their interests conflict with those of the society at large.\(^\text{75}\) For example, ISDA does not necessarily seek the efficiency of the market as a whole, and dealers have opposed transparency, “as this would imply a loss of their informational advantage.”\(^\text{76}\) Problems related to settlement mechanisms likewise reflect the fact that the ISDA architecture seems to have been “constructed to advantage dealers in dealer-to-end-user contracts.”\(^\text{77}\)

Another conflict of interests concerns creditors in counterparty insolvency, as ISDA’s close-out netting mechanism crucially depends on privileges vis-à-vis ordinary creditors.\(^\text{78}\) The argument is that normal bankruptcy process might cause contagion in financial markets, but this has been questioned.\(^\text{79}\) Critics argue that by yielding to ISDA’s demands, numerous national governments have been “taking it beyond a merely private regulatory regime and affording it a strong public dimension.”\(^\text{80}\)

6.1.4.2 Negative Externalities: Bankers vs. Society
There may also be a broader conflict of interests, as financial derivatives constitute “an island of private governance in a financial industry heavily regulated by the state.”\(^\text{81}\) This is problematic, because CDSs seem to have the

\(^{72}\) See Partnoy and Skeel 2007: at 1037; Wynkoop 2008: 3122–3123.
\(^{73}\) Flanagan 2001: 241.
\(^{74}\) Ibid. 239 n.143; Scott and Biggins 2012: 234.
\(^{75}\) Partnoy and Skeel 2007: 1037.
\(^{76}\) Ayadi and Behr 2009: 195. See also Partnoy 2007: 187 (“In providing information, ISDA strongly favors its dealer members over the public and end users.”); Partnoy and Skeel 2007: 1036 (“ISDA has actively resisted disclosure of credit default swap documentation, insisting that this information is proprietary.”).
\(^{77}\) Partnoy and Skeel 2007: 1039. See also Ayadi and Behr 2009: 195.
\(^{78}\) Partnoy and Skeel 2007: 1048–1050; Ayadi and Behr 2009: 194.
\(^{80}\) Scott and Biggins 2012: 311.
\(^{81}\) Gelpern and Gulati 2012: 350.
potential to cause confusion and damage in financial markets, with serious repercussion for economy and society. Thus the ISDA architecture would be a classic case of self-regulation that increases transactional efficiency but fails to address wider concerns, including the negative externalities and systemic risk concerns.\textsuperscript{82}

According to some critics, the creation of the ISDA architecture was in part motivated by the desire to avoid regulation.\textsuperscript{83} Its success has been partial only, but one thing has rarely been noted: the Big Bang Protocol provides binding decisions to key sources of disagreement, reducing the likelihood that CDS disputes might reach national courts. Thus it represents self-governance at the fringes of the legal system. Crucial questions about the contractual characterization and interpretation of CDSs will not be answered according to ordinary legal determinations, and the ISDA architecture will increasingly become a supranational legal system, governed by leading derivatives dealers.

\subsection*{6.1.4.3 The Lehman Brothers Litigation}

The possibility remains that the ISDA regime may be challenged at national courts in some respects. This was seen in some of the cases following the bankruptcy of the Lehman Brothers investment bank, especially the United States bankruptcy case known as \textit{Metavante}.\textsuperscript{84} In the words of Agasha Mugasha, “in a global setting the decision has opened up a debate on some provisions of the ISDA Master Agreement.”\textsuperscript{85} This is because the key legal issue here was the tension between the US Bankruptcy Code and the provisions of the ISDA Master Agreement.

The dispute, between Metavante Corporation and Lehman Brothers Special Financing, Inc. (LBSF, a subsidiary of Lehman Brothers Holdings International, Inc.), was based on a simple interest rate swap, which included the standard ISDA term that a non-defaulting party might demand early termination or withhold performance.\textsuperscript{86} The problem was the literal terms enabled Metavante to seemingly maintain a profitable position as ongoing for months even after its counterparty’s bankruptcy filing. This was ultimately seen as incompatible with the bankruptcy rules by the court, which “expressly limited the ‘enforceability of section 2(a)(iii) of the ISDA Master Agreement and the scope of the US

\textsuperscript{82} See Johnson 2011: 228–233.
\textsuperscript{83} Partnoy and Skeel 2007: 1025.
\textsuperscript{84} \textit{In re Lehman Brothers Holdings, Inc.}, Case No. 08-13555 et seq. (JMP) (jointly administered) (2010). For a description, see Mugasha 2011b: 561–567. On post-crisis Lehman litigation and ISDA, see also Biggins 2012: 1322–1323.
\textsuperscript{85} Mugasha 2011b: 555
\textsuperscript{86} Ibid. 561
Bankruptcy Code protections for non-defaulting parties to derivative contracts.\footnote{Ibid. 563.} According Mugasha, the “initial reaction in the media was to say that it was unsafe to do business in the United States.”\footnote{Ibid. 565.} This was probably exaggerated, as this was a first-instance decision, and in general terms, “in the minority” on this question of principle, although even Mugasha accepted that it may have been the right decision on the peculiar facts of the dispute.\footnote{Ibid. 566.} In other words, the case is authority that the United States bankruptcy law may impose limits on the enforceability of the ISDA Master Agreement even if the literal text of the Bankruptcy Code does not state this; but the exact legal basis and extension of such limits is unclear.

Indeed, it is a different question how similar cases would be decided in other jurisdictions. Comparing the United States and the UK, Mugasha notes that in this respect US bankruptcy law differs fundamentally from English bankruptcy law, which “is largely procreditor and ordinarily upholds commercial contracts” whereas the US regime “is largely pro-debtor.”\footnote{Mugasha 2011b: 576.} The UK approach, which is more favourable towards the ISDA architecture, was in fact indirectly supported by another Lehman case that took place in England.\footnote{Perpetual Trustee Co. Ltd. v. BNY Corporate Trustee Services Ltd. [2009] EWCA (Civ) 1160. See Mugasha 2011b: 567–571.} This case involved the rights of the litigating parties following the bankruptcies of Lehman Brothers Holdings International (LBHI) and Lehman Brothers Special Financing (LBSF); they were both parties to a special purpose vehicle—also dealing in CDSs—set up by Lehman Brothers International Europe (LBIE).\footnote{See Mugasha 2011b: 568–569.} The facts of the highly complex case are not of major importance here; what is interesting is the decision of the English Court of Appeals, which insisted on the principle of party autonomy, i.e. freedom of contract, which the court considered relevant also in the application of insolvency (or bankruptcy) law. In the lead decision, Lord Neuberger M.R. argued that in “complex and sophisticated contractual arrangements the parties should be expected to know what they were doing, and the courts should be slow to take away their right to freely contract on terms as they see fit.”\footnote{Cited in Mugasha 2011b: 570.} More specifically, in the field of insolvency and financial markets:

It is important that, so far as possible, judicial decisions in the insolvency field ensure that the law is clear and consistent. That has always been true, but the need for consistency and clarity is all the greater now that commercial contracts are becoming increasingly complex both in their underlying nature and in their detailed provisions, as is well
demonstrated by the contracts in the instant cases. [...] It is also desirable that, if possible, the courts give effect to contractual terms which the parties have agreed. Indeed, there is a particularly strong case for party autonomy in cases of complex financial instruments [...] and in arrangements involving large corporate groups [...] in such cases, the parties are likely to have been commercially sophisticated and expertly advised.  

Of course, this obiter dictum has no binding force, but it expresses the dominant attitude of English courts today when faced with sophisticated finance. One might, to be sure, problematize the reasoning of the learned judge on a number of grounds that have already been considered in detail earlier in the present study. Moreover, the argument for party autonomy is hardly a sufficient basis for dealing with potential conflicts of interest between contracting parties and third parties whose rights the law of insolvency must also protect.

In the end, one wonders whether there is any consistency of principle in the insistence on party autonomy in extremely complex transactions; after all, one would suppose that it is in simple transactions that the parties are more likely to adequately understand all the aspects of the agreement. If a sceptical interpretation is permitted, it will be submitted that what is really behind the reasoning of the court here is not confidence in the parties’ understanding, but lack of confidence in the court’s own understanding of the transactions.

6.1.5 From Self-Regulation to Co-Regulation

Some proposals have been made to improve regulation while maintaining the best aspects of the ISDA regime. This is an important area that merits more research, because the ISDA regime continues to influence most aspects of CDSs globally, and deeper reforms will meet with fierce resistance. Perhaps the most interesting idea is to develop new forms of co-regulation, whereby self-regulation would be subject to governmental registration and oversight, including authority to alter self-regulatory rules. The Dodd-Frank central clearing regime is based on the same idea, and extending it to organizations like ISDA would enable light-touch interventions even when central clearing does not apply.

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94 Cited in ibid. 571.
95 See for example Partnoy and Skeel 2007: 1047 (“ISDA should make all credit derivatives documentation available for free on the Internet.”), 1048–1050 (proposing changes to bankruptcy privileges). The practicability of these proposals is doubtful, because the documents are protected by copyright, and the bankruptcy privileges are so central to the ISDA architecture that their abolition would imply radical changes to the regime itself.
96 See Johnson 2011: 242–256 (proposing a community governance model along the lines of federally registered self-regulatory organizations); Baker 2010: 1369–1376 (proposing public-private partnerships for regulating OTC derivatives).
Co-regulation could be developed to address some of the issues mentioned above, for example by requiring changes to Determination Committee participation rules, and empowering non-dealer members in ISDA’s decision-making processes. Light-touch interventions could also be employed to provide more variety in the architecture, for example by requiring ISDA to introduce an alternative regime that is more sensitive to ambiguous credit events. Such variety would help to improve the regime on a trial-and-error basis, leaving the ultimate choices for the market.

The big question is to what extent co-regulation could be used to address the fundamental problems with credit default swaps. It is not immediately evident how this approach could be harnessed to resolve the problems with CDSs. Kristin Johnson, for example, in her argument in favour of this approach, claims that “the successes of capital market SROs [self-regulatory organizations] is well established,” but the only evidence that she offers is limited to operational issues, which is not the main concern with CDSs. Perhaps the public regulators could intervene to tweak some details of the ISDA architecture, for example to reduce the power of dealers, but from a social point of view, those are still marginal issues.

6.2 TRANSPARENCY REGULATION

Let us next look at the two strategies that have had the leading role in the post-crisis reform legislation, namely regulations seeking to improve the transparency of OTC derivatives, and the imposition of compulsory clearing by a central counterparty (CCP).

Transparency plays a central role in all financial regulation. In Judge Louis Brandeis’ famous words: “Publicity is justly commended as a remedy for social and industrial diseases. Sunlight is said to be the best of disinfectants; electric light the most efficient policeman.” Brandeis’ analysis is hardly sufficient if taken literally, but it has been influential, and some go so far as to claim that “[i]nformation problems [...] are the root of most every financial crisis known to history.” Thus it is understandable that attempts to increase the transparency of OTC derivatives have been among the leading post-crisis reform strategies, which also affects credit default swaps.

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100 Kaufmann and Weber 2010: 779.
101 Brandeis 1914: 92.
102 Mason 2008: 7.
6.2.1 Post-Crisis Reforms

6.2.1.1 Transaction Reporting and Aggregate Market Data

Before the crisis, Partnoy and Skeel among others proposed compulsory disclosures for credit default swaps, including the registration of transactions, a centralized pricing service, and more details in company financial reporting.\(^{103}\) These ideas are in some respects already reality.\(^{104}\) At least since 2002, CDS dealers themselves have promoted modest price transparency in order to attract more business,\(^{105}\) and most CDSs are now reported to the Depository Trust Clearing Corporation (DTCC) data warehouse, which “also makes comprehensive trade-level data available to regulators on-demand”.\(^{106}\)

Regulatory intervention has been necessary, however, because at least in 2008 the DTCC data on subprime mortgage-related CDSs was incomplete.\(^{107}\) The European Commission in 2010 also found that there was no source of complete market information and even the combined use of different sources did not suffice to provide a full picture.\(^{108}\) Market-based information services have moreover been criticized for being frequently subject to expensive subscription fees, which decreases their efficacy for public policy purposes.\(^{109}\)

After the crisis there has been some progress in the transparency issue. There are firstly more disclosures to regulators: CDS protection sellers in the United States have had to provide “substantial qualitative and quantitative disclosures” since 2008.\(^{110}\) The Dodd-Frank reforms, in concrete, require swap entities to

\(^{103}\) Partnoy and Skeel 2007: 1046–1048.

\(^{104}\) See Dømler 2013: 50, discussing some CDS market services that provide both pre-trade and post-trade price information.


\(^{106}\) Shadab 2012: 1043. See also Shadab 2010: 439–440 (describing DTCC’s CDS-related services).

\(^{107}\) Stulz 2010: 74 n.1.

\(^{108}\) European Commission 2010a: 14 states that “regulators literally do not know the exact size of any of the segments of the OTC derivatives market as none of the sources mentioned earlier provides a comprehensive picture of the various segments of the OTC derivatives market. The only one that comes close to full coverage of a market segment is the Warehouse Trust, which contains information on almost all outstanding CDS contracts. Regulators could not gain a full picture by piecing together the data from the various sources either, as the data published by those sources are not comparable.” Ibid. n.48 adds: “Even surveys with similar market coverage lead to different results due to different samples and methodologies used.”


\(^{110}\) Shadab 2012: 1026 (citing lower-level regulatory rules).
“report all swaps to either the SEC or the CFTC.”111 Importantly, even non-cleared swaps must be reported to a registered swap data repository.112

In Europe, the post-crisis legislation has likewise sought to provide more transparency, as the European Market Infrastructure Regulation (EMIR) creates a general obligation to report any derivative transaction to a registered trade repository.113 This information is mainly available for the various financial regulators, but it should also be used to publish aggregate data to the market by derivatives class.114 Naturally, this public data must not reveal the identity of any counterparty.115 Interestingly, the subsequent delegated regulations have determined that transaction reports must include information on the type and amount of collateral, although this information is obviously available to the regulatory bodies only.116

The more recent MiFID II continues along the same lines, seeking to provide a more general framework that is not limited to OTC. It for the first time establishes a principle of transparency for non-equity instruments such as bonds and derivatives, setting out the principles for the creation of a pre- and post-trade transparency regime calibrated for different types of instruments.117 The precise requirements of MiFID II nevertheless depend on the implementing legislation.118 Thus it remains to be seen how demanding and effective this regime will be with respect to CDS transparency.119

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111 O’Loughlin 2012: 513 (citing the subsequently codified 7 U.S.C.A. § 6s(a)(1)-(2) and 15 U.S.C.A. § 78o-10(a)(1)-(2)).
113 EMIR, Art. 9.
114 EMIR, Art. 81. ESMA 2012a: 65 (paras. 343–344) provides further details on this requirement of aggregate public data.
117 European Commission 2014: 2. See also European Commission 2011b: 39–42 (overall analysis of the chosen measures to improve trade transparency for market participants), 46–48 (overall analysis of the chosen measures to reinforce transparency towards regulators).
119 One reason for skepticism is the statement in European Commission 2014: 8 that “[w]aivers will be available for [...] derivatives that are not subject to the trading obligation and for non-equity instruments for which there is not a liquid market.”
6.2.1.2 The European Short Selling Regulation

In Europe, there is also a targeted post-crisis Short Selling Regulation that imposes mandatory disclosures of significant net short positions in shares, sovereign debt, and sovereign-debt related CDSs. The principal objective of the new requirements is, according to the European Commission, to enable regulators to better detect market abuse and position build-up, as well as to provide some harmonization across countries given the diversity of national rules on short selling. This Regulation merits special attention, because unlike EMIR and MiFID II, it specifically addresses certain issues in CDSs, and also because in some respect it is more elaborate and demanding.

The EU Short Selling Regulation has its limits but also its strengths. It requires notification of major short positions in shares not only to regulators but also their publication to the markets when the relevant thresholds are reached. In contrast, however, short positions in debt and CDSs only need to be disclosed to the regulators, not to the market, and this requirement is limited to instruments involving sovereign debt, not corporate debt. A 2013 report by the European Securities and Markets Authority (ESMA) moreover found that, between 1 November 2012 and 28 February 2013, there had been very few notifications of short positions in sovereign debt or uncovered positions in sovereign CDSs. This may be due to a notification threshold that was set too low or other measurement issues.

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120 Short Selling Regulation, Art. 5–8.
122 For a detailed analysis, see Juurikkala 2012a: 314–322.
123 The thresholds are as follows: Art. 5(2): “A relevant notification threshold is a percentage that equals 0.2 % of the issued share capital of the company concerned and each 0.1 % above that.” Art. 6(2): “A relevant publication threshold is a percentage that equals 0.5 % of the issued share capital of the company concerned and each 0.1 % above that.”
124 See Short Selling Regulation, Art. 7 (Notification to competent authorities of significant net short positions in sovereign debt) and Art 8 (Notification to competent authorities of uncovered positions in sovereign credit default swaps).
125 See ESMA 2013a: paras. 50–51.
126 See ibid. paras. 52, 57–59. The calculation of net short positions in sovereign debt is highly complicated and has been further specified in the Commission Delegated Regulation (EU) No 918/2012 of 5 July 2012 supplementing Regulation (EU) No 236/2012 of the European Parliament and of the Council on short selling and certain aspects of credit default swaps with regard to definitions, the calculation of net short positions, covered sovereign credit default swaps, notification thresholds, liquidity thresholds for suspending restrictions, significant falls in the value of financial instruments and adverse events [2012] OJ L 274/1 [Short Selling Supplement], Art. 8–11, as well as Art. 21, which specifies the rather complicated notification thresholds for net short positions relating to sovereign debt. ESMA has proposed lowering the notification thresholds and making other adjustments, but the Commission in its subsequent report decided to wait and gather more experience: see European Commission 2013: 3.
The question of publication to the market will be critically examined shortly. Regarding the exclusion of disclosure of corporate debt and CDS short positions, it is difficult to find a justification for this regulatory inconsistency. In its impact assessment, the European Commission merely observed that the public consultation “showed very limited support for the inclusion of corporate bonds and their derivatives in a disclosure regime.” However, the Parliamentary Committee on Economic and Monetary Affairs rightly noted that “it would be appropriate to extend to corporate debt and corporate CDS the notification regime [in order to] ensure to the issuers that there is no price manipulation on these instruments.”

To be sure, there remains the possibility of requiring generic disclosures of CDS positions at national level, but these reporting requirements tend to be less demanding and there is scope for further development. Moreover, the Short Selling Regulation empowers national and EU regulators to demand more extensive disclosures of short positions in exceptional circumstances. These exceptional disclosures may extend to non-sovereign debt related credit default swaps, and they may include both notification to the regulators and publication to

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127 See Juurikkala 2012a: 318–319. It must be noted, though, that the Commission Delegated Regulation (EU) No 918/2012 (Short Selling Supplement), Art. 11(1), states as a general principle that “net short positions in sovereign debt shall be calculated by taking into account transactions in all financial instruments that confer a financial advantage in the event of a change in the price or yield of the sovereign debt.” This means that sovereign-debt CDSs will also be included in the calculation of net short positions in sovereign debt; in fact, corporate and index CDSs will also be included insofar as the general principle applies. See also specifically Art. 9(3) of the Short Selling Supplement: “Any sovereign credit default swap referenced to a sovereign issuer shall be included in the calculation of net short positions in that sovereign debt. Sales of sovereign credit default swaps shall be considered to be long positions and purchases of sovereign credit default swaps shall be considered to be short positions.” Art. 9(4) adds: “If a sovereign credit default swap position is hedging a risk other than the referenced sovereign debt, the value of the hedged risk cannot be treated as a long position for the purposes of calculating whether a natural or legal person has a net short position in the issued sovereign debt of a sovereign issuer.” All of this means that in some cases non-sovereign CDSs will fall within the notification requirements.

128 European Commission 2010b: 64.


130 MiFID Recitals 45 and 46 mention the prospect of developing mandatory reporting of some OTC derivatives transactions (including corporate CDSs) in member state rules. In the UK, for example, FSA Handbook, SUP17.1.4 R(2), covers the reporting of transactions in “any OTC derivative the value of which is derived from, or which is otherwise dependent upon, an equity or debt-related financial instrument which is admitted to trading on a regulated market or on a prescribed market.” According to European Commission 2010b: 19, such national rules were underdeveloped in most member states.

the market.\footnote{Short Selling Regulation, Art. 18(1) states that “a competent authority may require natural or legal persons who have net short positions in relation to a specific financial instrument or class of financial instruments to notify it or to disclose to the public details of the position where the position reaches or falls below a notification threshold fixed by the competent authority”.

\footnote{Short Selling Regulation, Recital 37.} The Recitals of the Regulation explicitly mention the legitimacy of demanding information on CDS positions:

Because of the specific risks which can arise from the use of credit default swaps, such transactions require close monitoring by competent authorities. In particular, competent authorities should, in exceptional cases, have the power to require information from natural or legal persons entering into such transactions about the purpose for which the transaction is entered into.\footnote{Short Selling Regulation, Art. 18(1) states that “this Article shall not apply to financial instruments in respect of which transparency is already required under Articles 5 to 8”, and Art. 8 states that “[w]here a competent authority suspends restrictions in accordance with Article 14(2), a natural or legal person who has an uncovered position in a sovereign credit default swap shall notify the relevant competent authority where such a position reaches or falls below the relevant notification thresholds for the sovereign issuer”. Given that Art. 18(2) is formulated in terms of the type of financial instrument, and not in terms of the type of disclosure already required, it follows that disclosure to the public under Art. 18(1) cannot be applied to sovereign CDSs.}

Paradoxically, though, the way in which the rules are formulated implies that publication to the market could be extended for non-sovereign CDSs, but not to sovereign-debt CDSs.\footnote{Juurikkala 2012a: 320. This is because Art. 18(2) determines that “this Article shall not apply to financial instruments in respect of which transparency is already required under Articles 5 to 8”, and Art. 8 states that “[w]here a competent authority suspends restrictions in accordance with Article 14(2), a natural or legal person who has an uncovered position in a sovereign credit default swap shall notify the relevant competent authority where such a position reaches or falls below the relevant notification thresholds for the sovereign issuer”. Given that Art. 18(2) is formulated in terms of the type of financial instrument, and not in terms of the type of disclosure already required, it follows that disclosure to the public under Art. 18(1) cannot be applied to sovereign CDSs.}

There are two broad conditions for the employment of these special disclosure requirements:

(a) there are adverse events or developments which constitute a serious threat to financial stability or to market confidence in the Member State concerned or in one or more other Member States; and

(b) the measure is necessary to address the threat and will not have a detrimental effect on the efficiency of financial markets which is disproportionate to its benefits.\footnote{These conditions are found equally in Art. 18(1), 19(1) and 20(1).}

The generic nature of these conditions gives significant scope for discretion in the use of these powers, although the question has been further specified by delegated acts of the Commission.\footnote{This is based on Short Selling Regulation, Art. 30. See the subsequent Commission Delegated Regulation (EU) No 918/2012 of 5 July 2012 (Short Selling Supplement).} In its technical advice to the Commission, ESMA has stated that, even though the literal wording of the Regulation suggests that there must be a market-wide stability concern, in fact any serious concern related to either EU member states or systematically important financial

\footnote{Juurikkala 2012a: 320. This is because Art. 18(2) determines that “this Article shall not apply to financial instruments in respect of which transparency is already required under Articles 5 to 8”, and Art. 8 states that “[w]here a competent authority suspends restrictions in accordance with Article 14(2), a natural or legal person who has an uncovered position in a sovereign credit default swap shall notify the relevant competent authority where such a position reaches or falls below the relevant notification thresholds for the sovereign issuer”. Given that Art. 18(2) is formulated in terms of the type of financial instrument, and not in terms of the type of disclosure already required, it follows that disclosure to the public under Art. 18(1) cannot be applied to sovereign CDSs.}
institutions would constitute the relevant adverse event or development. The Commission’s supplementary Delegated Regulation has adopted this approach.

Uncertainty surrounding the use of the exceptional disclosures is increased by the fact that the rules on the relevant competent authority are rather complicated. The basic rule is that the powers are determined according to the financial instrument in question, so that if the intervention involves the sovereign debt of an EU member state, or related CDSs, the relevant competent authority is that of the member state; if it involves corporate debt and related CDSs (or non-EU sovereign CDSs), the relevant competent authority is the national regulator in whose jurisdiction is the most relevant market in terms of liquidity for the

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137 See ESMA 2012b: 65–67 (providing a preliminary non-exhaustive list of qualitative events).

138 Ibid. 66 (para. 194).

139 See Short Selling Supplement, Art. 24(1), which provides that such adverse events or developments “include any act, result, fact, or event that is or could reasonably be expected to lead to the following: (a) serious financial, monetary or budgetary problems which may lead to financial instability concerning a Member State or a bank and other financial institutions deemed important to the global financial system such as insurance companies, market infrastructure providers and asset management companies operating within the Union when this may threaten the orderly functioning and integrity of financial markets or the stability of the financial system in the Union; (b) a rating action or a default by any Member State or banks and other financial institutions deemed important to the global financial system such as insurance companies, market infrastructure providers and asset management companies operating within the Union that causes or could reasonably be expected to cause severe uncertainty about their solvency; (c) substantial selling pressures or unusual volatility causing significant downward spirals in any financial instrument related to any banks and other financial institutions deemed important to the global financial system such as insurance companies, market infrastructure providers and asset management companies operating within the Union and sovereign issuers as the case may be; (d) any relevant damage to the physical structures of important financial issuers, market infrastructures, clearing and settlement systems, and supervisors which may adversely affect markets in particular where such damage results from a natural disaster or terrorist attack; (e) any relevant disruption in any payment system or settlement process, in particular when it is related to interbank operations, that causes or may cause significant payments or settlement failures or delays within the Union payment systems, especially when these may lead to the propagation of financial or economic stress in a bank and other financial institutions deemed important to the global financial system such as insurance companies, market infrastructure providers and asset management companies or in a Member State.”


141 Short Selling Regulation, Art. 2(1)(j)(i): “in relation to sovereign debt of a Member State, or, in the case of a federal Member State, in relation to sovereign debt of a member of the federation, or a credit default swap relating to a Member State or a member of a federation, the competent authority of that Member State”.
financial instrument in question, which for CDSs will almost always be London.\textsuperscript{142} However, other national regulators may also use the intervention powers, but only with the consent of the relevant competent authority.\textsuperscript{143} Finally, the EU regulator ESMA may also intervene on its own authority if it deems that the relevant national regulators have failed to act so as to adequately address any “threat to the orderly functioning and integrity of financial markets or to the stability of the whole or part of the financial system in the Union.”\textsuperscript{144}

In addition to these interventions, the Regulation empowers ESMA to separately conduct “an inquiry into a particular issue or practice relating to short selling or relating to the use of credit default swaps to assess whether that issue or practice poses any potential threat to financial stability or market confidence in the Union.”\textsuperscript{145} This may be done on ESMA’s own initiative, or at the request of national regulators, the European Parliament, the Council or the Commission. This is a very significant provision, because it covers corporate as well as sovereign CDS markets, and it is not conditional on any actual threat to financial stability.

\textsuperscript{142} Short Selling Regulation, Art. 2(1)(j)(v): “in relation to a financial instrument other than an instrument referred to in points (i) to (iv), the competent authority for that financial instrument as defined in point (7) of Article 2 of Commission Regulation (EC) No 1287/2006 and determined in accordance with Chapter III of that Regulation”. The detailed rules for the determination are thus found in Commission Regulation (EC) No 1287/2006 of 10 August 2006 implementing Directive 2004/39/EC of the European Parliament and of the Council as regards record-keeping obligations for investment firms, transaction reporting, market transparency, admission of financial instruments to trading, and defined terms for the purposes of that Directive.

\textsuperscript{143} Short Selling Regulation, Art. 22.

\textsuperscript{144} Art. 28(2). The Commission’s Short Selling Supplement, Art. 24(3), specifies that, for purposes of this Article, “a threat to the orderly functioning and integrity of financial markets or to the stability of the whole or part of the financial system in the Union shall mean: (a) any threat of serious financial, monetary or budgetary instability concerning a Member State or the financial system within a Member State when this may seriously threaten the orderly functioning and integrity of financial markets or the stability of the whole or part of the financial system in the Union; (b) the possibility of a default by any Member State or supranational issuer; (c) any serious damage to the physical structures of important financial issuers, market infrastructures, clearing and settlement systems, and supervisors which may seriously affect cross-border markets in particular where such damage results from a natural disaster or terrorist attack when this may seriously threaten the orderly functioning and integrity of financial markets or the stability of the whole or part of the financial system in the Union; (d) any serious disruption in any payment system or settlement process, in particular when it is related to interbank operations, that causes or may cause significant payments or settlement failures or delays within the Union cross-border payment systems, especially when these may lead to the propagation of financial or economic stress in the whole or part of the financial system in the Union.”

\textsuperscript{145} Short Selling Regulation, Art. 31.
6.2.2 Limits of Transparency Regulation

6.2.2.1 Disclosure to Markets or to Regulators Only?
Improved transparency is certainly important for the development of CDS regulation, but it should not be seen as the fundamental strategy. One reason for its limited nature is that the reformed rules mainly improve disclosures to regulators, whereas disclosures to the market are limited to aggregate market data which has very limited value for resolving the issues associated with CDSs.

There is in fact the argument in the financial regulatory literature that disclosures to regulators only tend to be relatively ineffectual.\(^\text{146}\) For example, some critics of the regulatory failure before the financial crisis have argued that much of the relevant information was available to the supervisors much before the crash, but they failed to take determined act, perhaps in part because they did not have tangible incentives to do so.\(^\text{147}\) According to Eamonn Butler, “[t]he Bank of England warned the FSA that Northern Rock was operating riskily in October 2006, long before it collapsed; but no effective action was taken.”\(^\text{148}\) The Commission impact assessment for EMIR noted this in positive terms, writing that “the publication of data on individual positions would enable any market participant to estimate better the counterparty credit risk it is exposed to when dealing with a particular counterparty and would therefore allow it to secure itself better against this risk.”\(^\text{149}\)

Naturally, the limits and failures of regulatory action are complex issues, but so is the question of providing more disclosures to other market participants.\(^\text{150}\) In the preparation of the European Short Selling Regulation, this was debated in the context of significant short positions. The impact assessment of the European Commission noted that, in the public consultation, “serious concerns were expressed about the potential negative impact on liquidity of public disclosure of sovereign bonds and sovereign CDS short positions.”\(^\text{151}\) Behind those concerns was a widely cited study, which claimed that the imposition in the UK of a partial public disclosure on shares in 2008 led to a 20–25% reduction in short selling, a 13% decrease in trading volume and an incredible 45% increase in bid-ask spreads.\(^\text{152}\) In reality, those findings were highly dubious, because there was a

\(^{146}\) See Juurikkala 2012b: 60–61.
\(^{147}\) Beenstock 2009: 59.
\(^{148}\) Butler 2009: 56.
\(^{149}\) European Commission 2010a: 44.
\(^{150}\) See Juurikkala 2012: 316–318.
\(^{151}\) European Commission 2010b: 64.
\(^{152}\) See Ziff and Moeller 2010: 4–5.
general market decline in 2008, so that the effects cannot be attributed causally to the regulatory intervention.\textsuperscript{153}

There are, however, other concerns that may be valid. One is that public knowledge of trading positions may disadvantage investors (particularly hedge funds) that engage in price arbitrage strategies.\textsuperscript{154} To be sure, this is a loss to trades, not to market efficiency, although in longer term it may also discourage market research. The Commission impact assessment proposed that this problem could be reduced by publishing individual positions with a time lag.\textsuperscript{155}

Another concern is \textit{herd behaviour}, which may occur when poorly-informed investors make decisions based on imitation. As herding reinforces the price tendency, public disclosure of short positions will exacerbate downward price spirals if investors imitate major short sellers on trust.\textsuperscript{156} However, this effect may be produced also without the public disclosure of trading positions, and perhaps even more so when the imitators do not know who is pushing the prices, so that it is not clear whether more disclosure would be damaging in the end.

In conclusion, there seems to be a reasonable argument for extending public disclosures towards individual positions, not only aggregate market data, although the details of such disclosures require more study. The current regulations do not go so far, but the regulatory framework provides the infrastructure needed for more extensive transparency.

\textbf{6.2.2.2 \textit{Limits of Financial Risk Reporting}}

It must be recognized, in any case, that there are limits to both what can be done to improve transparency, and how much it will help. Even if CDS positions are not publicly disclosed to the market under a special regime, they have already been subject to some transparency, given that in terms of company financial reporting, CDSs are \textit{on-balance sheet} transactions, so that in principle they must be reported already in that context, which of course has its imperfections.\textsuperscript{157} The problem is in the general difficulty of regulating financial risk disclosures, so that it is not difficult to misrepresent and conceal derivatives risks in compulsory financial disclosures.\textsuperscript{158}

\begin{itemize}
\item \textsuperscript{153} This was explicitly noted in European Commission 2010b: 59.
\item \textsuperscript{154} Ziff and Shu 2011: 29–30.
\item \textsuperscript{155} European Commission 2010a: 44.
\item \textsuperscript{156} FSA 2009: 25.
\item \textsuperscript{157} Shadab 2012: 1026. See also ibid. 1025, noting that the new US standards, revised in 2009, make it “substantially more difficult to achieve off-balance sheet treatment for most securitization transactions.”
\item \textsuperscript{158} See Stulz 2004: 184–185.
\end{itemize}
Indeed, it has been argued that CDS users may exploit imperfections of accounting rules. The unique properties of credit risk render them “difficult to measure, observe, and hence predict.” Moreover, given that CDSs pay off rarely, “accounting for them is prone to large ex post errors, [...] suggesting that [they] are less valuable than in fact they are.”

To mitigate the problem, some scholars have proposed demanding more detailed information on concentration risk, historical data used to value the positions, and other important estimation assumptions. These are worthwhile ideas, but one wonders how much difference they can make, given that credit risk is inherently “difficult to measure, observe, and hence predict.” Some experts go so far as to claim that financial innovation has rendered the traditional disclosure paradigm unworkable. There are experienced investors who agree:

Improved “transparency”—a favorite remedy of politicians, commentators and financial regulators for averting future train wrecks—won’t cure the problems that derivatives pose. I know of no reporting mechanism that would come close to describing and measuring the risks in a huge and complex portfolio of derivatives. Auditors can’t audit these contracts, and regulators can’t regulate them. When I read the pages of “disclosure” in 10-Ks of companies that are entangled with these instruments, all I end up knowing is that I don’t know what is going on in their portfolios (and then I reach for some aspirin).

In addition to the imperfections of financial reporting, there are limits to how much information can be effectively analyzed by time-constrained and boundedly rational actors. Sometimes, “in addition to being a disinfectant, sunlight can also be blinding.” In brief, there are limits not only to what can be effective communicated but also to what information can be effectively received and analyzed.

6.2.2.3 The Limited Relevance of Transparency: Negative Externalities

Finally, it is necessary to remember that transparency can never solve all the problems, especially when they are due to the negative externalities of certain

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159 Shadab 2012: 1026–1027.
160 Ibid. 1021.
161 Acharya et al. 2010: 276.
162 Ibid. 270. See also Partnoy and Skeel 2007: 1047 (proposing more disclosure “in narrative form”).
163 Shadab 2012: 1021.
166 Paredes 2003: 434–443 (summarizing research in cognitive psychology).
167 Ibid. 419.
activities. The principal function of transparency is to facilitate corporate governance, and better corporate governance curbs excessive risk-taking by traders and executives, which can be a problem.\textsuperscript{168} Yet research following the recent crisis suggests that shareholders actively encouraged excessive leverage and risk-taking by financial institution executives, because they also stood to benefit.\textsuperscript{169} Both phenomena can happen at the same time, because even if executives profit disproportionately from risk-taking, shareholders also profit disproportionately relative to the broader public, when an important part of the social cost of risk-taking is external.\textsuperscript{170}

Therefore, reform proposals limited to disclosure fail to acknowledge the more fundamental problems of how CDSs affect credit markets and risk-taking. Transparency is necessary for effective corporate governance and for other regulatory interventions, but in the presence of major negative externalities, it is not enough.

### 6.3 Compulsory Central Counterparty (CCP) Clearing

Alongside transparency, the other reform approach that has attracted the greatest amount of political and academic attention is the imposition of compulsory clearing by a central counterparty (CCP). This has probably been the most important legislative strategy for unregulated financial derivatives after the global financial crisis.\textsuperscript{171} The importance given to centralized clearing is understandable in the sense that this form of light-touch regulation has proved to be a cost-effective solution in other areas of finance, but the problem is, as will be seen shortly in detail, that this approach was never really designed with credit default swaps in mind. In other words, the advantages of this approach were based on fundamentally different financial contracts; it has now been unwittingly extended to CDSs, simply because CDSs were routinely grouped among OTC derivatives.

Given that this is the principal post-crisis regulatory reform for OTC derivatives, it has already been subjected to numerous academic analyses.\textsuperscript{172} In order to focus on the issues that are relevant for the objectives of the present


\textsuperscript{169} See Beltratti and Stulz 2009; Fahlenbrach and Stulz 2009.

\textsuperscript{170} Coffee 2011: 811.


\textsuperscript{172} See for example Johnson 2011: 234–242 (critically describing Dodd-Frank reforms for CDSs); Stulz 2010: 88–89 (comparing the pros and cons of OTC, exchange trading, and clearinghouses without exchange trading); Shadab 2012: 1044; Nosal 2011.
study, this section first seeks to explain the logic of centralized clearing and the potential benefits of compulsory clearing; it then analyzes the various criticisms that have been raised against this approach, especially in relation to credit default swaps; the section finishes with some reform proposals.

6.3.1 The Logic and Benefits of Compulsory CCP Clearing

6.3.1.1 Governance Mechanisms and Co-Regulation

Given the importance that this approach has obtained in the new regulatory regimes, it seems opportune to seek a good understanding of the fundamentals of centralized clearing. The general concept has been well explained by Shadab as follows:

*C clearing refers to the myriad of activities and processes designed to ensure that financial contract counterparties perform their obligations from the time a trade is executed until final legal settlement. Clearing includes confirming the parties to and terms of a contract, determining and settling periodic payments, evaluating the collateral, monitoring the creditworthiness of counterparties, determining whether a credit event took place, and whether to exercise closeout rights.*

It is sometimes inaccurately said that the new regulations impose compulsory clearing of OTC derivatives, as if these contracts were otherwise not cleared at all. The correct notion however is *centralized* clearing as opposed to *bilateral* clearing: “OTC derivative transactions, including CDSs, are generally cleared and settled bilaterally, while the utilization of a central counterparty for clearing and settlement is a characteristic of exchanged-traded instruments.”

To be precise, a central counterparty is not necessarily an exchange in the strict sense; what is essential is that it becomes an *intermediary* entity between the principal transactors by way of *novations.* It thereby reduces the counterparty risk of the original buyers and sellers, or to say it more accurately, the CCP assumes those counterparty risks, and the counterparty risk faced by the end-users is that of the CCP. The difference between bilateral and centralized clearing can be represented visually as in Figure 7.

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173 Shadab 2012: 1032.
175 Shadab 2012: 1036.
The CCP approach to derivatives regulation can be called *co-regulation*, because the central counterparties perform various regulatory or governance functions and can in turn be regulated by the public financial regulators. In fact, regardless of whether CCPs are required by law to do so, they will employ a range of *governance mechanism* in order to manage their risks and guarantee their long-term business viability. Specifically, they may “require each clearing member to post collateral and meet creditworthiness qualifications, establish a reserve fund to cover losses that a defaulting clearing member’s collateral does not, and mutualize losses among other clearing members if losses are in excess of the CCP’s reserve fund.” As Shadab points out, “CCPs have an incentive to limit membership only to dealers that can afford to meet certain capital and other requirements. A dealer-owned CCP may require non-member dealers and end-users to pay fees to clear trades through dealer-members.”

Regulators may moreover specifically target CCPs. For example, the Dodd-Frank Act specifically regulates *derivatives clearing organizations* (DCOs), which in the United States must be registered with the CFTC or the SEC. In addition to registration, they must perform various *enforcement functions*, such as “assuming liability for performing the trade, setting membership eligibility and capital requirements, requiring that traders post collateral (‘margin’) to ensure performance, making daily settlements of contracts, and setting standards for

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176 Chander and Costa 2010: 652.

177 This model is widely used in financial securities regulation. Hazen 2005: 386 explains: “Market regulation consists of complex series of rules and prohibitions based on direct regulation by the SEC as well as self regulation through exchange and NASD [National Association of Securities Dealers] rules that have been approved by the SEC. By way of summary, the SEC oversees the several securities exchanges and the [NASD], each of which is a self-regulatory organization that polices its own market.”

178 Ibid. 1044.

179 Ibid. 1037.
accepting contracts for trading.” In Europe, the new European Market Infrastructure Regulation (EMIR) similarly provides a detailed framework for the regulation of central counterparties.

In addition to these benefits due to risk management and co-regulation, Steven Schwarcz contends that the CCP approach fosters the standardization of OTC derivatives, which in turn will help to reduce systemic risks, because it reduces complexity. As will be seen a bit later, though, there are major doubts concerning this argument, particularly when it comes to CDSs.

6.3.1.2 Why Compulsory: Is Central Clearing Efficiency-Enhancing?

An important preliminary question relative to the normative evaluation of the CCP regulatory approach concerns the reasons for the efficiency or inefficiency of CCP clearing. If centralized clearing is supposed to be efficiency enhancing, why did the industry not adopt it for CDSs voluntarily, and why does it largely continue to oppose it for most CDSs?

One explanation that has been offered in the literature is that CCP clearing is more costly due to informational asymmetries between clearing members and CCPs. This implies that the CCP solution might, in fact, be efficiency-reducing rather than efficiency-enhancing. There may be truth to this, as will be seen later in detail, but we must also be aware that there are other possible explanations for the lack of industry enthusiasm for centralized clearing.

The most obvious explanation is the opposition from dealers, who have an incentive to keep the market non-standardized, because non-standardized contracts offer more scope for large intermediary fees. By providing transparency, and by replacing many functions performed by dealers in OTC markets, centralized clearing may be perceived as a threat. Indeed, insofar as CCPs are essentially a form of intermediary, they are in direct competition with the traditional dealers of OTC derivatives, even if in practice the latter may continue to perform certain functions in these markets when the CCPs do not amount to full-fledged exchanges.

A third possible explanation is that even if setting up centralized clearing is costly, the benefits are partly collective, so that in the absence of regulatory intervention, market participants alone may lack incentives to set up CCP

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180 Stout 2011: 34. Dodd-Frank Act, §§ 721, 723(a), 725(c). See also Cadmus 2010: 211–212.
181 See EMIR, Titles III (authorisation and supervision of CCPs) and IV (requirements for CCPs).
183 This question is posed by Pirrong 2009: 44.
184 Ibid. 48.
185 See Chander and Costa 2010: 677–678 (describing the market’s resistance to CCP clearing).
arrangements.\footnote{Baker 2011: 1332–1333.} In other words, we would be dealing with a collective action problem, not an efficiency problem. The implication then would be that compulsory CCP clearing might be efficiency enhancing even if, on the face of it, it is costly to arrange.

This is likely to be true, but again it is not the full picture: one further potential reason for the lack of market incentives is the externalities problem discussed earlier: it is not only that the benefits of CCP clearing are partly collective, but also that they are partly external to the industry, precisely because they may help to reduce negative externalities such as market instabilities that are partly borne by the rest of the society. On the other hand, as will seen shortly, CCP arrangements may also create new kinds of negative externality that are not visible in the short term.

Overall, then, there is a range of factors that may contribute to the supposed need for compulsory CCP clearing. It is difficult to say what role is played by each factor, which in turn implies that we do not know whether this approach is efficiency-enhancing overall. The benefits are probably weightier than the costs, but the latter should not be ignored.

\section*{6.3.2 Doubts and Worries}

There are, indeed, significant doubts concerning this approach to derivatives and CDS regulation. In this section the three leading criticisms will be discussed: firstly, that centralized clearing may not improve netting efficiency without reducing competition; secondly, that the compulsory clearing rules are subject to exceptions; and thirdly, that the entire arrangement may create unprecedented systemic risks.

\subsection*{6.3.2.1 Netting Efficiency: Competition versus Monopoly}

In addition to the governance mechanisms of CCPs, the economic argument in favour of centralized clearing relies on the notion of netting efficiency, which in principle is improved by centralized clearing.\footnote{For a critical discussion, see Hull 2010: 75–76 and Dømler 2013: 45–46.} To be sure, John Hull points out that even without netting efficiency, “[c]entral clearing will lead to an increase in transparency because the positions of different dealers can be more readily ascertained.”\footnote{Hull 2010: 76.} Netting efficiency is however important both overall and in relation to the design of the regulated clearing regime.

The point discovered by recent studies is that central clearing does not automatically improve netting efficiency; specifically, greater netting efficiency requires most contracts are cleared and that there are few clearing organizations.
As a rule, “netting efficiency increases as the percentage of OTC trades that are cleared increases. With multiple CCPs, the netting efficiency may decline.”

There is a difficult trade-off. On the one hand, when netting efficiency is low—for example, when there are multiple small CCPs—the situation economically resembles bilateral clearing, because each clearing member becomes more exposed to clearing member default. Moreover, if dealers act as clearing members in multiple CCPs, this makes it more difficult for CCPs to estimate their risk exposures. This is centralized clearing only in name, not in reality.

On the other hand, competition between CCPs is good as it lowers clearing member margins; but it may encourage a race to the bottom—much like in traditional insurance—as the costs of CCP default are partly external. Large CCPs thus have a natural oligopoly or monopoly in normal times (due to netting and risk-management efficiency). Yet in hard times, large CCPs become a significant source of systemic risk.

If there are multiple CCPs, netting and operational efficiency can be improved by their interoperability (much desired by industry). Yet this, too, has its problems, because interoperability is a source of contagion risk. In the end, CCPs face the same problems as the pre-crisis system: they do not make risks disappear, and they give rise to the same too-big-to-fail and too-interconnected-to-fail problems that led to the massive bailouts of banks.

These concerns are moreover closely connected to the following two issues: netting efficiency requires that most transactions are centrally cleared, which may not be the case for CDSs; and the creation of large or interoperable CCPs contributes to systemic risks.

### 6.3.2.2 Effectiveness of the Compulsory Rule

The first of the two frequent worries is that the compulsory clearing rules may turn out to the ineffective. The point is not so much, as Lynn Stout has helpfully clarified, that market participants would simply avoid the rule by trading elsewhere; the reason is that at least as far as United States financial institutions are concerned, the Dodd-Frank rules are applicable “to swaps-related activities

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189 Ibid.
190 Dømler 2013: 45.
191 Ibid. 46.
192 Ibid. 45.
193 Ibid. 46.
194 Ibid. In fact, in Europe, the CCP rules of EMIR, Art. 1(3), specifically excludes interoperability arrangements except for so-called cash securities. In the explanatory part of the original EMIR proposal, the Commission specifically explained that this restriction is for reasons of CCP risk reduction: see Proposal for a Regulation of the European Parliament and of the Council on OTC derivatives, central counterparties and trade repositories, COM(2010) 484 final, 15 September 2010, p. 11.
outside the United States if those activities ‘have a direct and significant connection with activities in, or effect on, the commerce of the United States.’”

This will “discourage offshore counterparties from seeking to engage U.S. institutions in speculative OTC trading elsewhere.”

It remains to be seen whether Stout’s optimism is warranted, but it is also the case that the bigger worry concerns the exceptions explicitly permitted by the new legislation. As was already mentioned earlier in relation to the Dodd-Frank reforms, it has been widely acknowledged that the rule on compulsory centralized clearing will not apply to all transactions. In fact, several Dodd-Frank analysts in the United States have claimed that there is an automatic exemption for non-standardized CDSs and other derivatives that clearinghouses will not accept for clearing. The legal basis of such affirmation is not entirely clear, however, so it merits a closer look.

Section 723(a) of the Dodd-Frank Act (amending § 2(h) of the Commodity Exchange Act) provides that the regulators must determine whether and under what conditions, if any, a “swap, or group, category, type, or class of swaps” must be subject to centralized clearing. In making this determination, the crucial question for the regulators is whether the contracts satisfy § 2(h)(2)(D), which provides different factors to consider, including trading liquidity.

195 Stout 2011: 35 (citing Dodd-Frank Act § 722(d)).
196 Ibid.
197 See Schwarcz 2011: 101 n.29 (“Dodd-Frank includes an exception for derivatives that a clearinghouse will not accept for clearing. Dodd-Frank Act sec. 723(a), § 2(h)(3).”); Johnson 2011: 240 (“The Dodd-Frank Act requires that only standardized credit default swap contracts be cleared through a central counterparty or derivatives clearing organization.”); Gensler 2009: 89 (statement of CFTC Chairman Gary Gensler: “It is important that tailored or customized swaps that are not able to be cleared or traded on an exchange be sufficiently regulated.”).
198 The amended § 2(h)(3) states, among other things: “(3) STAY OF CLEARING REQUIREMENT.— […] (C) DETERMINATION.—Upon completion of the review undertaken pursuant to subparagraph (A), the Commission may—(i) determine, unconditionally or subject to such terms and conditions as the Commission determines to be appropriate, that the swap, or group, category, type, or class of swaps must be cleared pursuant to this subsection if it finds that such clearing is consistent with paragraph (2)(D); or (ii) determine that the clearing requirement of paragraph (1) shall not apply to the swap, or group, category, type, or class of swaps.”
199 The factors are laid down in the new § 2(h)(2)(D) of the Commodity Exchange Act, which among other things states the following: “the Commission shall take into account the following factors: (I) The existence of significant outstanding notional exposures, trading liquidity, and adequate pricing data. (II) The availability of rule framework, capacity, operational expertise and resources, and credit support infrastructure to clear the contract on terms that are consistent with the material terms and trading conventions on which the contract is then traded. (III) The effect on the mitigation of systemic risk, taking into account the size of the market for such contract and the resources of the derivatives clearing organization available to clear the contract. (IV) The effect on competition, including
the Dodd-Frank Act similarly empowers the SEC to exempt transactions that it deems, among other things, insufficiently standardized and liquid.

Therefore, there is a legal basis for exempting some contracts from the mandatory clearing requirement, but it is not an automatic exemption and is subject to significant prudential judgment. On this account, Lynn Stout has been more sceptical given the significant pressure power of financial institutions. But regardless of lobbying considerations, there seems to be a consensus emerging that most CDSs will not be centrally cleared.

In Europe, the clearing obligation and the eligibility requirements for central clearing under EMIR are essentially similar to the Dodd-Frank rules. The European Central Bank highlighted already in 2009 that, in order to “be eligible for clearing, a product must, as a minimum, be liquid, have price transparency and be standardised.” While CDSs are relatively standardized, the majority of them are hardly if at all traded (in fact, they are not traded at all in the strict sense, because the transfer of the contract requires novation, as we saw earlier). A New York Fed calculation in 2011 estimated that only 19% corporate single-name CDSs (and 52% of index CDSs) were clearing-eligible.

appropriate fees and charges applied to clearing. (V) The existence of reasonable legal certainty in the event of the insolvency of the relevant derivatives clearing organization or 1 or more of its clearing members with regard to the treatment of customer and swap counterparty positions, funds, and property.”

200 Stout 2011: 36 (“The ultimate success of Dodd-Frank’s derivatives clearing requirement as a strategy for reducing systemic risk accordingly depends, to a very great extent, on the professionalism, effectiveness, and political savvy of a small public agency. This agency, moreover, must confront an enormously powerful coalition comprised of Wall Street investment banks, commercial banks, hedge funds, and investment funds, all of which either have made, or hope to make, billions of dollars trading OTC derivatives. It has been reported that from 1998 to 2008, financial firms made an estimated $1.7 billion in political contributions and spent another $3.4 billion on lobbying. Trying to hold the regulatory line against such a well-heeled interest group will be challenging, to put it mildly.”).

201 Shadab 2011b.

202 See especially EMIR, Art. 4(1) (determining the clearing obligation) and Art. 5 (determining the clearing obligation procedure). The latter article empowers ESMA to develop more specific eligibility rules; Art. 5(4) specifically mentions the degree of standardization and trading volume and liquidity as relevant criteria. Like in the US, there is in Europe an exemption for the hedging activities of non-financial counterparties: for details, see ESMA 2012a: 15–20; Slaughter & May 2012b. For a technical comparison of EMIR and Dodd-Frank clearing requirements, see Shearman & Sterling 2013.

203 ECB 2009: 79.

204 Chen et al. 2011: 15. A bit earlier and based on less rigorous analysis, the UK Turner Review reached a broadly similar conclusion: “Clearing and central counterparty systems will only be feasible for the roughly 50–75% of the CDS which is accounted for by standardised contracts (e.g. referencing a standard index): a large volume of bespoke contracts will continue to be traded in an OTC fashion.” (Turner Review 2009: 83).
It remains to be seen how the situation develops both economically and legally. Generally it has been observed that market participants are not interested in actively trading CDSs. In part, this reflects the fact that CDSs are structurally different from normal derivatives, and managing the counterparty relationship is crucial. There is also the paradox that it is estimated that “all liquidity” comes from the dealers, which prefer OTC contracts that offer more profit opportunities. Thus it may be that if the investment banks want to keep the CDS market as it was before, they can largely succeed in doing so.

If non-standardized transactions are exempted, there may be a major regulatory loophole. To be sure, the new rules in both the United States and the European Union impose compulsory collateral for uncleared swaps, which remains an area for further development. Moreover, the SEC and the CFTC have powers to investigate “abusive swaps”, i.e. transactions seen to be “detrimental to […] the stability of a financial market […] or […] participants in financial markets.” As we saw earlier, similar powers have been given to ESMA in Europe, so that if CDSs continue to be widely used by hedge funds and investment banks, these powers of investigation should be duly exercised.

Viral Acharya and Alberto Bisin have further proposed that central clearing of OTC derivatives could be encouraged by a change in insolvency law, granting “a seniority rule in bankruptcy in favour of centrally cleared positions over OTC positions.” Their argument is that this would be economically sound, because non-cleared OTC derivatives encourage excess leverage due to lack of mutual transparency, so that default risks are externalized. The difficulty with this proposal is that it would imply a fundamental challenge to the deeply consolidated ISDA close-out netting regime, so that we would not be speaking about a minor technical reform. Moreover, it implies a somewhat naive view of the externalities of centralized clearing, as will be seen next.

6.3.2.3 Moral Hazard, Adverse Selection, and Systemic Risk
There is still another paradox, namely that maybe it would be best to keep credit default swaps away from centralized clearing. First of all, it should not be

\[205\] See Leising 2011.
\[206\] Whalen 2008: 11.
\[208\] See O’Loughlin 2012: 513 (discussing Dodd-Frank rules and noting that these “margin requirement on uncleared swaps will be higher than those typically imposed by clearing agencies to discourage swap entities from customizing their swaps solely to circumvent the clearing requirement.”). In Europe, see EMIR, Art. 11 (imposing risk-mitigation principles for non-CCP cleared OTC derivatives). See further below, chapter 6.4.2.5.
\[209\] Dodd Frank Act, § 714; Bloink 2011: 608–609.
\[210\] Acharya and Bisin 2010: 34–35.
supposed that centralized clearing as such removes the principal risks involved in CDSs. The clearing organization simply becomes the intermediary, and it must engage in the same risk management activities that other market participants do—and that many of them failed to do adequately. As Shadab has pointed out, “even if AIGFP’s CDSs were centrally cleared, a clearinghouse likely would have also unduly relied upon AIG’s credit rating and failed to incorporate AIG’s balance sheet risks into its decision about whether and to what extent it would have required AIGFP to post margin collateral.”211

Secondly, some experts believe that the clearinghouse arrangement may in fact weaken risk management by exacerbating the problems of moral hazard and adverse selection.212 According to Shadab, centralized clearing is likely to reduce counterparty risk management, because market participants will consider that counterparty risks are shifted to the clearinghouse.213 This includes error risk, because much more will depend on whether the CCP does its risk management well or not.

Adverse selection may also increase, because derivatives and CDS dealers and other experts will be better informed about these products than CCP risk managers.214 In fact, “the potentially high costs associated with replacing the CDS contract of a defaulted clearing member may lead to only relatively high-risk traders utilizing CCPs, thereby giving rise to CCPs that have a relatively greater risk of insolvency.”215 Chester Spatt argues likewise that in the new regulatory regime, “the incentives to trade with weak counter-parties would be heightened […], and more generally, the clearinghouse would tend to attract transactions that it was mis-marking.”216

Thirdly and most importantly, the centralized clearing is likely to contribute to systemic risk instead of removing it. There are at least two reasons for this. One is that the clearinghouse arrangement creates institutions that are too big to fail and too interconnected to fail, so that moral hazard and adverse selection affects not only the market participants by also the clearing organizations. Competition between CCPs will encourage a race to the bottom if it perceived that their risk taking is implicitly subsidized by public rescue policies.217 This means that CCP

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213 Ibid. 1039.
214 Shadab 2012: 1039; Culp 2010: 122.
217 Acharya and Richardson 2012: 33 (“if, as it looks likely, there are multiple clearinghouses, then a race to the bottom is possible.”). Shadab 2012: 1038 likewise warns of the risk of CCP undercapitalization, which may also be “due to technical risk-management failures or because it reduces members’ capital requirements to attract their business.” He also notes the danger of inadequate supervision or the exploitation of “‘too big to fail’
risky management may become deliberately over-optimistic; and even in the absence of cynical will to exploit public funds, this arrangement will encourage imprudence on the part of boundedly rational actors.

The other reason for the increase of systemic risk is that centralized clearing of CDSs means that this arrangement leads to huge concentrations of complex risks. According to Spatt, “it is plausible that central clearing would raise systemic risks greatly when another crisis occurred and perhaps even raise the likelihood of a crisis.” Essentially, the reason is that the concentration of risks implies more correlation, so that counterparty risk becomes systemic risk. Acharya and Richardson explain this in more detail:

“The [Dodd-Frank] Act relies heavily on margin requirements as the first line of defense against leverage buildup through derivatives. In particular, clearinghouses are required to charge margins such that they can withstand the failure of their largest exposure among the various members. Assuming that it is highly unlikely that two single names will default in the same day, the clearinghouse is reasonably well protected most of the time, and yet offers substantial collateral efficiency to its members. The problem of course arises during a systemic event when there might be multiple exposure failures. Tremendous amounts of systemic risk are housed within clearinghouses with potentially catastrophic consequences for the financial system.

To understand the problem of CDS risk concentration, it is essential to remember that CDSs are not transacted like traditional financial securities. Again, two different levels can be distinguished here, first in relation to OTC derivatives generally and secondly in relation to credit default swaps specifically. Regarding OTC derivatives generally, investor Warren Buffett explains in practical terms how their clearing differs drastically from the clearing of ordinary financial securities:

A normal stock or bond trade is completed in a few days with one party getting its cash, the other its securities. Counterparty risk therefore quickly disappears, which means credit problems can’t accumulate. This rapid settlement process is key to maintaining the integrity of markets. That, in fact, is a reason for NYSE and NASDAQ shortening the settlement period from five days to three days in 1995. Derivatives contracts, in contrast, often go unsettled for years, or even decades, with counterparties building up huge claims against each other. “Paper” assets and liabilities—often hard to quantify—become important parts of financial statements though these items will not be validated for many years. Additionally, a frightening web of mutual dependence develops among huge governmental policies and access to central bank liquidity facilities that implicitly subsidize CCP risk taking.” See also Culp 2010: 125–126; Ripatti 2004: 20–24.

218 This is admitted by Schwarcz 2011: 101 n.29, even though he is in principle favorable towards the compulsory clearing rule: “the clearinghouse requirement might inadvertently concentrate systemic risk in the clearinghouses themselves”. 219 Spatt 2012: 6.


221 Acharya and Richardson 2012: 33.
financial institutions. Receivables and payables by the billions become concentrated in the hands of a few large dealers who are apt to be highly-leveraged in other ways as well.\textsuperscript{222}

Buffett in this text was mainly criticizing the pre-reform state of OTC derivatives markets, but the point is equally if not more valid for the centralized clearing approach, because the accumulation now becomes even greater. Houman Shadab has expressly made this point, noting that firstly, in contrast to cash equities markets, in OTC derivatives it is difficult to achieve interoperability between central counterparties due to “different margin standards and default fund requirements.”\textsuperscript{223} Secondly and regardless of interoperability, there are doubts as to whether clearing works for CDSs.\textsuperscript{224} According to Michael Bodson, chief operating officer of Depository Trust and Clearing Corporation (DTCC), “Credit-default swaps are ‘scary, scary products,’” as they are much more complicated and risky than simple derivatives such as futures.\textsuperscript{225}

\textbf{6.3.2.4 The Inherent Problem with Credit Default Swaps}

The second point, then, is one of the central theses of the present study, namely that credit default swaps do not function like financial derivatives—at least economically. The practical difficulties of centrally clearing some CDSs are related to the inherent features of CDSs. Frederik Dømler, who is generally critical of CDS regulation, has summarized this as follows:

Compared with interest rate swaps, CDSs are volatile; asymmetric in exposure profile; contain wrong-way risk (that is, strong correlation between counterparty and the credit quality of the reference entity), which is magnified by the concentrated market structure; contain jump-to-default risk (that is, a credit event that triggers a sudden rise in the mark-to-market CDS premium in which the collateral is too low, leaving the protection buyer uncovered if the counterpart defaults); and have difficulties in offsetting CDS trades (particularly for single names).\textsuperscript{226}

All of this means that centrally clearing credit default swaps is nothing like clearing ordinary financial securities. The traditional way in which CCPs determine margins is based on product risk, not counterparty (clearing member) balance sheet risk. But product risk is an inadequate basis for assessing CDS clearing, because the principal danger is that CDS protection sellers may accumulate excessive obligations, as happened with AIG. Even if CCPs decide to include balance sheet risk, it is unclear whether they can do so effectively, given

\textsuperscript{222} Buffett 2009: 16.
\textsuperscript{223} Shadab 2011c.
\textsuperscript{224} Ibid.
\textsuperscript{225} Steinert-Threlkeld 2011.
\textsuperscript{226} Dømler 2013: 47.
the “opaque and information-intensive balance sheets” of large financial institutions.\textsuperscript{227}

CCPs are in principle poorly-positioned for this kind of risk assessment, and their task will be even more difficult if there are multiple, interoperable CCPs. Moreover, Domler insightfully notes that the difficulties involved in estimating these risks will expose CCPs to the danger of a “CCP run” much like a bank run: a large failure of a clearing member—one that can be caused by CDSs—might, in circumstances of imperfect information, precipitate a self-fulfilling prophecy whereby other entities run away from a CCP even if it was in reality solvent.\textsuperscript{228}

6.3.2.5 \textit{Can Clearinghouses Never Fail?}

The foregoing is important when we consider the argument that clearinghouses have almost never failed. Moreover, even ignoring the inherent problems with CDS clearing, we must take note of Spatt who writes that “in fact in recent decades there have been a number of clearinghouse failures, and the nature of the risks that would be assumed by a swap clearinghouse would be huge compared to that in traditional clearinghouses.”\textsuperscript{229} Even Ben Bernanke has made the same point: “Overall, the historical record shows that clearinghouse arrangements have generally withstood even severe crises. This solid performance reflects good planning and sound institutional structures but also some degree of good luck.”\textsuperscript{230}

Besides, not a long ago the markets witnesses a colossal clearinghouse failure that was not even involved in CDS. This is the case of MF Global, “a broker-dealer and futures commission merchant” whose corporate history goes back to the 18\textsuperscript{th} century, and which filed for bankruptcy on October 31, 2011.\textsuperscript{231} One cause was that, between 2007 and 2011, MF Global was trying to redefine its business model under the leadership of John Corzine, “former senator and governor of New Jersey and ex-CEO of Goldman Sachs.”\textsuperscript{232}

The new profit-orientation implied more risk-taking. This included investments in European sovereign debt, with high-leverage bets using the bonds as collateral for short-term lending.\textsuperscript{233} The collapse was essentially due to short-term financing liquidity problems, as MF Global’s trading partners demanded increasing collateral, with the consequence that “clients, fearing the firm’s excessive risk, pulled out, MF Global found itself without the cash necessary to

\textsuperscript{227} Ibid.
\textsuperscript{228} Ibid. 45.
\textsuperscript{229} Spatt 2012: 6.
\textsuperscript{230} Bernanke 2011: 8.
\textsuperscript{231} Flaherty 2012: 478.
\textsuperscript{232} Ibid. 479.
\textsuperscript{233} Ibid. 481.
service its short-term debt.”

To be sure, the funding liquidity problems did not lead to immediate bankruptcy, but attempts to sell the distressed company failed when the worst was discovered during sales negotiations: “up to $1.2 billion from customers’ accounts was missing.”

This was possible essentially because the firm had been mixing company assets with client assets.

What makes this case interesting and important is not so much the Goldman Sachs connection as the fact that the downward dynamics of MF Global greatly resembled the failure of AIG and Lehman Brothers. It reveals that clearinghouses, too, and their employees, may be tempted by short-term profit opportunities and excessive risk taking. No doubt the MF Global executives believed that their risks were under control; what they failed to realize is that changes in the broader market dynamics could lead to drastic changes that invalidated their risk models.

Of course, advocates of the clearinghouse cure will insist on the prudent regulation and capitalization of the CCP. However, one must not expect miracles: even the largest clearinghouses would at this moment be poorly equipped to face a serious CDS-related crisis. According to René Stulz, “CME Clearing, the largest futures clearinghouse in the United States, can draw on resources of $64 billion to cope with failures, which might not have been enough to deal with the problems of a huge firm like AIG.”

The MF Global case also implies another major regulatory concern, which is that the law in the books was already sufficient for preventing the abuses from taking place (mixing company assets with client assets was illegal); but enforcement was insufficient, and the firm bent the rules when it was hard-pressed to do so. We should similarly be sceptical of the new clearinghouse regulatory regime if it merely looks good on paper but can be twisted by the market in gamble-for-life situations.

6.3.3 Reform Proposals
Importantlly, the suitability of the clearinghouse approach for credit default swaps will only be revealed in a major economic downturn or financial crisis. We should nevertheless not wait for that before we start looking for improvements to the current regulatory regime. The focus here is on issue of systemic risk, because it seems to be the fundamental issue. In contrast, the exceptions to the compulsory

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234 Ibid. 480.
235 Ibid.
236 See ibid. 482–484.
237 The importance of this has been well expressed by Bernanke 2011: 9, whose words are humorous only in part: “As Mark Twain’s character Pudd’nhead Wilson once opined, if you put all your eggs in one basket, you better watch that basket.”
238 Stulz 2010: 89.
239 Ibid. 484.
clearing rule are not so important, because they can be easily removed by a legislative amendment if that is deemed appropriate; at present it is however not clear whether it is appropriate, precisely because centralized clearing appears so inadequate for CDSs if the systemic risk problem is not resolved first. To this issue there is no simple solution; not surprisingly, the most promising avenues can be found from the viewpoint of insurance regulation, because credit default swaps are functionally like insurance.

6.3.3.1 Systemic Emergency Insurance Fund

One proposal is the creation of a systemic emergency insurance fund specifically for rescuing a failing clearinghouse at the least cost to the public. This may also reduce the likelihood of a crisis: a truly fair resolution scheme that refuses to externalize the costs will provide better incentives for clearinghouses to manage their risks properly. In its essentials, this proposal does not imply anything very innovative: “the idea of such a private insurance fund funded by the relevant industry is not new and provided the rationale for both the FDIC [Federal Deposit Insurance Corporation] and the Securities Insurance Protection Corporation, which protect depositors and investors from the failure of banks and brokers, respectively.”

Commentators such as John Coffee are however sceptical about the effectiveness of this solution: “the ‘wholesale’ character of the crisis explains why reforms such as private, industry-funded bailout funds are likely to prove inadequate. Insurance can work to avert a crisis when a small percentage of the industry may fail, but not when a plurality may all fail contemporaneously because of risk correlation.” Thus, we are again faced with the key underlying problem, which is that concentrating credit risks in this way is likely to create a highly correlated, system-wide risk. Creating something like a safety net perhaps makes sense, but there are always practical limits to how big that safety net can be.

Moreover, a safety net may even make things worse if it weakens the ordinary market mechanisms of governance and discipline. This, after all, has been the experience with banks deposit insurance, as Ross Levine among many others has argued:

Deposit insurance—implicit or explicit—substantively changes the equity and debt channels of corporate governance in a number of manners. First, deposit insurance reduces the incentives of depositors to monitor banks, which directly hinders corporate governance. Second, deposit insurance induces banks to rely less on uninsured creditors with incentives to monitor and more on insured depositors with no incentives to exert

240 See Gordon and Muller 2011.
242 Ibid. 817.
corporate governance. Third, deposit insurance—along with the rise of central banks as lenders of last resort—have helped produce banks with very low capital-asset ratios relative to other firms. As capital-asset ratios fall, this increases the incentives of controlling owners to increase the riskiness of the bank. Thus, deposit insurance both increases the ability of owners to increase risk because depositors no longer have incentives to monitor and deposit insurance increases the incentives for bank owners to increase risk because of lower capital-asset ratios. Not surprisingly, therefore, countries with more generous deposit insurance tend to have a higher likelihood of suffering banking crises.\footnote{Levine 2004: 10–11. The last statement is supported by Demirgüç-Kunt and Detragiache 2002.}

This powerful critique is equally applicable to the present question insofar as the emergency insurance fund for clearinghouses implies a transfer of the monitoring task from the market to the state or to private bodies monitored by the state. Even if the safety net is funded by the market participants, the ultimate problem remains the same, in that the costs of a systemic failure are externalized—either to the market at large, or to the wider public. In the long term, this arrangement is not uncertain but is also likely to encourage more risk-taking, thereby increasing the risk of systemic failure.

### 6.3.3.2 Insulating CDS Risks

If CDSs are cleared through ordinary clearinghouses, there is the further danger that the peculiarities of CDSs will cause a clearinghouse failure that extends to other classes of derivatives, thereby exacerbating a financial crisis in unpredictable ways. One might argue that CDS clearing should therefore be insulated from other asset classes, so that in effect we should have specialist CDS clearinghouses.

This approach would, however, reduce transactional efficiencies, possibly even to a level without central clearing.\footnote{Stulz 2010: 89.} Moreover, even if it were well insulated, a CDS clearinghouse would be like a giant CDS trader. Given the peculiarities of credit risk, it is likely that a major depression or a financial crisis would cause systematic losses on protection sellers that could not be fully covered by margins (which in any case are procyclical). It is essential to remember that CDSs are not cleared like ordinary financial securities, which can be settled in a matter of days; the counterparty risks due to CDS protection selling remain as long as the contract remains valid, which can be months or years. Therefore, the CDS clearinghouse does not have a neutral position, as it shares in the risk of protection selling.
6.3.3.3 Risk Concentration Limits: Towards Insurance Regulation

If the problem cannot be resolved merely by insulating CDS clearing from other financial clearing, it may be opportune to look for more proposals from the experience of insurance regulation. Indeed, the UK Turner Review among others has acknowledged that there are other issues that cannot be addressed with central clearing, so that the reform project cannot be limited to that.\textsuperscript{245}

Benjamin Saunders, for example, has suggested that prudential regulation of CDS protection sellers may be equally relevant when these contracts are centrally cleared.\textsuperscript{246} We will discuss that approach in more detail shortly, but it should be added here that this approach might be relevant not only for \textit{protection selling} but also for \textit{CDS clearing}. Indeed, if we think of credit default swaps are functionally equivalent to insurance, it implies that an intermediary body like a clearinghouse is functionally equivalent to a \textit{reinsurer}. Naturally, the risks of reinsurance may be smaller,\textsuperscript{247} but they will not be zero, so that it will be adequate to learn from the traditional wisdom in insurance—particularly financial guaranty insurance—such as the need for risk concentration limits. All of this will be discussed in detail in what follows.

### 6.4 CREDIT DEFAULT INSURANCE: TARGETED INSURANCE REGULATION

We have seen earlier that both the legal-doctrinal and the regulatory-political analyses conclude with an important connection between credit default swaps and insurance. At the same time, CDSs and insurance regulation have a complicated relationship. Certainly, it cannot be denied that CDSs are functionally equivalent to insurance contracts and that many of the concerns related to CDSs are similar to those that have historically motivated insurance regulation. On the other hand, it is evidence that general insurance law as such may be unsuited or at least suboptimal for CDSs, because insurance regulation is a complex totality, which has not been developed with CDSs in mind.\textsuperscript{248}

\textsuperscript{245} Turner Review 2009: 83.

\textsuperscript{246} Saunders 2010: 449.

\textsuperscript{247} Indeed, Harrington 2005: 87 claims that “because market discipline is generally greater in reinsurance (wholesale) markets than in direct insurance (retail) markets, capital requirements and related regulation plausibly need not be as stringent for reinsurers as for direct insurers.” It is not clear, however, whether this argumentation would be valid in the present case, because both markets are between financial professionals. Moreover, if the entry to the CDS clearinghouse business is restricted, as it perhaps ought to be, then that market will be less competitive.

\textsuperscript{248} Thus for example Saunders 2010: 441–442 proposes that CDS issuers be subject to prudential regulation, without subjecting CDSs to insurance contracts regulation generally.
Indeed, insurance law in many countries is subject to path-dependent idiosyncrasies, and the reform of CDS regulation cannot be made dependent on a widescale reform of insurance law that is not forthcoming.240 It may be that the optimal solution is to create a special regime that adopts the best parts of different approaches. This section therefore seeks to provide a holistic assessment of the prospects of insurance-based regulation for credit default swaps.

6.4.1 CDS and Insurance Regulation Generally

It may be that a special regulatory is optimal, but at the same time, the applicability of ordinary insurance rules to credit default swaps should not be ruled out too easily, or at least based on faulty arguments. This section therefore critically considers a range of such arguments against the application of insurance law to CDSs in order to better identify the exact need for a special regime.

6.4.1.1 Did the Crisis Prove that Insurance Regulation Failed?

One line of argument, advanced by Todd Henderson, is that the fiascos caused by credit default swaps demonstrate that insurance regulation cannot deal with this issue adequately. This is based on three observations: firstly, he writes, “the fact that some insurance companies were harmed by [CDSs] justifies different regulation on insurance companies.”250 Secondly, insurance regulators were not up to the task of regulating CDSs: “No regulators or private actors were aware of the mispricing problem, despite the fact that there were numerous regulators, including insurance regulators (AIG is an insurance company after all) monitoring these markets closely […]”.251 Thirdly, the failure of AIG definitively proofs, according to Henderson, that insurance regulation failed to prevent the reckless use of CDSs: “In addition, capital requirements did not work well if at all in preventing insurance companies, such as AIG, from investing aggressively and, as it turns out, dangerously in credit derivative markets.”252

But this is all an incredible misunderstanding. The CDS market was practically unregulated and was not closely monitored by numerous regulators, let alone by insurance regulators; as we have seen, it was only after the crisis that insurance regulators and legislators woke up to the reality that they had been practically deceived into treating these transactions as unregulated non-insurance derivatives. Moreover, the CDS problems at AIG were caused by a hedge fund that was an unregulated subsidiary of the insurance giant. This has been correctly observed by the Turner Review: “AIG is a primary example of a group that was

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249 On the illuminating notion of path-dependence, see for example Page 2006.
250 Henderson 2009a: 22.
251 Ibid. 35.
252 Ibid. 51.
damaged not by an event relating to its traditional activities but by contagion from an unregulated part of the group assuming risk through non-regulated products.”

It is true that the AIG case raises issues concerning non-insurance activities by regulated insurance companies. On the other hand, we also saw earlier that the main reason for the public rescue of AIG seems to have been not so much the failure of the insurance company as the fear that the non-payment of its huge CDS obligations would have threatened the stability of the banking sector.

Therefore, given that AIG’s CDS business involved unregulated derivatives sold by an unregulated entity, the AIG case raises many questions about the lack of CDS regulation, but it proves little or nothing about insurance regulation as such.

### 6.4.1.2 Would Insurance Law Be Ineffective?

Another line of argument against the application of insurance law to credit default swaps is that it would be practically ineffective. This argument has been advanced mainly in the United States, where insurance is regulated by the states, and one of the worries is that states might adopt different rules to deal with CDSs, so that the regulatory situation could become confused. The concern is nevertheless equally relevant elsewhere, given that CDSs are contracted in a global market. The challenge of regulatory competition is evidence: can one jurisdiction avoid the problems by imposing tighter rules if others do not do the same?

This concern was lively felt during the post-crisis debates on the prospects of applying insurance law to credit default swaps: representatives of ISDA and the financial industry threatened that the proposed regulations “might cause financial institutions to move their CDS businesses out of state or offshore. These consequences are likely and they would harm local economies.” Indeed, one of the weaknesses of the plans to regulate CDSs as insurance was the fact that this would have meant state-level regulation in the US, implying uncertainty regarding jurisdictional reach, as it was unclear on what basis state regulators would enforce the proposed legislation. One option was to enforce it “based on the location of the credit default insurer or the situs of the credit default insurance contract,” but this “might lead to the relocation of CDS businesses to non-adopting states or offshore.” On the other hand, transaction location could

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253 Turner Review 2009: 120.
254 See above, chapter 5.2.3.2.
255 See Marshall 2009: 165 (expressing concern over regulatory arbitrage problems if CDSs are regulated by US states).
256 Strupp and Darras 2009: 1.
257 Davis Polk & Wardwell 2009: 5.
alternatively be defined according to the location of the CDS buyer, in which case the legislation would be more effective.\textsuperscript{258}

This is a technical legal issue that involves complex conflict of laws questions and would merit a more detailed evaluation in accordance with the principles of private international law of a given jurisdiction. Nevertheless, at the general level evaluation of the present study, it is sufficient to note that there are relatively efficacious options available for the practical regulatory concerns even if there is no global coordination.\textsuperscript{259} The experience in financial securities regulation generally is that the rather demanding US rules have been successfully enforced despite fierce jurisdictional competition.\textsuperscript{260}

The design of the specific rules depends on the regulatory objective. For example, insofar as the regulatory motive is rooted in the risks associated with CDS protection selling—and the public costs of bailing out financial institutions—, the enforcement should target such protection-selling activities by regulated institutions in the given jurisdiction. Naturally, the stability issue must be extended to extraterritorial activities insofar as it involves banks that may seek regulatory capital relief by transferring credit risks to potentially unregulated institutions in other jurisdictions; the solution is relatively simple, however, because it only requires that the banking regulators of the home jurisdiction refuse to admit regulatory capital relief unless the protection seller is equally regulated elsewhere. This would mean, for example, that the CDS protection sold by the unregulated subsidiary of AIG should not have been valid for purposes of regulatory capital.

What may be more difficult to enforce is the buy-side, where the doctrine of insurable interest limits purely speculative CDS positions. In this respect, however, it may be possible to learn from the common law rule that traditionally sought to regulate speculative difference contracts: “under U.S. choice-of-law rules, speculative difference contracts could not be enforced against a party located in a state that viewed the contracts as unenforceable due to public policy, no matter where the contract was entered or what choice-of-law provisions it might contain.”\textsuperscript{261} This would not prevent all extraterritorial activity, but it would probably reduce it, especially if it were also backed up by administrative penalties on regulated institutions engaging in such transactions. Naturally, to say this is not to say anything about the advisability of the substantive rule; that must always be considered separately.

\textsuperscript{258} Ibid.

\textsuperscript{259} On this we can agree with the general point of Stiglitz 2010, which is that faulty regulation must be reformed even if there is no immediate global coordination. It is a separate question whether global coordination is at all desirable in the end.

\textsuperscript{260} Naturally, to say this about the enforcement efficacy is not to say anything about the optimality of the US financial securities regulatory regime in substantial terms.

\textsuperscript{261} Stout 2011: 35 (citing Restatement (Second) of Conflict of Laws, §§ 187, 188 (2010)).
Finally, it can be noted that insofar as the question is the dilemma between federal versus state-based insurance regulation in the United States, one wonders whether there is any practical sense in opposing the establishment of a federal insurance regulator, at least for larger companies.\textsuperscript{262} It would also alleviate the skill and competence problems associated with some state-level insurance supervisors.\textsuperscript{263}

\textbf{6.4.1.3 Would It Impose Excessive Costs?}

A third line of argument against insurance law is that it would impose excessive costs. It is thought, for example, that insurance contract regulation particularly in the United States is extremely detailed and costly to comply with.\textsuperscript{264} This type of regulation may be beneficial for consumer markets, but unnecessary for institutional investors. In this respect, there obviously should be a separate regime not subject to retail insurance contract regulations. This should perhaps be extended to the \textit{duties of disclosure}, which in insurance law tend to cause great uncertainty and in any case would have to be separately designed for credit risk issues.\textsuperscript{265}

Another concern in this perspective is that insurance markets would be less efficient in terms of contracting process and \textit{claims settlement}. To be sure, many insurance markets are also highly standardized, and “[m]any types of insurance are commodities sold by numerous insurers in a highly competitive industry.”\textsuperscript{266} The problem seems to be not at the beginning but at the end of the contracting

\textsuperscript{262} A general argument in favor of federal insurance regulation in the US is made by Grace and Phillips 2007, who find evidence of trans-state externalities and economies of scale in the production of insurance regulation, although they also admit that extraterritorial regulation may erect modest barriers to entry. For a brief description and discussion of the organization of insurance regulation in the United States, see Davies and Green 2008: 166–167.

\textsuperscript{263} See Davies and Green 2008: 167 (pointing out that some United States Insurance Commissions “are tiny, with small staffs and Commissioners appointed with no insurance, or even financial sector, experience whatsoever.”).

\textsuperscript{264} For example, Davies and Green 2008: 157 write: “Insurance regulators […] must be consulted on changes in premium rates. There are 1,100 insurance regulators in Texas, almost half the total staff of the [UK’s] FSA […]. As a result, the costs of regulation in the United States are very high.” Note, however, that the notion of cost in this sense refers to the costs of regulatory organization, not necessarily compliance costs.

\textsuperscript{265} See for example Clarke 2007: 98–128, who criticizes the English rules, which are too onerous on policyholders, and compares them with rules in other countries. The important thing here is that, in English law, there have been decades of academic critique but this has failed to reform the rules; this is a case in which it may be better to enable markets to avoid the old rules and create a new, separate regime. Note also that in Finland the ordinary insurance contract law rules are not binding in credit insurance: see Vakuutussopimuslaki (543/1994), § 3.3.

\textsuperscript{266} Acharya et al. 2010: 264. See likewise Clarke 2007: 138–139.
process: insurance dispute resolution tends to be slow and costly, which compares poorly with the settlement efficacy of the ISDA derivatives regime.\textsuperscript{267} This is at least in part due to the peculiar culture of suspicion in insurance markets.\textsuperscript{268} Even if that culture may be understandable, this is a powerful argument in favour of targeted regulation that would address specific problems without abolishing the advantages of the current CDS contracting architecture.

ISDA has also argued, together with the US Securities Industry and Financial Markets Association (SIFMA), that the insurance regulation of credit default swaps would reduce transparency and liquidity:

We also question the wisdom of replacing a market where CDS are actively traded with a non-transparent, illiquid market limited to insurance companies as sellers of protection. These insurance companies could amass large CDS positions, which would not be marked to market. They would not post collateral to their counterparties, and a decline in their CDS positions would likely be highly correlated with declines in their investment portfolios. This does not seem like the best way to address any deficiencies in the current CDS market. Moreover, given the market’s adverse experience with this model in purchasing CDS from the monolines, we think it unlikely that market participants will be willing to purchase protection from these newly created insurers.\textsuperscript{269}

This argument includes valid points, but mixed with erroneous claims. For one thing, there are no “actively traded” CDS markets presently, as we have seen earlier (in fact, CDSs are never traded in the strict sense, and the majority of CDSs are not subject to liquid novation markets, either). There is some post-trade price transparency, as we have seen, and the development of centrally cleared markets may facilitate these developments, but the latter prospect has its limits. Regarding collateral, the rules regulating insurance company loss reserves and concentration limits are possibly more effective than the bilateral collateral of the OTC derivatives markets, and the correlation problem was equally present in the CDS markets. Finally, the adverse experience seems to be an implicit reference to AIG, which is point against the sale of unregulated CDSs, not against insurance regulation. But despite these errors, ISDA and SIFMA are right that transparency

\textsuperscript{267} See Clarke 2007: 4–5; ibid. 37 (“One of the main criticisms of insurers in modern Britain is how long they take to respond. For example, in late 2003 a leading insurer confessed at a conference that its offices took between 500 and 1,200 days to settle claims under £2,500.”); ibid. 52 (“legal expenses amount to a large part of the overall cost”).

\textsuperscript{268} Aicher, Cotton and Khan 2004: 922 explain: “insurance as an instrument was—and is—particularly susceptible to fraud. [...] All of this has produced a culture in which an insurance company believes itself perfectly justified to take its time to determine whether a particular claim is fair and just (i.e., whether it is covered by the relevant policy). It will examine the claim, perhaps delve into the details of the particular loss, and pay only after it is comfortable that the loss is legitimate. This is a culture in which claims are routinely contested, with the resolution of a disputed claim taking months or even years.”

\textsuperscript{269} Strupp and Darras 2009: 2.
(and possibly liquidity) are valuable aspects of financial markets, and the traditional insurance model fails to develop them.

6.4.2 Targeted Regulation: Protection Selling

Although CDSs are much like insurance, they are also very unlike ordinary insurance contracts, because they are connected to the complex world of international finance, and because credit risk is a peculiar type of risk that raises special concerns. In what follows, we will therefore consider the prospects for targeted regulation for CDS protection selling. First, general considerations are discussed, after which we look at the existing special US regime called financial guaranty insurance. We then examine some arguments against this approach in light of the question surrounding the insurability of credit risk. The section finishes with some observations concerning alternative models towards the regulation of insurance and on the development of insurance principles within the existing regulatory framework.

6.4.2.1 Prudential Regulation

The motive for regulating CDS protection selling is functionally very similar to the motive for regulating other forms of credit-related insurance such as financial guaranty insurance. In fact, the Geneva Association for Risk and Insurance, when comparing different forms of credit enhancement, finds that CDS protection selling presently creates significant systemic risks due to lack of regulation, no reserves, close connection with banks, jump-to-default behaviour of CDS, and procyclical collateral agreements that can quickly transmit problems between counterparties.\textsuperscript{270} The insurance economist Robert Jarrow has similarly argued that even though CDSs can facilitate economic risk allocation, they currently give rise to negative externalities that are not priced into the contracts, so that it is necessary to impose stricter collateral and higher equity capital requirements.\textsuperscript{271}

Therefore, the main interest here is in what is generally known as prudential regulation.\textsuperscript{272} This has two principal aims, which in fact coincide with the two main objectives of financial regulation generally: to protect policyholders (i.e.

\textsuperscript{270} Geneva Association 2010: 61–63.

\textsuperscript{271} See Jarrow 2011.

\textsuperscript{272} This term can refer to both insurance and banking regulation. On the prudential regulation of insurers, see for example Saunders 2010: 436–441 and Spencer 2000: 68–69. Chandler 2000: 838–841 covers similar issues under the notion of solvency regulation. On the prudential regulation of banks, see for example Heremans 2000: 964–965.
and to protect systemic stability and reduce contagion risk. The principal regulatory strategy is reserves regulation; the key principle is that shareholders and other main actors have a limited downside risk combined with a virtually unlimited upside potential, giving rise to incentives to take excessive risks, especially if the company gets into difficulties, because then it has an incentive to take more risks in order to gamble for life. Moreover, as we have seen, bilateral risk management mechanisms may be insufficient for restricting the risk taking of insurers, because bilateral agreements will generally fail to take into account the development of the total risk of protection sellers, which thus are tempted to under-price risk in ways that are disruptive for markets.

Apart from capital and reserves regulations, other important prudential regulatory strategies include investment restrictions, which limit risk taking in terms of asset classes and types of instruments, and risk concentration or large exposure counterparty limits, which likewise seek to control failure risks but in terms of the sale of insurance policies.

6.4.2.2 The Financial Guaranty Insurance Model

Without going into different national insurance regulations, which are exceedingly complex, it is worthwhile to consider in some detail the US model known as financial guaranty insurance. As has been mentioned earlier, the legal regulation of financial guaranty insurance started in the late 1980s in the US in order to isolate these financial-risk related insurance contracts from other lines insurance. But this was done in reaction to a contract that had been developed by market participants.

In fact, this type of insurance arose in part due to the slow settlement culture of insurance markets: in order to offer credit insurance that would not be subject to such legal uncertainty, some US insurance companies came up with the special category of insurance called financial guaranty insurance, which provides “an absolute, unconditional, and irrevocable obligation to pay an insured for the non-payment of principal and interest when due by an obligor on an underlying debt.

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273 Saunders 2010: 438. Morrison 2004: 50–51 makes an interesting argument that the insurance regulation is economically essentially about contract enforcement.

274 Ibid. 436.


276 See for example Whitehead 2010: 34 (describing this dynamic in the AIG fiasco).

277 Ibid.

278 See McIlroy 2010: 314.

obligation.”^280 Thus the financial guaranty insurance industry committed itself to an insurance product that provides immediate and unconditional payment, and the monoline insurers (that is, those who sell financial guaranty insurance) seem to have “scrupulously” followed this commitment.\footnote{Aicher, Cotton and Khan 2004: 930.} To be sure, there may be scope for greater legal clarity in this question, particularly in other jurisdictions; this would be justified if insurance law were essentially seen as enforcing the contractual obligations created by the parties.\footnote{Ibid. 950. These authors add that “there has never to the authors’ knowledge been any instance in which a monoline has refused to pay, or to the authors’ knowledge any instance of a monoline insurer undertaking an investigation of the claim prior to payment.”} In principle, in any event, financial guaranty insurance provides a model to learn from for the development of CDS law and regulation.

Indeed, there remains the question of why CDSs are not, or should not be reclassified as, financial guaranty insurance. As we saw earlier, this was the view taken by some US insurance regulators following the financial crisis,\footnote{See above, chapter 3.2.3.2.} but we also saw that this would require clarifying the question to what extent financial guaranty insurance is structurally intended as a tripartite credit enhancement as opposed to CDSs which are structurally flexible two-party insurance contracts.\footnote{See above, chapter 2.2.3.1 and 2.2.4.1. Aicher, Cotton and Khan 2004: 930–932 argue that financial guaranty insurance is essentially a tripartite insurance product, linked to “the non-payment of principal and interest when due by an obligor on an underlying debt obligation” (ibid. 930). In contrast, CDSs are often linked to more general credit events, which do not necessarily imply non-payment. On the other hand, the statutory definitions of financial guaranty insurance are broad (see ibid. 934–935), so at least some CDSs would be financial guaranty insurance.} Moreover, it now seems politically less likely that the financial guaranty...
insurance path might be follows in the future, so that it may be more expedient to advance specific CDS regulation along the lines of the principles developed for financial guaranty insurance.

A separate regime for CDSs was, as we have also seen, the subsequent plan of United States insurance legislators before the Dodd-Frank insurance pre-emption. For example, the New York Bill for the regulation of credit default insurance (CDI) included the following rules for CDI protection sellers:

In order to qualify as a CDI Insurer, an entity must initially have at least $15,000,000 of paid-in capital and $165,000,000 of paid-in surplus, and shall at all times maintain minimum surplus to policyholders of at least $150,000,000. CDI Insurers are also required to maintain minimum levels of contingency reserves, loss reserves and unearned premium reserves, in each case based on their applicable business written and/or reinsured and otherwise comply with the rules and regulations applicable to property and casualty insurers in New York. Finally, the NY Bill also applies risk diversification requirements that limit the exposure to loss on any one risk insured, net of collateral and reinsurance, to specified percentages with respect to specific classes of debt obligations, such as municipal bonds, asset-backed securities, mortgage-backed securities and corporate obligations.285

These are precisely the sorts of requirements that we have seen as responding to the challenges of CDSs, so that there is at least a prima facie case for developing this approach further even though it did not become law in the earlier circumstances.

6.4.2.3 The Insurability of Credit Risk

Although it is not possible here to enter into a technical evaluation of insurance risk regulation, some awareness of this regime even at a general level is of interest for present purposes, because both financial guaranty insurance and credit default swaps have raised discussions concerning the insurability of credit and financial market related risk. What seems certain is that traditional insurance regulation is not well-equipped to dealing with the peculiarities of credit risk. As Alfred Steinherr summarizes the challenge:

Protection against default is far more complex to price [...]. The difficulty is that credit events, such as default, are rare events (discontinuous stochastic processes or “jumps”). [...] Pricing default risk is based on the correlation between the interest rate risk, default risk and recovery rate of the underlying instrument—a tricky task, given that default is a one-off, often unanticipated event, for which there is no correlated, offsetting position with which to hedge.286

285 Sidley Austin 2010: 2.
Indeed, it has been observed recently that the regulation of insurers becomes especially difficult get involved in non-insurance activities such as financial and savings products.287 In addition to the peculiarities of credit risk, there is the problem that these activities make insurance companies interconnected with systemically important financial institutions and capital markets, which implies that the negative externalities of insurer failure are far greater. Credit-related insurance obligations also tend to become payable during macroeconomic downturns, making institutional failure more likely. In light of this, it should be clear that CDSs should not be regulated like traditional insurance, which is not systemically so risky and therefore can be regulated quite lightly.288 Financial products such as CDSs are much more problematic:

[T]hey all involve insurers or their affiliates writing put options explicitly or implicitly tied to macroeconomic variables. Such put options on macroeconomic variables are nondiversifiable and pay off in times of macroeconomic downturns. Financial guarantees also provide direct interconnections between insurers and other systemically important financial institutions [...] . For these reasons, these products are far more systemically important than is traditional insurance.289

This is an important point precisely because the difficulty is not merely that CDSs can be concentrated in specific insurers (a problem that traditional insurance regulates through loss exposure limits), but also that the payments are highly correlated in macroeconomic terms.

The subsequent question is whether the financial guaranty insurance model is sufficient. Robert D. Aicher and others argue that it is sufficient in some respects, as the motivation for a special regulatory scheme was precisely that these products led to “large and concentrated risks of loss,” so that additional reserves and risk-taking restrictions were needed, and these risks were isolated from other lines of insurance.290 US insurance supervisors such as the New York Insurance Department have also taken an active approach in limiting the permitted financial guaranty insurance products to certain classes of obligation, presumably perceiving them to be less risky.291 Obviously, the problem with this latter point is that applying similar direct product regulation to CDSs might compromise the

287 The Economist 2013.

288 On traditional insurance, see for example Acharya et al. 2010: 258 (“Traditional insurance has low systemic risk. Insurance claims typically are idiosyncratic and diversifiable. [...] Traditional insurers typically are not significantly interconnected with systemically important financial institutions or capital markets.”), and Harrington 2005: 87 (“Because market discipline is greater and systemic risk is lower for insurance than in banking, capital requirements should be less stringent for insurers than for banks.”).

289 Acharya et al. 2010: 257.

290 Aicher, Cotton and Khan 2004: 933. See also ibid. 934, 937.

291 Ibid. 935.
flexibility of the market, and furthermore it may place too much responsibility in the supervisors.

It may still be asked whether the crisis revealed the insufficiency of financial guaranty insurance regulation, because since around 2000, monoline insurers got heavily involved in insuring mortgage-related securities and suffered big losses during the crisis. It may still be asked whether the crisis revealed the insufficiency of financial guaranty insurance regulation, because since around 2000, monoline insurers got heavily involved in insuring mortgage-related securities and suffered big losses during the crisis.292 On the other hand, a big part of the problem was that these financial insurance guaranties were structured through minimally-capitalized "transformer" companies, which exploited regulatory loopholes that made the guarantees cheap in terms of loss reserves and apparently profitable in accounting terms.293 The resulting structure was highly opaque, difficult to value, and crisis-prone as it crucially depended on the insurers’ credit ratings.294 Nevertheless, it is not entirely clear whether the macroeconomic dimension has been resolved; in theory, these interconnections can also be analyzed statistically, but credit cycles are complex and relatively rare.

Regardless of the prospects of targeted regulation for credit default swaps, there are attempts to improve insurance regulation overall. For example, the controversial European Solvency II regime seeks to develop insurance regulation towards more risk-responsive regulation, like in banking, including recognition of risk-mitigation techniques and the use of firms’ internal models.295 In principle, this development might incorporate the systemic risk concerns discussed here.296

In practice, however, the tendency seems more problematic than promising, because internal risk models and risk-mitigation techniques are factors that greatly contributed to the previous financial crisis.

6.4.2.4 Competitive Voluntary Regulation?

Given the limitations of existing insurance regulation models, it may further be asked whether there are radically different approaches that might address the concerns raised by CDSs. In the insurance literature, authors such as Philip Booth and Alan Morrison have argued in favour of a relatively liberal regime, which would focus on achieving contract enforcement and would principally rely on

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292 See Shadab 2010: 444–446 (describing this development). See also Geneva Association 2010: 59–60 (discussing systemic risk related to financial guarantees)


294 Ibid. 445–446. Geneva Association 2010: 59–60 identifies the reliance on credit ratings—due to bank capital regulation— as the key problem, adding however the leverage and concentration of monoliners.

295 See for example Davies and Green 2008: 77; Parker 2007: 19.

296 For example, Acharya et al. 2010: 247–249 write that the systemic risk regulator created in the US by the Dodd-Frank Act should be relevant for some insurers.
voluntary regulation provided by competing private and public agencies.\textsuperscript{297} There is much that can be learnt from their analyses, particularly as it is attentive to the real-world challenges of political process and therefore the permanent imperfections of public regulatory regimes.\textsuperscript{298}

Importantly, however, the argument of Booth and Morrison is based on the analysis of life insurance, and it explicitly relies on the assumption of no third-party externalities.\textsuperscript{299} It cannot therefore be extended without CDS regulation without great difficulties.

### 6.4.2.5 Prospects within the Current Framework: EMIR

It seems politically unlikely that full-fledged CDS protection selling legislation could be attained in the near future, which means that it is interesting to consider whether the existing, post-crisis regulatory framework could be further developed or fine-tuned along the lines of the principles advanced here. It seems that there is indeed scope for development. For one thing, the existing framework for the regulation and supervision of central counterparties (CCPs) could be developed along these lines.\textsuperscript{300} For example, the regulation of the CDS-related risk taking should learn from the technical experience obtained in the regulation of financial guaranty insurance. It might also be opportune, as was mentioned earlier, to isolate CDS-related CCP clearing from ordinary financial derivatives clearing, because the macroeconomic dynamics of these products are peculiar and such isolation would reduce the danger of systemic spillovers from credit risk markets to broader financial markets.

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\textsuperscript{297} See Booth and Morrison 2007: 24–31, 33–35; Morrison 2004: 48–51. See also Booth 2007 (describing and positively evaluating the relatively liberal freedom with publicity regime that characterized British insurance regulation from 1844 to 1945).

\textsuperscript{298} See Booth and Morrison 2007: 31–33.

\textsuperscript{299} Booth and Morrison 2007: 35 (“an important difference between the banking and insurance markets is that the systemic effects attendant upon bank failure do not exist in the insurance markets. In the absence of these externalities, the only measure of regulatory usefulness is whether consumers are prepared to pay for regulation.”).

\textsuperscript{300} In Europe, EMIR, Art. 40–50 provide for a range of prudential regulations for derivatives CCPs. Many of these rules are generic but they empower ESMA to develop more specific technical standards, so that the necessary legal basis is there. The initial approach of ESMA does not specifically address CDS-related concerns, although they may be implicit in some of the principles, especially those related to systemic risk: see ESMA 2012a: 37–48, and the subsequent Commission Delegated Regulation (EU) No 149/2013 of 19 December 2012 supplementing Regulation (EU) No 648/2012 of the European Parliament and of the Council with regard to regulatory technical standards on indirect clearing arrangements, the clearing obligation, the public register, access to a trading venue, non-financial counterparties, and risk mitigation techniques for OTC derivatives contracts not cleared by a CCP [2013] OJ L 52/11.
Another field for further development is the regulation of bilateral collateral arrangements. To be sure, bilateral arrangements will probably never fully deal with credit risk concentration and interconnectedness, but there are interesting ideas worth pursuing. For example, the UK FSA’s Turner Review in 2009 sought to identifies co-regulatory prospects for reducing the procyclical nature of margin calls. The simplest option proposed by the FSA was “to set minimum levels of haircut” in order to “offset the procyclical tendency for levels to fall in boom years and reduce the extent to which increases in haircuts in periods of rising volatility contribute to deflationary pressures.” The more radical option was to “vary these requirements over the cycle in an actively countercyclical fashion.”

In both cases, the Turner Review noted enforcement difficulties, but the post-crisis reform framework in both Europe and the US empowers regulators to develop these ideas in practice. The current approach of ESMA does not seem to address CDS-related concerns, however.

6.4.3 Targeted Regulation: Protection Buying or Default Betting

We saw earlier that there is a modest case for restricting purely speculative CDS positions, at least with respect to relatively opaque and illiquid credit markets that are more prone to overshooting and self-fulfilling prophesies in times of crisis. This question involves the potential impositions of limits to what is

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302 Id.
303 Id. at 111 n.53.
304 Id. at 111.
305 In Europe, EMIR, Art. 11, provides a broad framework for the regulation of risk-mitigation techniques for OTC derivative contracts not cleared by a CCP. The rules determined in this article are quite generic, but paragraph 15 empowers ESMA to develop specific technical standards to be adopted by the Commission in the form of delegated legislation. Moreover, paragraph 13 empowers ESMA to “regularly monitor the activity in derivatives not eligible for clearing in order to identify cases where a particular class of derivatives may pose systemic risk and to prevent regulatory arbitrage between cleared and non-cleared derivative transactions. In particular, ESMA shall, after consulting the ESRB [European Systemic Risk Board], take action in accordance with Article 5(3) or review the regulatory technical standards on margin requirements [...]”. On the relevant Dodd-Frank rules in the US, see O’Loughlin 2012: 513.
307 See above, chapter 5.2.5.
notionally the *protection buying* side of the transaction, although naturally here we are interested precisely in CDS buying that is not for protection.

The question has already been partly discussed in relation to the traditional insurance doctrine of *insurable interest*. It was seen that the application of the traditional insurance law rule would probably result in a reasonably broad notion of insurable interest, which would permit CDS protection buying according to an economic hedging position. For example, it would not exclude the non-speculative use of index CDSs even though parties investing in these will normally not legally own the underlying assets.

Nevertheless, what concerns us here is the possibility of creating a targeted regime for CDS protection selling. This question is important for many reasons: firstly, because the application of traditional insurance law seems relatively unlikely for practical reasons; secondly, because the traditional doctrine has been criticized for creating uncertainty and being potentially useless—and these criticisms are especially relevant in the context of credit default swaps; thirdly, there is a new targeted regulatory regime that may provide a workable approach and that also has attracted useful empirical studies.

### 6.4.3.1 The European Short Selling Regulation

The idea of targeted regulation in this field finds general support in the academic literature: even if CDSs continue to be treated as derivatives, there exists the possibility of developing regulation along functional lines, as Hazen writes: “If the insurable interest requirement remains justifiable for insurance contracts, then there may be good reason to close the gap with respect to parallel derivatives transactions.” In Europe, there has been no CDS reform movement comparable to the plans of United States insurance legislators, but whereas that movement in the US was thwarted by federal pre-emption, in Europe a different political atmosphere led to the effective implementation of the Short Selling Regulation, which imposes a quasi-insurable interest doctrine for sovereign CDSs.

In its totality, the Short Selling Regulation consists of two principal elements: first, mandatory *disclosure rules* for major net short positions in shares, sovereign debt, and sovereign-debt related CDSs; and second, *restrictions* to uncovered

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308 See above, chapter 3.1.5.


short positions in shares, sovereign debt, and some—mainly sovereign-debt related—CDSs.\textsuperscript{312} It is this latter CDS dimension that is relevant here.

The basic prohibition concerns \textit{uncovered positions} in sovereign-debt related credit default swaps.\textsuperscript{313} \textit{Sovereign debt} is defined broadly to include any debt instrument issued by the European Union; a Member State or a government department, agency or special purpose vehicle (SPV) of the Member State; a member of a federal Member State; an SPV for several Member States (e.g. the European Financial Stability Facility); an international financial institution established by Member States (e.g. the European Stability Mechanism); and the European Investment Bank.\textsuperscript{314}

The technical scope and possible exceptions to this prohibition will be discussed shortly in detail, but it should be added that regulators are also empowered to intervene in other short selling transactions—including corporate CDSs—in \textit{exceptional circumstances}, such as adverse events threatening financial stability or a significant fall in the price of financial assets.\textsuperscript{315} Let us analyze these related but separate categories in detail.

More specifically, Articles 20 and 21 of the Regulation state that there are two general conditions for invoking these emergency powers when there are adverse events threatening financial stability: (a) “there are adverse events or developments which constitute a serious threat to financial stability or to market confidence”, and (b) “the measure is necessary to address the threat and will not have a detrimental effect on the efficiency of financial markets which is disproportionate to its benefits.”\textsuperscript{316}

These general conditions for the extension of the intervention powers are obviously subject to interpretive difficulties. In order to provide further precision, the European Securities and Markets Authority (ESMA) has stated that these interventions should principally concern troubled members states and \textit{systemically important financial institutions}.\textsuperscript{317} It has further highlighted the proactive approach that regulators should adopt in these cases: “it is essential to make sure that competent authorities and ESMA can take steps before the risk situation spreads. The possibility of the development of self-fulfilling phenomena, like rumours of bank runs or sovereign or financial issuer defaults is

\begin{footnotes}
\footnote{312} Short Selling Regulation, \textit{supra} note 310, Art. 12–14. See Juurikkala 2012a: 322–338 (analyzing these rules); Linklaters 2012: 7–9.

\footnote{313} Short Selling Regulation, Art. 14. The basic rule is in Art. 14(1): “A natural or legal person may enter into sovereign credit default swap transactions only where that transaction does not lead to an uncovered position in a sovereign credit default swap as referred to in Article 4.” Article 4 provides further determination on the notion of \textit{uncovered position}, discussed shortly in detail.

\footnote{314} Short Selling Regulation, Art. 2(1)(d).

\footnote{315} Short Selling Regulation, Art. 20, 21, 23; see Juurikkala 2012a: 331–334.

\footnote{316} Short Selling Regulation, Art. 20(1) and 21(1).

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a particular factor to watch when assessing adverse market conditions.”318 The Commission has confirmed this approach in its subsequent Delegated Regulation.319

These interventions may extend to all CDSs, and can take a range of forms.320 Specifically, Article 20 empowers national regulators not only to prohibit but also to impose conditions relating to (a) “a short sale” and (b) a transaction other than a short sale which creates, or relates to, a financial instrument and the effect or one of the effects of that transaction is to confer a financial advantage on the natural or legal person in the event of a decrease in the price or value of another financial instrument.321

These interventions are not limited to CDSs, and they certainly may cover non-sovereign CDSs.322 Moreover, the wording of Article 20(2)(b) cited above seems to include the possibility of prohibiting or imposing conditions to covered CDS positions as well.

Article 21 further states that regulatory authorities “may restrict the ability of natural or legal persons to enter into sovereign credit default swap transactions or may limit the value of sovereign credit default swap positions that those persons are permitted to enter into.”323 This intervention also includes covered positions, but it is limited to sovereign-debt CDSs. The legislative materials do not provide further clarity to the notion of limiting the value of sovereign CDS positions, however.

It remains to be seen whether and how these emergency powers will be exercised, but this would be most likely to happen when systematically important financial institutions are under pressure. Uncertainty is increased by the fact that the Regulation empowers different national and European regulators to intervene in different situations, and they may act differently given conflicting national interests and divergent regulatory traditions.324 So far, in any case, the Commission considers that these emergency provisions have been appropriate and well-functioning.325

Finally, Article 23 of the Regulation separately empowers regulators to restrict short selling of financial instruments temporarily in the case of a significant fall in

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318 Ibid. 66 (para. 194).
319 See Short Selling Supplement, Art. 24(1).
320 See Juurikkala 2012a: 332 (analyzing Articles 20 and 21).
321 See Short Selling Regulation, Art. 20(2).
322 See Short Selling Regulation, Art. 20(3) further states: “A measure taken under paragraph 2 may apply to transactions concerning all financial instruments, financial instruments of a specific class or a specific financial instrument.”
323 See Short Selling Regulation, Art. 21(1).
324 See Juurikkala 2012a: 334–336 (providing a detailed analysis of the powers of different regulators and of potential conflicts between them).
325 See European Commission 2013: 7.
price.\textsuperscript{326} Importantly, the Commission Delegated Regulation has determined that for many derivatives the question depends on the value of the underlying financial instrument, which implies that Article 23 might in some cases be used to intervene in credit default swap markets.\textsuperscript{327} The practical experience with this article has, however, been negative, because it has created confusion and illiquidity, and there has been inconsistent application when trading in one instrument has been temporarily banned in one member state but not in others.\textsuperscript{328} ESMA has proposed giving more discretion to regulators and changing some of the thresholds, but the Commission has preferred to wait and insisted on better coordination.\textsuperscript{329}

\subsection*{6.4.3.2 Opting-Out Provisions: Temporary Suspension of the Prohibition}

In the original proposal by the European Commission, there was no permanent prohibition but only an authorization to temporarily restrict short positions in sovereign CDSs; it was the European Parliament that amended this in favour of a permanent prohibition.\textsuperscript{330} To be precise, though, the final prohibition is only semi-permanent, because the Regulation enables regulators to suspend the prohibition under certain conditions.\textsuperscript{331} Technically, “the difference is a question of presumption: the Commission proposal would have permitted CDS short selling as a rule, allowing its prohibition as an exception; the final Regulation made prohibition the rule and permission the exception.”\textsuperscript{332}

\begin{footnotesize}
\textsuperscript{326} See Short Selling Regulation, Art. 23. This is a complex and technical Article; of interest, however, is paragraph 5, which specifies the quantitative rule: “The fall in value shall be 10 \% or more in the case of a liquid share […] and for illiquid shares and other classes of financial instruments an amount to be specified by the Commission.” The Commission Delegated Regulation (Short Selling Supplement), Art. 23, provides a series of quantitative rules for the latter cases.

\textsuperscript{327} Short Selling Supplement, Art. 23(6): “Where a derivative, including financial contracts for difference, is traded on a trading venue and has as its only underlying financial instrument, a financial instrument for which a significant fall in value is specified in this Article and Article 23(5) of Regulation (EU) No 236/2012, a significant fall in value in that derivative instrument shall be considered to have occurred when there has been a significant fall in that underlying financial instrument.” The application to CDSs however depends on their being traded on a trading venue, which raises some conceptual issues that call for clarification.

\textsuperscript{328} European Commission 2013: 7.

\textsuperscript{329} See ESMA 2013a: paras. 209–211; European Commission 2013: 7.

\textsuperscript{330} See Juurikkala 2012a: 323–324.

\textsuperscript{331} Short Selling Regulation, Art. 14(2); see Juurikkala 2012a: 336–338.

\textsuperscript{332} Juurikkala 2012a: 324
\end{footnotesize}
In part, this semi-permanent rule was a concession to countries such as the UK which were opposed to a total prohibition.\(^{333}\) It is moreover economically more prudent than the original intervention powers, because the experience has it that *sudden changes* to short selling rules tend to be particularly destabilizing, which implies that they are problematic precisely when they might be justified.\(^{334}\)

In addition to being economically sounder, the final presumption is likely to make all the practical difference. This is because the *temporary suspension* of the sovereign CDS short-selling prohibition by national regulatory authorities requires that

it has objective grounds for believing that its sovereign debt market is not functioning properly and that such restrictions might have a negative impact on the sovereign credit default swap market, especially by increasing the cost of borrowing for sovereign issuers or affecting the sovereign issuers’ ability to issue new debt.\(^{335}\)

Further, the contemplation of such temporary suspension, which must be in communication with ESMA and the other European national financial regulators, must be based on the following five indicators that support lifting the restrictions:

(a) a high or rising interest rate on the sovereign debt;

(b) a widening of interest rate spreads on the sovereign debt compared to the sovereign debt of other sovereign issuers;

(c) a widening of the sovereign credit default swap spreads compared to the own curve and compared to other sovereign issuers;

(d) the timeliness of the return of the price of the sovereign debt to its original equilibrium after a large trade;

(e) the amounts of sovereign debt that can be traded.\(^{336}\)

The irony is that these are the sort of indicators that speak of serious distress faced by the borrower, and the empirical evidence suggests that in those times CDS prices tend to be inefficient and speculation in CDS markets is likely to encourage short-term overshooting, thereby only feeding the downward spiral of the distressed sovereign.\(^{337}\) I have, moreover, argued elsewhere that there is a further paradox here in that

it is precisely in those times that regulators may invoke their emergency powers to restrict other forms of short selling, including corporate CDSs. If, in the extreme, sovereign CDS speculation is permitted at the same time as corporate CDS speculation is restricted, the

\(^{333}\) Ibid. 336.

\(^{334}\) See ibid. 336–337 (citing empirical studies).

\(^{335}\) Short Selling Regulation, Art. 14(2).

\(^{336}\) Ibid.

\(^{337}\) Juurikkala 2012a: 337.
effect may be a major market dislocation as investors rush from one area (normally allowed, now banned) to another (normally banned, now allowed).\textsuperscript{338}

The conclusion seems to be that there is little if any economically sound scope for the use of the temporary opting-out provisions, and if they are employed, there should at least be coordination both between regulators and across financial instruments so that destabilizing relocations are avoided.

6.4.3.3 The Scope of Uncovered Positions: Hedging Rules

In view of the development of targeted CDS regulation, one of the main reasons why the EU Regulation merits attention is that it is the first attempt to develop clearer rules for the delineation of insurable interest in CDSs.\textsuperscript{339} The need for this was widely recognized during the legislative process, as many politicians first favoured a narrow rule based on ownership of underlying debt (similar to the narrow, traditional English rule on insurable interest), but in the end a wider rule was adopted based on the economic notion of hedging.\textsuperscript{340} Specifically, Article 4 of the Regulation states:

For the purposes of this Regulation, a natural or legal person shall be considered to have an uncovered position in a sovereign credit default swap where the sovereign credit default swap does not serve to hedge against:

(a) the risk of default of the issuer where the natural or legal person has a long position in the sovereign debt of that issuer to which the sovereign credit default swap relates; or

(b) the risk of a decline of the value of the sovereign debt where the natural or legal person holds assets or is subject to liabilities, including but not limited to financial contracts, a portfolio of assets or financial obligations the value of which is correlated to the value of the sovereign debt.\textsuperscript{341}

Thus the economic hedging principle is not only present in the reference to a long position in general but also much more widely in the reference to asset value correlation. Thus there is a recognition of the legitimacy of proxy hedging, which is frequently used when direct hedges are not available.\textsuperscript{342} Obviously, the notion of value correlation has been left deliberately ambiguous, as the Regulation empowers the European Commission to determine specific legislation on the matter, based on technical advice from ESMA.\textsuperscript{343}

\textsuperscript{338} Ibid. 337–338.

\textsuperscript{339} See ibid. 328–330 (analyzing the rules).

\textsuperscript{340} Juurikkala 2012a: 328.

\textsuperscript{341} Short Selling Regulation, Art. 4(1).

\textsuperscript{342} Juurikkala 2012a: 328–329.

\textsuperscript{343} Short Selling Regulation, Art. 4(2); Juurikkala 2012a: 329.
ESMA has specified its technical advice gradually. In its 2012 report, ESMA discussed a range of issues but refused to provide quantitative measures.\textsuperscript{344} It favoured a relatively liberal approach, stating that “a very wide range of exposures could potentially be eligible for hedging through a sovereign CDS position.”\textsuperscript{345} It only laid down two broad principles, namely those of correlation and proportionality between the risks being hedged and the referenced sovereign debt.\textsuperscript{346}

Regarding the notion of correlation, ESMA explicitly considered it “better not to produce a very precise quantitative definition as to the extent of the correlation required. There must be a meaningful positive (or negative) correlation but a general qualitative statement should be sufficient and would not risk setting an overly precise boundary.”\textsuperscript{347} It did however specify that correlation should be demonstrated by reference to historical data “for a sufficiently long period (normally at least 12 calendar months of trading days).”\textsuperscript{348}

Regarding proportionality, what ESMA wished to highlight and add to the notion of correlation was that the relevant CDS positions should not be totally disproportionate in comparison with the risks being hedged, even if a perfect match cannot be expected.\textsuperscript{349} It further clarified that market participants are responsible for ensuring that their CDS positions remain covered, but they should not be punished for changes in market valuations that involved no active change of position.\textsuperscript{350} Overall, ESMA was quite shy of providing meaningful legal certainty, but it may have been its intention to make sure that markets are not scared off by excessively restrictive rules or by complex requirements that create compliance costs. Perhaps it also wanted to obtain more empirical observations of the effects of the Regulation before committing to rules that would have to be immediately revised.

Some specific rules were, however, determined by ESMA.\textsuperscript{351} One is that if involuntary uncovered CDS positions are imposed upon a member of a central counterparty, these shall not fall within the scope of the prohibition.\textsuperscript{352} Another is a limitation of the geographic scope of proxy hedging so that cross-country risk management is restricted: the risk being hedged should be located in the same

\textsuperscript{345} ESMA 2012b: 38 (para. 78).
\textsuperscript{346} Juurikkala 2012a: 329; see ESMA 2012b: 34–36.
\textsuperscript{347} ESMA 2012b: 39 (para. 83). Negative correlation is relevant when a liability (as opposed to an asset) is being hedged.
\textsuperscript{348} Ibid. 40 (para. 84). For exposures without a liquid market price or sufficiently long price history, a suitable proxy is to be used: ibid. 40 (para. 85).
\textsuperscript{349} Ibid. 40 (para. 87).
\textsuperscript{350} Ibid. 41 (para. 89).
\textsuperscript{351} See Juurikkala 2012a: 330.
\textsuperscript{352} See ESMA 2012b: 41–42.
member state whose sovereign debt is referenced in the CDS being used as a hedge.\textsuperscript{353} There are minor exceptions, for example when the counterparty is a supra-national European body, and further “it should be permissible to hedge the counterparty risk with an appropriately chosen basket of sovereign CDS” (i.e. an index CDS).\textsuperscript{354}

In its 2013 report on the Short Selling Regulation, ESMA sought to develop and clarify some of the issues, also responding to certain criticisms.\textsuperscript{355} The principal criticisms were, firstly, the imprecision of the requirements, or more precisely “[t]he restrictive nature of the correlation tests (with the emphasis on historical data) and uncertainty over whether the quantitative and qualitative tests were alternatives or to be used in combination.”\textsuperscript{356} ESMA did not see a problem with the historical data requirement, but it accepted that “there does seem to be confusion among market participants over the quantitative and qualitative correlation tests”, clarifying therefore that “these are separate alternatives rather than to be applied in combination.”\textsuperscript{357}

Secondly, there were complaints concerning the “limitation on the geographic scope of sovereign CDS hedges”,\textsuperscript{358} as there had in fact been already during the consultation for the 2012 report.\textsuperscript{359} Market participants also criticized “[t]he inability to use a sovereign CDS index unless the exposure related to all sovereigns in the index or an appropriate supra-national issuer was thought to be particular problem preventing the use of such indices to hedge risks in several MSs [member states].”\textsuperscript{360} This time, ESMA agreed that it would be reasonable to relax the rules on index CDSs and cross-border hedging.\textsuperscript{361} In broader terms, however, ESMA concluded that there was no “compelling evidence warranting major changes.”\textsuperscript{362}

In the resulting Commission Delegated Regulation, the principles proposed by ESMA were broadly followed, but there is also more precision.\textsuperscript{363} Firstly, the Delegated Regulation provides a more comprehensive list of cases that are not included in the prohibition.\textsuperscript{364} Secondly, it has added quantitative and qualitative

\begin{thebibliography}{99}
\bibitem{353} Ibid. 39 (para 81).
\bibitem{354} Ibid.
\bibitem{355} See ESMA 2013a: 29–30.
\bibitem{356} Ibid. 29 (para. 109).
\bibitem{357} Ibid. 30 (para. 114).
\bibitem{358} Ibid. 29 (para. 109).
\bibitem{360} ESMA 2013a: 29 (para. 109).
\bibitem{361} Ibid. 30 (para. 115).
\bibitem{362} Ibid. 29 (para. 112).
\bibitem{364} Short Selling Supplement, Art. 14(1).
\end{thebibliography}
precision to the correlation tests\textsuperscript{365} as well as qualitative precision to the proportionality test.\textsuperscript{366}

6.4.3.4 Possible Loopholes and Enforcement Concerns

In addition to the complaints of market participants, there have been several minor criticisms of the Regulation from those that fear that it may be ineffective. One criticism concerns the use of uncovered CDSs for proxy hedging. In general, proxy hedging is not controversial, and many investors use sovereign CDSs to hedge corporate and other risks, because the sovereign CDS market is more liquid than the corporate CDS market.\textsuperscript{367} However, the European Parliament Committee on Economic and Monetary Affairs examining the Regulation made the valid point that proxy hedging might be damaging for sovereign borrowers: “Using a

\textsuperscript{365} See Short Selling Supplement, Art. 18. Specifically, Art. 18(1) determines the complementarity of the quantitative and qualitative tests, and reads: “The correlation test referred to in this Chapter shall be met in either of the following cases: (a) the quantitative correlation test shall be met by showing a Pearson’s correlation coefficient of at least 70 \% between the price of the assets or liabilities and the price of the sovereign debt calculated on a historical basis using data for at least a period of 12 months of trading days immediately preceding the date when the sovereign credit default swap position is taken out; (b) the qualitative correlation shall be met by showing meaningful correlation, which means a correlation that is based on appropriate data and is not evidence of a merely temporary dependence. The correlation shall be calculated on a historical basis using data for the 12 months of trading days before the sovereign credit default swap position is taken out, weighted to the most recent time. A different time-frame shall be used if it is demonstrated that the conditions prevailing in that period were similar to those at the time that the sovereign credit default swap position is to be taken out or which would occur in the period of the exposure being hedged. For assets for which there is not a liquid market price or where there is not a sufficiently long price history, an appropriate proxy shall be used.”

\textsuperscript{366} See Short Selling Supplement, Art. 19, which follows the flexible approach of ESMA. Specifically, Art. 19(1) reads: “In determining whether the size of the sovereign credit default swap position is proportionate to the size of the exposures hedged, where a perfect hedge is not possible, an exact match is not required and limited over-provision shall be permitted in accordance with paragraph 2. The relevant party shall justify upon request to the competent authority why an exact match was not possible.” Art. 19(2) adds further qualitative precision: “Where justified by the nature of the assets and liabilities being hedged and their relationship to the value of the obligations of the sovereign which are within the scope of the credit default swap, a greater value of sovereign credit default swap shall be held to hedge a given value of exposures. However, this shall only be permitted where it is demonstrated that a larger value of sovereign credit default swap is necessary to match a relevant measure of risk associated with the reference portfolio, taking into account as the following factors: (a) the size of the nominal position; (b) the sensitivity ratio of the exposures to the obligations of the sovereign which are within the scope of the credit default swap; (c) whether the hedging strategy involved is dynamic or static.”

\textsuperscript{367} Juurikkala 2012a: 331. See also Rao 2012 (citing evidence of proxy-hedging using sovereign CDSs).
CDS as a proxy for hedging other financial instruments by increasing demand for sovereign CDS is prone to sending misleading signals to the market. Such misleading signal could put Member State’s financing costs at risk and thus increases the pressure on already strained public finances.\textsuperscript{366} Naturally, the current rules provide some scope for intervention on this basis if there is evidence of problems.

One could add that, as the general prohibition only covers naked CDSs based on European sovereign debt, this raises another proxy concern: investors seeking to bet against distressed governments may do so using strategic corporate CDSs such as the CDSs of leading banks.\textsuperscript{369} This possibility was hinted at by the Lex column of the Financial Times during the legislative process: “Privately, they [hedge funds] add that if they want to bet that a country defaults, they will find proxies—such as leading bank stocks. Beware the unintended consequences.”\textsuperscript{370}

The market effect of such speculation might be different from betting against the government, but it would be unfair to the companies concerned. Advocates of the ban would argue that this is evidence that the restrictions should extend to corporate-debt CDSs.\textsuperscript{371} There remains the possibility of targeted restrictions, but the empirical evidence suggests that temporary short-selling bans are particularly destabilizing.\textsuperscript{372}

Another concern is that the Regulation cannot be easily enforced. To be sure, the use of economically similar transactions to circumvent the restrictions is probably precluded by the fact that the Regulation defines credit default swaps on a functional basis.\textsuperscript{373} Trickier issues include, firstly, that the exemption of market-making activities may become a loophole.\textsuperscript{374} It has been feared that this exemption could render the Regulation almost useless since market-making investment banks are the principal actors in CDSs.\textsuperscript{375} Maybe the problem is not so

\begin{itemize}
\item[366] European Parliament 2010: 79.
\item[369] Juurikkala 2012a: 331. See also Kerr 2012.
\item[370] Financial Times 2011.
\item[371] In fact, this option received substantial support in the European Parliament: Juurikkala 2012a: 330–331.
\item[372] See ibid. 336–337 (summarizing evidence).
\item[373] Short Selling Regulation, Art. 2(1)(c): “credit default swap’ means a derivative contract in which one party pays a fee to another party in return for a payment or other benefit in the case of a credit event relating to a reference entity and of any other default, relating to that derivative contract, which has a similar economic effect”.
\item[374] See Juurikkala 2012a: 338–339. Short Selling Regulation, Art. 17 provides a general exemption for market-making activities and primary market operations (market making in sovereign debt issues) from the requirements of Art. 5–7 (disclosure of net short positions) and Art. 12–14 (restrictions on uncovered short positions).
\item[375] Delatte 2012. See also EP Committee on Economic and Monetary Affairs 2010: 81, where the the rapporteur demanded that “market makers that do not have a Chinese wall between
\end{itemize}
serious in practice, firstly because the definition of market-making is quite restrictive, so that even major investment banks playing an active role in CDSs will not automatically fall within the exemption. Secondly, ESMA seems to be aware of the concern and has taken a strict approach to the granting of the market-making exemption, for example giving exemptions separately for each instrument, and refusing the exemption for products not traded on a regulated market. Thirdly, the Regulation empowers the relevant competent authorities to request information about short positions held or activities conducted under the exemption, and to prohibit the use of the exemption if they consider that the conditions for the exemption are no longer satisfied.

The final concern is whether the prohibition can be policed in the global financial markets. This is part of the general enforcement problem mentioned earlier, and it was explicitly recognized in the impact assessment of the initial proposal of the European Commission, which did not include the semi-

the activities and those of property trading not initiated by clients’ orders should not be allowed to use these exemptions.”

376 The notion of market-making activities is subject to a complex but rather restrictive definition in Art. 2(1)(k): it means “the activities of an investment firm, a credit institution, a third-country entity, or a firm as referred to in point (l) of Article 2(1) of Directive 2004/39/EC, which is a member of a trading venue or of a market in a third country, the legal and supervisory framework of which has been declared equivalent by the Commission pursuant to Article 17(2) where it deals as principal in a financial instrument, whether traded on or outside a trading venue, in any of the following capacities: (i) by posting firm, simultaneous two-way quotes of comparable size and at competitive prices, with the result of providing liquidity on a regular and ongoing basis to the market; (ii) as part of its usual business, by fulfilling orders initiated by clients or in response to clients’ requests to trade; (iii) by hedging positions arising from the fulfilment of tasks under points (i) and (ii).” The notion of authorised primary dealer is defined in Art. 2(1)(n) as meaning “a natural or legal person who has signed an agreement with a sovereign issuer or who has been formally recognised as a primary dealer by or on behalf of a sovereign issuer and who, in accordance with that agreement or recognition, has committed to dealing as principal in connection with primary and secondary market operations relating to debt issued by that issuer.”

377 Newton 2012. The ESMA Guidelines on the market-making exemption put it thus: “According to Article 2(1)(k), market making activities, in their turn, are defined as dealing as principal in a financial instrument. Consequently, the exemption under Article 17(1) applies to activities in a financial instrument, i.e. on an instrument per instrument basis, and should not be considered as a global exemption for market making activities in general.” (ESMA 2013b: para. 28.)

378 Moshinsky 2013. ESMA has subsequently proposed reconsidering the scope of and the conditions for the market-making exemption (ESMA 2013a: para. 149); the Commission has however preferred to wait more and gain more experience before changing the rules (European Commission 2013: 6).

379 Short Selling Regulation, Art. 17(11).
380 Short Selling Regulation, Art. 17(7).
permanent prohibition: “a ban could easily be circumvented by investors trading in CDS in non-EU countries not subject to the ban and there would be very little that EU regulators could do about this.”\textsuperscript{382} Strangely, the Regulation does not specify extra-territorial effect for the uncovered CDS restrictions. It therefore remains to be seen how their enforcement is developed.

6.4.3.5 \textit{Economic Implications: Preliminary Assessment}

Beyond the legal details, the controversial question surrounding the European Regulation is what economic consequences it will have. Before it was passed, critics claimed that it would “impose unnecessary expenses” and “increase the costs of sovereign borrowing.”\textsuperscript{383} No doubt, the Regulation had political motivations and its rapid passage was “facilitated by the European sovereign debt crisis.”\textsuperscript{384} However, some commentators went so far as to claim that “prohibiting naked positions in credit default swaps would essentially destroy this market. […] with speculators banned, hedgers will not find counterparties because the market will have no liquidity.”\textsuperscript{385}

There is some exaggeration here. The Regulation limits purely speculative positions, but it is essentially just like the doctrine of insurable interest, which has not abolished insurance markets. The error seems to be to suppose that CDSs are like forward contracts, where upside and downside risks are symmetrical. CDSs are not like that: a covered protection buyer does not need an uncovered protection buyer, but a protection seller. The insurable interest requirement prohibits betting on other people’s misfortunes; it does not prohibit the sale of insurance. What one would expect is a decline in the quasi-trading liquidity of the transactions; investment banks should also lose their dealer role unless they are given the market-making exemption.

As we saw earlier, previous academic studies suggest that prohibiting uncovered sovereign-debt CDS positions could reduce borrowing costs instead of increasing them.\textsuperscript{386} The initial observations on the effects of the Regulation seem to support this view, as there is evidence of downward pressure on sovereign CDS prices.\textsuperscript{387} Likewise, there are signs of lower liquidity,\textsuperscript{388} the effect of which on underlying markets is unclear.\textsuperscript{389}

\begin{itemize}
\item \textsuperscript{382} European Commission 2010b: 47.
\item \textsuperscript{384} Juurikkala 2012a: 311.
\item \textsuperscript{385} Stulz 2010: 85.
\item \textsuperscript{386} Juurikkala 2012a: 325–327.
\item \textsuperscript{387} See Rao 2012 (discussing JP Morgan data on EU member-state CDS prices that have come down more than the comparison group).
\item \textsuperscript{388} See Kerr 2012; Newton 2012 (citing market participants).
\item \textsuperscript{389} See Porters 2012.
\end{itemize}
Further information has been provided in the 2013 report of ESMA, which makes a quantitative analysis on the market impact of the Regulation.\textsuperscript{390} Trying to isolate the effect of the ban, and comparing with non-EU countries, the ESMA study concludes, like the initial observations, that “the effect of the ban is found to be a slight reduction of around 26 basis points in the CDS spread of countries subject to the Regulation (only significant at the 10\% confidence level).”\textsuperscript{391} With respect to the underlying long-term (10-year) sovereign bond markets, there was “a slight structural break” when the Regulation came into force, but no statistically significant permanent effect.\textsuperscript{392}

This suggests that at least there was no major problem caused in the market. Alternatively, one might ask whether the Regulation is making any different; but it must be noted in response that the ESMA study is based on a very short (5-month) time frame after the entry into force of the Regulation,\textsuperscript{393} and during this period there was no particular sovereign market tension or stress taking place.\textsuperscript{394}

With respect to sovereign-debt CDS market size and liquidity, ESMA finds that “liquidity, as measured by bid-ask spreads, does not seem to have been significantly impaired by the Regulation”.\textsuperscript{395} In fact, the comparison of empirical data and feedback from market participants seems to suggest that the latter may express subjective perceptions that are not supported by empirical evidence.\textsuperscript{396} The exception is “sovereign CDS indices, for which a sharp decline was observed.”\textsuperscript{397}

In contrast, “net notional European CDS outstanding have sharply declined since August 2011, much earlier than the entry into force of the Regulation.”\textsuperscript{398} One possible reason is that it was until then that there was significant speculative short-selling activity in European sovereign debt, after which the situation gradually calmed down.\textsuperscript{399}

The ESMA report from 2013 overall suggests no major difficulties, and it also raises further questions for investigation, for example whether the sharp decline

\textsuperscript{390} ESMA 2013a: 27–28.
\textsuperscript{391} Ibid. 27 (para. 100). For technical details, see ibid. 89–90.
\textsuperscript{392} Ibid. 27 (para. 101).
\textsuperscript{393} Ibid. 8 (para. 10).
\textsuperscript{394} Ibid. 28 (para. 108): “the short time period since the application of the Regulation and the generally improved market sentiment towards the euro-area made it difficult to assess the effect.”
\textsuperscript{395} Ibid. 27 (para. 102). For technical details, see ibid. 91–92.
\textsuperscript{396} See ibid. 28 (para. 106): “It was commented [by market participants] that with liquidity in the smaller sovereign CDS markets (such as Eastern European countries) having dried up completely, although this is not entirely perceptible in the empirical evidence described in the previous section.”
\textsuperscript{397} Ibid. 28 (para. 103).
\textsuperscript{398} Ibid.
\textsuperscript{399} Ibid.
in sovereign CDS index transactions was due to the initially too restrictive requirements on index CDSs and cross-border hedging. From the view point of economic research, the Regulation creates an unequalled opportunity for empirical studies on the effects of CDSs on underlying debt markets, because the prohibition enables comparative studies that are normally not possible.
7 FINDINGS AND REFLECTION

The study has been structured around two broad questions: one concerning the legal-doctrinal characterization of credit default swaps (chapters 2–4), the other concerning what should be done to adequately regulate them (chapter 5–6). In what follows, I will summarize the main results and draw some overall conclusions.

7.1 PRINCIPAL FINDINGS

7.1.1 Legal Doctrine
The first legal question, discussed in chapter 2, dealt with the general reasons for the uncertainty and confusion surrounding credit default swaps. It was argued that these are historically novel financial instruments that have mostly failed to receive systematic attention from legislatures or courts. It was shown that this is not the only source of confusion, but that CDSs have been transacted with a terminology that differs from traditional legal terminology, and they also happen to be situated in an intersection of different legal categories that in some cases are quite similar economically.

Regarding the various potentially relevant categorizations, it was argued that gambling has been clearly excluded by legislation in the leading jurisdictions. The category of financial securities in general is less clear, but it was shown that the way in which CDSs are traded (so-called novations) implies that strictly speaking these transactions are not subject to secondary-market trading, so that they cannot be classified as securities in the normal sense. With respect to letters of credit and third-party guarantees, the situation is quite unclear, but it was pointed out that these in principle are always tripartite arrangements whereas CDSs are structured as two-party arrangements, like insurance contracts.

Chapters 3–4 focused on the two principal alternatives advocated in the existing literature, namely the insurance-based and the derivatives-based understanding of CDSs. The overall argument in the present study is that both views can be supported, but for different reasons. Chapter 3 analyzed the relationship between credit default swaps and insurance law. Given that this is among the biggest and most complex questions here, the analysis was divided into smaller questions, which resulted in several important findings. Some widely cited arguments, such as the Potts opinion, were found to be severely flawed in law, as they tend to engage in circular reasoning by presuming those terms that should be demonstrated. It was moreover shown that the no-intention-to-insure argument is defective both in law and in fact, and that credit default swaps are structurally and economically not swaps at all. The notions of insurable interest
and loss indemnity were explained and clarified in terms of both the law and their correct application to CDSs.

These findings were essentially based on English insurance law, but they would largely be applicable in most other jurisdictions, because they have to do with relatively generic insurance law principles. Similar findings would seem to obtain in Finland, as was tentatively demonstrated. The results would obviously be partly different in Australia where the requirement of insurable interest has been abolished.

Chapter 3 furthermore provided a detailed discussion of the evolution of the thinking of US insurance regulators and legislators on this matter. The fluctuating position of New York insurance supervisors in particular helps us to better understand the history of not only the relevant law but also the different positions found among scholars and practitioners. The fact that US insurance legislators across the board—not only the New York—were willing to regulate these transactions under a targeted insurance framework is further evidence that the insurance-based understanding of CDSs is a theoretically correct one.

The legislative project of US insurance legislators could not be put into practice due to the pre-emption clause of the Dodd-Frank reforms, which raises major questions about the dynamics of financial derivatives regulation generally. Chapter 4 sought to shed further light on the matter by tracking the historical roots and development of the derivatives-classification of CDSs, and of the regulation of derivatives and swaps. This historical study was mainly confined to the US, where the novel category of largely unregulated swaps was created and later extended to these transactions which, since then, have been internationally called credit default swaps. It was argued that this outcome was rooted in legal categories going back more than a century, but the fundamental factor was the exploitation and reformulation of imprecise concepts—swap, derivatives, and the notion of legal certainty—by the International Swaps and Derivatives Association (ISDA). It is argued here that the legal notion of swaps (and of CDSs) can only be fully understood in light of this legal-institutional history. This is also true of the Dodd-Frank Act, which in terms of this developed appears essentially as a lobbying victory that consolidated the approach advocated by ISDA.

These findings imply several questions for scholars and policymakers. In terms of legal doctrine, the development of CDSs has challenged the traditional demarcation of insurance law in a puzzling way, as functionally identical transactions may now be insurance, derivatives, or even both. The conflict is only exacerbated by the Dodd-Frank Act’s pre-emption of insurance law, which is coupled with an all-encompassing notion of swaps that entirely differs from the economic and financial notion of swaps.
7.1.2 Regulatory Policy

Chapters 5 and 6 focus on the normative analysis of the regulation of credit default swaps. This analysis was divided into main parts, one of which (chapter 5) examined the broader challenge and the regulatory motive, in order to critically examine whether there really is a need for a specific regulatory reaction to CDSs. Great attention was given to the general regulatory issues in present-day financial markets, because the question of CDS regulation cannot be adequately considered without taking the real situation into account. It was found that even if a broadly regulatory-sceptical attitude is adopted, there are clear reasons why the current situation is unsatisfactory.

In particular, it was shown that there are serious limits to the allocation of financial risk through markets and corporate governance, and that CDSs in their present legal status (and more so in their pre-reform status) create grave difficulties for financial stability. The argument concerning purely speculative (so-called “naked”) CDSs received a more nuanced reply in this study, because short selling was found to provide undeniable benefits in ordinary market conditions, but there is modest evidence that speculative CDSs exacerbate the problem of overshooting in some markets and may threaten the stability of opaque borrowers such as sovereigns and financial institutions. In terms of regulatory policy, this implies that the regulation of speculative CDS buying should probably be targeted, and that it is necessary to obtain more accurate information about the extent to which the potential problems can be cost-effectively reduced through regulatory intervention.

Chapter 6 studied several regulatory approaches and alternatives. It covered the four approaches that are both practically and theoretically important in the current financial regulatory architecture, namely (i) industry self-governance led by ISDA, (ii) disclosure and transparency regulation, (iii) compulsory central counterparty clearing, and (iv) targeted regulation along the lines of insurance regulation. These regulatory strategies were considered as complementary rather than mutually exclusive.

Regarding ISDA and industry self-regulation, it was found that the current ISDA architecture provides significant efficiency benefits in terms of both contracting and dispute resolution, but it also seems to suffer from certain technical weaknesses, especially with respect to the dispute resolution regime in sovereign-debt CDSs. Moreover, it definitely fails to address the externality concerns associated with CDSs, so that as long as these are a serious concern, self-regulation is hardly a sufficient policy. There have been proposals for the development of co-regulation in the form of light-touch interventions in the ISDA regime itself; these were found to be potentially interesting, but of relatively little practical importance for the purpose of resolving the regulatory motives found earlier.

Transparency regulation is without doubt fundamental for CDSs, just as it is important for financial regulation generally. The recent reforms on both sides of
the Atlantic take steps in the better direction, but they seem quite modest when it comes to transparency to the market as opposed to transparency to the regulators. There are limits to how much transparency can be demanded in these markets, so that it is unlikely that these approach could be pushed much further. Moreover, it seems unlikely that increased disclosures would greatly reduce the major problems associated with CDSs.

Compulsory CCP clearing is the leading post-crisis regulatory strategy for the regulation of OTC derivatives. It was argued, however, that its suitability for CDSs is at least doubtful, and its efficacy as a regulatory strategy in this respect has been questioned. There are seriously doubts as to whether compulsory central clearing reduces or increases CDS-related systemic risks. It seems likely that many CDSs will ultimately be exempted from the central clearing rule; in that case the new rules provide some potential improvements to the provision of bilateral collateral, but it is too early to say how much will or can be achieved.

In light of the foregoing findings, targeted regulation along the lines of insurance principles seems to be a relevant approach that merits detailed consideration. The direct recharacterization of CDSs as insurance may be unlikely in most jurisdictions, and it probably would be disruptive anyway given the current situation of global CDS markets. The more interesting prospect is the development of targeted interventions, especially for CDS protection selling and possibly for CDS protection buying. With respect to protection selling, it is possible to learn from extensive earlier experience in insurance regulation, so that this is not a question of inventing something entirely new but of applied known principles to a new situation, possibly with some adaptation given the peculiarities of credit risk. With respect to protection buying, the new European short selling regulation provides an interesting test case, which despite its critics seems to manage to provide a workable legal framework and satisfactory initial results.

Regarding targeted regulation of CDS sellers, the question was also posed whether these principles might be developed within the existing regulatory framework without the necessity of new legislative reforms. It was argued that the answer probably is affirmative, in that the principles could be applied in the context the post-crisis regulatory regime including central counterparties and compulsory collateral requirements. This is an important finding, because it is unlikely that there would be political interest in CDS regulation before a new financial crisis.

### 7.2 REFLECTION

Considering the present study as a whole, special attention has been given to two distinct perspectives. One is the comparative approach to regulatory strategies, so that policy alternatives should not be considered in isolation but in critical dialogue with the other alternatives. This approach includes the idea of
cumulative and complementary strategies, meaning that different regulatory solutions should, when possible, be analyzed as contributing to a common cause.

The other distinct perspective is that of looking at CDS regulation from the viewpoint of insurance regulation. This perspective has received only limited attention in the earlier literature, probably because CDSs have tended to be categorized as OTC derivatives without much critical reflection, and the regulatory policies have mostly been drawn from that context. Yet it is now commonly acknowledged that CDSs are functionally and economically insurance contracts, which also implies that their regulation should not fail to benefit from the tradition of insurance regulation—obviously, without being blind to the limits and disadvantages of that approach. In the present study, this tradition has, furthermore, been seen in terms of the peculiarities of credit risk, which is an unusual risk category with dynamics that the regulation must take into account.

The key contribution of the present study is precisely the combination of these two perspectives. The principles of insurance regulation are not to be considered in isolation, but in conversation with the current regulatory system as well as with the specific problems posed by CDSs for financial market stability. What emerges from this holistic analysis is that the classical principles of insurance regulation are relevant—and can be developed—also in the current context of relatively unregulated CDS markets with partially-compulsory centralized clearing. It is also found that the development of further regulation along the lines of insurance principles must learn from the challenges faced by financial guaranty insurance regulation, because credit risk has peculiarities that differentiate it from other kinds of insurable risk.

The perspective of insurance regulation has also been developed here in the context of restrictions on CDS protection buying. This closely parallels the traditional doctrine of insurable interest, but in the CDS context the traditional doctrine must be examined anew, because the empirical finance literature has demonstrated that purely speculative short positions can be beneficial for financial markets. Moreover, the insurable interest doctrine has also faced criticism within the ambit of ordinary insurance law, suggesting that it should not be applied to CDSs without critical examination.

In order to arrive at a balanced assessment of the suitability of restrictions on CDS protection buying, the present study has, firstly, carefully examined both the theoretical and empirical literature on the various positive and negative effects of so-called uncovered CDS positions. In this context, the overall finding was that there are real worries regarding the broader effects of unrestricted CDS buying, particularly in relation to market stability. Secondly, the practical prospect of imposing restrictions on such activity has been analyzed in light of the European short selling regulation, which provides preliminary information on the workability and consequences of such restrictions. In this respect, it is not yet possible to pronounce any firm conclusion, but at least it can be concluded that the adoption of insurance-like restrictions on CDS buying may function as hoped
and therefore it is possible to contemplate their extension beyond the scope of the current European regulation.

Now, if we consider the findings of the legal-doctrinal and the regulatory-political aspects of the study together, we discover a certain harmony. The legal-doctrinal analysis shows that CDSs share essential features with insurance contracts, and their characterization as non-insurance financial derivatives seems strained at best; at the same time, they clearly differ from the traditional varieties of insurance, and their recharacterization as insurance contracts is pragmatically speaking not forthcoming in the major jurisdictions. The legal-doctrinal perspective therefore suggests that if we wish to develop the law of credit default swaps (or whatever they should eventually be called by the relevant reform legislation), the law should recognize their insurance-characteristics but treat them as a separate category, just as has been done in many countries with respect to special forms of insurance such as life and marine insurance.

The regulatory-political analysis supports this perspective by showing that the regulation of CDSs along the lines of financial derivatives regulation is clearly inadequate for purposes of financial stability regulation. Both the self-regulatory ISDA architecture and the novel central counterparties clearing regulations have major weaknesses and fail to provide convincing answers to the regulatory concerns raised by credit default swaps. At the same time, traditional insurance regulation is not automatically suited to dealing with the kinds of challenges that these large-scale credit risk transfer contracts imply. It is therefore necessary to develop a targeted regulatory regime.

This was, in fact, the proposal of the US insurance legislators during the financial crisis, and their proposal closely mirrored the existing regime for financial guaranty insurance in the US. Whether these two regimes should ultimately form a single regime is a technical question beyond the scope of the present study. Insofar as the financial instruments are functionally similar, it is probably best to avoid creating separate regimes; on the other hand, the regulation of financial guaranty insurance in the US has not been without criticism, so that there is an opportunity here to reconsider the foundations of that regulation, and it may be politically easier to develop a reformed regime that specifically targets credit default swaps.

It should be emphasized, finally, that the findings of the present study are greatly dependent on certain factual considerations that are ultimately contingent, or could be otherwise. The legal classification of CDSs will naturally depend on the existing legal framework, including the relevant insurance law principles. Similarly, and perhaps more importantly, the policy conclusions greatly depend on the examination of the actual challenges in financial markets and risk management, challenges that also depend on the actual financial market rules and institutions. These rules could be different, the institutions could be governed differently, and financial risk modelling could be less imperfect; in that case, the regulatory motives would be different, and the question of CDS regulatory policy should be examined accordingly.
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