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**From bombs to boons: changing views of risk and regulation in the pre-crisis OTC
derivatives market**

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From bombs to boons: changing views of risk and regulation in the pre-crisis OTC derivatives market

Abstract:

At the core of the 2008 financial crisis was a massive, un-publically regulated market of complex financial products, which transmitted losses in the US residential mortgage market throughout the global financial system. How did the market for over-the-counter (OTC) derivatives grow so large and so risky with so little public supervision and regulation? At the heart of the matter, I contend, are changes in how both derivatives and risk have been understood as objects of governance. This article focuses on the decade preceding the passage of the 2000 Commodity Futures Modernization Act to demonstrate how competing and ultimately shifting understandings of both derivatives and financial risk put in place the conditions of possibility for the definitive deregulation of this market. Through a detailed interpretive analysis of regulatory documents, I show that changes in OTC derivatives regulation have been driven by changes in how regulators interpret derivatives themselves in a context of changing beliefs about risk and its management. Although regulators were acutely aware of OTC derivatives' contribution to systemic risk as early as the early 1990s, they ultimately concluded that derivatives' ability to serve as tools of risk management and generators of financial profits was consistent with their goal of promoting deep and liquid financial markets and thus took a decisively hands-off approach to regulation. The article concludes with a discussion of what shifts in interpretation and regulation of derivatives can tell us about the limits and potential for lasting post-crisis changes in financial governance.

Keywords: derivatives, financial regulation, legitimacy, OTC derivatives, private regulation, risk management

At the core of the 2008 financial crisis was a massive, un-publically regulated¹ market of complex financial products, which transmitted losses in the US residential mortgage market throughout the global financial system. In 2008, the market for non-exchange traded or over-the-counter (OTC) derivatives was valued at over \$683 trillion (Bank for International Settlements 2009, p. 1). How did this market grow so large and so risky with so little public supervision and

¹ This article takes as its object of interest the lack of *public* regulation of the over-the-counter derivatives market, but that is not to say that the market was wholly unregulated; quite the contrary. Private rule-making through industry lobbying groups like the International Swaps and Derivatives Association (ISDA) provided standardized contracts for these products, helping to ensure that they were comparable and legally enforceable. Indeed, as this article argues, private regulation helped to stave off greater public by signaling that the market was capable of governing itself.

regulation? The short answer is that the Commodity Futures Modernization Act (CFMA) of 2000 expressly prohibited the regulation of large swaths of the financial derivatives market by the two main regulatory agencies in the United States: the Commodity Futures Trading Commission (CFTC) and the Securities and Exchange Commission (SEC). But understanding how derivatives market actors came to be seen as sufficiently capable of governing themselves to justify the *prohibition* of regulation is more complicated. At the heart of the matter, I contend, are changes in how both derivatives and risk have been understood as objects of governance.

This article focuses on the decade preceding the passage of the CFMA to demonstrate how competing and ultimately shifting understandings of both derivatives and financial risk put in place the conditions of possibility for the definitive deregulation of this market. Although regulators were acutely aware of OTC derivatives' contribution to systemic risk as early as the early 1990s, they ultimately concluded that derivatives' ability to serve as tools of risk management and generators of financial profits was consistent with their goal of promoting deep and liquid financial markets and thus took a decisively hands-off approach to regulation. This approach to over-the-counter contracts was at odds with the much greater oversight and rulemaking that regulated exchanges for other derivatives products such as commodity futures were subject to.²

These changes in how risk has been understood in the context of states and markets help explain both changes in how regulators have understood derivatives and, as a result of their regulatory decisions, how the market for derivatives developed the way it did. At the same time, derivatives themselves have shaped how regulators think about risk as financial innovation has

² For more on the differences and connections between OTC and exchange-traded derivatives, including their respective performances during the 2008 crisis, see Carruthers 2013.

brought with it new market dynamics. Through a detailed interpretive analysis of regulatory documents, I show that changes in financial regulation of derivatives are driven by changes in how regulators interpret derivatives in a context of changing beliefs about risk and its management. Understandings of financial risk, financial innovation, and financial regulation have been tightly entwined in ways that elude simple causal models.

After a discussion of the theory and methods animating this analysis and a brief overview of the earlier history of derivatives regulation, this article focuses on the decade leading up to the passage of the CFMA. This was a critical period in the history of derivatives regulation when the public debate around the legitimacy of derivatives and their connection to the public interest spiked and was ultimately resolved in ways both contingent and consequential. By the early 1990s, the financial derivative industry was thriving, capitalizing on regulatory permissiveness following the Treasury Amendment to the 1974 Commodity Futures Trading Commission Act which had largely exempted the activities of “sophisticated investors” from regulatory intervention. However, by the early 1990s, alarmed by a speech by E. Gerald Corrigan to the New York State Bankers Association, regulators and lawmakers became increasingly concerned about systemic risk and in particular with derivatives’ potential to exacerbate and transmit crisis. This concern provoked a series of reports by the Government Accountability Office and the G30 which offered competing interpretations of the relationship between financial derivatives and global financial risk and stability. This period of contestation was exacerbated by derivatives’ contribution to several well publicized failures: the municipal bankruptcy of Orange County, California and the collapse of the hedge fund Long-Term Capital Management, neither of which was sufficient to lead to greater public regulation of derivatives either in the name of managing systemic risk or of protecting ordinary consumers.

By the late 1990s, regulators privileged innovation over stability and saw mid-20th century justifications for the regulation of commodity derivatives as wholly irrelevant to the regulation of 21st century financial derivatives, culminating in the Gramm-Leach-Bliley Act (1999) and the Commodity Futures Modernization Act (2000), which prevented the regulation of OTC financial derivatives markets, setting the stage for the next eight years of regulatory laissez-faire. This eight-year long period of self-regulation was largely uncontested after the CFMA, but it represented a dramatic shift in how financial risk was perceived: not as something to be publically guarded against but rather as the engine of deep and liquid financial markets. In this context, derivatives were understood not as dangerous products that needed to be limited to the hands of experts, but rather as vital to the efficient distribution of risk throughout the global financial system in the hand of both financial and non-financial firms alike.

Of course, this sunny perspective on derivatives and their risks – summarized by Greenspan's (2003) famous pronouncement that the benefits far exceeded the costs – was undermined in spectacular fashion by the 2008 global financial crisis, leading to the Dodd-Frank Act in the United States and EMIR in the European Union. The article concludes with a discussion of what shifts in interpretation and regulation of derivatives can tell us about the limits and potential for lasting post-crisis changes in financial governance, given the growing awareness of systemic risk and a heightened recognition of the inseparability of “ordinary consumers” and “sophisticated investors” in a highly financialized economy.

Theory

The goal of this article is to trace the processes through which key actors, who would have had the power to change the dynamics of the global market for OTC derivatives, came to

regard the market for derivatives as legitimate and financial actors as having the right to make politically consequential decisions, the outcome of which was a very high degree of market self-regulation. Although the market for OTC derivatives is global in scope, this is, empirically, a US-centric story. The ISDA Master Agreement, the standardized contract for OTC derivatives, contains standard governing law clauses that specify that OTC derivatives contracts will be governed by either English or New York law,³ and most of the major dealer-banks fall within US regulatory jurisdiction.⁴ Had the United States chosen to publically regulate this market, its growth and trajectory would have been substantially different. I am therefore interested in how US regulators explained and justified their regulatory decisions and the role that risk played in their public statements. My argument is a constitutive one: beliefs about risk have shaped both understandings of the purpose of financial regulation and interpretations of what derivatives are.

Regulatory perceptions of derivatives and their relation to risk have changed over time. One of the most enduring lines of disagreement between regulators, legislators, and the derivatives industry (and within each of these categories of actors) has been over the

³ This article focuses on the US regulatory story because Britain's response to the proliferation of financial derivatives was quick and decisive compared to the interpretive and regulatory conflicts that characterized this period in the United States. The 1986 Financial Services Act made all financial derivatives – both over-the-counter and exchange-traded -- legally enforceable in the United Kingdom. The Financial Services Act was part of a broader financial deregulatory effort under Margaret Thatcher, and in lieu of the public regulatory agencies established in the United States, it set up five “self-regulatory organizations” (SROs). While anti-fraud and anti-manipulation provisions still applied to OTC markets as enforced by the Securities and Investment Board, self-regulation of financial derivatives was achieved more decisively and earlier in the United Kingdom than in the United States (Schwartz and Smith 1997, p. 183; Peeters 1987, p. 389).

⁴ Attempts to deviate from US policy tend to be either directly discouraged through bilateral foreign policy, such as the Japan-U.S. Yen-Dollar Commission of 1984, or indirectly punished by the globalizing financial system, as was illustrated when, faced with high levels of exchange and interest rate volatility in the late 1980s, the Japanese Diet overturned prior restrictions on derivatives trading to allow Japanese investors to participate in foreign derivatives markets, to create domestic derivatives markets, and to offer derivatives based on Japanese stock indices abroad (Miyazaki 2013, pg. 14; Semkow 1989, p. 40). That being said, there were (and are) important national-level variations in derivatives policy, a phenomenon that is manifest in frequent calls throughout the 1990s, on the part of both industry participants and regulators, for cross-border harmonization of accounting standards, trading reporting, and the enforceability of specific contract provisions such as netting. However, these differences do not, for the most part, reflect significant differences in the legitimacy and legality of OTC derivatives on the whole.

interpretation rather than *regulation* of these products: What are derivatives? Are they akin to insurance? To securities? To commodity futures? Do over-the-counter (OTC) derivatives minimize financial risk or blow it up? Does their famous complexity and mathematical sophistication help ensure they will not be used by “unsophisticated” investors or does it just ensure that such investors will not understand the risks they are taking?

These are irreducibly interpretive questions: derivatives are social objects whose value – risk itself -- is perhaps less tethered to materiality than any other good or service. Nonetheless, these interpretive questions have concrete regulatory implications. As Russell Funk and Daniel Hirschman (2014) have shown, regulators rely on categorical distinctions and because derivative contracts like foreign exchange swaps did not clearly fit into existing regulatory regimes for futures, securities, or loans, they were able to evade regulatory scrutiny throughout the 1980s, eventually destabilizing the regulatory distinction between investment and commercial banking under Glass-Steagall. Frank Partnoy (2001, p. 422) attributes greater intentionality to this outcome, arguing that the ISDA Master Agreement, the standard contractual form used to structure derivatives transactions, was designed to evade federal regulation and state common law. The ambiguity of derivatives – calculated or not – is why I argue that public regulatory discussion is more than cheap talk. How regulators talk about derivatives has real consequences for what forms of regulation are possible and what is not. Public statements about derivatives may or may not reflect regulators’ “true beliefs;” what I am interested in is what they reveal about how regulators positioned derivatives in relation to their understandings of risk and of their own perceived responsibility to govern it.

Through my analysis of the regulatory discourse, I show that both interpretations of derivatives and regulatory views change when there is a shift along at least one of the following

axes: understandings about what constitutes legitimate risk; understanding of which actors can legitimately bear risk; and understandings of which actors deserve public protection from risk. There are, in turn, three major sources of change along these axes: new financial products, strategies, techniques, and models (financial innovation); shifts in ruling elites' beliefs about the role of markets in society (ideology); and financial crisis. This process is summarized in Figure 1. While in practice many of these elements may interact with each (for example, beliefs about legitimate forms of risk in the market are closely related to beliefs about which actors should bear that risk), I have analytically separated them in this argument to render these processes more analytically tractable. While none of these sources of change by itself guarantees a change in financial regulation,⁵ we should expect to see, at a minimum, contestation over regulation when these changes produce a change in regulators' understandings of derivatives and financial risk. Because this latter set of changes – changes at the level of interpretation and understanding – are the most closely related to changes in derivatives market governance, they are the focus of the empirical analysis in this article.

⁵ None of these three changes (innovation, ideology, crisis) is individually sufficient to produce regulatory change. For example, after currency swaps emerged on the scene, interest rate swaps followed shortly in their wake. Although interest rate swaps represented an important financial innovation – eventually accounting for the majority of OTC derivatives trading volume – they were grouped together with currency swaps in regulatory discourse and governed the same way. Changes in regulators' beliefs about the appropriate relationship between states and markets need not produce regulatory change in specific arenas either. For instance, while the post-crisis shift toward macroprudential regulation represents a change in how public regulators, especially in Europe, view their objects of governance (the financial system as a whole rather than individual firms), it has not produced major changes in how the shadow banking sector is regulated. And finally, while crises might lead one to expect regulatory change, they are not a guarantee of such change. Even the extent to which the 2008 financial crisis produced a substantively different approach to regulation is contested (see Moschella and Tsingou 2013; Helleiner, Pagliari, and Spagna 2018).

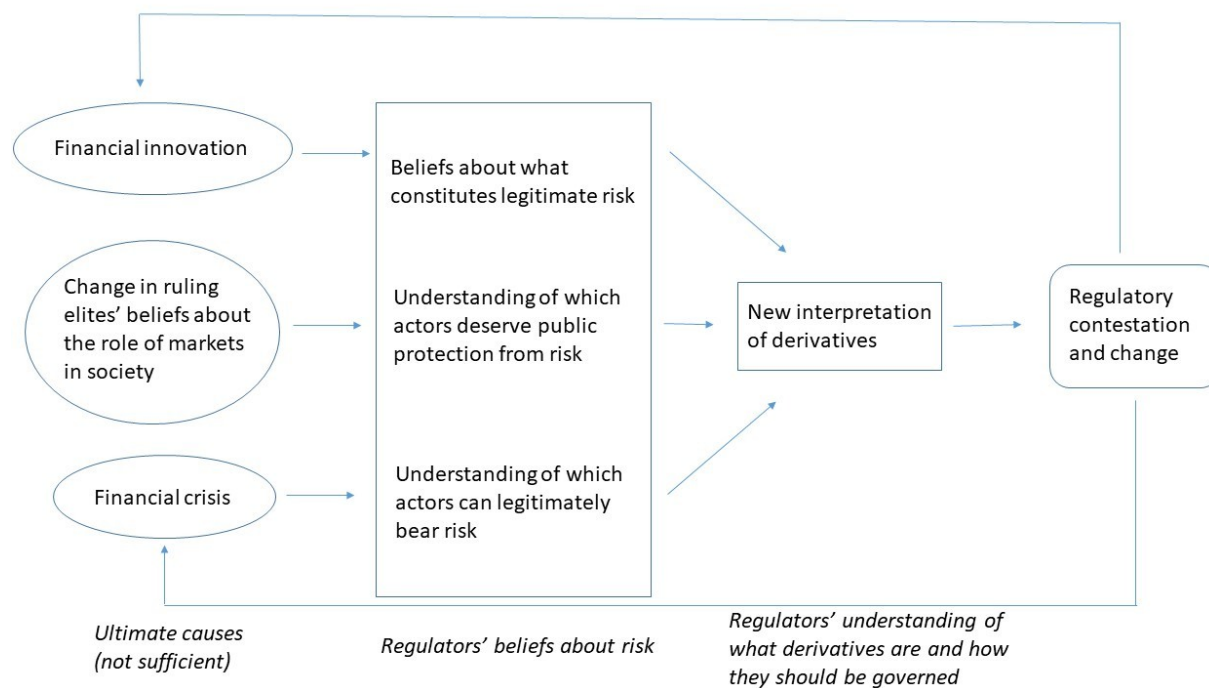


Figure 1: A model of the politics of risk and financial regulatory change

It should be noted that this is not a unidirectional causal model for explaining regulatory outcomes. It involves a considerable amount of endogeneity: Financial innovation is both a driver of change and a response to regulation; financial crisis can spur change but it is at least partially endogenous to the decision to allow financial markets to regulate themselves; regulators' views about risk shape how they choose to regulate derivatives, but derivatives themselves changed how regulators viewed risk in the financial system as a whole. These feedback effects trouble any attempt to predict when and how regulatory change will be enacted; the goal of this model is instead to direct our attention to how ideas about risk have shaped and been shaped by a crisis-prone several hundred-trillion-dollar market.

Methodology & data

The primary data source for this article is US regulatory and legislative documentation related to derivatives and associated issues from the early 1980s up to the financial crisis. Because over-the-counter derivatives did not become widespread until the 1980s, the majority of documents analyzed are from 1985-2007. They include speeches and testimony from the Federal Reserve, the SEC, and the CFTC and commissioned reports by the Government Accountability Office, the Treasury Department, and the President's Working Group on Financial Markets.

I take these documents as representative of the range of public regulatory perceptions of derivatives in the period in question. As I will discuss, these sources are not univocal in their representations of derivatives. For example, the early 1990s were marked by strong differences between individual SEC commissioners regarding OTC derivatives' contribution to systemic risk. It is impossible to know whether these public speeches, congressional testimony, and published reports reflect what regulators were "really thinking." There are strong institutional and bureaucratic reasons for regulators to express particular positions at particular times, regardless of their own true opinions. However, for my purposes, the inevitable methodological inability to access individuals' private assessments of derivatives is not particularly troubling. I am interested in how these products were understood, framed, narrated, and represented, and these concerns are independent of what regulators and policymakers "actually" thought. I am chiefly concerned with the public legitimation of these products to and by the set of actors with the institutional capacity and political authority to delegitimize them, should they so choose.

An important source that informs regulators' public statements on derivatives are a set of reports by influential industry bodies such as the G-30 and the International Swaps and Derivatives Association, many of which were published in explicit response to regulatory concerns and subsequently referenced in later regulatory speeches and testimony. Accordingly,

these industry documents also constitute source material for this article. Finally, because this period includes moments during which what Christian Reus-Smit (2007, p. 158) terms the “social constituency of legitimation” extends beyond regulatory agencies to include a wider public, I also draw upon media coverage of these moments, focusing on accounts given in trade publications such as *Institutional Investor* and *Risk*, as well as coverage of events like the Orange County bankruptcy and Long-Term Capital Management failure in the national news media.

Through my reading of these primary texts, I am able to identify key moments of contingency in regulatory perceptions of derivative and their risks. While not all of these moments resulted in substantive policy changes, such outcomes were not predetermined: the dramatic and unfettered growth of financial derivatives markets did not occur in the absence of scrutiny and opposition and at several key moments, different outcomes are conceivable.

Tracing the process of regulatory change in the OTC derivatives market

This article examines three periods of regulatory contestation of over-the-counter derivatives. Because I define these periods by the substance of their main regulatory debates than by the precise years there is some marginal overlap in the dates of each period. While the main focus is on the decade preceding the passage of the CFMA in 2000, I begin by considering the passage of the Commodity Futures Trading Act and the Treasury Amendment, which legally institutionalized the distinction between “sophisticated” and “unsophisticated” market participants, deeming the former to be exempt from regulatory protection. The next period examines the spike in regulatory and (limited) media concern with OTC derivatives’ potential – and largely opaque – contribution to systemic risk in the early 1990s. The final period focuses on how regulators interpreted and responded to bankruptcies and firm failures in the mid- to late

1990s in which OTC derivatives played an important contributing role, and why these collapses were insufficient to provoke greater regulatory intervention by public authorities.

Historical background

Era	Ultimate source of change	Who is a legitimate bearer of risk?	Who deserves public protection from adverse financial consequences?	Protection from what?	Perception of risk
1970s-1980s Commodity Futures Trading Commission Act + Treasury Amendment	Financial innovation (financial derivatives)	“sophisticated” or “professional” investors	Small-scale financial market participants	Protection from own lack of technical mastery of market dynamics and opaque workings of the market	Only manageable via sophisticated quantitative models; inheres in firms

Table 1: Dominant view of risk and derivatives regulation, 1970s-1980s

Derivatives had been an object of public regulatory debate since the late 1800s and were first regulated systematically at the national level by 1936 Commodities Exchange Act which required that commodity futures be traded on regulated exchanges. Once they had been distinguished from gambling based on their relationship to calculable risk, derivatives during the first half of the 20th century were primarily understood as benefiting agricultural interests who nonetheless required protection from the price volatility derivatives were thought (probably erroneously) to cause. Participants in futures markets were seen as legitimate bearers of risk; farmers and ordinary consumers were not. This regulatory distinction between the world of high finance and the world of ordinary commerce was further specified in the 1974 Commodity

Futures Trading Act (CFTA) and its subsequent amendment at the behest of the Treasury Department, which formalized the distinction between “professional” and “unsophisticated” investors, with the latter requiring certain regulatory protections that the latter were thought not to need on the basis of their technical mastery of the world of risk (Webb 1994, p. 597).

From 1974 to the early 1990s, the central regulatory concern surrounding derivatives was no longer the effect they had on underlying markets, but rather the “sophistication” of market participants.⁶ The need to protect individual and small-scale investors from the dynamics of an opaque-to-the-uninformed market was the main sociopolitical concern guiding regulators throughout the 1980s when financial derivatives proliferated (see Table 1). The exemption of financial derivatives from regulatory oversight helped set in motion a proliferation of new and innovative financial products over the next two decades. While currency futures and forwards traded at small volumes by the early 1980s, the first large-scale over-the-counter financial derivative transaction of the kind that was to change the financial landscape for the next thirty years was a currency swap between IBM and the World Bank, brokered by Salomon Brothers in 1981 (Tett 2009, p. 63). This innovation and variations on it, including interest rate swaps, as well as swaps and options on securities and other forms of underlying debt, spread quickly as market participants with complementary needs and different expectations were brought together

⁶ What constituted a “sophisticated” investor was not specified in either the Treasury Amendment or the letter that provided the justification for exempting financial derivatives from regulatory requirements under the CEA. Despite its frequent use in regulatory discourse, the term did not receive greater clarification until the case of *Salomon Forex, Inc. v. Tauber*, decided by the Fourth Circuit Court of Appeals in 1993 (*Salomon Forex, Inc. v. Tauber* 1993). *Salomon Forex, Inc.*, a large foreign exchange trading firm, sued Lazlo Tauber, an individual trader for breach of contract over sixty-eight currency options and futures trades. Tauber argued that he was not responsible for his debt since the trades were illegal, having been conducted over-the-counter, rather than on an organized exchange as required by the CEA. The court ruled that the currency derivatives in question were legal, despite being carried out off of organized exchanges, because Tauber, despite being an individual rather than a large bank, was a “sophisticated trader.” This decision was based on the fact that Tauber maintained foreign bank accounts to facilitate his trading, monitored his trades using a computer network that tracked exchange rates, and offset transactions rather than actually receiving the currency in question, suggesting his motives had more to do with speculation and profit-seeking than insurance.

in off-exchange transactions by large commercial and investments banks that increasingly took on a role as both dealer and broker of derivatives transactions.

Although the Treasury Amendment ostensibly exempted financial derivatives from regulation by the CFTC, the law had been written at a time when currency futures and forwards were the predominant form of financial derivative. The development of swaps and options, on both public and private debt, was unforeseen by the legislation and existed in a legal grey area. Because OTC swaps were distinct not only from commodity futures but also from securities and loans, the pre-existing regulatory structure for governing them was limited in both its conceptual architecture and in its ability to keep pace with the velocity of financial innovation. This very conceptual ambiguity further fueled the growth of financial derivatives in the United States, as London-based derivatives groups in the 1980s expanded their operations to the United States upon realizing that neither the CFTC nor Glass-Steagall (which governed, and distinguished between, commercial and investment banking) prohibited the industry (Funk and Hirschman 2014, p. 686; Tett 2009, p. 17-18).

Financial derivatives and systemic risk (early 1990s)

Unlike the previous decade, where the Treasury Amendment's exemption of OTC swaps from regulatory scrutiny institutionalized a largely uncontested view about the nature of financial risk associated with derivatives and the appropriate bearers of that risk, the early 1990s were characterized by a sharp division not only between regulators and market participants but also among regulators themselves regarding the contribution of opaque OTC markets to systemic risk and which actors merited public protection from the adverse financial consequence of ill-informed or poorly understood financial risk-taking.

Era	Ultimate source of change	Who is a legitimate bearer of risk?	Who deserves public protection from adverse financial consequences?	Protection from what?	Perception of risk
Early 1990s	Ideology (public regulation is needed to manage systemic risk vs. private regulation is sufficient to prevent systemic risk) + crisis (S&L crisis)	Sophisticated investors and banks armed with risk management divisions; the market as a system (market discipline)	Financial market participants not involved in off-balance-sheet financial activity + non-financial actors such as municipalities (GAO) Vs. Financial industry can and should regulate itself (G-30 report; CFTC in exempting OTC transactions from CEA)	Protection from financial system collapse/crisis (1994 GAO report) Vs. Normal workings of a market do not merit protection (G-30 report)	Systemic phenomenon (Corrigan, 1994 GAO report) Vs. firm-level phenomenon amenable to quantitative modeling and management

Table 2: Dominant views of risk and derivatives regulation, early 1990s

By the early 1990s, the SEC, the CFTC, and the Federal Reserve Bank of New York⁷ had begun to pay much more attention to the still-growing derivatives industry, interpreting these products in new ways and sparking contestation not only between the industry and regulators but also between regulatory agencies and even within individual agencies. The Savings & Loan crisis that came to a head in the late 1980s instigated a shift in regulatory perceptions of derivatives. Derivatives did not play a role in depositors' decision to move their money out of savings and loan institutions and into money market funds, pushing banks to take on increasingly risky investments. Nonetheless, the wave of insolvency and liquidations of well-established

⁷ The vast majority of the derivatives business in the United States was concentrated in New York, falling under the jurisdiction of the New York Fed.

banks focused regulators' attention on the nexus of risk, unconventional financial strategy, and crisis. During this period, the potential of systemic risk producing systemic crisis rose to the fore, though regulators were divided on what this potential meant for how derivatives should be regulated.

SEC Commissioner Mary Schapiro's 1991 (p. 9) speech on stock index swaps and options is one of the first regulatory speeches on the subject in the United States and provides a clear picture of her interpretation of these new financial derivatives. Schapiro's speech is significant in two respects. First, it is illustrative of how the existence of OTC markets – and their continued growth – had come to be regarded as inevitable. Schapiro's (1991, p. 9) statement that “with or without their drawbacks, the market exists and it is growing, and it likely would be counterproductive to try to stop it” demonstrates how these financial products had come to be taken for granted, essentially ruling out any form of regulation that would eliminate or fundamentally constrain the market. Second, Schapiro's speech includes one of the earliest references to the potential for global OTC markets to contribute to systemic risk. If there were too much conformity in hedging strategies, she argued, correlated losses could exceed the limited liquidity of the market, leading to widespread losses (Schapiro 1991, p. 12-13).

While the SEC's interpretation of financial derivatives at this point was fairly measured, E. Gerald Corrigan of the New York Federal Reserve portrayed derivatives in a much more negative light. In 1992, Corrigan gave a speech to the New York State Bankers' Association which set off a wave of alarmist rhetoric about derivatives' potential for massive financial disruption and drew an unprecedented amount of public attention to the industry, provoking what SEC Commissioner J. Carter Beese (1992, p. 4) referred to as “mild hysteria in the press.” Corrigan's (1992) actual discussion of derivatives reads somewhat obliquely with its references

to “off-balance sheet activities,” but it is unusually pointed and direct among regulatory speeches addressed to industry:⁸

[W]here it is relevant, you had all better take a very, very hard look at off-balance sheet activities, including the payments, clearance and settlement risks associated with many of those activities. The growth and complexity of off-balance sheet activities and the nature of the credit, price, and settlement risk they entail should give us all cause for concern, [...] High-tech banking and finance has its place, but it’s not all that it’s cracked up to be. For example, the interest rate swap market now totals several trillion dollars. Given the sheer size of the market, I have to ask myself how it is possible that so many holders of fixed or variable rate obligations want to shift those obligations from one form to the other. Since I have a great deal of difficulty in answering that question, I then have to ask myself whether some of the specific purposes for which swaps are now being used may be quite at odds with an appropriately conservative view of the purpose of a swap, thereby introducing new elements of risk or distortion into the marketplace – including possible distortions to the balance sheets and income statements of financial and nonfinancial institutions alike. I hope this sounds like a warning, because it is.

The reaction to Corrigan’s speech was dramatic. As one industry publication (Muehring and Hansell 1992) wrote at the time, “Corrigan’s speech hit the bankers like a billy club, putting a whole new spin on discussions of derivatives. Soon, in press reports, in political speeches, even in cocktail party chatter, derivatives were being talked about in worried tones as the possible cause of a financial melt-down.” Observers’ main concern was the potential for systemic risk inherent in Corrigan’s portrayal of a massive, opaque, complex market being used primarily for

⁸ Corrigan’s address to the New York State Banker’s Association was preceded by a significant meeting between Corrigan and J.P. Morgan derivatives enthusiasts Peter Hancock and Dennis Weatherstone. Gillian Tett (2009, p. 24) portrays this meeting as being motivated primarily by information-gathering, which is consistent with the fairly neutral position taken by the SEC at the time. Accounts in the financial press from the time, however, suggest that the meeting quickly turned antagonistic, with the J.P. Morgan bankers adopting an attitude of condescension. As Kevin Muehring and Saul Hansell (1992) related in the *Institutional Investor*: “The responses [Corrigan] heard back were not comforting. They [bankers] admitted they didn’t really understand derivatives or how much money they could lose if something went haywire. To be helpful, they offered to introduce Corrigan to their head of derivatives traders. Big blunder. The million-dollar-a-year swaps experts proceeded to brush off Corrigan’s concerns as if he were some Luddite in a pin-striped suit: ‘Jerry, Jerry baby, you don’t understand the business. We know what we’re doing. Now don’t go and spoil the party.’ Thus does one top banker, who was hastily deployed to placate Corrigan, characterize the swappers’ condescending attitude.”

speculative ends, as Corrigan implies when he questions whether investors had a legitimate (that is, business or hedging) interest in swapping variable for fixed rate debt.

In addition to regulators, industry participants also recounted derivatives' potential for crisis in often hyperbolic (albeit prescient⁹) rhetoric. Felix Rohatyn (quoted in Fiske 1992, p. 213), then a senior partner at the investment bank Lazard Frères & Co., for example, said, "Twenty-six-year-olds with computers are creating financial hydrogen bombs [...] These bombs must be defused, but I am afraid there will be an explosion first." The equation of derivatives with explosives echoed the Royal Bank of Canada chairman's remarks (quoted in Muehring and Hansell 1992) that derivatives were "a time bomb that could explode just like the LDC crisis did, threatening the world financial system."

Corrigan's speech drew attention not only to derivatives' potential to magnify and transmit crisis, but also to the industry's inadequate risk management practices.¹⁰ The interpretation of derivatives as dangerous and uncontrolled – and especially the implication that bank managers (and even traders themselves) did not understand the products they were buying and selling – was disputed by other financial actors. Deutsche Bank's executive vice-president

⁹ The *Institutional Investor* article referenced above (Muehring and Hansell 1992), for example, outlined a scenario for financial crisis that closely parallels what happened in 2008:

The World Derivatives Nightmare I is that derivatives trading itself could cause a major bank to fail. It would take some doing, but a bank could conceivably wipe out its capital this way. The regulators' Worst Derivatives Nightmare II is in some ways a lot more hair-curling, because it is less predictable and therefore would be harder to cope with. That is the prospect that derivatives, simply because they now invisibly permeate the entire financial system, could turn an ordinarily containable situation – one that isn't even caused by them – into a full-blown financial crisis ... Suppose more competition prompts several large dealers to build huge books of derivatives on a particular market. And suppose they all make the same mistaken assumption in their kindred hedging models, counting on liquidity that isn't there. Presumably this would send derivatives prices and the underlying market into turmoil. Then if a bank actually defaulted on its counterparty obligations, those defaults would go ripping across countless banks' balance sheets. Who knows what financial chaos would result? regulators worry.

¹⁰ Corrigan's speech was followed up by a strongly worded letter from New York Fed executive vice-president Chester Feldberg to all New York bank CEOs stating that the Fed had found "basic internal-control weaknesses" in derivatives-trading operations (Muehring and Hansell 1992).

for treasury operations (quoted in Muehring and Hansell 1992) commented that, “Some bankers are getting downright testy at what they see as grandstanding by government officials. They seemed to suggest that top management doesn’t know what derivatives are and that the place is out of control. It was a little hard to stomach.”

Despite industry resentment at allegations of their incompetence and excessive risk-taking, the interpretation of derivatives as dangerous implied for the first time that the risks associated with derivatives might directly threaten the public interest by making financial crisis more likely and more severe. This interpretation instigated a lengthy debate over derivatives’ contribution to systemic risk and what that meant for regulatory oversight and rule-making. As SEC Commissioner Beese (1993c, p. 5) noted, “More than anything else has in years, the OTC derivatives market has increased the probability that a meltdown in one financial sector will spread to others.” His colleague Mary Schapiro, who had been fairly sanguine about derivatives’ risks two years earlier, concurred, and her remarks (Schapiro 1993) are especially reflective of regulators’ simultaneous appreciation for and concerns about derivatives:

If new issues of systemic risk can be effectively addressed, the derivatives markets may be able to help to provide the kind of stability that cross-border participants need to make long-term commitments of capital. The effect of financial innovation in stimulating cross-border activity should be seen as a healthy economic development ... Systemic concerns are especially acute where OTC products serve as a direct substitute for trading in listed markets, and where trades in the one serve as a necessary hedge or offset for positions in the other. The credit risk inherent in derivatives trades yields a different kind of systemic concern ... Given this concentration, we should be concerned that a crisis involving any one major dealer could quickly and substantially affect the others.

As Howard Kramer (1993, p. 7), Senior Special Counsel at the SEC said, “Perhaps no subject has received as much media attention and regulatory scrutiny over the past year than OTC derivatives.” How derivatives were understood produced widely varying regulatory

proposals, each of which might have fundamentally altered the trajectory of the OTC markets over the next two decades.

At the one extreme, concerns about systemic risk led some commentators called for an outright ban on derivatives. This was enough of a possibility that Sean Beckett (1993, p. 27), an economist at the Kansas City Fed, citing Corrigan's speech, wrote an article in response to "whether banks should be prohibited from participating in derivatives markets."¹¹ Other commentators (quoted in Beese 1993d, p. 1), alarmed by "the excesses of Wall Street" and the subsequent wave of losses from the Savings and Loan crisis, called for "severe restrictions" on trading, most notably moving all OTC contracts onto organized exchanges subject to regulation under the Commodity Exchange Act.¹² Such a move would have dramatically transformed and reduced the market, given that some of the main engines of growth in OTC markets had to do with the contracts' flexibility, customization, and exemption from disclosure and position limit requirements – all of which would have been substantially curtailed by highly standardized and regulated exchanges. The 1992 Futures Trading Practices Act seemingly ruled out this possibility by formally granted the CFTC the authority to exempt off-exchange transactions between "appropriate persons" (specifically, regulated financial intermediaries, large business, and others deemed appropriate by the CFTC) from the CEA (Greenspan 1997). The CFTC used this authority to exempt interest rate swaps and most other OTC derivative contracts from exchange-trading requirements, but while this clarified what had been a legal grey area concerning the legal

¹¹ Beckett (1993, p. 38) ultimately concluded that:

The challenge posed by the apparent complexity of derivatives valuation may well be overstated. Even the most complicated derivatives are composed of individual building blocks – individual options and forwards – which are well understood, and the values of these complex derivatives literally are equal to the sums of the values of the individual pieces. In fact, the ability to express the value of a derivatives in a mathematical formula can be regarded as evidence that valuing derivatives is less complicated than evaluating the quality of some traditional bank assets.

¹² Beese himself did not advocate this, nor did the SEC, but his speech references groups of commentators who called for this.

enforceability of financial derivatives not specified in the Treasury Amendment,¹³ in practice, it did little to settle the contestation over how dangerous derivatives were and whether they should be publically regulated through other means.

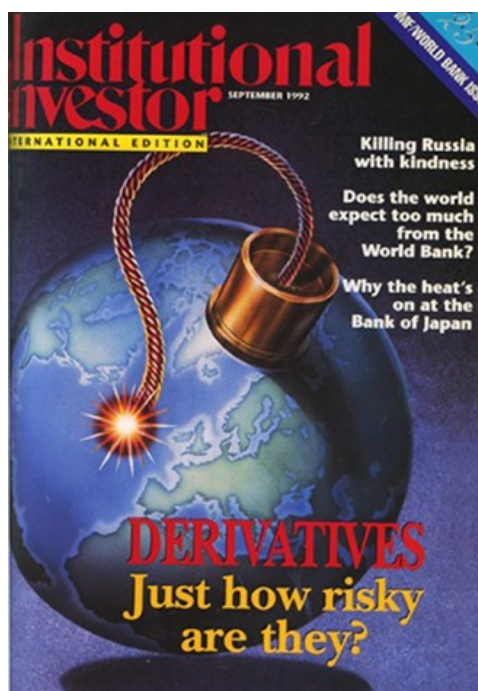


Figure 2: September 1992 cover of Institutional Investor, a financial trade publication, depicting the phrase “DERIVATIVES: Just how risky are they?” emblazoned over an image of the globe with a lit fuse

At the other extreme, some regulators responded to Corrigan’s speech and the attendant wave of worries about crisis with arguments for completely self-regulated markets, similar to Britain under the Financial Services Act. While Warren Buffett (2002, p. 15) would not describe

¹³ President George H.W. Bush’s (1992) signing statement is evidence that the intent of this bill was primarily to clarify the legality of derivatives:

The bill also gives the Commodity Futures Trading Commission (CFTC) exemptive authority to remove the cloud of legal uncertainty over the financial instruments known as swap agreements. This uncertainty has threatened to disrupt the huge, global market for these transactions. The bill also will permit exemptions from the Commodity Exchange Act for hybrid financial products that can compete with futures products without the need for futures-style regulation.

The law did not, however, fully resolve the interpretive question of who constituted “appropriate persons,” as the Orange County case will show.

derivatives as “financial weapons of mass destruction” for another decade, the imagery of derivatives as bombs poised to blow up the system (see Figure 2) led some regulators, like SEC chair Richard Breeden (quoted in Muehring and Hansell 1992), to make the case that concerns were greatly exaggerated, “There is too much alarmist rhetoric involving these products. We’ve seen 2,500 banks fail because of credit risk. We have a long way to go before the swaps market is as threatening.” On this side of the debate, too, the Savings and Loan crisis cast a long shadow, but the \$159 billion bailout at the taxpayers’ expense was instead cited as justification for the complete distancing of the market from the public responsibility.¹⁴ Federal Reserve vice-chair David Mullins, Jr. (quoted in Muehring and Hansell 1992) argued that, “The swaps dealers are a big adult market now [...] They have responsibilities they can’t ignore. Either they create an SRO [self-regulatory organization] with teeth and submit to its discipline, or, if there are problems, they might not like the alternatives that could be produced for them here in Washington.”¹⁵ Despite the threat of greater public regulation, Mullins’ preference was clearly for self-regulation, as he added, “I’m not especially impressed by the ability of the regulators and Congress to design optimum rules for new and evolving financial markets” (quoted in Muehring and Hansell 1992).

The competing interpretations circulated without clear regulatory consensus until the mid-1990s. Two reports published in the years following Corrigan’s influential speech were central to settling the debate. The first of these, the Group of 30’s *Derivatives: Practice and Principles*, was conducted by market participants with the explicit goal of addressing regulatory concerns outlined above – that the OTC derivatives industry is “complex and obscure, potentially

¹⁴ This was the estimated cost over 10 years of bank failures between 1989 and 1992, plus interest payments, with taxpayers covering 75% of that total (Nash 1989).

¹⁵ Mullins would later go on to become a partner in Long-Term Capital Management.

subject to abuse that might lead to the failure of individual firms or even to a crisis in the financial system” (Global Derivatives Study Group 1993, p. 2). The seventy-eight page report advocated for regulatory recognition of existing industry practices, insisted upon the ordinariness of the risks associated with derivatives, and emphasized their similarities to more familiar markets.¹⁶ The report also acknowledged regulatory concerns about systemic risk, contending that the only way to eliminate it would be to ban the market entirely.¹⁷ Instead, the G-30 report explicitly argued against any further public regulation of the industry, contending that such efforts might “inhibit new product innovation or discourage firms from developing the individualized, robust risk management systems on which they should rely” (Global Derivatives Study Group 1993, p. 3). Regulatory efforts should be limited to eliminating legal uncertainty and providing guidance on reporting and accounting standards. Compared with this very modest role for public regulation, the report outlined a lengthy agenda for industry participants.¹⁸ The report echoed existing rhetoric about the sophistication and expertise of derivatives dealers and traders, positioning those most involved in derivatives trading as best versed in its risks.¹⁹

¹⁶ The report noted that the risks involved in derivatives activities (market, credit, operational, and legal risk) were the same as those facing banks and securities firms, and did not mention derivatives’ contribution to systemic risk in this discussion (Global Derivatives Study Group 1993).

¹⁷ “Supervisory authorities, who have studied the systemic issues posed by derivatives, have defined systemic risk as ‘the risk that a disruption (at a firm, in a market segment, to a settlement system, etc.) causes widespread difficulties at other firms, in other market segments or in the financial system as a whole.’ This definition makes it clear that systemic risk arises in the course of ordinary market activities. Therefore it may be difficult to eliminate without curtailing these activities” (Global Derivatives Study Group 1993, p. 39)

¹⁸ Recommendations for dealers and end-users included: value derivatives positions at market; quantify market risk under adverse market conditions/stress tests; use master agreements with close-out netting provisions; independent (of dealing) market and credit risk functions; measure, manage, report risks in a timely manner; and voluntarily adopt accounting and disclosure practice for international harmonization and transparency.

¹⁹ Recommendation 16 for market participants reads: “*Dealers and end-users must ensure that their derivatives activities are undertaken by professionals in sufficient number and with the appropriate experience, skill levels, and degrees of specialization. These professionals include specialists who transact and manage the risks involved, their supervisors, and those responsible for processing, reporting, controlling, and auditing the activities. [...]* Derivatives support functions are technical and generally require a level of expertise higher than for other financial instruments or activities” (Global Derivatives Study Group 1993, p. 17).

The G-30 report was widely read and cited by its intended audience, and overall, had a mollifying effect. One notable hold-out was SEC Commissioner Mary Schapiro who argued for public regulators' superior ability to monitor the financial system as a whole even as she acknowledged the merits of a well-functioning derivatives market.²⁰ In contrast, Commissioner Beese reported he was reassured by the report, and in particular by its detailed depiction of industry practices.²¹ Most significant, however, was E. Gerald Corrigan's reaction to the report. The former New York Fed President whose 1992 speech had touched off a wave of public and regulatory scrutiny was now a senior executive at Goldman Sachs. In 1994, he testified before the House Subcommittee on Telecommunications and Finance that the potential for problems with derivatives had diminished as self-regulatory practices had become more standardized and transparent: "I am hard pressed to think of sensible things that might be done through legislation that would better equip the Fed or other bodies to cope with a financial disruption of consequence ... There is far less risk today than in the past of something happening. All major financial intermediaries have dramatically increased their internal-control and risk-management systems" (quoted in Hansell 1994). Whether this change of mind was purely a function of his trip through the revolving door between industry and regulators, or whether the G-30 report and its concomitant industry practices genuinely convinced Corrigan, his advocacy of a narrative in which derivatives' risks were effectively managed by market participants was significant.

²⁰ "I must say, however, that I am less sanguine than the authors of the [G-30] report with regard to systemic risk issues [...] Individual market participants are fully capable of making prudent decisions concerning their own business but they do not have a natural inclination or, more important, responsibility to look at the 'big picture.'" (Schapiro 1993, p. 13).

²¹ "The Group of Thirty's study on derivatives makes a significant contribution to the better understanding and management of the derivatives market. I have long believed that the real issue is not how regulators should regulate this market, but how dealers and end-users should manage it" (Beese 1993d, p. 8).

By itself, the G-30 report was insufficient to convince Congress that derivatives should not be a matter of public concern. Representative Edward Markey (quoted in Hansell 1994), chair of the House Subcommittee on Telecommunications and Finance admitted that, “I am not at all convinced that voluntarism by the dealers and incremental adjustments of existing regulation will be sufficient to respond to the new risks created by derivatives.” Pursuant to Rep. Markey’s concerns, the General Accounting Office (GAO) conducted its own report on derivatives. The GAO report was published in 1994, and it offered a much more negative assessment than the G-30 report. It acknowledged, far more directly than the G-30 report, the possibility of a systemic crisis.²² Moreover, and in marked contrast to the industry’s own representation of derivatives, it concluded that, “no comprehensive industry or federal regulatory requirements existed to ensure that US OTC derivatives dealers followed good risk-management practices” (United States General Accounting Office 1994, p. 8). In addition to expressing concerns about the sophistication of market participants that underlay the exemption from CFTC regulation,²³ the report found that accounting principles for derivatives had not kept pace with business practices and protection of internationally linked financial systems required better coordinated international efforts. Nonetheless, the GAO report concluded that such risk-management was an industry, not a regulatory responsibility. It acknowledged the disruptive effect major regulatory change would have on the industry, defining the public interest not only

²² “Derivatives serve an important function in the global financial marketplace, providing end-users with opportunities to better manage financial risks associated with business transactions ... This combination of global involvement, concentration, and linkages means that the sudden failure or abrupt withdrawal from trading of any of these large dealers could cause liquidity problems in the markets and could also pose risks to others, including federally insured banks and the financial system as a whole” (United States General Accounting Office 1994, p. 7).

²³ “GAO also noted that in such a rapidly growing and dynamic industry, new participants are likely to enter the market. Some of these new entrants may not be as knowledgeable as present dealers or may take on unwarranted risk in an attempt to gain market share or increase profits. In either case, systemic risk could increase” (United States General Accounting Office 1994, p. 7).

in terms of financial stability but also – notably – in terms of continued financial innovation – a framing that would only increase in salience over the second half of the decade.²⁴

Following publication of the GAO report, major legislative and regulatory proposals for transforming the OTC derivatives market largely receded into the background. That government regulation should be limited to oversight and that risk management was best conducted by the industry itself approached a consensus. Evidence for this can be seen in a third influential report, this one written by the Derivatives Policy Group (DPG), a group of both regulators and industry representatives formed in 1994 at the suggestion of Arthur Levitt of the SEC, with the cooperation of Mary Schapiro (who was initially skeptical of the G-30's interpretation of derivatives and who was then the chair of the CFTC). The Group published a *Framework for Voluntary Oversight* in 1995, a document that explicitly equates voluntary self-regulation with the public interest and outlines a series of goals and processes associated with risk management (subject to external verification), reporting, and counterparty relationships for firms to voluntarily adopt.

In the end, OTC derivatives were neither banned nor left wholly untouched by public regulation. Despite calls for banning them entirely, regulators generally took the continued existence of derivatives for granted,²⁵ citing the regulatory arbitrage and capital flight that

²⁴ “Strong corporate governance is critical to the success of any risk-management system but it particularly crucial for managing potentially volatile derivatives activities. Primary responsibility for risk management rests with boards of directors and senior management ... The issue is one of striking a proper balance between (1) allowing the US financial services industry to grow and innovate and (2) protecting the safety and soundness of the nation's financial system” (United States General Accounting Office 1994, p. 8).

²⁵ See for example this statement from SEC Commissioner J. Carter Beese (1993b, p.1): “There seems to be a common misperception that the regulators, like Marshall Dillon, are about to run the outlaws out of town. The question, however, is not how to run them out of town, but how to make sure that we have stable, but innovative, markets ... Most of us now recognize that these products can allow users to manage risk in a far more sophisticated and effective manner than they had been able to before.

accompanied the short-lived Japanese ban on derivatives.²⁶ The sheer size of the market and its deep imbrication in the strategies of smaller firms in addition to large banks was taken as evidence that banning derivatives was an untenable strategy. Regulators also made positive arguments in favor of derivatives' continued existence, focusing on their contribution to firms' risk management strategies, and going so far as to argue that "it's possible that in the future courts may find it irresponsible – or worse, impose legal liability – on those who do not take advantage of the benefits that derivative markets do provide" (Beese 1993a, p. 2). The use of derivatives by actors outside of investment banks, like McDonalds, played an important role in this perception of derivatives as inextricable from contemporary economic life.²⁷ The competing interpretations of derivatives – as a stabilizing part of risk management and as a destabilizing source of further risks – led regulators to search for a middle ground that would ensure the continued existence of the market while reducing its independent contributions to both firms' and the financial system's instability. Not surprisingly, given this balancing act, these policies frequently involved both a public and private regulatory component. For example, regulators proposed addressing credit risk through publically mandated capital requirements for firms and through better industry-led risk management strategies.²⁸

²⁶ "Although it is possible that national policies could change and inhibit such a free flow of funds, the trend toward interlinked global markets seems unstoppable at this point." (Beese 1992, p 2.)

²⁷ "This is not just an exclusive club of cutting-edge players anymore. Firms in businesses as diverse as fast food restaurants, oil, mining, and tractor companies have come to Washington to tell Congress how indispensable these products have become to their operation. McDonalds uses OTC derivatives to reduce risks it takes in its overseas operations. KLLM Transport, a national trucking company, uses OTC derivatives to limit the effects on its business of volatility in the price of oil. Even Sallie Mae advertised in *Smithsonian*, a favorite among Washington policy wonks, that swaps have become indispensable in meeting its mission to provide affordable student loans." (Beese 1993b, p. 3). Kramer (1993, p. 12) made a similar argument in the same year: "While this market began with only the most sophisticated institutions, the customer base may be reaching the next tier of institutions. These products may not be suitable for all institutions, and it is important for dealers to keep this in mind as they shop these products."

²⁸ "These products present risks that must be controlled and accounted for. Our challenge is to devise effective capital rules that will ensure that broker-dealers and their affiliates will remain financially stable and strong enough to withstand a potential market disruption caused by a firm failure, for whatever reason [...] The most troubling issue for regulators and – I've heard – also for many CEOs, is the credit risk firms take when they enter into these

The small number of public supervisory and oversight measures that both industry and government spokespeople agreed were desirable by this point were addressed in the 1995 Windsor Declaration, a joint regulatory effort by the CFTC in the United States and the Securities and Investment Board in the United Kingdom. The agencies committed to sharing information about large institutional exposures to risk, agreed to procedures for dealing with market crises, and committed themselves to enhanced transparency in their oversight procedures (Windsor Declaration 1995). In conjunction with industry practices intended to better measure and manage credit and other forms of risk, CFTC Commissioner Joseph Dial (1996) concluded that: “Taken together, these steps should minimize the systemic effects of any future market disruptions, along with enhancing existing regulatory safeguards.” His statement is illustrative of the general consensus at this point that, owing to incremental changes by both industry and regulators, derivatives’ potential to exacerbate systemic risk was no longer cause for alarm. The panic following Corrigan’s 1992 speech and the subsequent moment of contestation and contingency about how derivatives should be understood, was effectively settled at this point. While it didn’t result in slowdown in derivatives growth (quite the opposite), the period detailed in this section left its mark in more complex risk management systems, new industry practices, and greater international regulatory coordination.

From derivatives in crisis to definitive deregulation (mid 1990s-early 2000s)

transactions [...] The credit risk involved in these transactions is the first long-term risk brokerage houses have assumed on a systemic basis. It’s also the first time that broker-dealers have been in the business of credit assessment [...] I recognize that credit risk can be measured, monitored and, in theory, controlled. But even banks have certainly shown that it’s not always as easy as it sounds [...] The dealers in this market need to take this seriously. (Beese 1993b, p. 2-3). Beese (1993a, p. 5) sided squarely with the self-regulatory perspective as far as risk management was concerned, noting that, “The biggest question is whether firms are adequately monitoring risk. I’ve spent a fair amount of time with OTC derivatives dealers over the last six months discussing these issues, and I have to admit: they make a good case that their risk management systems are in good shape.”

Era	Ultimate source of change	Who is a legitimate bearer of risk?	Who deserves public protection from adverse financial consequences?	Protection from what?	Perception of risk
Mid-1990s-early 21st century	Ideology (self-regulating markets are in the public interest)	Firms, via private risk-management systems; the market as a system; individual “rogue” traders	Only victims of fraud	Protection from fraud; normal workings of the market, including firm collapse, do not merit protection	Financial risk is essential to deep and liquid financial markets and in the public interest

Table 3: Dominant view of derivatives and financial risk, late 1990s/early 2000s

The interpretation of derivatives as, on balance, greater tools of risk management than of risk magnification was challenged by a series of derivatives-related crises throughout the mid-1990s. Although some regulators cited these crises as evidence of the dangers of derivatives, the dominant interpretation of these crises blamed insufficiently sophisticated or “rogue” investors rather than derivatives themselves. By the end of this period, the dominant regulatory view of derivatives was that by efficiently distributing risk, they were essential to the functioning of deep and liquid financial markets.

The 1990s were marked by a series of private industry losses and bankruptcies related to new financial instruments like options and swaps, often undertaken with very high levels of leverage. For instance, Barings lost \$1.4 billion and ultimately collapsed following a series of speculative losses on Nikkei index futures in 1995 (Jacque 2010, p. 11). In addition, Metallgesellschaft lost \$1.6 billion after it was unable to post sufficient margin in the oil futures market in 1993, and Procter & Gamble and Gibson Greeting Cards incurred large losses from interest rate swaps in 1994 and 1995, respectively. These losses initially attracted relatively little

regulatory attention, and when they were mentioned, were attributed to fraud²⁹ and insufficient public disclosure.³⁰ CFTC Commissioner Sharon Brown-Hruska (2004) went so far as to characterize these losses as “bumps in the road,” attributable to firm-level malpractice and misjudgment, and not to derivatives themselves.³¹ The Barings collapse, which received the most attention, was frequently referenced as a failure of the banks’ internal risk management strategies and lack of oversight of its traders, and in particular of the “rogue” trader Nick Leeson, who concealed millions of pounds in losses related to speculative arbitrage trading on stock index futures (see, for example Phillips 1997). Robert Litan and Jonathan Rauch’s (1997, p. 50) Treasury Report is explicit that responsibility for derivatives-related crises lay with individual traders: “There have been a number of celebrated instances in recent years – the \$1.4 billion loss by the British bank Barings in particular – in which financial institutions have suffered major losses associated with derivatives. A common factor in most of these cases is that management failed to monitor and control rogue traders who put their institutions at risk.” The report

²⁹ SEC Chair Arthur Levitt (1995), for example, attributed the Gibson Greetings collapse to fraud, rather than the normal operations of derivatives markets:

I remain committed to the need for regulators to pursue those who violate the securities laws. As an example of this, the SEC and CFTC brought enforcement actions against BT Securities Corporation in connection with the sale of derivatives to Gibson Greetings. We found that ‘Bankers Trust’ had violated antifraud and other provisions of the securities and commodities laws by, among other things, misleading Gibson about the value of the company’s OTC derivatives positions. We will not hesitate to act in such cases – for the sake of investors, but also for the sake of our markets.

³⁰ SEC Commissioner M.H. Wallman (1997) testified before the Senate Subcommittee on Securities that, the last time there were major movements in interest rate and foreign currency markets, several headline stories about losses from derivatives and other market risk sensitive instruments by corporate end-users and dealers alike surprised investors and the markets. These stories include the losses incurred by Bankers Trust, Dell Computers, Gibson Greetings, and Proctor & Gamble, among others. The surprise accompanying such losses demonstrates the need for more public disclosure of what market risks are and how the registrants in which the public invests its money are managing those risks.

See also Levitt 1997.

³¹ This view was similarly reflected in Brown-Hruska’s (2003) response to the Enron crisis, in which she praised “sophisticated and savvy” derivatives users and contended that “perhaps derivatives are a convenient scapegoat because of their relative complexity.” Greenspan’s (1994) testimony before the House Telecommunications and Finance Subcommittee similarly deflected blame away from derivative contracts.

concludes with a series of policy recommendations which are not aimed at reining in derivatives trading, but rather at “eliminating outmoded barriers to competition” (Litan and Rauch 1997). This perspective was echoed in trade publications, Senate Banking Committee hearings, and by some SEC Commissioners as well.³²

A notable exception to this sanguinity was CFTC Chair Brooksley Born who, citing the financial losses from the Barings collapse, argued that the price discovery function of markets was a legitimate public interest in need of regulatory protection, even if sophisticated investors were not (Born 1997a). In contrast to regulators who regarded firm-level oversight and organizational changes as sufficient to prevent excessive derivatives losses, Born contended that public regulation was required to protect the system as a whole from contagion and panic. Despite its prescience, her interpretation of derivatives as having consequences outside of individual banks, justifying systemic regulation, was in the minority at the time. It would, however, return in the debates leading up to the Commodity Futures Modernization Act in 2000.

In addition to private-sector losses, this period also saw a series of municipal bankruptcies related to derivatives. The most prominent of these was that of Orange County, California which lost \$2 billion in December 1994, after the county treasurer Robert Citron pursued a highly leveraged investment strategy involving reverse repurchase agreements

³² See for example SEC Chair Arthur Levitt’s (1995) remarks to ISDA which similarly emphasize that derivatives-related debacles should be attributed to failure of private oversight rather than to derivatives themselves:

Over the past two years, the headlines have been filled with significant derivatives losses by corporate and municipal end-users and dealers alike. The collapse of Britain's Barings Bank; the problems at Metallgesellschaft, and, in the United States, the ‘Bankers Trust’ enforcement action are all still fresh in our minds. These events have heightened concern over whether derivatives are being used properly [...] [W]e must avoid the temptation to demonize derivatives, which are a vital tool in modern financial markets. They are so useful in managing risk that if they didn't exist, we would surely have to invent them. Like any financial instrument, derivatives require certain ground rules, and regulators can provide that. But we must resist the siren call for stringent regulation that occurs in the wake of every new loss – especially since the typical derivatives loss is less a failure of regulation, than a failure of oversight by the parties involved.”

(“repos”) and interest rate swaps that would only pay off if interest rates fell, which they did not (Jacque 2010). The effects on Orange County were dramatic: in addition to filing for bankruptcy, the county’s collateral was seized despite a petition to the SEC and S&P cut its credit rating from AA to CCC. The Senate Banking Committee held hearings on derivatives shortly after the bankruptcy. However, much as the Barings bankruptcy was attributed to the bank’s failure to rein in a rogue trader, regulators (and subsequent legal proceedings) attributed the Orange County bankruptcy to Citron’s own decision-making and the county’s lack of internal controls, rather than to the products themselves.³³ Indeed, the absence of a systemic crisis following Orange County’s bankruptcy was cited as evidence that, contra Born’s arguments, there was no need for systemic regulation of derivatives markets (Loomis 1995).

Perhaps the greatest threat to regulators’ preference for self-regulation of derivatives came from the collapse of the hedge fund Long-Term Capital Management (LTCM) in 1998. Derivatives were a core component of LTCM’s trading strategy; indeed, Myron Scholes and Robert Merton, who won the 1997 Nobel Prize in Economics for their work on options pricing, were partners. The hedge fund’s strategy was based on arbitrage trading, a strategy which is only profitable with very high leverage to take advantage of small price differences.³⁴ By early 1998, LTCM was already in trouble as their trading strategy was increasingly adopted by competitors, pricing away the arbitrage opportunities at the core of their strategy, and when Salomon Brothers began selling of many of its (relatively illiquid) positions, this drove down the price of LTCM’s

³³ See for example SEC Director of the Division of Market Regulation Richard Lindsey’s (1998) testimony before the US Senate that, “The [Orange County] treasurer’s aggressive use of leverage compounded losses in the investment pools. The treasurer’s actions should have been identified and addressed by an effective internal controls system.”

³⁴ LTCM was extremely highly leveraged when they collapsed, with \$4.7 billion in equity capital, debt of \$125 billion, and off-balance-sheet derivatives exposure of more than \$1 trillion (Lowenstein 2000, p. 191.) Their strategy in fact had three pillars: very high amounts of leverage, financing through the repurchase (“repo”) market, and risk management through the use of the Value-at-Risk model (Jacque 2010, p. 250).

assets (Lewis 1999; Jacque 2010, p. 265). LTCM's arbitrage trading strategy incurred irrecoverable losses a few months later when Russia unexpectedly defaulted on domestic bonds, a scenario wholly unanticipated by LTCM's pricing models, and one which left them exposed to substantial losses when Russian banks also defaulted on the derivatives contracts LTCM had used to hedge their Russian bond positions (Tett 2009, p. 74, Jacque 2010, p. 266). LTCM ultimately lost \$4.4 billion, \$3 billion of which was from their derivatives positions (Lewis 1999). In response to this panic, the New York Fed organized a consortium of 14 banks to provide a \$3.6 billion bail-out package to LTCM (Jacque 2010, p. 269). Due to the opacity and complexity of the OTC market, many of these banks were unsure about their exact exposure, should LTCM default on its contracts, but at the New York Fed's urging, they determined their risks to be sufficient to justify contribution to the bail-out.

Given that regulators' chief justification for not regulating derivatives after previous crises was that losses were largely confined to a single financial institution, this acknowledgement of systemic contagion might be expected to generate stronger regulation. However, the predominant reaction to this crisis was two-fold: first, to double down on financial risk models, making them more complex and incorporating historical crisis data; and second, to attribute the crises to individual-level failings, on the part of either specific people or banks. In his 1998 testimony before the House Committee on Banking and Financial Services, Fed Chair Alan Greenspan (1998) stated that although the rapid unwinding of LTCM's complex portfolio amounted to a "fire sale" (that is, in inaccurate pricing of assets), "a fire sale that transfers wealth from one set of sophisticated market players to another, without any impact on the financial system overall, should not be a concern for the central bank." This message was fairly consistent throughout the US regulatory community. Gerald Corrigan, now chair of the Counterparty Risk

Management Policy Group, organized a group of bankers to write a report on lessons learned from LTCM's collapse and refinancing which concluded with a list of recommendations for firms, but nothing about governmental intervention or heightened regulations of derivatives trading.

The exclusion of the derivatives from regulatory authority under the CEA had been a *de facto* norm following the Futures Trading Practices Act of 1992. However, the increased public attention that the Orange County and LTCM crises drew to the market raised concerns in the industry that the CFTC might revoke that exemption, in spite of the broader movement away from Depression-era regulation. Of particular alarm to the industry were CFTC Chair's Brooksley Born's now-prescient criticisms of credit default swaps and her vocal opposition to legally exempting over-the-counter derivatives from the CEA.³⁵ In 1998, the Fed Board of Governors specifically addressed industry concerns that the CEA might be held to apply to financial derivatives, subjecting them to CFTC regulation. They expressed concern about the uncertainty of the legal enforceability of derivatives contracts as long as the application of the CEA to these contracts remained ambiguous, citing the costs of pushing this industry offshore to more predictable legal regimes and called for broad statutory exclusion of institutional OTC transactions from the CEA to resolve the legal ambiguity (Board of Governors of the Federal Reserve System 1998).

In 1999, in response to these competing interpretations of the need for public derivatives regulation and mounting industry concerns, the chairs of the Senate and House Agriculture Committees called upon the heads of the Treasury Department, the Fed, the SEC, and the CFTC

³⁵ In a speech at the FIA/FOA Fourth International Derivatives Conference in London, Born (1997b) referenced pending legislation before Congress that would amend the CEA and which could "dramatically reduce federal government oversight of our markets and, in my view could expose these markets to unnecessary risk."

(collectively referred to as the President's Working Group on Financial Markets) to issue a joint report on over-the-counter derivatives and the applicability of the CEA. Brooksley Born had resigned as CFTC chair in June 1999, and she was succeeded by William Rainer, who joined in consensus with the other agency heads in recommending that the CEA be changed to "promote innovation, competition, efficiency, liquidity, and transparency in OTC derivatives market" and concluding that "there is no compelling evidence of problems involving bilateral swap arrangements that would warrant regulation under the CEA; accordingly, many types of swap agreements should be excluded from the CEA" (President's Working Group on Financial Markets 1999, p. 14-15).

With Born gone, there was little resistance to the now-dominant interpretation of derivatives as an industry whose continued growth and innovation were very much in the public interest as the US economy was become increasingly financialized. In contrast to Born's warnings about the complexity and opacity of derivatives and her calls for greater regulation, Sharon Brown-Hruska (2004), the CFTC Commissioner most vocal on the subject of derivatives, struck a markedly different tone, urging caution even in enacting regulations to make the market more transparent and touting the benefits of derivatives in terms of enhancing price discovery, managing risk, and diversifying portfolios. Older justifications for financial regulation rooted in concern for protecting unsophisticated investors and preventing market manipulation were abandoned in favor of a regulatory paradigm that championed competition and innovation and regarded occasional failure as an acceptable risk in pursuit of these goal. Anything that jeopardized US competitiveness in the derivatives market was suspect, under this interpretation, and that included the legal uncertainty over the enforceability of derivatives contracts. As Carruthers (2013, p. 388) observes, "In the absence of global coordination among national

regulators, the threat of ‘exit’ will continue to empower key OTC market players.” In the case of OTC markets, the ability of participants to shift from New York to London relatively easily meant that the threat of exit was perceived as credible (see for example Beese 1992).

In 2000 Congress passed the Commodity Futures Modernization Act, which definitively exempted derivatives from CFTC and SEC regulatory authority, codifying their previously de facto deregulation in law and ending the legal uncertainty that industry participants and regulators alike cited as inhibiting US competitiveness in this market. The vote was 377-4, indicating the extent to which financial deregulation had become common-sense.³⁶ As the former general counsel to the Federal Reserve Scott Alvarez (quoted in Wolf 2014, p. 137) reflected in response to an interview with the Federal Crisis Inquiry Commission in 2010, the “mind-set was that there should be no regulation; the market should take care of policing, unless there already is an identified problem. We were in the reactive mode because that’s what the mindset was of the ‘90s and early 2000s.”

In the years that followed, regulators continued to champion the growth of derivatives markets, which grew at an even faster rate than they had during the previous decade (see Figure 3). While the CFMA and the lack of regulatory intervention played a role in the proliferation of derivatives markets outside the scope of regulatory oversight, the market had enjoyed rapid growth prior to this despite regulatory and legal uncertainties (Carruthers 2013, p. 396). Nonetheless, regulators interpreted growth in the market as being in the public interest. Fed Governor Susan Bies’s speech to the Global Association of Risk Professionals is illustrative of this view. She noted, “By their design, derivative instruments segment risk for distribution to parties most willing to accept them [...] reducing or more evenly redistributing the risk within

³⁶ Included in those voting for the bill was Bernie Sanders.

the banking system – where such credit risk has been traditionally concentrated–would seem to be a clear benefit” (Bies 2004). Although some regulators acknowledged concerns about the concentration of risk outside the banking system (see for example Greenspan 2005) and of the ever-present risk of systemic shocks and financial panics, aggravated by highly leveraged banks and complacency in the face of low volatility (see for example Geithner 2007), the lack of public regulation of derivatives would be largely uncontested by regulators and the broader public until the 2008 global financial crisis.

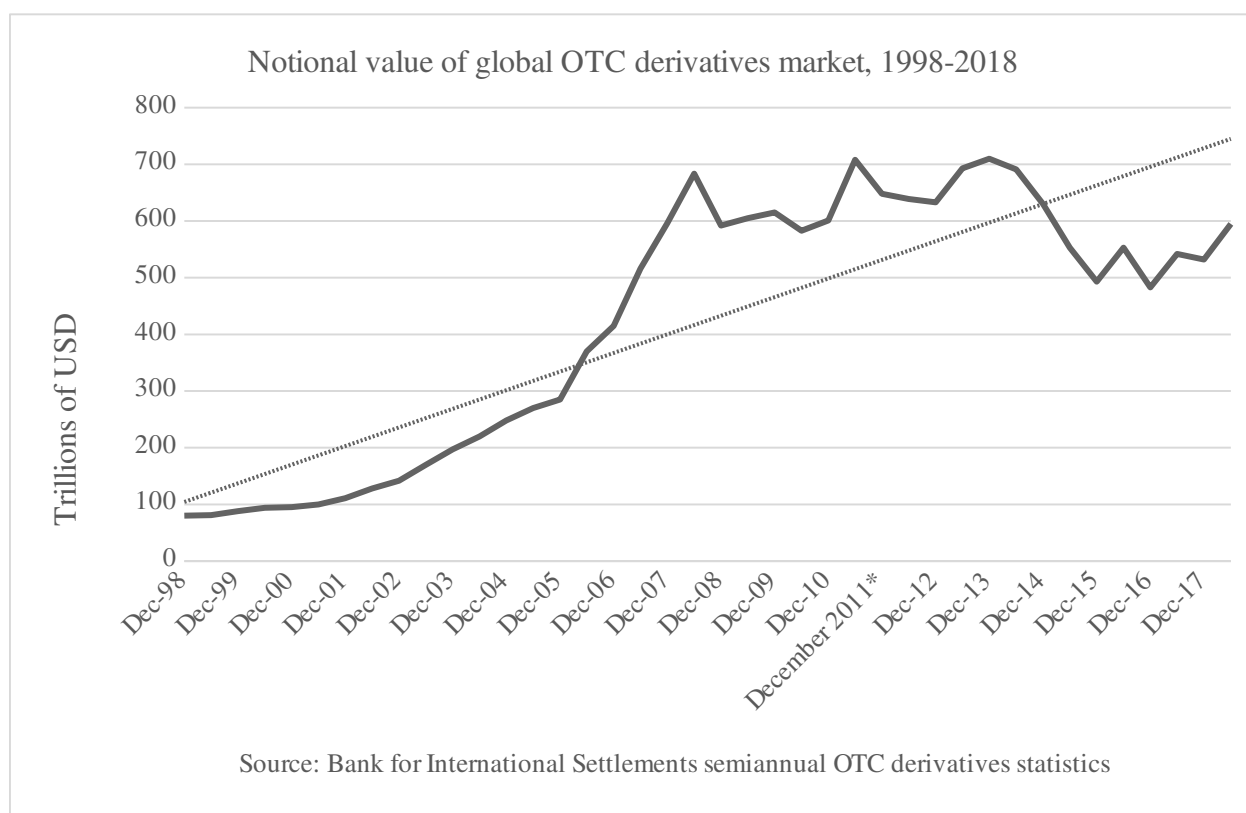


Figure 3: Notional value of the global OTC derivatives market, 1998-2018

Conclusion and implications for post-crisis financial regulation

The wave of financial deregulation that began in the 1990s and accelerated in the early 2000s is often portrayed as an inevitable outcome of the inexorable march of global capitalism. While there are certainly structural features of capitalism and of neoliberalism in particular that make the accommodation of the state to finance likely, the particular way in which derivatives' exemption from regulation was cemented was contingent. Had Gerald Corrigan's interpretation of derivatives as a powerful driver of potentially devastating systemic risk triumphed in the early 1990s, it would have been much easier for the CFTC and SEC to assert regulatory authority over the market, potentially banning over-the-counter derivatives entirely. Had the collapse of LTCM and other derivatives-related losses been attributed to derivatives' capacity to unpredictably magnify losses rather than to individual poor decisions amidst an otherwise smoothly functioning system, regulators might have had justification for scrutinizing these products' risk profile more carefully. And had Brooksley Born's interpretation of unregulated financial derivatives as contrary to the public interest dominated, we might never have seen the Commodity Futures Modernization Act.

This article provides an extended, historically and textually grounded argument for why the absence of public regulation in one especially significant financial market was a lengthy political project, marked by changing regulatory views of risk, who should hold it, and who should be shielded from it. Understanding this process is valuable in its own right allowing us to contest narratives of inevitability as far as financial power and its expansion are concerned. But it is also valuable in helping us make sense of post-crisis financial politics. Based on the foregoing analysis, we should expect to see shifts in regulators' thinking about risk in response to the 2008 financial crisis. And indeed we have: macroprudential reforms on both sides of the Atlantic have marked a shift in how financial risk is perceived as an object of governance, displacing the locus

of risk from individual banks and traders to the interactions of these actors and the emergent dynamics that result in the financial system as a whole (Baker 2013). But attempts to implement systemic regulation have been hampered by the difficulties involved in transnational cooperation, and by the limits of the regulatory practices in regulators' repertoires which tend to reproduce some of the same systemic dynamics they are intended to prevent (Posner 2018; Gravelle and Pagliari 2018; Lockwood 2018). Moreover, recent efforts to gut the Consumer Financial Protection Bureau and weaken capital requirements for some banks have threatened even these admittedly incremental reforms.

The financial crisis also led to changes in which actors were seen as legitimate bearers of risk, albeit somewhat inconsistent ones. While some banks, like Lehman Brothers, were allowed to collapse as a consequence of their financial risk-taking, others, like Bear Stearns, received emergency financing from the Federal Reserve. This response reflects the tension between the "market discipline" that regulators cited as evidence of the market's self-regulatory capacity and the reality of systemic risk that regulators had largely begun to ignore starting in the late 1990s. The financial crisis made abundantly clear that the financial risk-taking that regulators had valorized and encouraged in their hands-off regulatory approach had allowed derivatives markets to grow to such a size that the consequences of risk-taking could not be confined to the financial sector: what was initially a meltdown in the subprime mortgage market quickly spilled over into banks' and hedge funds' balance sheets and eventually to the consumer credit and job markets. The financial crisis became a crisis in the real economy, and a belief that ordinary Americans and taxpayers ought not bear the costs of bailing out an overleveraged system motivated legislative responses like the Dodd-Frank Act which explicitly authorized public regulation of the OTC derivatives market for the first time in its history. Some of the most substantial reforms included

mandatory central clearing for the most common varieties of OTC contracts intended the multilateralize risk and collateral and improve transparency. These measures acknowledged and targeted the large volumes of standardized outstanding OTC contracts, a noticeable shift from the pre-crisis era where the bespoke nature and low trading volumes of OTC derivatives were used to justify the absence of greater regulation. While the Dodd-Frank reforms fell short of moving OTC contracts onto exchanges, these reforms were nonetheless intended to replicate some of the regulatory benefits of regulated exchanges. In addition, regulators implemented somewhat stricter limits on bank risk-taking via capital and leverage standards – though these too are already being challenged (Clozel 2018).

Will the post-crisis regulatory reforms endure? While this article does not seek to develop a predictive model of regulatory change, it does direct our attention to the conditions of possibility for changes in how derivatives are interpreted and governed. Based on the history of this market, for reforms to persist, the post-crisis regulatory consensus that financial risk is systemic, rather than located solely within individual banks and that the public deserves protection from the real economic costs of financial risk-taking will need to endure. To the extent that these ideas – and particularly the latter – are increasingly jeopardized, we should not be surprised if derivatives regulation once again resembles the approach from the early 2000s.

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