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Thank you for inviting me to testify today. My name is Lynn Stout, and I am the Paul Hastings Professor of Corporate and Securities Law at the University of California at Los Angeles. My scholarly expertise includes the theory and history of derivatives regulation. I also serve as an independent director of a large mutual fund, giving me practical experience in the derivatives market. I have also published several academic articles on the topic of derivatives regulation.¹ Please allow me to note that my articles on derivatives, which I published in the 1990s, predicted that deregulating financial derivatives was likely to result in increased market risk, reduced investor returns, and price distortions and bubbles.² Those predictions, unfortunately, have proven correct.

Studying the history and theory of derivatives regulation inevitably leads to four basic conclusions. First, despite industry claims, derivative contracts are not new and are not particularly innovative. Although derivatives have gone by many different names, derivatives trading in the United States dates back at least to the early 1800s, and in other nations, centuries earlier. The 1884 Supreme Court case of *Irwin v. Williar*, for example,

¹ See e.g., Lynn A. Stout, *Betting the Bank: How Derivatives Trading Under Conditions of Uncertainty Can Increase Risks and Erode Returns in Financial Markets*, 21 J. Corp. L. 53 (1995); Lynn A. Stout, *Insurance or Gambling? Derivatives Trading in a World of Risk and Uncertainty*, 1996 Brookings Rev. 39 (Winter); Lynn A. Stout, *Why The Law Hates Speculators: Regulation and Private Ordering in the Market for OTC Derivatives*, 48 Duke L. J. 701 (1999).

² See, e.g., Stout, *Why The Law Hates Speculators*, 48 Duke L. J. 769-771 (arguing that making over-the-counter "OTC" financial derivatives exempt from the Commodities Exchange Act may erode average returns, increase market risk, and lead to price distortions and market bubbles).

describes the contract law rules that applied to derivatives contracts in the 19th century. (They were then called “difference contracts.”)³

Second, derivatives trading may provide some benefits to the overall economy. It is important to note, however, that while the industry routinely claims the social benefits from derivatives trading are substantial, there is no empirical evidence that supports this claim or establishes the magnitude of the supposed social benefits. At the same time, throughout history, unregulated derivatives markets have been associated with at least four distinct economic dangers. First, unregulated trading has been associated with asset price bubbles. Second, it has been associated with increased risk. Third, derivatives speculation has been criticized for reducing real economic productivity by diverting valuable resources, especially human time and creativity, away from industries and activities that contribute more to sustainable economic growth and to social welfare. Fourth, derivatives trading has been associated with increased levels of fraud and manipulation in underlying markets.

A third basic conclusion that can be drawn from studying the history of derivatives is that healthy economies regulate derivatives trading. My research indicates that the only time a significant US derivatives market has not been subject to regulation was during the eight years following the passage of the Commodity Futures Modernization Act of 2000 (CFMA). Although it was not widely appreciated at the time, the CFMA eliminated more than a century of legal restraints on derivatives trading by declaring that over-the-counter (OTC) financial derivatives were not subject to traditional contract law rules and were not subject to the Commodities Exchange Act (CEA) or the oversight of the Commodity Futures Trading Commission (CFTC).

³ 110 U.S. 499 (1884).

Fourth, history teaches that successful derivatives regulation generally does not take the form of either a heavy-handed ban on all derivatives trading, or direct monitoring by some omniscient government overseer. Traditionally, derivatives markets have been successfully regulated through a web of procedural rules that include reporting requirements, listing requirements, margin requirements, position limits, insurable interest requirements, and limits on enforceability. These sorts of rules can be put in place ex ante, reducing the need for government to exercise discretion and giving derivatives traders certainty about what is and is not required of them. The rules also have the advantage of operating largely as automatic “circuit breakers” that make it unnecessary for regulators to have either initiative or omniscience. Finally, these traditional rules have a long track record of success (dating back decades and in some cases centuries) in permitting beneficial forms of derivatives trading while weeding out excessive risk, speculation, and manipulation. The most obvious recent example is the notable success that the CFTC has had since 1974 in preventing excessive speculation in the markets for commodities derivatives.

An Introduction to Derivatives

Let me begin by explaining that, although Wall Street often surrounds derivatives contracts with jargon that makes them seem complex and difficult to understand, derivatives are quite simple. A derivative contract is nothing more than a bet or gamble on what is going to happen in the future. Just as you might place a bet on the horse you expect to win a horserace (your betting ticket is your derivative contract), you can bet on future interest rates by entering an interest rate swap contract, or bet on a company’s future creditworthiness by entering a credit default swap contract.

Until the 19th century, most derivative contracts were bets on the future prices of agricultural commodities, such as the rice derivatives traded in Japan in the 15th century and the commodities futures and options traded under the oversight of the CFTC today. To use the language of derivatives traders, the “underlying”—that is, the thing being bet upon—was the price of rice, wheat, or corn.

Financial derivatives, which became common in the U.S. in the 1800s, are simply derivative bets where the “underlying” is an interest rate, currency exchange rate, credit rating, or securities price, rather than wheat or corn. The first financial derivatives in the U.S. appear to have been stock options and futures, essentially derivative bets on the future prices of corporate stocks. The 1990s have seen an explosion in other forms of derivatives contracts, including derivative contracts on interest rates (interest rate swaps), credit ratings (credit default swaps), and even weather derivatives. Contrary to industry claims, the development of large markets in financial derivatives was not the result of some new idea or “innovation.” Rather, it was the result of the steady deregulation of financial derivatives trading.

Using Derivatives: Hedging or Speculation?

Derivatives trading can provide economic benefits. Most importantly, derivative bets can, at least in theory, be used as a form of insurance to hedge against risk. For example, if you own a corporate bond and you are worried the bond might decline in value, you can purchase a credit default swap bet that offsets your risk, because the swap will increase in

value if the bond decreases in value. This is true hedging, and it serves a useful purpose by reducing risk.

But it is essential to recognize that derivative bets are also ideally suited for pure speculation. The economic literature defines speculation as the attempt to profit not by producing something or by providing investment funds to someone who is producing something, but by predicting the future better than others predict the future.⁴ Just as you can make money from predicting the outcome of a horse race without actually owning a horse, you can make money betting on the fate of a company by buying credit default swaps (CDS) without ever buying stocks or bonds that would actually provide investment funds to the company. In both cases, you are not contributing anything either to the welfare of the horse, or to the welfare of the company. And in both cases, you are increasing your risk level by making the bet, just as a gambler increases her risk level when she goes to the track.

Derivatives speculation may provide modest social benefits by increasing liquidity for the underlying and by marginally improving the accuracy of the market price for the underlying (“price discovery”). Again, however, while the industry routinely claims these benefits are substantial, no empirical evidence exists to support this claim. Without doubt, derivatives speculation can also provide very large financial benefits for individual traders (offset by some counterparty’s loss), just as gambling can provide large benefits for individual gamblers (offset by some other gambler’s loss). These speculative trading gains are purely private benefits, however, that come at other investors’ expense. Meanwhile, unrestrained derivatives speculation has historically been linked to a host of very serious

⁴ See Lynn A. Stout, *Irrational Expectations*, 3 Legal Theory 227 (1997)(discussing theories of speculation).

economic ills, including price bubbles and crashes, increased risk, reduced real economic growth, and increased fraud and manipulation.

This is probably why virtually every derivatives trader claims that he or she is using financial derivatives for hedging, not for speculation.⁵ This is also why hedge funds call themselves hedge funds, so as to create an impression they are not speculators trying to profit at the expense of average investors. In fact, it can be difficult to prove with certainty that any particular derivatives trade is not a hedge, because traders are usually clever enough to hypothesize some underlying risk they are supposedly exposed to that the derivative supposedly offsets. Nevertheless, it is clear that by 2008, the market for CDS, for example, was primarily a speculative market.

We know this with mathematical certainty because by 2008, the notional value of the CDS market (that is, the dollar value of the bonds on which CDS bets had been written) had reached \$67 trillion.⁶ At the same time, the total market value of the underlying bonds issued by U.S. companies outstanding was only \$15 trillion.⁷ When the notional value of a derivatives market is more than four times larger than the size of the market for the underlying, it is a mathematical certainty that most derivatives trading is speculation, not hedging. And both economic theory and business history associate speculative markets with serious negative economic consequences.

⁵ In some cases, derivatives traders claim they are “hedging” when in fact they are using derivatives to offset some of the risk associated with taking a speculative position they would not have taken but for the availability of derivatives. This is the equivalent to a racetrack gambler claiming she is “hedging” when, in addition to betting on a horse to win, she also buys a ticket for win-place-show. In other cases, derivatives traders may have mistakenly thought they were hedging because they relied too much on the supposed accuracy of some “risk management” model.

⁶ Bank for International Settlements, *Quarterly Review Statistical Annex* at A103 Table 19 (Amounts Outstanding of Over-The-Counter (OTC) Derivatives) (December 2008)

⁷ Id. at A97, Table 16B (Domestic Debt Securities).

Economic Problems Associated With Excessive Speculation

In particular, when a derivatives market becomes overwhelmed by speculation, we can expect to see several bad things happen. First, we can expect to see asset price bubbles and crashes. In effect, expectations in the speculative market, where derivatives gamblers can make very large bets using very small amounts of money, come to infect prices in the underlying market. An early example of this was the famous Dutch tulip bulb bubble of 1637, in which trading in newly-invented tulip bulb derivatives triggered a sudden increase and equally sudden crash in tulip bulb prices.⁸

Second, excessive speculation adds to systemic risk, because individual speculators lose or gain large amounts of money unexpectedly. The best recent example of this is the case of AIG, where speculation in CDS on the part of AIG traders who believed they could predict the future creditworthiness of corporate borrowers led to large and unexpected derivatives trading losses which threatened AIG's economic health, in turn threatening the health of AIG's trading partners. The result was a "domino effect" that threatened the stability of the banking system.

Third, excessive speculation reduces overall economic performance by draining valuable resources, including valuable human capital, away from more productive uses. Professor Simon Johnson of MIT's Sloan School of Management estimates that between 1973 and 1985, the financial sector of the US economy never earned more than 16 percent of U.S. domestic corporate profit. During the past decade, however, the finance sector took in

⁸ See Peter M. Garber, *Tulipmania*, 97 J. Pol. Econ. 535 (1989).

as much as 41 percent of all corporate profit.⁹ Much of this profit reflects trading gains reaped by hedge funds and proprietary trading divisions of investment banks, which enjoyed these gains at the expense of average investors. Put differently, while derivatives speculation can be very profitable for individual speculators, from a social perspective it is a zero-sum game that consumes valuable social resources while making little or no contribution to social welfare or average investor returns.

Fourth, the opportunity to trade freely in derivatives encourages fraud and price manipulation in the market for the underlying. To see why, assume a derivatives trader can easily buy \$100 million in CDS on a public company with \$20 million in outstanding stock. By spending just over \$10 million to buy a majority of the company's shares, then using its shareholder position to cause the company to pursue strategies that destroy value, the derivatives trader can reap an enormous profit on its \$100 million CDS trade which more than offsets the decline in the value of its \$10 million equity investment.

Regulating Derivatives: The Lessons of Experience

The economic dangers of derivatives first captured public attention in 1994, when Proctor & Gamble Co. announced an unexpected \$157 million dollar loss from speculative trading in interest rate swaps. Of course, Proctor & Gamble's loss was soon followed by much larger derivatives trading losses, including those that led to the collapse of Orange County's pension fund and of Barings Bank in the 1990s; to the near-collapse of Long Term Capital Management in 1998; to Enron's bankruptcy in 2001; and most recently, to the collapse of Bear Stearns and AIG in 2008.

⁹ Simon Johnson, *The Quiet Coup*, The Atlantic (May 2009).

Why did these losses occur? As we have seen, derivatives trading was not new. What was new, however, was that beginning in the early 1990s, trading in financial derivatives was increasingly made free from any sort of regulation. For example, in the 1990s, the CFTC granted a regulatory exemption from the Commodities Exchange Act for certain forms of financial derivatives, especially interest swaps. When the CFTC subsequently attempted to extend its jurisdiction to other types of financial derivatives, it was rebuffed by Congressional passage of the CMFA of 2000. The CMFA not only exempted most OTC financial derivatives from CFTC oversight, it also reversed, for the first time in American legal history, long-standing common law rules limiting their legal enforceability.

The unfortunate results of this deregulation are now obvious. How should lawmakers respond?

History teaches that there are a wide variety of well-developed, sophisticated, time-tested regulatory tools that can be brought to bear on the problem of regulating financial derivatives. These tools can protect the legitimate use of derivatives for hedging purposes, while discouraging excessive speculation. They do not require us either to ban all derivatives trading, or to attempt to subject derivatives markets to the oversight of a centralized, all-powerful regulator tasked with intervening on an ad hoc, discretionary basis. To the contrary, derivatives markets can be successfully regulated through a variety of regulatory requirements that do not prohibit derivatives trading but do subject trading to various reporting requirements, listing requirements, margin requirements, position limits, insurable interest requirements, and limits on enforceability. The obvious prototype for this regulatory approach is the successful regulation of commodities derivatives by the CFTC under the

authority of the CEA. This approach has a number of advantages, including its emphasis on ex ante rules that provide certainty for traders; its reliance on automatic “circuit breakers” rather than agency discretion; and its time-tested success.

When it comes to regulating financial derivatives, there is no need to re-invent the regulatory wheel. The economic problems associated with financial derivatives are neither novel nor unique. They exist in any market prone to speculation. Similarly, the challenges associated with regulating speculation in financial derivatives, including the challenges of protecting legitimate hedging transactions and preventing speculative trading from migrating to other jurisdictions, are not unique. Logic and history suggest they can be successfully addressed by the same sorts of regulatory rules we have employed, to great effect, in other markets prone to excessive speculation.

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