

*Should derivatives be considered unenforceable gambling contracts?*

# Regulate OTC Derivatives by Deregulating Them

BY LYNN A. STOUT

*UCLA School of Law*

**W**hen credit markets froze up in the fall of 2008, many economists pronounced the crisis inexplicable and unforeseeable. Lawyers who specialize in financial regulation, and especially the small cadre who specialize in derivatives regulation, knew better. (Some had even predicted the crisis; see the Readings below.) That's because the roots of the catastrophe lay not in changes in the markets, but changes in the law. In particular, the credit crisis can be traced to Congress's 2000 passage of the Commodity Futures Modernization Act, which radically altered the traditional legal approach to financial derivatives.

This shift in the legal treatment of financial derivatives has brought the banking system to its knees. The leading cause of the credit crisis was widespread uncertainty over insurance giant AIG's trading losses in the new and rapidly growing market for credit default swaps (CDSs), a kind of derivative bet that issuers will not default on their bond obligations. Because AIG was part of an already enormous and poorly understood web of CDS bets and counter-bets among the world's largest banks, investment funds, and insurance companies, when AIG collapsed, many of those firms worried that they too might soon be bankrupt. Only a massive \$180 billion government-funded bailout of AIG prevented the entire system from imploding.

This could have been avoided if we had kept the traditional approach to derivatives regulation.

Wait a minute, some readers might say. What do you

mean, traditional approach to derivatives regulation? Aren't derivatives some new, modern financial "innovation" that has never been regulated?

Well, no. Derivatives have a long history that offers four basic lessons. First, derivatives contracts have been used for centuries, possibly millennia. Second, while derivatives can be useful for hedging, they are also ideal instruments for speculation. Third, excessive speculation is linked with a variety of economic ills, including increased systemic risk when derivatives speculators go bust. Fourth, derivatives speculation traditionally has been "regulated" not through heavy-handed bans on trading, but through a curious but effective rule that protected and enforced derivative contracts used for hedging purposes while declaring purely speculative contracts to be legally unenforceable wagers. This rule of unenforceability encouraged speculators to rely on private ordering and to develop and police their own private markets (exchanges). Exchanges in turn limited systemic risk.

## HISTORY OF DERIVATIVES

Finance economists and Wall Street traders like to surround derivatives with confusing jargon. Nevertheless, the idea behind a derivative contract is quite simple. Derivatives are not really "products" and they are not really "traded." They are simply bets on the future — nothing less and nothing more. Just as you might bet on which horse you expect to win a horserace, you can bet on whether interest rates on bank deposits will rise or fall by entering an interest rate swap contract, or bet on whether a bond issuer will repay its bonds by entering a credit default swap contract.

These sorts of commercial wagers are neither new nor particularly innovative. Although derivatives have gone by many different names, they have been around for centuries.

**Lynn A. Stout** is the Paul Hastings Professor of Corporate and Securities Law at the UCLA School of Law.

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Originally, most commercial derivatives were bets on the future prices of agricultural commodities, like the rice derivatives traded in Japan in the 15th century or the corn and wheat futures traded on the Chicago Mercantile Exchange today. To use the language of derivatives traders, the “underlying” — that is, the thing being bet upon — was the future market price of rice, wheat, or corn.

The first financial derivatives may have been stock options, which were common by the 1800s. The 1990s saw an explosion in other types of derivatives contracts, including bets on interest rates (interest rate swaps), credit ratings (credit default swaps), and even weather derivatives. By 2008, the notional value of the derivatives market — that is, the size of the outstanding bets as measured by the value of the things being bet upon — was estimated at \$600 trillion. This figure amounts to about \$100,000 in derivative bets for every man, woman, and child on the planet.

This sudden development of an enormous market in derivative contracts was not the result of some new idea or innovation. Rather, it was a consequence of dramatic shifts in the legal status of speculative derivatives trading.

#### DERIVATIVES REGULATION

Just as derivatives have been around for centuries, so have different forms of derivatives regulation. In the United States and the United Kingdom, derivatives traditionally were subject to a common-law rule known as the “rule against difference contracts.” As described in the 1884 U.S. Supreme Court case of *Irwin v. Williar*, the rule against difference contracts allowed you to wager on anything you liked, from sporting contests, to wheat prices, to interest rates. But — here is the catch — the rule did require that if you wanted a court to enforce your wager, you had to demonstrate to the judge’s satisfaction that at least one of the parties to the wager either held title to the underlying thing being bet on, or was legally obligated to take title to the underlying. A CDS contract, for example, would only have been enforced if one of the parties actually owned the bonds on which the CDS was written. Similarly, an interest rate swap would only have been enforced to the extent one of the parties was paying or receiving interest on a bond or cash deposit. In other words, the rule against difference contracts required that, in order for a derivative contract to be legally enforceable, one of the parties to the contract had to be using the contract

to hedge against a preexisting economic risk.

This was allowed because wagers can be useful for hedging against risk. For example, if you own a corporate bond and you are worried the issuer might default, you can hedge that risk by entering a CDS contract, essentially betting against the issuer's creditworthiness. If the bond decreases in value, the CDS increases. Similarly, if you own a \$500,000 home, you can hedge the risk your home will burn down by making a bet with a fire insurance company to pay you \$500,000 if the home actually burns. (Most of us call these wagers "insurance," although a Wall Street derivatives dealer might label them "home value swaps.") Using derivatives this way is truly hedging, and it serves a useful social purpose by reducing risk.

But as common-law judges recognized for centuries, derivative bets are also ideally suited for pure speculation. Speculation is the attempt to profit not from producing something, or even from providing investment funds to someone else who is producing something, but from predicting the future better than others predict it. A speculator might, for example, try to make money predicting wildfires by buying fire insurance on houses in Southern California without actually owning the houses themselves. Similarly, a speculator might hope to profit from betting on a company's fate by buying CDSs on the company's bonds without buying the bonds themselves.

Speculation is a zero-sum game where one party's trading gains always mirror the other's trading losses. But at least when a speculator trades with a hedger, the trade reduces the hedger's risk. When a speculator trades with another speculator, however (one speculator thinks prices or interest rates or credit ratings are going up, the other thinks they're going down), speculation increases speculators' risks, much the same way gambling increases gamblers' risks. Highly speculative markets are also historically associated with asset price bubbles, reduced returns, price manipulation schemes, and other economic ills.

Common-law judges accordingly viewed purely speculative contracts with suspicion. Under the rule against difference contracts and its sister doctrine in insurance law, the requirement of "insurable interest," derivative contracts that couldn't be proved to hedge an economic interest for at least one of the parties were deemed nothing more than legally unenforceable wagers.

#### **FROM PRIVATE ORDERING TO PUBLIC ENFORCEMENT**

This didn't mean derivatives couldn't be used to speculate. But the rule against difference contracts forced speculators to think about how to make sure their fellow gamblers paid their bets. The answer was for the speculators to set up private exchanges, like the Chicago Mercantile, with membership requirements, margin requirements, netting requirements, and a host of other rules designed to make sure that, despite the legal invalidity of speculative contracts, speculating traders would make good on their contract promises.

In the process, the private exchanges kept derivatives speculation within reasonable limits and under controlled con-

ditions. This did not stop the government from eventually creating agencies like the Commodities Futures Trading Commission and the Securities and Exchange Commission to regulate trading on particular exchanges. But off the exchanges, the old common-law rule against difference contracts served as the primary check against speculation in "over the counter" (OTC) derivatives.

At least, it kept OTC speculation in check until the rule was dismantled. The dismantling began when the UK passed its Financial Services Act of 1986, "modernizing" its financial laws by making all financial derivatives, whether used for hedging or for speculation, legally enforceable. U.S. regulators, worried that Wall Street banks might lose out on a lucrative new market, followed suit in the 1990s by creating ad hoc regulatory exemptions for particular types of financial derivatives like currency forward contracts and interest rate swaps. The legalization of OTC interest rate swaps was promptly followed by the swaps-fueled bankruptcies of Orange County, Calif., in 1994, Barings Bank in 1995, and hedge fund Long Term Capital Management (LTCM) in 1999. Nevertheless, despite these object lessons, the U.S. Congress embraced wholesale legalization of OTC financial derivatives in 2000 with the Commodities Futures Modernization Act.

The 2000 act declared financial derivatives exempt from CFTC or SEC oversight. But it also declared all financial derivatives legally enforceable. The act thus eliminated, in one fell swoop, a legal hurdle to OTC derivatives speculation that dated back not just decades but centuries. It was this change in the law — not some flash of genius on Wall Street — that created today's \$600 trillion derivatives market.

#### **SPECULATION AND SYSTEMIC RISK**

The results have proven unfortunate, to say the least. Yet it's surprising the newly unleashed OTC derivatives market didn't lead to economic disaster even sooner. Well before AIG, derivatives speculation had already led to the collapse not only of Orange County, Barings Bank, and LTCM in the 1990s, but also to Enron's 2001 bankruptcy and to the implosion of investment bank Bear Stearns in 2008, a few months before AIG's fall.

These examples illustrate why it is essential for policymakers thinking about how derivatives affect systemic risk to distinguish (as common-law judges did) between the use of derivatives contracts for hedging and their use for pure speculation. Hedging provides a social benefit by reducing the hedging party's risk. But when speculators trade with other speculators, they increase their risks, just as gamblers increase their risks by betting with other gamblers. Unchecked derivatives speculation thus adds risk to the system by making it possible for individual speculators like AIG (and Orange County, Barings, LTCM, Enron, and Bear Stearns) to lose very large amounts of money very unexpectedly.

But wait, some readers might say. Couldn't AIG have been an unusual case, a rogue insurance company that succumbed to speculative fever? Isn't it possible most financial derivatives users wisely confine their derivatives deals to true hedging?

Given the stigma attached to speculation, it is not sur-

prising that most parties to derivatives contracts claim, at least in public, that they use derivatives for hedging and not for speculation. In some cases this seems a rather transparent attempt at deception. (Hedge funds, for example, are really speculation funds, as it is quite clear they are in the business of trying to reap profits at other traders' expense.) Perhaps more often, derivatives traders incorrectly describe themselves as "hedging" when they are really "hedging a bet" and using derivatives to offset some of the risk associated with taking a speculative position. This is much the same as the race-track gambler who claims she is "hedging" when, in addition

experiment. It is almost as if Congress said to itself, "Let's see what happens if we suddenly removed centuries of law!" Now we know what happens. The experiment has not turned out well.

What to do? The answer seems obvious: go back to what worked well before. By refusing to devote public resources to enforcing an OTC derivatives contract unless at least one of the parties to the contract either owned or was legally obligated to take ownership of the asset underlying the contract, the common-law rule against difference contracts created an elegant legal sieve to separate socially useful hedging contracts from risk-increasing, purely speculative wagers. Courts

## The rule against difference contracts created a sieve to separate socially useful hedging contracts from risk-increasing, purely speculative wagers.

to betting on a particular horse to win, she also buys a ticket for the horse to show.

Despite all the hedging talk, the data suggest speculation drives the OTC derivatives markets. For example, we know the CDS market was dominated by speculation in 2008. We know this because by the end of that year, the notional value of the CDS market had reached \$67 trillion, according to the Bank for International Settlements (BIS). At the same time, the total market value of all the underlying bonds issued by U.S. companies outstanding was only \$15 trillion, according to the BIS. When the notional value of a derivatives market is more than four times larger than the market for the underlying, it is a mathematical certainty that most derivatives trading is speculation, not hedging. And business history — including very recent history — shows derivatives speculation increases systemic risk.

It is possible, of course, that derivatives speculators provide other benefits to the market to offset the social cost of this increased systemic risk. Although from a returns perspective speculation is a zero-sum game — one trader's gain necessarily comes at another trader's expense, just as gamblers can only make money by taking money away from other gamblers — economists sometimes claim that speculators add useful liquidity to markets or that speculation can improve the accuracy of market prices. The derivatives industry routinely repeats this mantra. Yet there is virtually no empirical evidence to establish the value of the supposed liquidity and "price discovery" benefits from derivatives speculation, much less evidence that shows the value of those benefits exceeds the enormous social cost of the systemic risk created by derivatives speculation. Taxpayers have spent nearly \$180 billion on the AIG bailout alone.

### WHAT TO DO?

Although few observers appreciated it at the time, the sudden legalization of OTC financial derivatives was a novel legislative

and parties had little difficulty distinguishing the two categories, just as today courts still only enforce, and insurance companies still only write, insurance policies for parties who have an insurable interest.

The rule against difference contracts thus operated as a no-cost, hands-off system of OTC derivatives regulation. (There is no cheaper form of government intervention than refusing to intervene at all, even to enforce a deal.) This "regulation by deregulation" did not stop speculators from using derivatives. But it did require speculators to be much more careful about their counterparties and to avoid derivatives deals with counterparties they thought might come to regret — and try to avoid performing — their part of the bargain. It also encouraged derivatives speculators to organize private exchanges where speculation could take place in an environment where traders were well-capitalized and knew who was trading what, with whom, when. This approach kept runaway speculation from adding intolerable risk to the financial system. And it did not cost a penny of taxpayer money.

During the roaring 1990s, when financial derivatives were being widely applauded as risk-reducing, highly efficient (and, for Wall Street, highly profitable) financial "innovations," the old rule against difference contracts had little appeal. Maybe it has more now. **R**

### Readings

- "Betting the Bank: How Derivatives Trading Under Conditions of Uncertainty Can Increase Risks and Erode Returns in Financial Markets," by Lynn A. Stout. *Journal of Corporate Law*, Vol. 21 (1995).
- "Irrational Expectations," by Lynn A. Stout. *Legal Theory*, Vol. 3 (1997).
- "Prophet and Loss," by Rick Schmitt. *Stanford Magazine*, March/April 2009.
- "Why The Law Hates Speculators: Regulation and Private Ordering in the Market for OTC Derivatives," by Lynn A. Stout. *Duke Law Journal*, Vol. 48 (1999).



with little capital and the structured products, such as CDOs, had very slim equity buffers built into them. No wonder so few companies could withstand the negative shocks to the housing market.

**INSURANCE** Many of the CDOs based on mortgages were backed by insurance companies like AIG. To avoid holding more capital and the scrutiny of regulators, AIG preferred to call these products “derivatives” rather than “insurance.” All insurance is a form of gambling — if your car is totaled in an accident, your insurance company has just lost a bet that you would drive accident-free for six months. Unlike its auto insurance business, AIG underwrote the risk in its CDS contracts without having sufficient capital — it did not have the capital to underwrite \$400 billion in CDS contracts.

As the expected payouts on the CDS increased, AIG’s ratings declined and its counterparties demanded more collateral. To offset the losses, AIG should have raised more capital in order to continue what it considered a profitable line of under-

writing. The fact that it did not get additional capital suggests that either the capital markets disagreed on the future profitability of the CDS line or AIG preferred to bet on the assistance of the federal government to keep it afloat.

All of finance is a bet. Buying a stock is making a bet that the company will be profitable over the long haul; buying a long-term Treasury bond involves a bet that inflation will not rise unexpectedly; taking a lump-sum payout on a pension instead of an annual check is a bet on one’s longevity. It would be difficult to write laws that prevent firms from making bets of any kind, so what is the point of singling out the derivatives market as the only bad type of gambling? A far more sensible approach would be to require that all “homeowners” put down some money when they get a mortgage, all investment banks keep a reasonable amount of capital before they start trading securities, and government-sponsored companies such as Fannie and Freddie rely more on their own capital stock than the credit of the U.S. Treasury. **R**

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# Comment

BY PETER WALLISON  
*American Enterprise Institute*

**T**he idea that credit default swaps (CDSs) brought “the banking system to its knees”—the fundamental premise of Lynn Stout’s article — is one of the great urban myths spawned by the financial crisis. Originally developed by reporters searching for a plausible explanation for the bailout of Bear Stearns and AIG, the idea has nearly become a legend — so deeply embedded in the public consciousness that even law professors have fallen for it. Not only is there no evidence for this proposition, there is not even a sound theory that explains how CDSs could have the dire effects attributed to them. Indeed, the power of the myth is so great that the most obvious counter-evidence is completely ignored: all through the financial crisis the CDS market has continued to function effectively, even though the principal players are the very banks that have supposedly been brought “to their knees.”

The giant insurance holding company AIG is the poster child for the purported destructiveness of CDSs. According to the conventional narrative, the Fed had to step in and rescue AIG because its failure to meet its CDS obligations would have caused a systemic breakdown. However, a review of how CDSs operate shows that AIG’s failure to meet its CDS obligations could not have had a systemic effect. If the Fed’s bailout of AIG was in fact based on a fear that its CDSs were a threat to the financial system, it was a blunder.

**Peter J. Wallison** is the Arthur F. Burns Fellow in Financial Policy Studies at the American Enterprise Institute.

**BUYING PROTECTION** Despite the fancy name, CDSs are simply reimbursement or guarantee agreements, much closer to a bank’s letter of credit than to insurance contracts. A simple example of how they work involves three parties. (In this hypothetical, I am not including intermediary dealers, to be discussed later.) Let us assume that *A* has made a \$10 million loan to *B*. *A* is now exposed to *B* (which in CDS jargon is called the “reference entity”). Let us further assume that *A* wants to hedge that risk. Through a CDS, it can buy “protection” from *C*, ensuring itself against the possibility that *B* might default. In this basic CDS transaction, *A* agrees to pay a fee (known as a premium) to *C* over a predetermined period of years, and *C* promises to pay *A* an agreed sum (the “notional amount,” which could be the \$10 million or less) if *B* defaults during the contract period.

Suppose that this arrangement continues for a few years, until *C* suddenly goes bankrupt. *C*’s bankruptcy means that *A* has lost its protection against *B*’s default. But what else has it lost? It is now once again exposed to the risk of *B*, but in our hypothetical, *B* hasn’t defaulted. In this sense, *A* has not suffered a loss. If *A* still wants protection against *B*’s default, *A* must go back into the market and contract with a new CDS counterparty.

Now let us enlarge the numbers to some hundreds of billions of dollars, the aggregate amount of protection written by one of AIG’s subsidiaries (with AIG’s guarantee). What would have happened if AIG had been allowed to default? As the *A-B-C* hypothetical above suggests, there would have been no loss to any of AIG’s counterparties unless one or more of the reference entities (the issuers, like *B*, of the debt that was protected by a CDS) had defaulted before AIG’s default. However, as far as we now know, there were no widespread defaults anywhere in the world financial system before or after AIG defaulted, so AIG’s default would not have resulted in its counterparties suffering any systemically significant losses.

Of course, things are not as simple as this hypothetical. As

we will discuss further below, the CDS market is a real market, and in that market the cost of protection goes up and down daily as protection is bought and sold. Accordingly, if AIG had been allowed to fail, its counterparties might still have suffered some losses if the cost of buying new protection had risen between the time they had bought the protection initially from AIG and the time they were required to go out and buy new protection because of AIG's default. The CDS market has conventions to cover this possibility. Most CDS contracts require the party that has the principal obligation in any swap (in many cases this is the party that has sold protection — *C* in our example above) to post collateral. And even if AIG did not have collateral, AIG's counterparties would only have suffered the loss associated with paying a higher rate for CDS coverage. Those losses could not have caused a systemic breakdown.

That AIG's failure would not have caused massive losses was demonstrated in mid-March of this year, when it was revealed that Goldman Sachs was the largest AIG counterparty, with total AIG protection of \$12.9 billion. When the media went to Goldman to ask how large its losses would have been if AIG had been allowed to fail, they were told that the losses would have been "negligible." Consistent with the analysis above, Goldman had received collateral from AIG and had also bought CDS protection against AIG's potential default. So it is very probable that if AIG had been allowed to fail, there would not have been any systemic effect, let alone an event that would have "brought the banking system to its knees."

**SPECULATION** Another problematic assumption in Professor Stout's article is that it is possible to have hedging without speculation. She differentiates between hedging, which she says is good, and speculation, which she equates with gambling, and which is supposed to be bad or dangerous. In terms of the CDS market, by "speculation" she means what are commonly known as "naked CDSs" — CDSs in which neither counterparty has any interest in the debt of the reference entity. These transactions, she believes, should be restrained by adopting an old common law rule that permitted derivative contracts be enforced only if at least one party to the contract has an economic interest in the commodity involved. In CDS terms, that would be an economic interest in a debt issued by the reference entity. However, given its likely effect on a hedging market, we can see why that rule was abandoned — and it was not because London was looking for more derivative transactions as Stout suggests. Rather, it is very unlikely that a hedging market could work without speculation.

Assume that an airline wants to hedge against an increase in fuel prices. It goes into the market looking for a counterparty. Further, assume there are no other airlines or aviation fuel users that are willing to take the other side of the contract because all believe that prices are indeed going up in the future and they are all in the business of flying airplanes, not profiting from speculating on fuel prices. However, there are parties — say, hedge funds — who, for a fee, will take the other side of the contract. So the airline pays a hedge fund a fee to supply fuel at a stated price three months hence. The

hedge fund is speculating, but the contract is one in which at least one party has an economic interest in the fuel, so it would be enforceable under Stout's common law.

However, suppose the hedge fund becomes concerned about the contract's risk and it wants to hedge against possible losses. Currently it can go into the market and find a counterparty that, for a fee, will take on the obligation to furnish the fuel at the price agreed with the airline. Of course, no airline would want to be a counterparty (as they are trying to hedge against high fuel costs), but another hedge fund may be willing to take the risk in return for an adequate fee. Notice that the contract between the first and second hedge funds would be a contract between parties that have no real economic interest in the price of the fuel. Both are, in Stout's sense, speculating. If I understand her proposal correctly, this contract would not be enforceable at common law. The inability of the hedge fund to limit (or hedge) its risk would of course reduce the likelihood that a hedge fund or any other financial participant would be willing to contract with an airline in the first place, and thus would mean greater fuel risk for airlines generally. Under these circumstances, it is obvious that airlines' desire to hedge will be impaired or eliminated by the absence of speculators in the market. For that reason, it makes a lot of sense to abandon the common law rule that Stout would now reinstate.

**PRICE DISCOVERY** But there is an even broader question here. Could the CDS market perform its function without speculators — that is, without buyers or sellers with no interest in the underlying asset? As Professor Stout notes, economists believe that markets function best when there is liquidity. The more trading that is concentrated in a market, the narrower the spreads between bids and asks and the more efficiently the market performs what is known as "price discovery" — in which market participants, through buying and selling, establish a consensus price at a given moment in time for an asset or a risk. What this means is that naked CDSs — trading by parties who have no direct financial interest in the reference entity — perform a valuable economic function by adding liquidity to the market and advancing the process of price discovery.

Stout disputes this, saying that "there is virtually no empirical evidence to establish the value of the supposed liquidity and 'price discovery' benefits from derivatives speculation." With respect, this is an absurd statement; it is like saying that there is no empirical evidence that prices are affected by supply and demand or that the sun causes plants to grow. No one is going to spend time assembling empirical evidence on something that is obviously true.

To understand the role speculation performs in the CDS market, consider a hedge fund (which we will call *D*) that believes firm *B* — the same firm in our earlier hypothetical — is actually a greater credit risk than was implied by the fee that *A* is paying to *C*. *D* is speculating that it can profit if *B*'s credit weakens, just as a short-seller in the equity market can profit from a decline in a stock price. Although left out of our previous discussion to simplify the hypotheticals, the CDS

market is a dealer market, which means it is conducted by dealers “over the counter” instead of on exchanges. So *D* contacts a dealer and says it wants to buy protection on *B*. *D*’s profit will come from paying less for protection than the market will be demanding if *B*’s credit condition weakens.

Pursuing *D*’s request, the dealer then attempts to determine what it will cost to buy protection on *B*, because the dealer will be an intermediary between *D* and the ultimate seller of protection. In other words, the dealer will sell protection to *D* and buy protection from *E* as a hedge. In general, dealers are always hedged; they try to maintain what is called a “matched book.” Dealers earn their profit on the difference between what *D* is willing to pay for protection against *B*’s default and what the dealer has to pay to *E* to hedge the risk. The fact that someone is buying protection against *B*’s default causes the price (known as the spread) to rise in accordance with supply and

trillion in outstanding U.S. corporate bonds. I have no doubt that speculation is a major element of the CDS market, but this ratio is not an effective measure of the extent of that speculation, for a couple of reasons:

First, the bonds of U.S. companies are not the only credits covered by the global CDS market. There are foreign corporate bonds, foreign government bonds, U.S. municipal and state bonds, and a myriad of other credits also covered. Second and more important, the \$67 trillion notional amount has no relationship to the amount of securities actually covered. That is because each separate CDS contract was counted, even though many contracts covered the same reference entity. Thus, if we return to our first example and add an intermediate dealer between *A* and *C*, a \$10 million exposure between *A*, the lender, and *B*, the borrower, would produce \$20 million in notional value. To get its CDS pro-

## Without speculators, there might not be a CDS market at all, and firms would be deprived of an important risk-management tool.

demand. The opposite would be true, and the spread on *B*’s CDS would decline, if *D* had believed that *B*’s financial condition would strengthen, and had gone into the market to offer protection on *B*. In the fall and winter of 2008, there were over 70 references to CDS spreads in the press, including a reference by a Treasury official in congressional testimony. The fact that spreads were declining was taken as an indication that the market was settling down. This was true of spreads as a whole and spreads on individual credits. In other words, CDS spreads were thought to reflect real market judgments on credit quality and effective price discovery.

None of this would be true if market participants were not allowed to speculate — as Stout defines it — on whether reference entities were weakening or strengthening. If Stout’s proposal were to be adopted and the only transactions that would be enforced by law would be those involving some party that has an interest in the underlying asset, then there would be less information in the market, spreads would less reflect broad market judgments, and the costs of protection would inevitably be higher. Indeed, as shown by our aviation fuel example, without speculators and speculation there might not be a CDS market at all, and companies would be deprived of an important risk-management tool that allows them to shed or hedge their credit risk and diversify their credit exposures.

**SYSTEMIC RISK** Finally, there is Professor Stout’s assumption that speculation in CDSs creates systemic risk. As evidence, she points to the notional value of the CDS market in 2008, which at \$67 trillion was more than four times the \$15

trillion, *A* entered a CDS with a dealer and the dealer entered a CDS with *C*, each for the \$10 million notional amount. That would count as \$20 million in notional value, even though the amount at risk is only \$10 million. If *B* weakens and *A* “sells” its favorable coverage by selling protection on *B* in order to realize a profit, that would add another \$20 million, creating a total notional amount of \$40 million, four times larger than the actual exposure of \$10 million. And all those transactions would involve *A*, which actually holds *B*’s debt and is not a speculator. Finally, the Depository Trust and Clearing Corporation maintains what it calls a “trade information warehouse” for CDSs that reports both the gross and net exposure in the CDS market. In a recent report, the gross exposure (the total notional amount of CDSs outstanding) on the top 1,000 reference entities was \$15.3 trillion, while the net exposure (eliminating the double, triple, and quadruple counting described above) was \$1.4 trillion, less than 10 percent.

All of this shows that big notional amount numbers do not always add up to systemic risk. No matter how many CDSs are outstanding on a debt instrument issued by a particular reference entity, there is only one actual potential loss. That occurs in our hypothetical when *B* defaults on the note it had issued to *A*. At that point, *A* (which is still holding *B*’s defaulted note) recovers from the dealer who originally sold the protection to *A*, and the dealer in turn recovers from *C*, the party with which it had hedged its obligation to *A*. If *A* had previously sold its favorable position by writing protection for more than it was paying to *C*, *A* has to pay its counterparty. In all those payments there are winners and losers, but for



every loser there is a winner, with no net increase in total risk. All the speculators net out in the same way.

The only actual loss is caused by *B*'s default — a \$10 million loss, less whatever can be collected on the debt in bankruptcy. From this it is apparent that the size of the notional amount outstanding is irrelevant — it is not in any sense a reflection of the actual losses involved for the market as a whole. As noted

at the outset of this comment, the only time systemic risk could arise out of CDS transactions is when a large number of reference entities default, triggering defaults by companies like AIG that had written protection on them. The prerequisite for a large number of reference entity defaults makes it highly unlikely that systemic risk could arise out of the default by a big player — even one as big as AIG — in the CDS market. **R**

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# Comment

BY CRAIG PIRRONG

University of Houston

Lynn Stout offers a financial-legal just-so story to explain the origin of the financial crisis. The story pins the blame for the crisis squarely on financial derivatives such as credit default swaps (CDSs). It goes something like this:

In a previous era, wise judges recognized that speculation using derivatives like futures contracts is a bad thing. So they attempted to keep it in check by requiring that one party to every contract have a legitimate interest in the underlying commodity or security; that at least one party was a hedger, in other words. The wise judges would not enforce contracts in which neither party was a hedger; they deemed such contracts as mere bets not worthy of enforcement. (I'm not sure this is an accurate characterization of the law, but rather than dispute the arcana of 19th century derivatives law, I will assume that Professor Stout is correct.) This wisdom kept speculation in check and protected the world against various economic ills, including asset bubbles and systemic risk.

Confronted with the refusal of wise judges to enforce their bets, speculators formed exchanges that enforced contracts privately, but which also kept speculation "in check under controlled conditions." Then wise governments fenced in speculation with additional regulations.

But then this wisdom was lost. In 1986, Britain made all derivatives contracts legally enforceable. Worse, in 2000, a benighted Congress passed the Commodity Futures Modernization Act, removed regulatory oversight from derivatives, and made all derivatives trades — speculative or not — legally enforceable. "In one fell swoop," this legal change created a \$600 trillion financial derivatives market.

And the change in the law begat CDSs. And CDSs begat rampant speculation. And the rampant speculation begat the current financial crisis, culminating in the implosion of insurance giant AIG, which necessitated a massive government bailout to save the financial system.

To prevent a recurrence of such a disaster, Stout wants us to return to the wisdom of the ages and follow the rule of the

wise judges: remove legal protection from speculative contracts. This would make speculators more prudent, more careful about their counterparties, and more reliant on organized exchanges to keep speculation in check, thereby preventing rampant speculation in derivatives from threatening the financial system.

Just-so.

Except it's wrong — on the facts, on the history, and on the economics.

**COUNTERPARTIES** Let us start at the end of the story, and focus on AIG. It seems that virtually all arguments that attempt to pin responsibility for the financial crisis on derivatives begin and end with AIG. As a result, *arguendo ad AIG* has become the financial crisis equivalent of *arguendo ad Hitlerum*; a conversation-stopper that appeals to emotion and bears only a tenuous relation, if any, to the real facts. Indeed, ironically Stout's proposed solution would not have made a dime's worth of difference — let alone \$180 billion worth — in the AIG case.

It is true that AIG lost huge amounts of money on CDSs tied to AAA-rated securities that had claims on cash flows from mortgages, including subprime and Alt-A mortgages. But the counterparties to the vast bulk of these trades were large banks or investment banks that were hedging their holdings of these securities. Thus, even under Stout's "wise judge" rule, the AIG contracts would not have been deemed unenforceable speculative wagers.

But that's law, not economics, and *arguendo ad AIG* is also wrong on the economics. If AIG had not entered into derivatives trades with Goldman Sachs, Merrill Lynch, and others, banks would have been more exposed to the prices of the hedged securities, and hence to real estate prices. If they had not hedged with AIG, they would have borne the losses that AIG suffered instead. Fed chairman Ben Bernanke and former Treasury secretary Henry Paulson, who engineered the AIG bailout, have said they did so because if AIG did not perform on its derivatives contracts, its bank counterparties would have failed, leading to an implosion of the financial system. Thus, given the securities the Goldmans and Merrills had bought, if there had not been an AIG, there still would have been a bailout; but instead of bailing out these firms indirectly via AIG, Bernanke and Paulson would have felt compelled to bail them out directly. Indeed, the commitment of taxpayer money would have been even larger because AIG's shareholders ate billions in losses before the government stepped in with billions more. Contrary to the conventional wisdom, it is more likely that AIG's derivatives trades mitigated the impact of the financial crisis.

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**Craig Pirrong** is professor of finance and director of energy markets for the Global Energy Management Institute in the Bauer College of Business at the University of Houston.

This points out an important aspect of derivatives. They are primarily used to shift risk around between consenting adults. The risk that AIG took on would not have gone away if it, like George Bailey in *It's a Wonderful Life*, had never been born. It would have been on somebody else's books. Only to the extent that AIG's willingness to take on mortgage security-related risk resulted in an increase in the amount of these securities created, and the amount owned by the leveraged financial sector, could its speculation be deemed to have increased the amount of the risk in the financial system. There is no doubt that AIG's existence resulted in some increase in issuance and bank holdings, but given that other factors — housing and mortgage regulation, expansive monetary policy, and favorable capital treatment — were also driving the growth in subprime and Alt-A,

exposures. Major shocks arising from outside the derivatives market — notably, an effective default on Russian government bonds — roiled the financial market, imposing unsustainable losses on LTCM that threatened its ability to pay its financial institution counterparties. But absent LTCM, some of the effects of these shocks would have hit the banks directly, rather than through their connection with the hedge fund. The contribution of derivatives alone to the risk in the financial system in this instance, as in the AIG case, cannot be measured only by LTCM's losses.

In brief: In the AIG case and the 2008 financial crisis in particular, and more generally historically, the systemic consequences of derivatives speculation are far less worrisome than Stout suggests. What is more, she commits the

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**The risk that AIG took on would not have gone away, even if the insurer had never existed. Instead, the loss would have been on somebody else's books.**

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and the tremendous appetite of banks for them, it is impossible to lay primary responsibility at AIG's doorstep.

**SYSTEMIC RISK** Some of the other examples that Professor Stout uses to illustrate the evils of speculation are equally unhelpful of her main point. Enron was a big derivatives trader, but it made money from that trading; its downfall resulted from mistaken investments in things like broadband, the Dabhol power project in India, and its Azurix water venture, as well as the leveraging of its stock through off-balance sheet entities, and widespread accounting fraud to cover those blunders. The fall of Bear Stearns was caused primarily by its exposure to subprime securities rather than CDSs — yet another illustration of the voracious appetite of leveraged financial institutions for these securities.

And even those cases in which speculation in derivatives was arguably the primary cause of a firm's failure — such as with Barings in 1995 — the proper response is “So?” The failure of a large speculator like Barings, or Metallgesellschaft in 1993, or the Hunts in 1980, or many others before them, mainly results in the transfer of wealth from one group of people to another. Derivatives are a zero sum game; the speculator's big loss is somebody else's gain. You take the risk, you bear the loss. Only to the extent that the failure leads to a systemic problem is there a proper regulatory concern.

The instances in which that condition holds — and the 1998 collapse and ultimate folding of Long Term Capital Management (LTCM) is probably the best example — are a small subset of the set of spectacular speculative implosions. And even in those cases, many of the same issues raised by the AIG example are present. LTCM, for instance, took on risk from major financial institutions, some of whom were hedging their

common error of focusing on the seen, and ignoring the unseen. Given that derivatives speculators frequently take on risk from hedgers, constraining speculation would either force the would-be hedgers to bear the risk themselves or scale back their businesses because they could not afford to bear the risk themselves.

In the first case, losses that would otherwise have fallen on the speculators who would have willingly borne them, instead falls on the would-be hedgers. This could lead to a systemic problem; indeed, since the speculators' willingness to bear the risk indicates that it is less costly to them than the hedger, it is likely that the dislocation arising from the loss, and hence the possibility for systemic fallout, would be greater without the speculator than with him.

To put it another way, the failure of an insurance company (which effectively speculates on risks) resulting from an earthquake does not provide a justification for banning insurance. The homeowners receive some compensation for their loss even if their insurer fails, and are less able to bear their losses than the insurance company and its investors. Some protection is better than none. The systemic consequence of an insurance company failure would almost certainly be less than the financial ruin of uninsured homeowners and businesses.

In the second case, valuable investment opportunities that would have been viable if some risks could be allocated more efficiently to speculators via derivatives markets are forgone. To reprise the insurance example: absent the opportunity to insure risks, fewer houses would be built and fewer businesses created. This is an unseen cost of restricting speculation, but a real cost nonetheless. In other words, a full analysis of the effects of the wise judge rule would require an inquiry into the equilibrium effects of its implementation. This Stout does not do.

**THICK MARKETS** Professor Stout might argue that the wise judge rule would allow speculators to absorb risk from hedgers. But as a practical matter, it is impossible to design a market in which speculators exist and always trade with hedgers and never with each other. This is especially true for the kind of derivatives market that Stout advocates: exchanges. Exchanges facilitate anonymous exchange and operate continuous markets. Those features would make it impossible for traders to ascertain the motives of their counterparties before each trade. Moreover, even when one knows his counterparty, it is far harder to know his motives for a particular trade. For instance, British Petroleum is an oil producer that trades derivatives. Sure, some of its trades are hedges of its physical market commitments, but BP is also known to engage in speculative trading. Just how would it be possible for a wise judge to untangle BP's motives in a particular trade to determine whether that deal is deserving of third party enforcement? And if judges adopt some crude proxy for hedging, such as a presence in the physical market, it will merely provide an impetus to physical market participants to play speculator.

Indeed, in the exchange-traded markets that Stout favors, the wise judge rule is highly problematic. Derivatives exchanges use centralized clearing, which substitutes a clearinghouse as the buyer to every seller and the seller to every buyer. Thus, no individual traders, regardless of their trading motive, are in a contractual connection. Indeed, it is interesting to note that one common historical objection to the adoption of clearing on some derivatives markets, like the Chicago Board of Trade, was that it would run afoul of the wise judge rule and render cleared futures trades legally unenforceable.

The subject of exchanges provides another illustration of the historical inadequacies of Stout's story. In her telling, exchanges constrain speculation. That would be news to generations of populists who demonized exchanges as gambling dens. Moreover, some of the biggest speculative failures — including Barings, Metallgesellschaft, and the Hunts — took place primarily on exchanges. Thinking that trading on exchanges will constrain speculation is contrary to centuries of history.

**EXTENT OF SPECULATION** There are numerous other inadequacies with Stout's analysis. A telling example is her use of data on derivatives market activity to support her claim that "we know the CDS market was dominated by speculation in 2008." She notes that Bank of International Settlements (BIS) statistics show that the total amount of CDSs outstanding as of December of that year was \$67 trillion dollars, far larger than the \$15 trillion in U.S. corporate bonds outstanding. She then claims that those numbers prove that speculative activity swamps hedging because the \$15 trillion of corporates could support at most \$15 trillion of CDSs as hedges.

This is wrong in many ways. First, Stout double counts. The BIS table that she cites reports total CDS notional value at the end of 2008 as \$41.9 trillion, not \$67 trillion. She apparently adds \$25 trillion of single-name CDSs to the \$41.9 trillion figure to get her \$67 trillion, but the \$25 trillion single-name CDSs are already in the total. Second, BIS data are global in scope,

but Stout compares BIS CDS figures to U.S. debts only. Third, some CDSs are issued on sovereign debt, but Stout looks only at private debt. Fourth, and most importantly, the notional values that she relies upon have well known deficiencies. In particular, there is considerable double counting because the same firm may buy and sell the same derivative; this is particularly true for the big dealer banks that dominate CDS trading. The firm's net position (buys minus sells) determines its overall risk exposure, but the gross figures that Stout relies upon do not net out these offsetting exposures, thereby overstating any speculative position. Fifth, Professor Stout does not recognize that firms use CDSs to hedge credit exposures other than those arising from bonds and loans. For instance, banks use CDSs to hedge derivatives counterparty exposure.

Stout's focus on derivatives as the primary source of inefficient speculation is also highly misplaced. She bewails the bubbles that speculation allegedly causes, but derivatives played almost no role in the two most likely bubble candidates of the recent past: the housing bubble of the 2000s and the NASDAQ bubble of the 1990s. Moreover, experimental research suggests that the existence of derivatives markets makes bubbles less likely to form, not more. Thus, ironically, constraining derivatives could encourage bubbles.

There is also the issue of the role of speculation more generally. Speculation in financial markets serves to shift risk among consenting adults from those who bear it at a high cost to those who bear it at a lower cost. It is simplistic to treat speculation as a vice and hedging as a virtue. Hedging and speculation are highly symbiotic. Speculators make hedging possible, and cheaper. Derivative instruments, even CDSs, are an efficient means to improve the allocation of risk, leading to benefits that are, alas, largely of the unseen variety.

To be sure, there are reasons to believe that some speculative activity is inefficient and that an omniscient and benevolent planner would proscribe some speculative trades while allowing others. The problem is that Stout's wise judge rule would not be so discriminating; even the wisest of judges is not omniscient. It would fall on efficient and inefficient speculative trades alike, and preclude some privately and socially beneficial transfers of risk while allowing some dubious ones to proceed.

**CONCLUSION** In sum, Stout's brief against derivative speculation is wrong on the economics, wrong on the facts, wrong on the data, wrong on the history, and wrong on the remedies. She has not proven her case that derivatives speculation is excessive or that this excessive speculation was a primary cause of the ongoing financial crisis. Moreover, her meat cleaver approach to constraining speculation would fall indiscriminately on efficient and inefficient speculation (to the extent the latter occurs) — and hedgers will be harmed in the bargain.

As a legal scholar, it is understandable that Professor Stout pays deference to wise judges past. In this case, however, the wise judges are not the best guide to economic policy. Restoring their treatment of derivatives speculation would interfere with the efficient allocation of risk and inhibit economic prosperity. If you want to look for culprits in the financial crisis, your time would be better spent than focusing on the derivatives markets. **R**

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# Response

BY LYNN A. STOUT

UCLA School of Law

In my paper, I proposed that we consider “regulating” the over-the-counter (OTC) derivatives market the same way the common law did: by refusing to enforce an OTC derivative contract unless one of the parties to the contract is truly using it for hedging (insurance) rather than for speculation. In their responses, Jean Helwege, Peter Wallison, and Craig Pirrong each object to this idea for a variety of reasons. Their objections, however, can be boiled down to two basic complaints:

- It is impossible as a practical matter to distinguish speculation from hedging.
- Speculation is either not harmful or is an affirmatively beneficial activity, and should thus not be restrained.

**HEDGERS VS. SPECULATORS** Any lawyer familiar with the basic principles of insurance law will recognize the first objection as groundless. In the insurance industry, both courts and insurance companies have been distinguishing between the use of insurance contracts for hedging and their use for speculation for centuries. One does not have to be a particularly “wise judge” (to use Craig Pirrong’s phrase) to recognize that when someone buys insurance on a home he does not own, the insurance is being used to make a speculative bet rather than to hedge. Similarly, one does not have to be a particularly wise judge to recognize the difference between a “naked” credit default swap and a credit default swap where one of the parties actually owns the underlying bond that might default.

More importantly, the genius of the common law was that it did not really put the burden on judges to distinguish hedging from speculation — it put the burden on the parties themselves. It is not judges but insurance companies that take the lead in investigating their contract counterparties to make sure that someone seeking to buy an insurance contract actually has an “insurable interest.” Similarly, the common law rule puts the burden on OTC derivatives traders to make sure that at least one of the parties to a contract has an “insurable interest” in the underlying. Because both parties want the transaction to take place, they have every reason to cooperate with each other and exchange the information necessary to assure themselves the contract is a legally enforceable hedge.

**PROTECTION?** The second objection to the common law rule — that there is no reason to disfavor purely speculative trans-

actions because speculation is either harmless or affirmatively beneficial — involves a leap of faith that defies both logic and experience. This is because the objection assumes, without empirical evidence, that most buyers of credit default swaps (CDSs) are, as Peter Wallison puts it, “buying protection.” In other words, it assumes the vast majority of OTC derivatives contracts involve a hedger on one side of the contract and a speculator on the other.

Yet there is no logical reason to assume speculators always trade with hedgers, never with other speculators. Quite the contrary. If John thinks that a company’s credit rating is going to rise and Mary thinks the rating is going to fall, it is only logical for both to believe they can make money trading CDSs with each other. One of them inevitably will be proven wrong. This reality is the key to understanding why purely speculative trading is troubling from a social welfare perspective. Unlike the typical market transactions praised by Adam Smith, which leave both parties better off, purely speculative trades by definition leave one party a winner and the other a loser. Meanwhile, both have been exposed to risk they weren’t exposed to before. John will lose if ratings fall; Mary will lose if they rise. But for the swap, neither would be at risk of losing anything.

Accordingly, reason itself suggests that markets dominated by speculators can contribute to systemic risk. If we want evidence, we need look no further than recent business history. AIG and Goldman Sachs both took on risk when they traded CDSs on bonds that neither actually owned. When credit ratings fell, Goldman Sachs won big while AIG lost big. This would not be a problem if no one else were involved — but U.S. taxpayers did become involved, to the tune of \$180 billion.

In other words, we know that unrestrained speculation in OTC derivatives can contribute to systemic risk *because that is exactly what it did*. Rather than repeating our recent unpleasant economic experience, we would be wise to learn from it.

As Jean Helwege points out, there are many ways governments can keep speculators from overwhelming a market, for example by imposing margin requirements, raising minimum capital requirements, or avoiding loose monetary policy that gives would-be gamblers too easy credit. But why assume only government can do the job?

History teaches that there are private options available. By making purely speculative derivatives contracts legally unenforceable, the common law encouraged would-be speculators to organize their own private exchanges. In turn, the exchanges imposed membership requirements, margin requirements, and minimum capital rules. As a result, speculators had a place to go to make their bets and contribute to liquidity and price discovery — without also contributing excessive systemic risk.

Government intervention can indeed solve some problems. But we should not forget that private ordering can solve problems, too. **R**

Lynn A. Stout is the Paul Hastings Professor of Corporate and Securities Law at the UCLA School of Law.