Derivatives Regulation and Legislation Through the 111th Congress

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Summary

In the wake of the financial crisis and unusual oil price volatility, new attention was drawn to the regulation of derivatives—and particularly toward the unregulated over-the-counter (OTC) derivatives market. What regulatory changes, if any, would reduce risks to the financial system from derivatives trading? A number of bills were introduced in the 111th Congress, and several congressional committees have held hearings. The Dodd-Frank Wall Street Reform and Consumer Protection Act (P.L. 111-203) enacted a sweeping reform of derivatives trading and oversight and brought the unregulated OTC swaps market under the jurisdiction of federal regulators.

The 111th Congress proposals for reform ran the gamut from requiring all derivatives trading to occur on regulated exchanges—essentially shutting down the unregulated OTC market that exists today—to permitting OTC trading to continue, but with more disclosure and oversight. Some participants in the OTC markets have noted that the lack of transparency is in and of itself an attraction, allowing them to take large speculative positions without other market participants being aware of their identities or trading positions. In the crisis, however, this lack of transparency appears to have exacerbated fears about potential losses faced by financial institutions and made banks less willing to lend. Dodd-Frank requires that all OTC derivatives be reported to swap data repositories, and that key market information be made public.

Before Dodd-Frank, various derivative products were subject to different legal frameworks. The Commodity Futures Trading Commission (CFTC) was the lead federal agency, but the Securities and Exchange Commission (SEC), the Federal Reserve, and other banking regulators also had jurisdictional claims. Under Dodd-Frank, this regulatory complexity continues, with the SEC given jurisdiction over most security-based swaps, the CFTC regulating other swaps, and the other regulators in a variety of consulting roles.

A key OTC market reform is to mandate the use of central counterparties (CCPs)—or clearinghouses—to process derivatives trades and thereby hopefully reduce risk and increase transparency. (Such clearinghouses have long been a standard feature of the regulated futures exchanges.) The Dodd-Frank Act included an exemption from the clearing requirement for nonfinancial end-users, who use derivatives to hedge the commercial risks of their businesses.

Additional proposals focused on new record-keeping or reporting requirements for OTC trades; audit trails; position limits; large trader reporting requirements; and increasing regulatory oversight of trading. An additional important question, for which Congress's tools may be limited, is how to ensure regulatory harmonization with other international markets, so as to avoid a "race to the bottom" in derivatives regulation.

The Dodd-Frank derivatives provisions are summarized in CRS Report R41398, *The Dodd-Frank Wall Street Reform and Consumer Protection Act: Title VII, Derivatives*, by (name redacted) and (name redacted), and current legislation is discussed in CRS Report R42129, *Derivatives Legislation in the 112th Congress*, by (name redacted).

This report summarizes other derivatives legislation that was considered but not enacted by the 111th Congress, and it provides background on the derivatives market.

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Derivative financial instruments have been among the fastest-growing segments of financial markets in recent decades. Proponents argued that derivatives would enhance risk management and make price discovery mechanisms more transparent. Since 2007, however, price volatility in energy and other commodities has been extraordinary, and the global financial system has become unstable. As a result, new attention has been drawn to the regulation of derivatives markets—and particularly toward the unregulated over-the-counter (OTC) derivatives market, where transactions are not made on a public exchange market and where little information on trading and prices is available. Do regulators need more information or supervisory authority over OTC derivatives? Is their existing authority sufficient to prevent excessive speculation and price volatility in the markets they do regulate? What regulatory changes, if any, would reduce risks to the financial system from derivatives trading? In the spring of 2009, the Obama Administration proposed legislative changes to overhaul regulation of OTC derivatives. A number of bills were introduced in the 111th Congress, and several congressional committees held hearings.

Derivative Finance

Derivatives are financial instruments or contracts whose value rises or falls with fluctuations in the price of an underlying commodity or financial variable. There are several forms of derivatives—the best-known are futures contracts, options, and swap agreements[1]—but all have this common central feature: two parties promise to make a transaction (or series of transactions) in the future at a price that is agreed upon today. It is expected that the underlying price or rate will fluctuate over the life of the contract, but the price specified in the derivative instrument remains fixed. If they succeed in forecasting the direction of prices, derivatives traders will be entitled to buy the underlying commodity for less (or sell for more) than the going market price. For every winner, there is a loser. Thus, futures markets are "zero-sum"—any change in the price of the underlying commodity generates profits for some traders, and an equal amount of losses for the rest.

Derivatives are sometimes described as bets on the direction of future price trends. As prices rise and fall, derivatives traders make profits or losses, even though they may never own the underlying commodity itself.[2] Questions then arise: what separates derivatives from gambling? What public interest is served by the activity? There are two recognized benefits to derivatives trading: *hedging* and *price discovery*.

Hedgers are traders who use the market to avoid price risk arising from their commercial dealings in the underlying commodity. A cattle producer, for example, can use the markets to lock in today's price for future sales of livestock, obtaining protection against the risk of falling prices. The producer may purchase futures contracts that gain value if the price of live cattle falls.[3] If the price does in fact drop by the time the futures position expires, the producer will earn less money on physical sales, but the loss will be offset by futures contract profits. Conversely, if prices rise, the producer will lose money on the futures contracts, but gain on physical sales. Whichever way

[1] Examples illustrating the mechanics of these contracts are set out in the Appendices to this report.

[2] Many futures contracts can be settled by making or taking delivery of a commodity, but in practice the vast majority are settled in cash.

[3] See **Appendix A** for an explanation of how this works.

prices move, the net result is the same: the risk of unfavorable price movements over the term of the futures contracts has been eliminated, or hedged.

Credit default swaps—another type of derivative contract—can also be used to hedge risk, even if the trader does not own the underlying bond. For example, a company that supplies auto parts to General Motors and depends on payments from GM might purchase a credit default swap on a GM bond to hedge against the risk of a GM default. The auto parts company would make a stream of payments to the seller of the credit default swap, and in case of a GM default, bankruptcy or other credit event, the CDS seller would pay the parts company a lump sum. If GM defaulted, the loss of payments to the auto parts company would be partly offset by the lump-sum payment the parts supplier would receive from its credit default swap counterparty. The ability to manage various forms of risk with futures, swaps, and other derivatives enables firms to budget, invest, and produce more efficiently, and provides a buffer against adverse price shocks.

Who takes on the price risk that the hedger gets rid of? It will probably be a speculator who never actually handles the physical commodity, but simply seeks to profit by forecasting future prices. Most trading in derivatives is speculative;[4] the futures exchanges are associations of professional speculators. The advantage of a large volume of trading is that hedgers can quickly find someone to take the opposite side of their trade. For instance, a firm that is at risk if energy prices rise (such as an airline or a power utility) can instantly find a counterparty who is willing to bet that prices will fall, enabling the hedging firm to lock in the current price.

Price discovery is the second benefit. Centralized marketplaces like the futures exchanges are forums where all available information about supply and demand for the underlying commodity is assembled and incorporated into the price. Traders' decisions to buy or sell are guided by data on current inventories and consumption, expectations about long-term supply and demand trends, macroeconomic conditions, geopolitical risk factors that could disrupt supply, assessments of market psychology, and innumerable other considerations. A central tenet of free market economics is that a competitive market, where no participant is able to manipulate or dictate prices, is the best available mechanism for determining prices that will ensure that supply meets demand and that resources are efficiently allocated. The price generated by the futures exchanges is publicly available: industrial firms, financial institutions, small businesses, and consumers may all use it to allocate their resources efficiently.

However, when commodity prices show extreme volatility, as in the case of crude oil since 2007, theoretical justifications of free market dynamics are not satisfactory. At such times, policymakers may wish to examine the internal workings of the derivatives markets much more closely than under normal conditions.

[4] The Bank for International Settlements reports that 110.4 million financial futures contracts were open at the end of 2008, but that 5.485 billion such contracts were traded over the course of the year. This suggests that hedgers (who tend to keep positions open for longer periods of time) account for a much smaller proportion of trading than speculators, who tend to turn over their positions rapidly. (See *BIS Quarterly Review*, June 2009, Table 19, p. A103.) In Nymex crude oil futures, the open interest fell from 221,695 contracts at the end of the trading session on June 10, 2009, to 180,539, a difference of 41,156 contracts. Total volume for those days was 663,132 contracts, or more than 16 times the change in the number of open contracts. This indicates that the vast majority of trading is intraday, and not aimed at hedging long-term price risk. (Nymex data from Global Financial Data, a private vendor.)

Types of Derivatives Markets (Pre-Dodd-Frank)

Derivatives markets can be divided into two classes: regulated exchange markets, where standardized contracts are traded in great volume, and the OTC market, where contracts can be (but are not always) highly customized and where deals can be made in private between two counterparties. In the United States, major derivatives exchanges are regulated by the Commodity Futures Trading Commission (CFTC, which oversees the futures exchanges) and by the Securities and Exchange Commission (SEC, which regulates stock option markets). SEC and CFTC regulation of exchanges is generally similar: federal law requires both securities and commodity exchanges to make and enforce rules to ensure fair and orderly trading and to protect public investors from fraud. Many classes of market professionals, as well as the exchanges themselves, are required to register with a federal agency or a self-regulatory organization.[5] Data on price and trading volumes must be publicly available. The regulators may amend exchange rules, and must approve all rule changes. Both SEC and CFTC have their own enforcement powers and staff.

The OTC market, by contrast, was largely unregulated until the Dodd-Frank Act. In place of exchanges, there is a system of dealers who stand ready to enter into derivatives contracts with all comers, whether the customers wish to hedge or speculate on prices rising or falling. Dealers are generally large commercial and investment banks that operate internationally—20 or 30 institutions account for virtually the entire market.[6] These institutions may be subject to regulation, but there was no direct regulation of their OTC derivatives dealings.[7] Neither dealers nor customers (also called end users) are required to report or make public OTC transactions: unlike exchange trading, very little information about prices, volumes, or individual positions is available either to the public or to regulators.

Although the exchange and OTC markets operated in very distinct legal environments, the products they offer are economically interchangeable. Traders routinely deal in both exchange-traded and OTC contracts, often as part of a single investment strategy. For example, a hedge fund might construct an investment position that included options on a basket of stocks (SEC-regulated), futures on stock indexes (CFTC-regulated), and OTC equity swaps (unregulated).

Market Trends: Trading Growth and Exchange Consolidation

In recent years, both exchange-traded and OTC derivatives markets have experienced remarkable growth. **Table 1** below shows figures for 2000 and 2008 for a number of derivatives classes. The total of OTC contracts outstanding rose by 522% over that period, whereas the number of financial futures contracts traded on exchanges rose by 425%.

No single measure of market size can apply to both exchange and OTC markets. Because futures contracts are standardized instruments, the traditional measure of trading on the exchanges has been the number of contracts traded.

[5] Federal securities and commodities laws permit the regulatory agencies to delegate registration and certain other functions to private groups, called self-regulatory organizations (SROs). In securities, the major SRO is the Financial Industry Regulatory Authority (FINRA). In futures, it is the National Futures Association (NFA).

[6] Testimony of Gary Gensler, chairman, Commodity Futures Trading Commission, before the Senate Committee on Agriculture, Nutrition and Forestry, June 4, 2009. (The figures appear in the oral version of his prepared testimony.)

[7] In addition, some regulated institutions house their derivatives dealings in off-balance-sheet subsidiaries, where capital and other regulatory requirements may not apply.

In the OTC market, the number of transactions is not a satisfactory measure, for several reasons. First, not all swaps are identical—a single trade here may represent more economic value than half a dozen trades elsewhere. Second, it is not always clear how to define a "transaction." Typically, a master swap agreement between two counterparties may be frequently amended as to the amount at risk by adding a new figure at the bottom of the contract. Over its life, a single contract may entail numerous transactions, depending on what happens to the underlying economic variables.

The standard measure of OTC market size is notional value, a concept that is explained in **Appendix C**. Notional value provides no information about actual swap payments; it is simply a reference number used in the calculation of those payments. It is possible to calculate a notional value for exchange-traded futures. An oil future, for example, represents 1,000 barrels of oil: the notional value of the contract is thus 1,000 times the current price per barrel. This figure, however, is of no interest to futures traders, because what concerns them is not the value of 1,000 barrels—which they will most likely never actually own—but the price changes that occur during the period that their futures position is open, which may be only a few seconds.

The Bank for International Settlements (BIS, the source of the data in **Table 1**) does publish a series on the notional value of exchange-traded futures based on financial variables (as opposed to physical commodities). The figure for such contracts in 2008 was $2.245 quadrillion, a figure that would seem to have few real-world analogues.[8]

In any case, **Table 1** indicates that all categories of derivatives have grown extremely rapidly, by their separate measures. The expansion since 2000 is remarkable, though it has received relatively little attention in the press and academia. Some of the possible causes for this rapid expansion, and their policy implications, are discussed in the "Policy Issues" section of this report.

A consequence of the financial turmoil that has prevailed in world markets since 2007 has been a sharp downturn in derivatives activity. CME Group, the world's largest futures exchange, reported that it traded 23% fewer contracts in April 2009 than in the same month a year earlier.[9] BIS figures report a drop of 13% in the notional value of OTC contracts outstanding between mid-year 2008 and year-end (with credit derivatives declining by 27%).[10] Speculative losses and increased risk aversion may account for much of these declines. It remains to be seen whether long-term trends will be affected.

[8] Bank for International Settlements, *Semiannual OTC Derivatives Statistics at end-December 2008*, p. A108. The figure does not appear to include options on individual stocks.

[9] "CME Group Volume Averaged 9.2 Million Contracts per Day in April 2009," press release, May 4, 2009.

[10] Bank for International Settlements, *Semiannual Over-The-Counter (OTC) Derivatives Markets Statistics*, http://www.bis.org/statistics/derstats.htm.

Table 1. Derivatives Trading and Positions, 2000 and 2008

Type of Instrument	2000	2008	% Increase
Exchange-Traded Derivatives (millions of contracts traded)			
Stock Options			
World	1,007	5,584	454
U.S.	673	4,187	522
Financial Futures			
World	1,045	5,489	425
North America	340	2,377	599
Physical Commodity Futures			
World	368	1,560	324
U.S.	160	560	250
Options on Financial Variables (other than single-stock options)			
World	596	4,852	714
North America	121	706	483
Options on Physical Commodities			
World	43	154	258
U.S.	36	142	294
Over-the-Counter Derivatives Contracts ($ trillions in notional value, at year-end)			
All OTC Contracts	95.2	592.0	522
Interest Rate	64.7	418.7	547
Foreign Exchange	16.9	49.8	195
Stock Index	1.9	6.5	242
Credit Derivatives	6.4 (2004)	41.9	555
Commodity Contracts	0.7	4.4	529
Other	12.0	70.7	489

Source: Bank for International Settlements, *Quarterly Review* and *Semiannual Over-The-Counter (OTC) Derivatives Markets Statistics.*

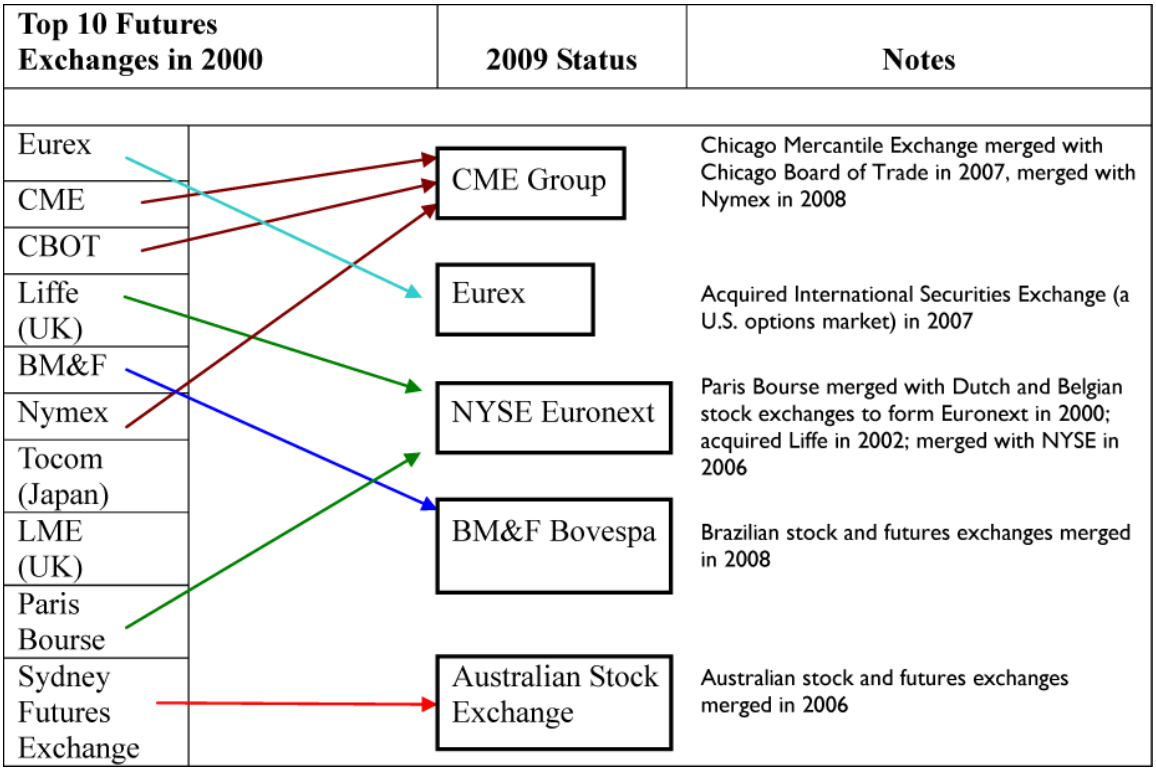
Notes: Comparable credit default swap data not available before December 2004.

Rapid growth in trading volumes has not been matched by a proliferation of derivatives markets. On the contrary, since 2000, there has been extensive consolidation among derivatives and securities exchanges, in many cases across national borders. **Figure 1** below lists the top 10 global futures exchanges in 2000, and shows their current status. Only two of the 10 have not merged with other exchanges.

Notable changes include the merger of the three largest U.S. futures exchanges into a single firm, the CME Group, and the affiliation of the two largest European derivatives markets with U.S. partners. Although previous debates in Congress on derivatives focused on the economic impact

of regulation, and the possible competitive disadvantages to U.S. markets of CFTC oversight, national borders may now be a less significant factor.

Figure 1. Exchange Mergers Since 2000



Source: Chart by CRS. 2000 ranking from Futures Industry Association.

Factors driving consolidation may include increased competition, although the framework of that competition may no longer be U.S. versus UK versus continental European markets, but rather a battle by takeover for market share among global conglomerates. Mergers may produce economies of scale and cost savings needed to underwrite investment in new electronic trading technology, which is demanded by a customer base dominated by hedge funds, money managers, institutional investors, and financial institutions with global portfolios. Many exchanges (including CME and NYSE) have converted from mutual ownership to for-profit stock corporations, diminishing exchange members' ability to preserve the status quo. It has been argued that the emergence of a single, global monopoly marketplace for securities and derivatives is inevitable, and that individual exchanges feel they cannot afford to be left behind.[11]

Is monopoly possible? A key consideration is that the capacity to trade large volumes of financial instruments is no longer a barrier to entry. Cheap computing power has eroded the monopoly in trading infrastructure formerly enjoyed by the major exchanges. In this environment, regulatory licensing or registration becomes more important: a number of small regional stock and futures exchanges have been acquired by high-tech start-ups or joint ventures simply to provide a legal framework for launching a new electronic trading system.

[11] "Special Report: Battle of the Bourses," *The Economist*, May 27, 2006, p. 83.

The OTC market may represent another source of cost pressure, assuming that there is significant demand for exotic customized instruments ill-suited to exchange trading. Market convergence is not limited to exchanges, but involves OTC participants as well. Most of the larger exchanges now offer clearing services for OTC contracts. As clearing of OTC derivatives becomes more common (either in response to market demand or legal mandates), further consolidation is likely. Major OTC dealers, like Morgan Stanley and Goldman Sachs, have participated in new clearinghouse ventures for credit swaps and other OTC contracts; given the right market conditions, firms like those would be fully capable of launching takeover bids for even the largest publicly traded exchanges.

Policy Issues

Ten years ago, the consensus of U.S. financial regulators was that OTC derivatives were a beneficial innovation that had "transformed the world of finance, increasing the range of financial products available to corporations and investors and fostering more precise ways of understanding, quantifying, and managing risk."[12] A joint report by the CFTC, the SEC, the Federal Reserve, and the Treasury concluded that government regulation should not substitute for market discipline to reduce systemic risk, because "private counterparty credit risk management has been employed effectively by both regulated and unregulated dealers of OTC derivatives."[13]

A strong advocate of this position was Alan Greenspan, then chairman of the Federal Reserve. In a 1999 speech, he argued that regulation was not only unnecessary for OTC derivatives, but that even CFTC supervision of exchange-traded financial futures and options might not be in the public interest:

> The greater use of OTC derivatives doubtless reflects the attractiveness of customized over standardized products. But regulation is also a factor; the largest banks, in particular, seem to regard the regulation of exchange-traded derivatives, especially in the United States, as creating more burdens than benefits. As I have noted previously, the fact that the OTC markets function quite effectively without the benefits of the Commodity Exchange Act provides a strong argument for development of a less burdensome regime for exchange-traded financial derivatives.[14]

By 2009, many took a less benign view. The oil price shock of 2008 and the financial crisis that began in 2007 both raised questions about derivatives and their regulation. Neither episode is completely understood, but many observers believe that excessive speculation and lack of transparency in derivatives may have contributed to unwarranted volatility in energy prices and to the systemic fragility that allowed a slowdown in U.S. housing markets to trigger a worldwide crisis that has destroyed trillions of dollars in financial wealth and stalled real economic growth.

[12] *Over-the-Counter Derivatives Markets and the Commodity Exchange Act: Report of the President's Working Group on Financial Markets*, November 1999, p. i (letter of transmittal).

[13] Ibid, p. 34.

[14] "Financial Derivatives," Remarks by Chairman Alan Greenspan before the Futures Industry Association, Boca Raton, Florida, March 19, 1999.

Derivatives and the Financial Crisis

There is little consensus about the relative importance of the numerous factors[15] that have been put forward as causes of the financial crisis, including the role of derivatives. It seems clear, however, that derivatives played some role in transmitting financial shocks from firm to firm and from market to market. Several aspects of derivative finance may be implicated:

- **Complexity.** At the peak of the housing boom, home mortgage loans were packaged, repackaged, and repackaged again into highly complex securities, many of which incorporated derivatives to increase yield or to obtain AAA bond ratings. As mortgage losses began to grow, no one could be sure what the real value of these securities was. As a result, the true financial condition of banks and other holders of these securities became uncertain; interbank lending slowed; and the conditions for panic were created.
- **Opacity.** In addition to the complexity of structured financial instruments, the nature of derivatives markets is to create a web of risk exposures among a wide range of markets and firms. Fears about insolvency in individual financial institutions were amplified by the knowledge that those firms might owe billions to derivatives counterparties—default of a single derivatives dealer had the potential to trigger cascading losses throughout the banking system. But no information about the extent or distribution of such potential losses was available, especially where unregulated OTC derivatives were involved.
- **Leverage.** In the post-2000 low interest rate environment, many market participants sought to boost investment returns through the use of leverage—supplementing their own capital with debt or derivatives. Since all derivatives trading is done on margin, a relatively small initial investment may generate a large return (or loss—see **Appendix A**). Thus, the losses in U.S. mortgage lending were magnified into much greater losses throughout the global financial system.
- **Excessive Speculation.** All the above factors combined to produce catastrophic losses at a number of systemically important firms that had amassed large speculative derivatives positions. A good example is AIG, which sold trillions of dollars in credit default swaps (CDS), and which had to be rescued by the government to prevent massive losses to AIG's counterparties, losses that could have greatly exacerbated the downward global financial spiral.[16]

Derivatives and the Oil Shock

In mid-2007, the price of crude oil stood at about $70 per barrel. Over the next 12 months, it climbed steadily, peaking at $145 in July 2008, and then plunged to $30 in December of that year. No hurricane, embargo, or other disruption of supply explained the price movements. It was possible to make reasonable arguments about the fundamentals of the energy industry that explained rising prices (demand from China and India, lack of spare production capacity, etc.) or

[15] See CRS Report R40173, *Causes of the Financial Crisis*, by (name redacted).

[16] See CRS Report R40438, *Federal Government Assistance for American International Group (AIG)*, by (name redacted).

falling prices (the global recession), but it was difficult to explain how both kinds of arguments could be correct within such a short time frame.

Absent any dramatic changes in physical oil supplies and fundamentals, many observers concluded that derivatives trading was in some way responsible for the price movements. Were hedge funds, oil companies, or others able to manipulate prices by buying and selling derivatives? Had financial speculation by pension funds and other institutional investors created a permanent upward bias in prices? Was unreported OTC trading driving the prices on the public Nymex exchange?

The CFTC testified repeatedly before Congress while prices were rising, consistently presenting the same message: there was no evidence of broad-based manipulation, therefore the market was simply reflecting the expectations of traders, as it is supposed to do.[17] This argument was not persuasive to many, who took soaring prices to be prima facie evidence of excessive speculation.[18]

On June 26, 2008, the House passed H.R. 6377 (110th Congress), which would have directed the CFTC to use its existing powers, including its emergency authority,[19] to curb immediately the role of excessive speculation in energy and to eliminate price distortion, unreasonable or unwarranted price fluctuations, or any unlawful activities that prevent the market from accurately reflecting the forces of supply and demand for energy. The measure was not enacted; the CFTC and others argued that moves to curb speculative trading would dry up liquidity and not necessarily stabilize prices.

Other 110th Congress bills addressed the OTC market—because the CFTC did not get regular information on OTC trades and U.S. firms' trading on foreign futures exchanges, some asked how it could be certain that manipulation was not occurring. In July 2008, majorities in both chambers voted to move two bills to increase oversight of OTC energy derivatives—H.R. 6604 and S. 3268—but the bills failed to obtain the votes needed for passage.[20] Many provisions of these bills are included in 111th Congress legislative proposals, discussed below.

CFTC Actions Regarding Energy Commodities

On July 7, 2009, CFTC Chairman Gary Gensler announced a series of initiatives to "ensure market integrity and efficiency."[21] The CFTC will hold a hearing on whether federal speculative

[17] See, e.g., Written Testimony of Jeffrey Harris, chief economist and John Fenton, director of Market Surveillance, before the Subcommittee on General Farm Commodities and Risk Management, House Committee on Agriculture, May 15, 2008.

[18] Section 4a of the Commodity Exchange Act requires the CFTC to diminish, eliminate, and prevent excessive speculation, but the term is not defined in the act, nor is excessive speculation itself a violation. The impact of speculation on markets is an old question—most empirical studies find that speculation tends to reduce price volatility, without excluding the possibility that from time to time speculative price bubbles can develop even without deliberate market manipulation.

[19] CFTC's emergency authority includes the power to change margin levels or order the liquidation of trading positions.

[20] On motion to suspend the rules and pass, H.R. 6604 failed by the yeas and nays (two-thirds required): 276-151 (roll no. 540). Cloture on S. 3268 was not invoked in Senate by yea-nay vote. 50 – 43, record vote number: 184. For summaries of the bills, see CRS Report RL34555, *Speculation and Energy Prices: Legislative Responses*, by (name redacted) and (name redacted).

[21] Statement by Chairman Gary Gensler on Speculative Position Limits and Enhanced Transparency Initiatives

(continued...)

position limits should be set by the CFTC for commodities of finite supply, in particular energy commodities, such as crude oil, heating oil, natural gas, gasoline, and other energy products.

In addition, the CFTC will make enhancements "in the near term" to its weekly Commitments of Traders (COT) report, which shows the number of contracts in open interest for all exchange-traded futures contracts and contains aggregate data on the number of contracts held by commercial and non-commercial traders. The CFTC will continue to use its special call authority to collect and report data from swaps dealers and index investors, many of whom trade in the OTC market.[22] Legislation before the 111th Congress—discussed below—would mandate that the CFTC take these and similar steps.

Derivatives and Crises

The association of derivatives with episodes of volatility and instability does not establish a causal relationship. Volatile markets are a prerequisite for derivatives trading—unless price volatility already exists in a market, there is no need to hedge and limited opportunity for speculative profits. Whether derivatives markets tend to exacerbate volatility is an unresolved question.

During 2007 and 2008, however, unexpected market movements took place against a backdrop not just of well-established and large derivatives markets, but at the peak of several years of very rapid growth in derivatives trading. Considering some of the reasons why derivatives trading was expanding and keeping in mind, with the benefit of hindsight, that the conditions for systemic crisis were developing simultaneously, certain tentative links between derivatives and the crises may emerge.

Rapid growth in derivatives trading during the 2000 through 2008 period can be attributed to several factors:

- After 2000, returns on stocks and fixed-income instruments were very low. Investors of all types—from traditionally risk-averse pension funds to high-risk hedge funds—may have turned to derivatives to increase yields. If so, the resulting increase in leverage may have contributed to systemic financial fragility. In addition, as already noted, many of these derivatives-based strategies were both complex and opaque.
- The residential mortgage boom created a number of incentives for derivatives use. As large numbers of mortgages were refinanced at low rates, the holders of the mortgages had the option of using interest rate derivatives to hedge the risk of holding long-term, fixed–interest debt. As risky, non-traditional mortgages were packaged and sold as securities, derivatives were used to hedge interest rate and credit risks, to obtain AAA ratings, and to boost yields. Credit default swaps were employed both to hedge the risks of holding those mortgage-backed instruments,

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July 7, 2009. Available at http://www.cftc.gov/stellent/groups/public/@newsroom/documents/speechandtestimony/genslerstatement070709_b.pdf.

[22] See the "Reporting Positions of Index Traders and Swap Dealers" section below.

and to construct synthetic instruments that replicated the returns on mortgage-backed securities.

- Increased price volatility in the stock and commodity markets created incentives to hedge price risk and opportunities for speculative profits.
- The Commodity Futures Modernization Act of 2000 (CFMA) created statutory exemptions for OTC financial and non-agricultural commodity derivatives. CFTC regulation of these markets was thus largely precluded. The legal certainty produced by the CFMA may have stimulated trading in OTC contracts.[23]
- Financial innovation made possible the rapid trading of credit swaps and other exotic derivatives. Assuming that innovation surged in the post-2000 years, the ability of market participants and regulators to assess the risk of new instruments and strategies may have lagged the market by a greater-than-normal interval.

Together, these factors produced trends and incentives that may have helped set the stage for financial crisis and a bubble in commodity prices. Rising financial speculation created risks that were underestimated, perhaps in part because derivatives offered an illusion that risks were under control. The extent of speculation could have been masked by the proliferation of derivatives, many of which were complex, opaque, and hard to value, in addition to being unregulated.

It could certainly be argued that the mortgage bubble and energy price volatility would have occurred in a world without derivatives. The counter-argument, however, seems just as plausible, at least in the case of the financial crisis—that derivatives trading created such a degree of systemic fragility that if subprime mortgages hadn't triggered the crisis, another financial shock would have.

Derivatives Legislation in the 111th Congress

Title VII of the Dodd-Frank Wall Street Reform and Consumer Protection Act (P.L. 111-203) enacted sweeping derivatives reforms. The provisions of Dodd-Frank are not summarized here, but are the subject of a separate CRS report—CRS Report R41398, *The Dodd-Frank Wall Street Reform and Consumer Protection Act: Title VII, Derivatives*, by (name redacted) and (name redacte d).

OTC Derivatives Markets

Requiring Exchange Trading of OTC Contracts

The Commodity Exchange Act (CEA) provides several exemptions that permit derivatives to be traded off regulated exchanges, free from most (or all) forms of CFTC regulation. A number of bills contain provisions that would narrow or eliminate those exemptions.

S. 272 (Senator Harkin) takes a sweeping approach—it repeals the sections of the CEA that exempt OTC derivatives and takes away the CFTC's authority to issue regulatory exemptions

[23] Note, however, that regulated, exchange-based trading also grew very rapidly during the 2000-2008 period.

from the exchange-trading requirement. The bill would have the effect of abolishing the OTC markets in the United States, and would permit derivatives trading only on CFTC-regulated exchanges.

Other bills would remove the statutory exemption for OTC contracts based on energy commodities. H.R. 977 (Representative Peterson), H.R. 2448 (Representative Stupak) and H.R. 2454 (Representatives Waxman and Markey),[24] S. 221 (Senator Bill Nelson), S. 447 (Senator Levin), and S. 807 (Senator Ben Nelson) introduce new definitions of "energy commodity."[25] The effect is to remove energy commodities from the category into which they currently fall—"exempt commodities," defined as all commodities which are neither financial nor agricultural. Energy commodities would lose their current exempt status under Section 2(h) of the CEA, and would be treated the same as agricultural commodities—energy derivatives could be traded OTC only if the CFTC issued a specific exemption.

Requiring Clearing of OTC Derivatives

Several bills would require that OTC derivative contracts, such as swaps, be settled and cleared through a derivatives clearing organization. Clearing organizations—also known as clearinghouses or centralized counterparties—are a standard feature of futures exchanges, where the clearinghouse stands behind all trades and guarantees payment. This means that traders do not have to worry about the creditworthiness of the opposite party (or counterparty), which facilitates rapid trading of contracts.

Because the clearing organization guarantees payment on all contracts, it has a strong incentive to prevent fraud or price manipulation that could cause traders to default. Thus, even when exchange trading is not mandatory, required clearing of OTC contracts would introduce a strong element of self-regulation into the market.

In addition, the clearinghouse is a central collection point for trade and position data. Because the clearinghouse collects margin payments to ensure that traders can meet their obligations, it has complete information on all positions. This allows regulators to share information on large positions, prices, and volume that reveals whether markets are functioning normally, are under stress, or whether manipulation or fraud may be occurring. The CFTC receives daily reports—called large trader reports—from the futures exchanges' clearinghouses on all positions that exceed a certain size.

In the OTC market, by contrast, a number of large financial intermediaries stand as dealers, who are willing to take the other side of their customers' trades. The dealers bear the risk of customer default, just as their customers bear the risk of dealer failure. Under current law, OTC dealers are generally not required to disclose market data to the CFTC or to other regulators. As a result, only limited information is available about the size of OTC positions, the number of transactions, or the identity of market participants.

[24] H.R. 2454 (American Clean Energy and Security Act of 2009) incorporates nearly all the text of H.R. 2448 as Subtitle E of Title III, with only the section numbering changed. The exception is the last section, which covers regulation of carbon derivatives markets. The bills are referred to in this section of this report as "H.R. 2248/H.R. 2454," except in the material dealing with allowance derivatives, where they are discussed separately.

[25] Under current law, there are three categories of commodities—agricultural, excluded (financial), and exempt (all others)—subject to different degrees of CFTC oversight when they are traded OTC.

H.R. 977 and H.R. 2448/H.R. 2454 would make clearing and settling through a regulated clearing organization a prerequisite for exemption from CFTC regulation. (The clearing organization could be regulated by the SEC or a federal banking agency, instead of the CFTC.) CFTC would be authorized to issue exemptions from the clearing requirement, for example, in the case of an OTC contract that was highly customized—clearinghouses manage risk by holding contracts that offset each other; this is difficult to do when contracts are not fungible and standardized. The bills specify that the CFTC may only exempt contracts where the counterparties meet financial integrity standards. Any contracts exempted from the clearing requirement would still have to be reported to the CFTC.

The bills would require clearing organizations to disclose certain position and trading data, either to regulators or to the public.

H.R. 1754 (Representative Castle) and S. 664 (Senator Collins) would require that credit swaps be cleared through a credit default swap trading clearinghouse designated by the SEC, in consultation with the CFTC and the Federal Reserve. The clearinghouse would be capitalized by swap traders to a level adequate to guarantee payments, and clearinghouse members could be assessed to maintain a default fund.

Increased Oversight of OTC Derivatives

In addition to—or instead of—requiring that OTC contracts be cleared or traded on exchanges, several bills would impose new reporting and recordkeeping requirements or otherwise increase regulatory oversight powers. S. 961 (Senators Levin and Collins) would repeal sections in commodities, securities, and banking law that prevent federal financial agencies from regulating swaps. The bill would authorize federal regulators—the CFTC, the SEC, and the banking agencies—to exercise oversight over swaps entered into by financial institutions, persons, or other entities subject to their regulatory jurisdiction. The regulators are authorized (but not required) to impose disclosure, reporting, or recordkeeping requirements. Prior to taking action, the bill would require an agency to consult with the others. The bill includes a definition of "swap agreement," which specifies that a swap must be an agreement between eligible contract participants (as defined in the CEA) and that the material terms (other than price and quantity) must be subject to individual negotiation.

Reporting and Recordkeeping

Other bills authorize and direct the CFTC to establish reporting and recordkeeping requirements for certain OTC contracts. H.R. 977 would extend to the OTC market a version of the large trader reporting system that currently exists on the futures exchanges. It would (1) direct the CFTC to establish recordkeeping standards for OTC contracts exempted from regulation, and (2) require OTC traders to provide information about their positions upon a "special call" request for information from the CFTC.

S. 447 and S. 807 would apply recordkeeping and reporting requirements to energy and agricultural OTC contracts. S. 447 directs the CFTC to identify each large OTC transaction (or class of transactions) about which it needs information to detect and prevent potential price manipulation or excessive speculation. Participants in those transactions would file reports describing their large trading positions.

S. 807 authorizes the CFTC to issue "special calls" for information about exempted OTC contracts in energy or agricultural commodities that the CFTC determines to be appropriate to prevent manipulation, excessive speculation, or other disruption to market integrity.

OTC Position Limits

S. 447 would authorize the CFTC, based on information collected from OTC traders (see above) or following a major market disturbance, to impose limits on the size of OTC positions or the amount of OTC trading involving energy or agricultural commodities. CFTC's authority would be contingent on a need to diminish, eliminate, or prevent excessive speculation; deter and prevent market manipulation, squeezes, and corners;[26] ensure sufficient market liquidity; and ensure that the price discovery function of the underlying cash market is not distorted or disrupted.

H.R. 977 would authorize the CFTC to impose position limits on OTC contracts that it determined to be fungible with contracts traded on exchanges or other CFTC-regulated markets. Exercise of this authority would require a CFTC finding that such fungible OTC contracts had the potential to (1) disrupt the liquidity or price discovery function on a registered entity, (2) cause a severe market disturbance in the underlying cash or futures market, or (3) prevent or otherwise impair the price of a contract listed for trading on a registered entity from reflecting the forces of supply and demand in any market. This authority would cover all OTC markets, not just energy and agriculture.

H.R. 977 and S. 807 would require the CFTC to conduct a study of the efficacy, practicality, and consequences of establishing limits on the size of OTC positions in energy and agricultural commodities (H.R. 977) or physical commodities (S. 807). The studies would involve public hearings and would culminate in reports to the Agriculture Committees of the House and Senate containing recommendations on any necessary legislative actions or increases in CFTC resources.

Tax on OTC Derivatives

H.R. 3153 (Representative Larson) would amend the Internal Revenue Code of 1986 to impose a tax on over-the-counter derivatives transactions. The proposed tax rate would be 0.25% of the fair market value of the underlying property with respect to, or the notional principal amount of, the derivative financial instrument. It would apply to derivative financial instruments that are not traded on (or subject to the rules of) a qualified board or exchange.

Credit Default Swaps

Several of the provisions above would apply to credit default swaps (CDS), a form of OTC derivative.[27] In addition, several bills specifically address CDS.

H.R. 977 grants the CFTC authority—with the concurrence of the President—to suspend trading in CDS, if, in the opinion of the commission, the public interest and the protection of investors so

[26] See the glossary in **Appendix D**.

[27] See CRS Report RS22932, *Credit Default Swaps: Frequently Asked Questions*, by (name redacted) and (name re dacted).

require. The definition of CDS in the bill specifies that a CDS is not a security, and limits SEC jurisdiction over CDS to matters involving insider trading violations.

Two identical bills, H.R. 1754 and S. 664, would require all CDS to be cleared through a clearinghouse designated by the SEC (in consultation with the CFTC and the Federal Reserve). The bills would direct the SEC to issue rules to prohibit fraudulent, deceptive, or manipulative acts or practices in connection with CDS and to require that clearinghouses are (1) capitalized by participants to a level adequate to guarantee payments; and (2) authorized to assess members for a default fund. The bills also establish recordkeeping and reporting requirements for traders whose positions exceed a size to be determined by the CFTC.

H.R. 2448/H.R. 2454 would set new eligibility requirements for trading credit default swaps. Participation in that market would be limited to those who (1) owned the credit instrument that the CDS was insuring, (2) would experience financial loss if the credit event that triggers the swap insurance payment were to occur, or (3) met capital adequacy standards to be established by the CFTC in consultation with the Federal Reserve.

H.R. 3145 (Representative Waters) would amend the securities laws to prohibit credit default swaps and provide the SEC with the authority to regulate swap agreements that are based on securities. These provisions would apply to swaps entered into later than 180 days after enactment.

Enhanced CFTC Authority over Currently Regulated Markets

Following the 2008 run up in oil prices, the capacity of the CFTC to prevent excessive speculation or manipulation became an active legislative issue.[28] Several bills in the 111th Congress include provisions designed to improve the CFTC's oversight of futures markets.

Use of Existing Authority to Prevent Excessive Speculation in Energy

S. 1225 (Senator Sanders) and H.R. 2869 (Representatives DeFazio and Welch)—identical bills—would require the CFTC to use its authority, including emergency authority, to curb immediately the role of excessive speculation in energy futures or swaps markets within its jurisdiction and to eliminate any unlawful activity that prevents the market from accurately reflecting the forces of supply and demand for energy commodities. (A bill with similar provisions, H.R. 6377, passed the House in the 110th Congress.)

S. 1225 and H.R. 2869 also direct the CFTC to eliminate conflicts of interest that may arise when a single firm simultaneously trades energy derivatives, issues forecasts about oil prices, and operates oil assets.

Position Limits

Under current law, the CFTC has authority to set position limits for speculators on the futures exchanges. In practice, the CFTC has established limits for only about a dozen agricultural

[28] See CRS Report RL34555, *Speculation and Energy Prices: Legislative Responses*, by (name redacted) and (name re dacted).

contracts, and delegates to the exchanges the task of setting limits for the hundreds of other futures contracts that are traded.[29] The limits take two forms: either a ceiling on the number of contracts that a speculator may control or an "accountability level"—a position size threshold beyond which traders must explain to the exchange why they have such a large position (and reduce the position if the exchange so orders).

Several bills would direct the CFTC to set position limits itself for futures contracts based on all physically deliverable commodities (H.R. 977) or on energy and agricultural commodities (S. 447 and S. 807). H.R. 2448/H.R. 2454 requires CFTC to set position limits for energy contracts. Position accountability levels would not be a permissible substitute.

H.R. 977, H.R. 2448/H.R. 2454, and S. 807 would also require the CFTC to convene advisory groups (consisting of representatives of agricultural or energy producers, commercial purchasers of those commodities, speculators, and registered derivatives markets) to make recommendations regarding the appropriate levels for position limits.

S. 1225 and H.R. 2869 direct the CFTC to impose strict speculative position limits on bank holding companies and hedge funds engaged in energy futures trading.

S. 1412 (Senator Collins) would clarify the treatment of purchases of certain commodity futures contracts and financial instruments with respect to limits established by the CFTC relating to excessive speculation.

Reporting Positions of Index Traders and Swap Dealers

Another concern arising from the oil price experience of 2008 was that the CFTC's published statistics on futures positions might be understating the amount of speculation in the markets. In its Commitments of Traders reports, the CFTC publishes the number of contracts held by commercial and non-commercial traders. "Commercial" is traditionally thought to refer to hedgers; "non-commercial" to speculators. In recent years, however, a number of institutional investors, such as pension funds, have chosen to invest a part of their portfolios in commodities. They typically do this not by purchasing futures contracts on the exchanges, but by entering into an OTC contract that will track the performance of a published index of commodity prices. The swap dealer counterparty may then wish to offset the risk of the OTC contract by taking positions on the futures exchanges in the commodities comprising the index. Under current exchange and CFTC rules, swap dealers in this situation are able to qualify as hedgers and gain exemptions from speculative position limits. The CFTC reports such positions as "commercial."

It has been objected that this classification is incorrect, or at least confusing, because what the swap dealer is hedging is a speculative bet by the institutional investor. Accordingly, several bills would require the CFTC to disaggregate its Commitments of Traders reporting by breaking out positions held by swap dealers and "index traders"—investors following a passive, buy-and-hold strategy yielding returns linked to commodity price increases. H.R. 977, H.R. 2448/H.R. 2454, S. 447 and S. 807 all require the CFTC to collect and publish data showing the positions of swap dealers and index traders in the futures markets.

[29] The CFTC on July 7, 2009, announced that it would hold hearings on the need to impose speculative position limits on energy and other physical commodity contracts.

Bona Fide Hedging

A related issue has to do with the definition of hedging—traders who qualify as hedgers are generally not subject to position limits. A number of bills propose to narrow the definition of a hedger to exclude intermediaries who are hedging risk that arises from someone else's financial speculation, rather than transactions in physical commodities. H.R. 977, H.R. 2448/H.R. 2454, S. 447, and S. 807 include a new definition of "bona fide hedging." The definitions are not identical, but the common theme is that a transaction can be considered bona fide hedging only if at least one party faces risks arising from physical commodity dealings. In other words, a position taken by an investment bank to hedge the risk of an OTC contract with a financial speculator would *not* qualify, and the investment bank would be bound by speculative position limits.

S. 1225 and H.R. 2869 require that bank holding companies and hedge funds engaged in energy futures trading be classified as non-commercial traders (and subject to position limits).

The "London Loophole"

The "London loophole" refers to differences in the oversight of regulated markets in different countries. The UK counterpart to Nymex, the leading U.S. energy futures market, is ICE Futures Europe, which is based in London and regulated by the Financial Services Authority (FSA).

For several years, the UK exchange has been offering energy futures contracts in the United States, via electronic terminals. Ordinarily, an exchange offering futures contracts to U.S. investors is required to register with the CFTC as a "designated contract market," and to comply with all applicable laws and regulations. However, in the case of ICE Futures Europe, the CFTC has waived that requirement, by means of a series of no-action letters, on the grounds that since the UK market is already regulated at home, requiring it to register with the CFTC would be duplicative and add little in terms of market or customer protections.

With concern over high and volatile energy prices, there has been more scrutiny of ICE Futures Europe's activities in the United States. Can traders avoid speculative position limits by trading on ICE, in addition to (or instead of) Nymex? Does the CFTC receive the same information from ICE Futures Europe about large trading positions that could be a source of manipulation or price instability?

H.R. 977, H.R. 2448/H.R. 2454, S. 447, and S. 807 propose to close the London loophole, by making relief from CFTC registration requirements and regulation contingent upon a finding that the CFTC will receive from the foreign market information that is comparable or identical to what it receives from domestic exchanges and the foreign market is subject to anti-manipulation rules comparable to the CFTC's. H.R. 977 provisions apply to all commodities; S. 447 and H.R. 2448/H.R. 2454 to energy; and S. 807 to energy and agriculture.

S. 1225 and H.R. 2869 would revoke immediately each CFTC staff no-action letter that covers a foreign board of trade that has established trading terminals in the United States for the purpose of trading U.S. commodities to U.S. investors.

CFTC Resources

S. 447 directs the CFTC to hire at least 100 new employees. H.R. 2448/H.R. 2454 authorizes the CFTC to set and collect fees from registered clearing organizations at a rate calculated to cover the cost of derivatives regulation (with the exception of costs directly related to enforcement). Fee rates would be adjusted annually to make amounts collected approximately equal to the CFTC's budget authority for non-enforcement activities.

International Regulatory Coordination

S. 447 calls for the creation of an international regulatory working group. H.R. 977 and S. 807 call for a GAO study of the international regime for regulating the trading of energy commodity futures and derivatives.

Carbon Allowance Markets

H.R. 2454, the American Clean Energy and Security Act of 2009, proposes to create a cap-and-trade system for regulating emissions of greenhouse gases. It is likely that when and if emission allowances, offsets, and credits become available for trading in the United States on a large scale, a derivatives market in those instruments will emerge, as it has in Europe.[30] A number of bills address the regulation of that prospective market.

H.R. 977 and S. 807 envision trading of carbon allowance derivatives under CFTC oversight. The bills include identical language providing that derivatives based on "any allowance authorized under law to emit a greenhouse gas, and any credit authorized under law toward the reduction in greenhouse gas emissions or an increase in carbon sequestration" will not be treated as exempt commodities, but will be placed on the same regulatory footing as agricultural contracts. In other words, emission derivatives could only be traded OTC with a specific exemption from the CFTC.

H.R. 977 and S. 807 also direct the CFTC to enter into a memorandum of understanding with the Secretary of Agriculture which shall include provisions, consistent with Section 1245 of the Food Security Act of 1985, ensuring that the development of any procedures and protocols for a market-based greenhouse gas program are properly constructed and coordinated to maximize credits for carbon sequestration.

H.R. 2454 (as passed by the House) provides for Federal Energy Regulatory Commission (FERC) regulation of trading in physical allowances. The CFTC would be the regulator for the allowance derivatives market, and would receive recommendations from an interagency working group including the Administrator of the Environmental Protection Agency and "the other relevant agencies." The working group would also report to Congress with any recommended legislative changes to ensure that markets are fair, transparent, stable, and efficient.

The interagency working group shall also make recommendations to Congress regarding legislative changes needed to ensure that allowance derivatives markets are transparent, fair, stable, and efficient.

[30] See CRS Report RL34488, *Regulating a Carbon Market: Issues Raised By the European Carbon and U.S. Sulfur Dioxide Allowance Markets*, by (name redacted) and (name redacted).

The CFTC shall collect information and report periodically on the operation of the allowance derivatives markets.

H.R. 2448 specifies that the CFTC shall regulate trading of derivatives contracts based on carbon or greenhouse gas emissions or credits based on emission offsets or the production of renewable energy. Such "regulated allowance derivatives" (defined in the bill) are to be subject to the same degree of regulation as included energy transactions (defined in Section 3 of the bill). As noted above, this is the only section where H.R. 2448 differs from Subtitle E of Title III of H.R. 2454.

(As set out above, H.R. 2454 and H.R. 2448 also include provisions that apply to OTC and exchange-based derivatives in other commodities.)

Under S. 1399 (Senators Feinstein and Snowe), the CFTC would regulate both carbon allowance and carbon allowance derivative markets under a cap-and-trade system. The bill includes prohibitions against market manipulation, fraud, and excessive speculation; gives CFTC the authority to bring cases, open investigations, and use subpoena power to protect the marketplace; and requires that all trading of allocations and standardized allocation derivatives take place on "registered carbon trading facilities" and to be cleared by CFTC-regulated clearinghouses.

Registered carbon trading facilities would have self-regulatory duties, including market surveillance to detect manipulation, record-keeping and trade recording, enforcement of fair trading rules, and position limits. The registered facilities would also be authorized to order traders to reduce the size of their positions.

S. 1399 would require brokers, dealers, and traders to register with the CFTC as "registered carbon traders." They would have to meet professional standards; pass background checks; complete at least 20 hours of pre-registration education on trading ethics, rules, and laws; and pass a test approved by the CFTC.

The CFTC would maintain a centralized electronic position accounting system to monitor all large trader positions across multiple markets. The CFTC would be authorized to collect trading fees to cover the cost of oversight.

Obama Administration Proposals for Derivatives Reform

The Obama Administration on June 17, 2009, released a proposal for a revamp of the financial regulatory and supervisory system, which included a section proposing an overhaul of OTC derivatives regulation.[31] The stated goal of the Obama Administration plan is to bring all OTC derivatives under a coherent, coordinated regulatory framework that will improve transparency and market discipline in the OTC derivatives market.[32]

[31] Department of Treasury, *Financial Regulatory Reform: A New Foundation*, http://www.financialstability.gov/docs/regs/FinalReport_web.pdf.

[32] Department of Treasury, *Financial Regulatory Reform: A New Foundation*, p. 6.

Key elements of the plan include the following:

- requiring that all standardized OTC derivatives are cleared through regulated central counterparties, and executed in regulated and transparent venues;
- increasing transparency in the OTC derivatives market, including developing a system for timely reporting of trades and prompt dissemination of prices and trading information;
- introducing reporting and record-keeping requirements on all OTC derivatives;
- preventing market manipulation, fraud and other abuses, including by amending the Commodities Exchange Act (CEA) and any securities laws to ensure the CFTC and SEC have clear authority to prevent and police market abuses;
- monitoring activities broadly in the OTC derivatives markets and ensuring they don't pose systemic risks to the financial system;
- strengthening regulation of OTC derivatives dealers and ensuring these products are not sold inappropriately to unsophisticated customers;
- bolstering the Federal Reserve's authority over derivatives markets infrastructure, such as clearing and settlement systems; and
- harmonizing the statutory and regulatory regimes for securities and futures.

The plan focuses on increasing transparency and standardization in the OTC derivatives market for all product types, and recommends that all "standardized" OTC derivatives be cleared by a clearing organization or traded on an exchange. But the plan does not specify what would constitute "standardized" as opposed to "customized" derivatives. Also, it does not mandate that all OTC derivatives be either traded on regulated exchanges or cleared through clearing organizations—only that as-yet-undefined "standardized" OTC derivatives contracts be cleared.[33] It does state that if an OTC derivative is accepted for clearing by one or more fully regulated central counterparties, then that should create a presumption that the derivative is standardized and thus would be required to be cleared.[34] The plan calls for Congress to amend the CEA and federal securities laws to require clearing of all standardized OTC derivatives through regulated central counterparties (CCPs).

The Dodd-Frank Act incorporated the basic framework of the Administration's proposals, with some significant changes. The act does not include the proposal's distinction between standardized and customized contracts, and it provides an exemption from clearing for commercial end-users.

Improving Transparency and Oversight

The Obama Administration plan also seeks to improve transparency in the OTC derivatives market, in terms of making aggregated market data available to the public, and seeks to improve price transparency in these contracts. The plan urges that CCPs and trade repositories be required

[33] Ibid, p. 47. For additional background, see also Department of the Treasury, Letter to Senator Harry Reid, May 13, 2009, accessible at http://www.financialstability.gov/docs/OTCletter.pdf.

[34] Ibid, p. 47.

to publicize aggregate data on open positions and trading volumes and develop a system for the timely reporting of trades and dissemination of prices. Also, CCPs and trade repositories should be required to make data on any individual counterparty's trades and positions available on a confidential basis to the CFTC, SEC, and the institution's primary regulators, under the Administration plan.

Some industry players reportedly wish to avoid price transparency, as they would lose money because wider bid-ask spreads from less-transparent prices generate larger fees.[35] The *Wall Street Journal* cited studies that found that an effort to improve transparency in the corporate bond market ultimately reduced bank fees by more than $1 billion a year.[36] Currently, the Depository Trust & Clearing Corp. (DTCC) collects information on most CDS trades, and releases aggregate data to the public weekly. DTCC recently sought to have its trade repository overseen by the Federal Reserve, which could render it a regulated trade repository. Another financial information provider, Markit, currently publishes end-of-day prices on CDS linked to roughly 400 bonds. The *New York Times* recently reported that Markit Group Holdings was under investigation by the Justice Department for potential antitrust violations related to unfair access to pricing information for derivatives trades.[37]

In contrast to the OTC market, information on exchange-traded futures is widely available. For example, stock prices, real time trade, and price data are available for a fee from private vendors who contract with the exchange, whereas quotes a few minutes old are available free over the Internet.

The Administration also urges regulated financial institutions to make greater use of regulated exchange-traded derivatives (as opposed to currently unregulated OTC derivatives). To improve both transparency and oversight, the Administration's plan urges Congress to amend the CEA and federal securities laws to authorize the SEC and the CFTC to impose record-keeping and reporting requirements, including an audit trail, on all OTC derivatives trades. Certain of the record-keeping and reporting requirements would be deemed satisfied when a standardized transaction is cleared through a CCP, or when a customized transaction is reported to a regulated trade repository.

Finally, the Administration plan also seeks to reduce fraud and manipulation in the OTC market, and to ensure that only suitably sophisticated participants are engaged in the OTC derivatives market. The proposal urges Congress to make any necessary changes to the Commodities Exchange Act and federal securities laws to ensure that the CFTC and SEC have clear authority to police fraud and market abuses, and to give the CFTC authority to set position limits on OTC derivatives, which have a significant price discovery function with respect to regulated markets.[38] Currently, the SEC relies on its powers under Section 10 of the Securities Exchange Act of 1934 to root out market abuses and fraud in the OTC derivatives market.[39]

[35] Serena Ng, "Banks Seek Role in Bid To Overhaul Derivatives," *Wall Street Journal*, May 29, 2009, p. C1.

[36] Ibid.

[37] Eric Dash, "Derivatives Are Focus of Antitrust Investigators," *The New York Times*, July 15, 2009, p. B1.

[38] Department of Treasury, *Financial Regulatory Reform: A New Foundation*, p. 48.

[39] The SEC has broad antifraud authority, extending into markets it does not regulate directly. While it can enforce antifraud provisions of the law in OTC markets, it has no authority to register OTC market participants or require them to disclose any trade information.

The Administration plan also states that current limits on types of counterparties that can participate in OTC derivatives are not sufficiently strict, and notes that the CFTC and the SEC are reviewing participation limits, and will recommend how the CEA and securities laws should be changed.[40] Possible changes would include tightening the limits or imposing additional disclosure requirements or standards of care regarding the marketing of derivatives to less sophisticated counterparties, such as some small municipalities.

To make the OTC derivatives oversight regime more robust, the Administration also proposed the introduction of conservative capital requirements—namely, requirements more conservative than existing bank regulatory capital requirements for OTC derivatives—and also conservative requirements for initial margins on derivatives trades in order to hedge counterparty credit exposures in those trades. The plan urges that regulatory capital requirements for OTC derivatives that are not cleared through a CCP should also be increased for both banks and bank holding companies (BHCs).

Harmonize SEC and CFTC Oversight of Derivative Products

Another key component of the Administration plan is to eliminate jurisdictional uncertainties as to which types of derivatives products fall under which regulator, the SEC or the CFTC. For instance, under current federal regulatory guidelines, options on securities are regulated by the SEC, whereas security futures contracts on the same stocks are regulated jointly by the SEC and the CFTC, even though these products share similar characteristics. Other securities derivatives, such as stock index futures contracts (and options on those futures), are regulated by the CFTC. This type of overlapping and sometimes competing jurisdiction have consumed agency resources and impeded the growth of new products, as litigation established whether a derivatives product should be regulated as a futures contract or as a security. A stated goal of the Administration's plan is thus to eliminate jurisdictional uncertainty and to ensure that economically equivalent derivatives products be regulated in the same manner, regardless of whether the CFTC or the SEC has jurisdiction.

To achieve this, the Administration calls on the SEC and the CFTC to jointly develop consistent procedures for reviewing and approving proposals for new products and rulemakings by self-regulatory organizations (SROs), including, for example, SROs that govern CCP clearing organizations. The Administration plan also called on the SEC to harmonize its "rules-based approach" with the CFTC's somewhat looser "core principles" approach; and for the CFTC to toughen its approach to regulation to become more in line with the SEC approach. The plan calls upon the SEC, meanwhile, to recommend an expansion of the types of filings it accepts that should be deemed effective upon filing. It calls on the CFTC to toughen its standards to require prior approval for more types of rules. Currently, many CFTC filings are deemed effective upon filing.

The Administration calls on the CFTC and SEC to jointly complete a report to Congress by September 30, 2009, identifying all existing conflicts in statutes and regulations regarding similar types of financial instruments, and either explaining why those differences are essential to underlying objectives of investor protection, market integrity, and price transparency, or recommending changes. If the agencies fail to agree on their recommendations and explanations

[40] Under current law, participation in OTC derivatives is limited to "eligible contract participants," defined in Section 1a(12) of the CEA.

by September 30, 2009, then their differences should be referred to the new Financial Services Oversight Council, under the plan. The council would have to address the differences and make its own recommendations to Congress within six months of its formation.[41]

Other than in certain specific situations, the Administration has not yet made clear its position on the extent to which the SEC or other regulators, such as the Federal Reserve, should participate in the regulation of OTC derivatives. To some, any such role would represent a usurpation of the CFTC's jurisdiction, while others question whether the CFTC has the resources or the expertise to supervise the OTC markets in financial derivatives, where the major players are banks and other financial institutions.

The Dodd-Frank Act provides for some joint SEC/CFTC rulemaking, but the two agencies will continue to operate independently.

Additional Role for the Federal Reserve in OTC Derivatives Oversight

A key component of the Administration plan gives the Federal Reserve additional powers over the broader derivatives market, particularly in terms of policing the effectiveness of payments systems used to settle previously unregulated OTC derivatives transactions, which were largely bilateral private contracts. The Administration noted that during the financial stresses of 2008, regulators were extremely concerned that weaknesses in settlement arrangements for OTC derivatives and for tri-party repurchase agreements could be a source of financial contagion. The New York Federal Reserve has worked for several years with industry participants to reduce backlogs of unconfirmed trades in credit swaps. But the Administration stated that "progress was slow and insufficient,"[42] and that the Federal Reserve was forced to rely largely on "moral suasion" rather than existing federal authority to encourage systematic reforms.

To address these systematic risks, the Administration plan pledged to proposed legislation that would broadly define the characteristics of systemically important payment, clearing, and settlement systems ("covered systems"), and set objectives and principles for their oversight by the Federal Reserve. Such legislation would give the Federal Reserve the power to collect information from any payment, settlement, or clearing system for the purpose of determining whether the system is systemically important.

If the system in question is subject already to CFTC or SEC oversight, then the CFTC or SEC would remain the primary regulator of the system. However, if that primary regulator does not already collect certain information, then the Federal Reserve would have the power to request such additional information directly from the system. The Federal Reserve would also have the power to impose risk management on these covered systems to ensure timely settlement. These risk management systems would be subject to regular, consistent on-site safety and soundness examinations by the CFTC or SEC, with the Federal Reserve having the right to participate in these exams. The Federal Reserve would also have the right to compel corrective action if risk management practices do not meet the applicable standards. The Fed would also have authority to require a covered system to submit reports on its risk management system.

[41] Department of Treasury, *Financial Regulatory Reform: A New Foundation*, p. 51.

[42] Ibid.

Finally, the Administration plan proposes to extend access to the Federal Reserve's discount window to any of the derivatives payment, clearing, and settlement systems that the Federal Reserve, in consultation with the proposed Financial Stability Oversight Council, deems systemically significant. Such access should be for emergency purposes, such as enabling the system to convert noncash margin and collateral assets (such as real estate or other nonliquid assets) to liquid settlement funds, in the event that one of the system's participants fails to settle its obligations to the system. The Administration noted that many market participants had trouble obtaining liquidity from relationship banks by pledging or selling collateral during times of financial stress. This created the risk that a systemically important system could be unable to meet its obligations to participants when due because a bank that a participant relied on to provide such liquidity (or another market participant) would be unable or unwilling to provide the liquidity that the system needs. Extending access to Reserve Bank accounts and financial services and to the discount window for derivatives payment, clearing, and settlement systems is aimed at reducing this systemic risk.

Title VIII of the Dodd-Frank Act gives the Federal Reserve some additional authority over systemically important financial utilities, including clearinghouses. For an overview of Title VIII, see CRS Report R41529, *Dodd-Frank Act, Title VIII: Supervision of Payment, Clearing, and Settlement Activities*, by (name redacted).

Appendix A. An Example of Futures Trading

An oil futures contract represents 1,000 barrels of oil, but neither party to the contract need ever possess the actual commodity. (Contracts may be settled by physical delivery, but in practice the vast majority are settled in cash.) When a contract is made today, one party (called the "long") agrees to buy oil at a future date from the other (the "short"). Contracts are available with different maturities, designated by expiration months, but the size is always the same. (In oil, a contract expires every month.) The price at which this future transaction is to take place is the current market price. Assuming the price of oil is $55 per barrel, the long trader is committed to buy at that price, and the short is obliged to sell.

Assume that tomorrow the price of oil goes to $60/barrel. The long trader now has the advantage: he is entitled to pay $55 for oil that is now worth $60. His profit is $5,000 (the $5 per barrel increase times the 1,000 barrels specified in the contract). The short has lost the identical amount: she is obliged to sell oil for less than the going price.

If, on the following day, the price goes to $65, the long gains another $5,000. The short, down a total of $10,000, may reconsider her investment strategy and decide to exit the market. She can do this at any time by entering into an offsetting, or opposite transaction. That is, she purchases a long contract with the same expiration date. Her obligation (on paper) is now to sell 1,000 barrels (according to the first contract) and to buy 1,000 barrels (the second contract) when both contracts expire simultaneously. Whatever price prevails at that time, the net effect of the two transactions will be zero. The short's position is said to be "evened out"—she is out of the market.

The short's decision to exit does not affect the long, who may prefer to ride with the trend. This is because all contracts are assumed by the exchange's clearinghouse, which becomes the opposite party on each trade, and guarantees payment. The ability to enter and exit the market by offset, without having to make or take delivery of the physical commodity, permits trading strategies based on short-term price expectations. While some traders may keep a long or short position open for weeks or months, others buy and sell within a time frame of minutes or seconds.

The exchange clearinghouse, which guarantees all trades, also controls traders' funds. Before entering into the trade described above, both long and short would have been required to deposit an initial margin payment of $7,763. (The amount is set by the exchange; the figure is current as of June 4, 2009. Lower margins apply to hedgers and exchange members.) All contracts are priced, or "marked-to-market," each day. The long trader above would have had his $10,000 gain credited to his margin account, while the short would have had to make additional "maintenance" margin payments to cover her losses. It is worth noting that her two-day $10,000 loss represents more than 100% of her original investment, that is, her initial margin deposit of $7,763: the risks of futures speculation are high. When traders exit the market, any funds remaining in their margin accounts are returned. (Other transaction costs, such as brokerage commissions and exchange fees, are not refundable.)

Options on futures are also available for many futures contracts. The holder of an option has the right (but not the obligation) to enter into a long or short futures contract over the life of the option. The option will only be exercised if price movements are favorable to the option buyer, that is, if the underlying futures contract would be profitable. The seller of the option receives a

payment (called a premium) for granting this right. The seller profits if the option is not exercised by the buyer. **Appendix B** has more information on options trading.

Appendix B. Options

In the futures contracts discussed in **Appendix A**, all gains by short traders create equal losses by long traders (or vice versa): futures trading is a zero-sum game. Traders who wish to limit their potential losses may choose to employ options, where gains and losses are not symmetrical. The key distinction between options and futures is that one party has the right, *but not the obligation*, to buy an asset in the future at a price determined when the option is purchased. There are two kinds of options: calls and puts. A call gives the holder of the options contract the right to buy an asset at a fixed price, while a put gives the holder the right to sell at a fixed price.

The price at which the underlying asset may be bought or sold is called the exercise price, or the strike price. An options contract confers the right to buy or sell for a specified period of time—each option has an expiration date.

On the other side of a put or call is the seller, or writer, of the option. The seller is obliged to buy or sell the asset at the strike price whenever the buyer chooses to exercise the option. In exchange for this right, the seller of the option receives a one-time payment, called the premium. The buyer's risk is limited to the amount of the premium—if prices move contrary to what the buyer expected, he simply lets the option expire unexercised, and the seller keeps the premium. On the other hand, the option buyer's potential profit is unlimited (just as a futures trader's is), because no matter how high or low the market price of the underlying asset may go, the option writer is obliged to buy or sell at the specified strike price.

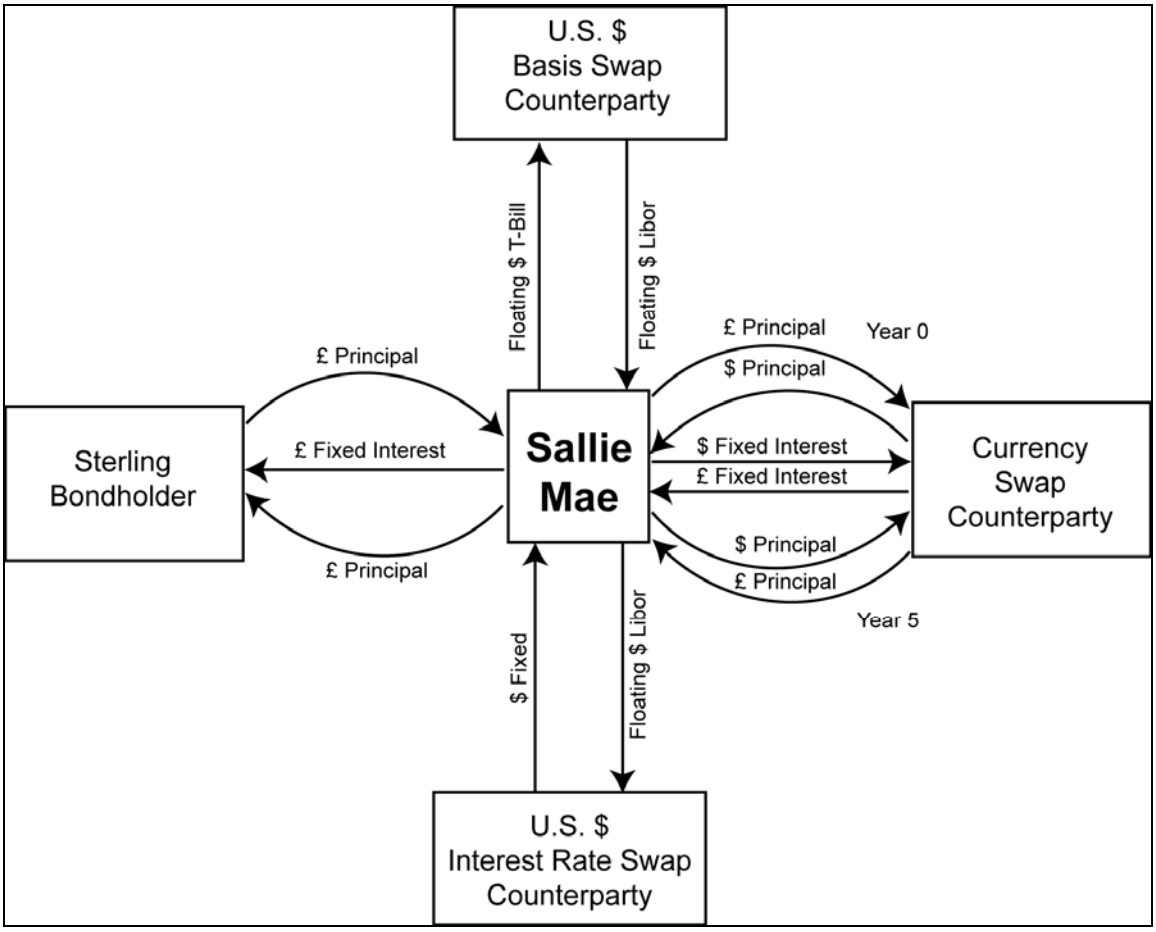
The price of an option is reflected in the amount of the premium that is charged by the seller. A number of factors affect option prices: first, the relationship between the strike price and the current market price of the asset, which is called the intrinsic value of the option. If, for example, a put option on 100 shares of General Electric stock has a strike price of $14.00 and the current share price is $13.50, the intrinsic value of the contract to the buyer is $50.00 ($0.50 per share times 100 shares). An option is said to be "in the money" when the holder can exercise at a profit. If GE shares climbed to $15, the put option would be "out of the money," or "underwater," because the right to sell a $15 share for $14 is worthless.

In addition to intrinsic value, an option has time value. If the GE put in the example above is currently out of the money, there is still the chance that the share price will drop below the strike price before the option expires. Time value depends on the length of time to expiration and the price volatility of the underlying asset, which determines the probability of the option coming into the money during the life of the contract.

Options are traded both on securities and futures exchanges and over-the-counter. Underlying assets include stocks, stock indexes, futures contracts, currencies, interest rates, and physical commodities. Many OTC contracts include option-like features, including swaps, which are discussed in **Appendix C**.

Appendix C. Swap Agreements

Figure C-1. A Swap-Driven Securities Issue



Source: Student Loan Marketing Association, Newspaper advertisement, 1992.

The OTC derivatives market includes a diverse range of instruments and contracts, but the building block of this market has been the swap agreement. The basic terms of a swap require two counterparties to exchange payments periodically. The size of one or both payments is determined by two factors: a notional principal (which is never actually exchanged) and some economic variable, most commonly an interest rate or currency exchange rate. To illustrate the mechanics and uses of swaps, consider the diagram above.

The figure represents the phases of a single deal: the sale of a bond and the transformation (via swaps) of the financial obligations stemming from the bond. The process begins on the left, with a bond issue in London: Sallie Mae sells five-year, fixed-interest bonds, denominated in pounds sterling. However, Sallie Mae does not wish to be exposed to variations in the pound/dollar exchange rate. A currency swap gets rid of this risk: Sallie Mae swaps the entire principal of the bond issue (right side box), exchanging pounds for dollars at the current exchange rate, *which is then fixed for the life of the swap*. When interest payments are due to the bondholders, the counterparties exchange payments again; Sallie Mae receives the pounds needed to meet the interest payments, and pays dollars (at the fixed exchange rate). When the bond matures, the

principal amount is again exchanged, in order that the bondholders may receive pounds. The currency swap allows Sallie Mae to fix the total cost of interest and principal repayment *in U.S. dollar terms.*

Next Sallie Mae wishes to avoid interest rate risk as well (i.e., the risk that market rates will fall below the bond's fixed rate). The bottom box represents the interest rate swap: Sallie Mae swaps a fixed rate obligation for a floating rate. Sallie Mae and the Interest Rate Swap Counterparty agree to exchange interest payments on a notional principal amount (which does not actually change hands) equal to the principal of the bond issue. The swap payments are set to coincide with interest payment dates of the bonds. Sallie Mae's payment is variable—determined by LIBOR (the London Interbank Offered Rate). In exchange, Sallie Mae receives a fixed interest payment that is equal to the amount needed to pay off the bondholders (after conversion into pounds via the currency swap above).

At this point, Sallie Mae has swapped its pound obligations for U.S. dollar obligations, and exchanged a fixed rate debt obligation for a floating rate. In the final step, Sallie Mae wishes to protect against the possibility of LIBOR (which determines Sallie Mae's payments on the interest rate swap) not tracking the U.S. Treasury bill rate, which is more relevant to Sallie Mae's domestic business. The top box shows the basis swap: Sallie Mae converts its floating rate LIBOR dollars to floating rate T-bill dollars on all interest payment dates. Sallie Mae makes payments based on the T-bill rate to its Basis Swap Counterparty in exchange for LIBOR-based payments, which it passes on to the Interest Rate Swap Counterparty. As the net result of the three swap deals, Sallie Mae converts a fixed-rate, pound-denominated bond into a floating-rate, dollar-denominated obligation. (Note however, that nothing changes for the original purchasers of the bonds: they receive fixed interest and principal repayment in pounds.)

These are basic, "plain-vanilla" swaps—two counterparties agree to exchange cash flows that are expected to fluctuate over the life of the swap. Derivatives become more complex when options characteristics are added to swap agreements, as when, for example, an upper or lower limit is set for one counterparty's payments, or when the exchange of payments begins at one party's discretion. The universe of derivative contracts is undergoing constant change as new contracts and exotic variations on old contracts are introduced.

Appendix D. Glossary of Terms

This glossary has been compiled from several earlier CRS reports, from the CFTC website, and from other sources.

Arbitrage—A strategy involving the simultaneous purchase and sale of identical or equivalent instruments across two or more markets in order to benefit from a discrepancy in their price relationship. In a theoretical efficient market, there is a lack of opportunity for profitable arbitrage.

Artificial Price—A futures price that has been affected by a manipulation and is thus higher or lower than it would have been if it reflected the forces of supply and demand.

At-the-Market—An order to buy or sell a futures contract at whatever price is obtainable when the order reaches the trading facility. Also called Market Order.

At-the-Money—When an option's strike price is the same as the current trading price of the underlying commodity, the option is at-the-money.

Audit Trail—The record of trading information identifying, for example, the brokers participating in each transaction, the firms clearing the trade, the terms and time or sequence of the trade, the order receipt and execution time, and, ultimately, and when applicable, the customers involved.

Bank Holding Company—A business incorporated under state law, which controls through equity ownership ("holds") one or more banks and, often, other affiliates in financial services as allowed by its regulator, the Federal Reserve. On the federal level, these businesses are regulated through the Bank Holding Company Act.

Basis—The difference between the spot or cash price of a commodity and the price of the nearest futures contract for the same or a related commodity. Basis is usually computed in relation to the futures contract next to expire and may reflect different time periods, product forms, grades, or locations.

Beta (Beta Coefficient)—A measure of the variability of rate of return or value of a stock or portfolio compared to that of the overall market, typically used as a measure of riskiness.

Bid-Ask Spread—The difference between the bid price (an offer to buy) and the ask or offer (to sell) price.

Black-Scholes Model—An option pricing model initially developed by Fischer Black and Myron Scholes for securities options and later refined by Black for options on futures.

Board of Trade—Any organized exchange or other trading facility for the trading of futures and/or option contracts.

Boiler Room—An enterprise that often is operated out of inexpensive, low-rent quarters (hence the term "boiler room"), that uses high pressure sales tactics (generally over the telephone), and possibly false or misleading information to solicit generally unsophisticated investors.

Broker—A person paid a fee or commission for executing buy or sell orders for a customer. In commodity futures trading, the term may refer to (1) Floor broker, a person who actually executes orders on the trading floor of an exchange; (2) Account executive or associated person, the person who deals with customers in the offices of futures commission merchants; or (3) the futures commission merchant.

Bubble—Self-reinforcing process in which the price of an asset exceeds its fundamental value for a sustained period, often followed by a rapid price decline. Speculative bubbles are usually associated with a "bandwagon" effect in which speculators rush to buy the commodity (in the case of futures, "to take positions") before the price trend ends, and an even greater rush to sell the commodity (unwind positions) when prices reverse.

Bucketing—Directly or indirectly taking the opposite side of a customer's order into a broker's own account or into an account in which a broker has an interest, without open and competitive execution of the order on an exchange. Also called trading against.

Call—(1) An option contract giving the buyer the right but not the obligation to purchase a commodity or other asset or to enter into a long futures position; (2) a period at the opening and the close of some futures markets in which the price for each futures contract is established by auction; or (3) the requirement that a financial instrument be returned to the issuer prior to maturity, with principal and accrued interest paid off upon return.

Cash Commodity—The physical or actual commodity as distinguished from the futures contract, sometimes called spot commodity or actuals.

Cash Settlement—A method of settling certain futures or option contracts whereby the seller (or short) pays the buyer (or long) the cash value of the commodity traded according to a procedure specified in the contract. Also called Financial Settlement, especially in energy derivatives.

Circuit Breakers—A system of coordinated trading halts and/or price limits on equity markets and equity derivative markets designed to provide a cooling-off period during large, intraday market declines. The first known use of the term circuit breaker in this context was in the *Report of the Presidential Task Force on Market Mechanisms* (January 1988), which recommended that circuit breakers be adopted following the market break of October 1987.

Clearing Organization—An entity through which futures and other derivative transactions are cleared and settled. A clearing organization may be a division or affiliate of a particular exchange, or a freestanding entity. Also called a clearinghouse, multilateral clearing organization, clearing association, or central counterparty.

Close—The exchange-designated period at the end of the trading session during which all transactions are considered made "at the close." See Call.

Closing-Out—Liquidating an existing long or short futures or option position with an equal and opposite transaction. Also known as Offset.

Commitments of Traders Report (COT)—A weekly report from the CFTC providing a breakdown of each Tuesday's open interest for markets in which 20 or more traders hold positions equal to or above the reporting levels established by the CFTC. Open interest is broken down by aggregate commercial, non-commercial, and non-reportable holdings.

Commodity Exchange Act—The Commodity Exchange Act, 7 USC 1, et seq., provides for the federal regulation of commodity futures and options trading.

Commodity Futures Modernization Act of 2000 (CFMA, P.L. 106-554, 114 Stat. 2763)—the act that overhauled the Commodity Exchange Act to create a flexible structure for the regulation of futures and options trading, and established a broad statutory exemption from regulation for OTC derivatives.

Commodity Futures Trading Commission (CFTC)—The federal regulatory agency established by the Commodity Futures Trading Act of 1974 to administer the Commodity Exchange Act.

Commodity Pool—An investment trust, syndicate, or similar form of enterprise operated for the purpose of trading commodity futures or option contracts. Typically thought of as an enterprise engaged in the business of investing the collective or "pooled" funds of multiple participants in trading commodity futures or options, where participants share in profits and losses on a pro rata basis.

Corner—(1) Securing such relative control of a commodity that its price can be manipulated, that is, can be controlled by the creator of the corner; or (2) in the extreme situation, obtaining contracts requiring the delivery of more commodities than are available for delivery.

Counterparty—The opposite party in a bilateral agreement, contract, or transaction, such as a swap.

Counterparty Risk—The risk associated with the financial stability of the party entered into contract with. Forward contracts impose upon each party the risk that the counterparty will default, but futures contracts executed on a designated contract market are guaranteed against default by the clearing organization.

Credit Default Swap (CDS)—A tradeable contract in which one party agrees to pay another if a third party experiences a credit event, such as default on a debt obligation, bankruptcy, or credit rating downgrade.

Credit Event—An event such as a debt default or bankruptcy that will affect the payoff on a credit derivative, as defined in the derivative agreement.

Credit Rating—A rating determined by a rating agency that indicates the agency's opinion of the likelihood that a borrower such as a corporation or sovereign nation will be able to repay its debt. The rating agencies include Standard & Poor's, Fitch, and Moody's.

Credit Risk—The risk that a borrower will fail to repay a loan in full, or that a derivatives counterparty will default.

Day Trader—A trader, often a person with exchange trading privileges, who takes positions and then offsets them during the same trading session prior to the close of trading.

Dealer—An individual or financial firm engaged in the purchase and sale of securities and commodities such as metals, foreign exchange, etc., for its own account and at its own risk as principal (see broker). Dealers are said to "make a market" in commodities or financial instruments.

Delta—The expected change in an option's price given a one-unit change in the price of the underlying futures contract or physical commodity. For example, an option with a delta of 0.5 would change $.50 when the underlying commodity moves $1.00.

Derivatives—Financial contracts whose value is linked to the price of an underlying commodity or financial variable (such as an interest rate, currency price, or stock index). Ownership of a derivative does not require the holder to actually buy or sell the underlying interest. Derivatives are used by hedgers, who seek to shift risk to others, and speculators, who can profit if they can successfully forecast price trends. Examples include futures contracts, options, and swaps.

Derivatives Clearing Organization—A clearing organization or similar entity that, in respect to a contract (1) enables each party to the contract to substitute, through novation or otherwise, the credit of the derivatives clearing organization for the credit of the parties; (2) arranges or provides, on a multilateral basis, for the settlement or netting of obligations resulting from such contracts; or (3) otherwise provides clearing services or arrangements that mutualize or transfer among participants in the derivatives clearing organization the credit risk arising from such contracts.

Derivatives Transaction Execution Facility (DTEF)—A board of trade that is registered with the CFTC as a DTEF. A DTEF is subject to fewer regulatory requirements than a contract market. To qualify as a DTEF, an exchange can only trade certain commodities (including excluded commodities and other commodities with very high levels of deliverable supply) and generally must exclude retail participants (retail participants may trade on DTEFs through futures commission merchants with adjusted net capital of at least $20 million or registered commodity trading advisors that direct trading for accounts containing total assets of at least $25 million).

Designated Contract Market—the CEA term for a futures exchange.

Eligible Contract Participant—An entity, such as a financial institution, insurance company, or commodity pool, that is classified by the Commodity Exchange Act as an eligible contract participant based upon its regulated status or amount of assets. This classification permits these persons to engage in OTC and other transactions (such as trading on a derivatives transaction execution facility) not generally available to non-eligible contract participants, that is, retail customers.

Exchange—A central marketplace with established rules and regulations where buyers and sellers meet to trade futures and options contracts or securities.

Excluded Commodity—In general, the CEA defines an excluded commodity as any financial instrument such as a security, currency, interest rate, debt instrument, or credit rating; any economic or commercial index other than a narrow-based commodity index; or any other value that is out of the control of participants and is associated with an economic consequence.

Exempt Commodity—The Commodity Exchange Act defines an exempt commodity as any commodity other than an excluded commodity or an agricultural commodity. Examples include energy commodities and metals

Exercise Price (Strike Price)—The price, specified in the option contract, at which the underlying futures contract, security, or commodity will move from seller to buyer.

Forward Contract—A cash transaction common in many industries, including commodity merchandising, in which a commercial buyer and seller agree upon delivery of a specified quality and quantity of goods at a specified future date. Terms may be more "personalized" than is the case with standardized futures contracts (i.e., delivery time and amount are as determined between seller and buyer). A price may be agreed upon in advance, or there may be agreement that the price will be determined at the time of delivery. Forwards are generally considered cash sales not regulated by the CEA.

Functional Regulation—Regulatory arrangements based on activity ("function") rather than organizational structure. The Gramm-Leach-Bliley Act called for more functional regulation than in the past.

Futures Commission Merchant (FCM)—Individuals, associations, partnerships, corporations, and trusts that solicit or accept orders for the purchase or sale of any commodity for future delivery on or subject to the rules of any exchange and that accept payment from or extend credit to those whose orders are accepted.

Futures Contract—An agreement to purchase or sell a commodity for delivery in the future: (1) at a price that is determined at initiation of the contract; (2) that obligates each party to the contract to fulfill the contract at the specified price; (3) that is used to assume or shift price risk; and (4) that may be satisfied by delivery or offset.

Gamma—A measurement of how fast the delta of an option changes, given a unit change in the underlying futures price; the "delta of the delta."

Haircut—In computing the value of assets for purposes of capital, segregation, or margin requirements, a percentage reduction from the stated value (e.g., book value or market value) to account for possible declines in value that may occur before assets can be liquidated.

Hedge Exemption—An exemption from speculative position limits for bona fide hedgers and certain other persons who meet the requirements of exchange and CFTC rules.

Hedge Funds—Essentially unregulated mutual funds. They are pools of invested money that buy and sell stocks and bonds and many other assets, including precious metals, commodities, foreign currencies, and derivatives (contracts whose prices are derived from those of other financial instruments). Hedge funds are limited to qualified investors with high net worth.

Hedging—Investing with the intention of reducing the impact of adverse movements in interest rates, commodities, or securities prices. Typically, the hedging instrument gains value as the hedged item loses value, and vice versa.

Initial Margin—Customers' funds put up as security for a guarantee of contract fulfillment at the time a futures market position is established.

Institutional Regulation—Regulation that is institution-specific as contrasted with activity-specific (see functional regulation).

Interest Rate Swap—A swap in which the two counterparties agree to exchange interest rate flows. Typically, one party agrees to pay a fixed rate on a specified series of payment dates and the other party pays a floating rate that may be based on LIBOR (London Interbank Offered Rate)

on those payment dates. The interest rates are paid on a specified principal amount called the notional principal, which is not actually exchanged.

International Swaps and Derivatives Association (ISDA)—A New York-based group of major international swaps dealers, that publishes the Code of Standard Wording, Assumptions and Provisions for Swaps, or Swaps Code, for U.S. dollar interest rate swaps as well as standard master interest rate, credit, and currency swap agreements and definitions for use in connection with the creation and trading of swaps.

In-the-Money—A term used to describe an option contract that has a positive value if exercised. A call with a strike price of $390 on gold trading at $400 is in-the-money 10 dollars.

Investment Bank—A financial intermediary, active in the securities business. Investment banking functions include underwriting (marketing newly registered securities to individual or institutional investors), counseling regarding merger and acquisition proposals, brokerage services, advice on corporate financing, and proprietary trading.

Leverage—The ability to control large dollar amounts of a commodity or security with a comparatively small amount of capital. Leverage can be obtained through borrowing or the use of derivatives.

Liquidity—The ability to trade an asset quickly without significantly affecting its price, or the condition of a market with many buyers and sellers present. Also, the ability of a person or firm to access credit markets.

Liquidity Risk—The possibility that the market for normally liquid assets will suddenly dry up, leaving firms unable to convert assets into cash. Also, the risk that other firms will refuse to extend credit on any terms to a firm that is perceived as distressed.

Manipulation—Any planned operation, transaction, or practice that causes or maintains an artificial price. Specific types include corners and squeezes as well as unusually large purchases or sales of a commodity or security in a short period of time in order to distort prices, and putting out false information in order to distort prices.

Margin—The amount of money or collateral deposited by a customer with his broker, by a broker with a clearing member, or by a clearing member with a clearing organization. The margin is not partial payment on a purchase. In the case of futures, (1) *Initial margin* is the amount of margin required by the broker when a futures position is opened; and (2) *Maintenance margin* is an amount that must be maintained on deposit at all times. If the equity in a customer's account drops to or below the level of maintenance margin because of adverse price movements, the broker must issue a margin call to restore the customer's equity to the initial level. Exchanges specify levels of initial margin and maintenance margin for each futures contract, but futures commission merchants may require their customers to post margin at higher levels than those specified by the exchange.

Margin Call—(1) A request from a brokerage firm to a customer to bring margin deposits up to initial levels; (2) a request by the clearing organization to a clearing member to make a deposit of original margin, or a daily or intra-day variation margin payment because of adverse price movement, based on positions carried by the clearing member.

Market Risk—The risk that the price of a tradeable security or asset will decline, resulting in a loss to the holder.

Market Maker—A professional securities dealer or person with trading privileges on an exchange who has an obligation to buy when there is an excess of sell orders and to sell when there is an excess of buy orders. By maintaining an offering price sufficiently higher than their buying price, these firms are compensated for the risk involved in allowing their inventory of securities to act as a buffer against temporary order imbalances. In the futures industry, this term is sometimes loosely used to refer to a floor trader or local who, in speculating for his own account, provides a market for commercial users of the market. Occasionally a futures exchange will compensate a person with exchange trading privileges to take on the obligations of a market maker to enhance liquidity in a newly listed or lightly traded futures contract. In OTC derivatives, dealers make a market in swaps and other contracts.

Mark-to-Market—Part of the daily cash flow system used by U.S. futures exchanges and most OTC derivatives dealers to maintain a minimum level of margin equity for a given futures or option contract position by calculating the gain or loss in each contract position resulting from changes in the price of the derivatives contracts at the end of each trading session. These amounts are added or subtracted to each account balance.

Naked Option—The sale of a call or put option without holding an equal and opposite position in the underlying instrument.

Net Position—The difference between the open long contracts and the open short contracts held by a trader in any one commodity.

Netting—A means of reducing credit exposure to counterparties arising from multiple cash flows or obligations. Two forms of netting are widely employed in derivatives markets: payment netting and closeout netting. *Payment netting* reduces settlement risk. If counterparties are to exchange multiple cash flows during a given day, they can agree to net those cash flows to one payment per currency. Not only does such payment netting reduce settlement risk, it also streamlines processing. *Closeout netting* reduces pre-settlement risk. If counterparties have multiple offsetting obligations to one another—for example, multiple interest rate swaps or foreign exchange forward contracts—they can agree to net those obligations. In the event that a counterparty defaults, or some other termination event occurs, the outstanding contracts are all terminated. They are marked to market and settled with a net payment.

Notional Principal—In an interest rate swap, forward rate agreement, or other derivative instrument, the amount (or, in a currency swap, each of the amounts) to which interest rates are applied in order to calculate periodic payment obligations.

Open Interest—The total number of futures contracts long or short in a market that has been entered into and not yet liquidated by an offsetting transaction or fulfilled by delivery.

Operational Risk—The possibility that a financial institution will suffer losses from a failure to process transactions properly, from accounting mistakes, from rogue traders or other forms of insider fraud, or from other causes arising inside the institution.

Option—A contract that gives the buyer the right, but not the obligation, to buy or sell a specified quantity of a commodity or other instrument at a specific price within a specified period of time, regardless of the market price of that instrument. (See **Appendix B**.)

Over-the-Counter (OTC)—Trading that does not occur on a centralized exchange or trading facility. OTC transactions can occur electronically or over the telephone.

Portfolio Margining—A method for setting margin requirements that evaluates positions as a group or portfolio and takes into account the potential for losses on some positions to be offset by gains on others. Specifically, the margin requirement for a portfolio is typically set equal to an estimate of the largest possible decline in the net value of the portfolio that could occur under assumed changes in market conditions. In futures, this is also known as *risked-based margining*.

Put—An option that gives the buyer the right (but not the obligation) to sell a set quantity of an asset at a fixed price, called the strike or exercise price.

Reference Entity—An asset, such as a corporate or sovereign debt instrument, that underlies a credit derivative.

Repo or **Repurchase Agreement—**A transaction in which one party sells a security to another party while agreeing to repurchase it from the counterparty at some date in the future, at an agreed price. Repos allow traders to short-sell securities and allow the owners of securities to earn added income by lending the securities they own. Through this operation, the owner of the security is effectively a borrower of funds. The rate of interest used is known as the *repo rate*.

Security—Generally, a transferable instrument representing an ownership interest in a corporation (equity security or stock) or the debt of a corporation, municipality, or sovereign. Other forms of debt such as mortgages can be converted into securities. Certain derivatives on securities (e.g., options on equity securities) are also considered securities for the purposes of the securities laws. Security futures products are considered to be both securities and futures products. Futures contracts on broad-based securities indexes are not considered securities.

Security Futures—Futures contracts based on individual stocks, jointly regulated by the CFTC and SEC. Also called single-stock futures.

Securitization—The process of transforming a cash flow, typically from debt repayments, into a new marketable security. Holders of the securitized instrument receive interest and principal payments as the underlying loans are repaid. Types of loans that are frequently securitized are home mortgages, credit card receivables, student loans, small business loans, and car loans.

Self-Regulatory Organizations (SROs)—National securities or futures exchanges, national securities or futures associations, clearing agencies and the Municipal Securities Rulemaking Board are all authorized to make and enforce rules governing market participants. The respective federal regulatory agency has authority in connection with SROs and may require them to adopt or modify their rules. Examples of SROs in the futures industry include the National Futures Association (NFA), and the futures exchanges.

SPAN® (Standard Portfolio Analysis of Risk®)—As developed by the Chicago Mercantile Exchange, the industry standard for calculating performance bond requirements (margins) on the basis of overall portfolio risk. SPAN calculates risk for all enterprise levels on derivative and non-derivative instruments at numerous exchanges and clearing organizations worldwide.

Special-Purpose Entities (SPEs)—Also referred to as off–balance-sheet arrangements, SPEs are legal entities created to perform a specific financial function or transaction. They are intended to isolate financial risk from the sponsoring institution and provide less-expensive financing. The assets, liabilities, and cash flows of an SPE do not appear on the sponsoring institution's books.

Speculation—a venture or undertaking of an enterprising nature, especially one involving considerable financial risk on the chance of unusual profit.

Speculative Position Limit—In futures trading, the maximum position, either net long or net short, in one commodity future (or option) or in all futures (or options) of one commodity combined that may be held or controlled by one person (other than a person eligible for a hedge exemption) as prescribed by an exchange and/or by the CFTC.

Structured Debt—Debt that has been customized for the buyer, often by incorporating complex derivatives.

Swap—In general, the exchange of one asset or liability for a similar asset or liability for the purpose of lengthening or shortening maturities, or raising or lowering coupon rates, to maximize revenue or minimize financing costs. This may entail selling one securities issue and buying another in foreign currency; it may entail buying a currency on the spot market and simultaneously selling it forward. Swaps also may involve exchanging income flows; for example, exchanging the fixed rate coupon stream of a bond for a variable rate payment stream, or vice versa, while not swapping the principal component of the bond. Swaps are generally traded over-the-counter. (See **Appendix C**.)

Systemic Risk—The term "systemic risk" does not have a single, agreed-upon definition. Some define systemic risk as the risk an institution faces that it cannot diversify against. In other circumstances, systemic risk is defined as the risk that the linkages between institutions may affect the financial system as a whole, through a dynamic sometimes referred to as contagion.

Total Return Swap—A type of credit derivative in which one counterparty receives the total return (interest payments and any capital gains or losses) from a specified reference entity and the other counterparty receives a specified fixed or floating cash flow that is not related to the creditworthiness of the reference entity.

Volume of Trade—The number of contracts traded during a specified period of time. It may be quoted as the number of contracts traded or, for commodities, as the total of physical units, such as bales or bushels, pounds, or dozens.

Warrant: An issuer-based product that gives the buyer the right, but not the obligation, to buy (in the case of a call) or to sell (in the case of a put) a stock or a commodity at a set price during a specified period.

Appendix E. List of Acronyms

BIS	Bank for International Settlements
BM&F	Brazilian Mercantile & Futures Exchange
CBOE	Chicago Board Options Exchange
CBOT	Chicago Board of Trade
CCP	Central counterparty
CEA	Commodity Exchange Act
CFMA	Commodity Futures Modernization Act of 2000
CFTC	Commodity Futures Trading Commission
CME	Chicago Mercantile Exchange
DTCC	Depository Trust & Clearing Corporation
FCM	Futures commission merchant
FIA	Futures Industry Association
FSA	Financial Services Authority
ICE	InterContinental Exchange Inc.
ISDA	International Swaps and Derivatives Association
LCH.Clearnet	London Clearing House/Clearnet
LIFFE	London International Financial Futures Exchange
NFA	National Futures Association
Nymex	New York Mercantile Exchange
NYSE	New York Stock Exchange
OTC	Over-the-counter
SEC	Securities and Exchange Commission

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Acknowledgments

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