



The Dodd-Frank Wall Street Reform and Consumer Protection Act

Changes to the Regulation of Derivatives and Their Impact on Agribusiness

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Abstract

The Dodd-Frank Wall Street Reform and Consumer Protection Act makes significant changes to Federal regulation of the U.S. over-the-counter (OTC) derivatives markets. With the goals of improving market transparency and reducing systemic default risk, the act calls for swaps to be centrally cleared and traded on an exchange or execution facility and for dealers and major participants that trade these derivatives to be subject to collateral requirements. Although the act exempts certain types of swaps and traders from these clearing, collateral, and trading venue requirements in order to preserve market efficiency, all swaps will be subject to new recordkeeping and reporting rules. In this article, we review some important features of the new law and discuss their potential impact on agribusiness, much of which will depend on how the rules are written and implemented by regulators.

Keywords: financial reform law, derivatives, over-the-counter markets, swaps, clearing, position limits, risk management, price discovery

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Introduction

A severe credit crunch in the United States in 2007 marked the beginning of a global financial crisis, which was symbolized by a series of surprising bank acquisitions and failures.¹ In spite of repeated efforts by the United States Federal Reserve Board and Federal Open Markets Committee to boost liquidity by lowering the primary credit rate and the Federal funds rate target, the American economy slid into a deep recession beginning in December 2007 (National Bureau of Economic Research, 2008). In 2008, Bear Stearns and Merrill Lynch, two investment banks in business for a century, collapsed and were bought out. In September of that year, the financial services firm Lehman Brothers, founded in 1850, filed for Chapter 11 bankruptcy protection. Because the Federal National Mortgage Corporation (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac) were deeply involved in the home mortgage derivatives market, which lay at the heart of the financial crisis, the Federal Government took conservatorship of both, and it acquired an ownership stake in American International Group (AIG) to provide confidence to the financial system. In the agricultural sector, the credit squeeze, in combination with a concurrent price boom in commodities markets, may have contributed to difficulties for some established cotton merchants to finance *margin calls*,² forcing them into bankruptcy or mergers.

On July 21, 2010, President Obama signed the Dodd-Frank Wall Street Reform and Consumer Protection Act (2010) (hereafter referred to either as “the act” or “Dodd-Frank”), with the aim of confronting problems that precipitated the financial crisis. Among the provisions in the legislation, Congress mandated a tightening of financial market regulation, to improve transparency and reduce *systemic default risk* in the over-the-counter (OTC) derivatives trade. Such derivatives, which will be subject to enhanced regulation under the act, are a major component of the *hedging* activities of modern agribusiness. In this article, we review some important features of the new law and discuss their potential impact.

¹ See the Federal Reserve Bank of St. Louis website for a thorough timeline of the financial crisis.

² The Commodity Futures Trading Commission (CFTC, 2010) makes this point in a staff report on the March 2008 cotton price spike, although other factors covered in the report and by Carter and Janzen (2009) may be more directly tied to observed defaults. Note: *Margin calls* and other italicized terms are defined in the Glossary at the end of the report.

Derivatives Markets

A derivative is a financial instrument whose value is based on the value of an underlying asset (Hull, 1993). In the United States, the history of derivatives is closely tied to agriculture. Initially established as a *cash market* in 1848, the Chicago Mercantile Exchange (CME) Group's Chicago Board of Trade (CBOT) recorded the earliest forward contract, for the future delivery of 3,000 bushels of corn, in 1851 (Chicago Board of Trade, 2006).³ Forward contracts for wheat and other commodities soon followed. In 1864, the CBOT traded the first standardized "exchange-traded" forwards, which were called "*futures contracts*." Following the success of futures trading in agricultural markets, derivatives trading eventually expanded to minerals, metals, and, beginning in the 1970s, financial instruments. Today, derivatives markets serve two essential economic functions for the global economy: *price discovery* and risk management.

Market participants trade derivatives for a variety of reasons. Commercial firms that deal in the underlying commodity use derivatives in hedging operations both as temporary substitutes for a cash transaction that will occur later and to manage price risk (Peck, 1985), effectively reducing the firms' exposure to shifts in the commodity price level.⁴ *Speculators*, in contrast, attempt to benefit from the same price-level changes that *hedgers* avoid.⁵ Through this profit-seeking behavior, speculators provide the market with essential liquidity, willingly taking the opposite side of contracts that hedgers may otherwise have difficulty establishing, making the market much more efficient. By determining a commodity price competitively, liquid exchange-traded derivatives markets instantaneously transmit fundamental economic information worldwide. In general, derivatives do not magnify or reduce risk, but spread it among the parties most willing to shoulder the variations in the price of the underlying asset (Hieronymus, 1977). For example, a derivatives market does not make grain production any more or less variable, but it does allow producers to insulate themselves from, say, a falling price of corn.⁶

Examples of derivatives contracts include *forwards*, *futures*, *options*, and *swaps*, summarized below. In each case, the contract is established between two willing parties, and the returns are zero-sum, before transaction costs. Gains for one side offset losses to the other.

- *Forward contracts* are agreements to exchange a specified asset for a certain price at a future date; they are typically made between private parties and, for commodities, generally result in *physical delivery*.
- *Futures contracts* are similar to forward contracts, except that their terms, such as quality and delivery location, are standardized to facilitate rapid trading on an exchange. Further, the terms of futures contracts specify whether they are cash settled or instead settled by physical delivery at contract expiration, although most are offset by an opposite position prior to expiration. Futures contracts also require that daily contract losses and gains from price changes be paid and received each day to guard against the risk that one of the firms that enters the contract will not perform its obligations (also known as counterparty default risk).

³ Modern CBOT corn contracts are traded in 5,000-bushel units.

⁴ Hedging is done to manage risks rather than to avoid them. Even if fully hedged, a commercial firm is exposed to basis risk, from which it seeks to profit. *Basis risk* is the unanticipated change in the difference between cash and derivative prices. To avoid risk entirely, the firm would operate only in the cash market as it established forward contracts for its output.

⁵ Many traders cannot easily be classified as either hedgers or speculators, but blend features of both and operate on a continuum between the two categories.

⁶ There is no free lunch, though. Whether in the form of an option premium or an opportunity cost, derivatives are not costless.

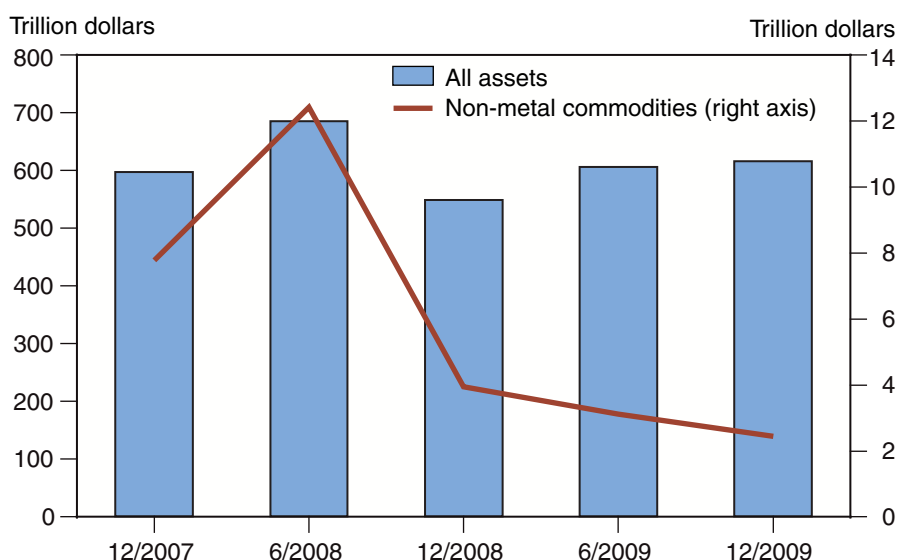
- *Options*—In contrast to futures and forward contracts, which carry the obligation to trade an asset for an agreed-upon price—an option represents the right to purchase or sell an instrument for a previously determined *strike price*. The buyer of a *put (call) option* has the right, but not the obligation, to sell (buy) the underlying asset at the strike price regardless of the asset’s market price. To purchase this right, the buyer pays a premium to the writer of the option contract, who is responsible for satisfying the contract if it is exercised.
- *Swaps* are agreements to exchange assets, usually cash flows (Bailey, 2005). The most common, a “plain vanilla” swap, involves the exchange of a fixed interest payment for a variable one, with the difference to be paid in cash at contract *settlement*. A *commodity swap* is one in which the payout is based on the price of a commodity or the level of a commodity index.

Derivatives can be traded on a regulated, organized exchange or through a less formal dealer network. If search costs are not prohibitive, two willing parties can even write and trade derivatives without the aid of a dealer. Trades that are not executed on an organized exchange are said to occur in the over-the-counter (OTC) market. Swaps and hybrid “*swaptions*,” which are options on swap agreements, are the most common off-exchange derivatives (Lang, 2009).⁷ As shown in figure 1, the *notional amount* of outstanding OTC derivatives is estimated to be about \$615 trillion worldwide (Bank for International Settlements, 2010) (fig. 1), of which \$300 trillion is in the United States alone (FCIC, 2010).⁸ In comparison, the entire gross domestic product of the United States is less than \$15 trillion (Bureau of Economic Analysis, 2010). Nonmetal commodity derivatives, including those for agricultural crops, amounted to almost \$2.5 trillion in notional value last year (Bank for International Settlements, 2010).

⁷ Throughout the text, the terms “swaps” and “OTC derivatives” are used interchangeably, since swaps are such a prominent component of the OTC market. Title VII of the act includes swaptions in its definition of swaps.

⁸ The notional amount outstanding is the face value, in dollars, of the underlying asset upon which the derivative is based. The value of funds at risk is a considerably smaller figure.

Figure 1
Size of the OTC derivatives market



Source: Bank for International Settlements, 2010.

Once transacted by a buyer and seller, futures and options contracts must be registered with and processed by a *clearing member*, who assumes the default risk of the original parties, and cleared by a *clearing house* (a financial entity that splits the original contract, acting as buyer to all sellers and seller to all buyers) that stands between the counterparties until the contract is settled. The clearing house pools the risk that a clearing member will default on a contract among all its members and requires them to provide collateral in the form of a *margin* account, from which daily gains or losses are posted (clearing members, who are *Futures Commission Merchants*, in turn, collect margin from their nonmember customers, or from their own funds if they are trading on their own account). Daily gains and losses are calculated through a process known as *marking to market*, bringing trading *positions* in line with their current market value.⁹

The role of the clearing house is to remain adequately capitalized, so that it can cancel a contract in case a clearing member cannot meet its margin requirements and remunerate the counterparty, centralizing default risk. Because it concentrates the default risk of all counterparties, the stability of the clearing house is essential to a well-functioning clearing system. A stable clearing house that maintains adequate access to financial resources reduces the counterparty default risk faced by nonmember traders, and can ultimately lower systemic default risk by guaranteeing performance of member contracts (Squam Lake Working Group on Financial Regulation, 2009). Another advantage of the clearing house is that it monitors all trades, which increases market transparency, and nets¹⁰ them so that credit exposure is reduced. Before the act, there was no legal requirement for clearing OTC swaps. The traders could, however, volunteer OTC derivatives contracts to firms with a clearing house function like CME or IntercontinentalExchange (ICE) for clearing, provided the firm agreed to assume the default risk responsibility.¹¹

Clearing highly customized OTC derivatives is more time-consuming and expensive than for traditional, standardized exchange-traded derivatives. Moreover, the clearing system is not without its drawbacks, which are discussed in detail by Pirrong (2010). For example, clearing reduces the potential for counterparty defaults as well as the losses associated with those defaults, improving the allocation of default risk—but those benefits may lead to an expansion of trading and a greater level of risk-taking. This is referred to by economists as a *moral hazard*: even partial insulation from default risk makes a trader more likely to engage in riskier trading. Moral hazard can be limited by the clearing house by increasing margin or setting *position limits* (capping the number of contracts a member may hold), but these tools may result in a less efficient situation than existed in the original, bilateral OTC market. Another concern about the clearing process is that if it is fragmented through the establishment of multiple specialized clearing houses, the benefits of netting are reduced, while counterparty and systemic default risks are increased (Squam Lake Working Group on Financial Regulation, 2009).

OTC derivatives offer some unique advantages over exchange-traded instruments. To facilitate trading expediency, exchanges standardize futures and

⁹ Marking to market is sometimes done more frequently than once per day.

¹⁰ Netting is the process of calculating a trader's actual position in a commodity. For example, a net position in corn futures equals the number of long minus short contracts. Margin requirements are based on the net position.

¹¹ See Morrison (2010) for an overview of existing OTC clearing houses and the types of derivatives in which they currently specialize or are planning to implement.

options contracts. OTC swaps, on the other hand are more flexible because they can be customized to meet the risk management desires of the individual traders. In the past, OTC swaps had lower margin requirements—and less frequent, if any, marking-to-market requirements—which may be more convenient for those who face constraints on their access to capital. Finally, parties to OTC derivatives have greater freedom to bargain contract terms, including collateral and price, based on the creditworthiness of the traders. In contrast, futures trades must be executed at the current market price. Although many swaps are priced with respect to a related futures contract, some do not have a corresponding exchange-traded counterpart and represent an entirely new market. *Swap dealers* bridge the OTC and exchange-traded markets, using futures contracts to manage the risks they incur by trading customized swaps (CFTC, 2008).

Derivatives in U.S. Agriculture

Many American agribusinesses use derivatives to manage the risks associated with their commercial interests. Millers and packers hedge against a rise in grain or livestock prices, since these are production inputs. Similarly, large grain and livestock producers, concerned that prices may fall before they can sell their output, hedge against commodity price decreases and rising fuel prices. Fertilizer, herbicide, biotechnology, and farm machinery firms use derivatives to shield their returns. For example, a tractor exporter can use currency instruments to hedge against an adverse change in exchange rates. Few small farmers use exchange-traded derivatives to hedge price risk because of the cost of trading, including the risk of margin calls and production uncertainty (Pannell et al., 2008), although some pool together into cooperatives to buy and sell futures and options. Many individual producers prefer to avoid margin calls and basis risk, contracting their production forward with grain elevators, processors, and packers, who in turn assume the price risk originally faced by producers.¹²

Derivatives for agricultural commodities tend to be uniquely designed around crop features. For example, five futures contracts for corn and five for wheat are traded on the CBOT each calendar year, expiring around planting time, during the growing season, and bracketing the harvest. Rather than being cash-settled, agricultural futures contracts generally specify physical settlement (delivery of the underlying commodity), directly tying together the cash and futures markets. Delivery points are selected based on the commodity flow, and contract specifications usually call for a specific grade of the product and method of delivery. Futures and options contracts for certain agricultural commodities are subject to CFTC-mandated limits for speculative positions. Traders who do not possess a *hedging exemption* are limited to a specified number of contracts, aggregated across futures and options, for each single contract month and all months combined. OTC *agricultural swaps* tend to be highly customized derivatives, with terms based on the commercial interests of the traders. For example, a soybean producer can enter into a swap agreement with a grain elevator operator, securing a fixed payment of \$350 per metric ton to be paid at harvest. At expiration, the swap is settled by cash payment; the farmer will pay the elevator operator the difference if the agreed-upon benchmark price per ton of soybeans is more than \$350, and if the price is lower, the operator will pay the farmer. In the end, each party realizes a price of \$350 and is free to purchase or sell grain in the local *cash market*.

¹² Harwood et al. (1999) describe the tools and strategies that farmers use to manage risk. MacDonald and Korb (2005) provide results of a related USDA survey.

Important Dodd-Frank Reforms for Agribusiness

The financial reform act makes significant changes to the regulation of derivatives (table 1). We describe those changes below, as well as their potential effects on agribusiness. Throughout, we stress that much of the act's impact will depend on the implementation of the law in the form of regulatory rule-making. Because this article is concerned with agribusiness and its related commodities, the relevant regulator is the CFTC. The CFTC's rulemaking process is open to the public; like other agencies responsible for rulemaking prescribed in Dodd-Frank, CFTC includes public commentary in its draft and final rulemaking efforts. The process is further described in the box, "Federal Rulemaking Procedures." Successful regulation will strike the right balance between increasing transparency while protecting market participants against systemic default risk and maintaining the efficiency of OTC markets.

Regulation of Swaps

Before Dodd-Frank was passed, no formal regulatory structure or recording mechanism existed for swap derivatives. The act mandates that security-based swaps be regulated by the Securities and Exchange Commission (SEC). Most other swaps (which the law refers to as simply "swaps"—we use the same designation) fall under CFTC jurisdiction; swaps and security-based swaps are defined in the act.¹³ CFTC and SEC are to cooperate to ensure regulatory consistency. Title VII of the act gives CFTC the responsi-

¹³ Dodd-Frank defines "mixed swaps" as a third class of transactions that share features of both swaps and security-based swaps. SEC and CFTC share regulatory and rulemaking authority over these swaps.

Federal Rulemaking Procedures

The Dodd-Frank Act expresses the intent of Congress concerning financial market regulation. Federal agencies tasked with implementing the act must draft specific rules and regulations according to the Administrative Procedures Act. Proposed rules and regulations must be posted in the Federal Register for public comment. After the public comment period, and after weighing the comments and congressional intent, the agencies involved draft final rules and regulations, which are also posted in the Federal Register. Final rules and regulations, which are subject to judicial and congressional review, often include input both from the public comments and from public meetings sponsored by the agencies involved.

Public participation in the rulemaking process has increased as the Internet has lowered search costs and made information easier to obtain; agency websites and the regulation.gov website are used to solicit public comments and to track the rulemaking activities (Reilly, 2010).

Rulemaking in support of Dodd-Frank can be followed on <http://www.regulation.gov>, including requests for comments, meeting notices, proposed rules, and final rules. The CFTC posts topics, attendees, and summaries of all meetings that its staff has with outside groups regarding implementation of the act, public comments, and updates to its rulemaking efforts on its website, at <http://www.cftc.gov/>.

bility of reviewing all groups, categories, types, or classes of swaps to determine whether they should be cleared. This review process can be initiated by the derivatives-clearing organization (DCO), or by CFTC itself. The act does not alter rules pertaining to other derivatives, i.e., forward contracts or exchange-traded futures and options. Various sections of the act stipulate that information regarding swap transactions be reported to CFTC after being recorded by a DCO, a board of trade, a swap execution facility, or a swap data repository, each of which must register with CFTC. In addition, the act calls for CFTC and SEC to conduct a study on international swap regulations,

Table 1

Potential impact of the Dodd-Frank derivatives regulation on agribusiness

	Before Dodd-Frank	Dodd-Frank legislation	Potential benefits	Potential costs
Regulation of swaps	Very little regulatory authority.	CFTC is responsible for all (non-security-based) swaps and will determine which swaps must be cleared. Cleared swaps will trade on a contract market or swap facility. ¹ Regardless of the clearing requirement, all swaps must be reported.	The law brings oversight and transparency to an unregulated market. Establishing CFTC as the single regulator centralizes rulemaking.	If highly customized derivatives are forced to clear, OTC trades may be hampered. Reporting and recordkeeping increases transparency, although it may be more expensive for certain swaps.
Clearing and collateral requirements	Clearing and margin were mandatory for exchange-traded derivatives, but were not required in the OTC markets.	Margin accounts must be created for cleared swaps, but will not be required for end users who exercise a clearing exemption. However, their counterparties are often swap dealers and major swap participants, who will still need to post collateral.	Clearing and margin requirements increase market transparency, reduce counterparty risk, provide for collateral to cover losses, and ultimately may help lower systemic default risk.	Clearing requirements may be inefficient, and can increase systemic risk if not well-designed. Overly strict clearing and/or collateral requirements may make certain OTC derivatives less attractive for swap dealers and other counterparties to traditional hedgers, reducing market liquidity.
Position limits	CFTC set position limits for non-hedgers of exchange-traded ag. commodities, but no limits existed for OTC derivatives. Certain nontraditional financial traders were granted hedging exemptions.	CFTC is responsible for setting aggregate position limits across derivative types (including OTC) for the same commodity. Position limits are still exempted for bona fide hedgers.	Position limits are intended to prevent market concentration, manipulation, and “excessive speculation,” although empirical evidence of their benefits is sparse.	Limiting the ability of the largest speculators to trade derivatives can decrease liquidity, making trading—and risk management efforts—more expensive.
Hedging exemptions	Part 1 of the CFTC regulations defined a bona fide hedge. CFTC granted hedging exemptions to some nontraditional financial traders in agricultural markets.	The Commodity Exchange Act is amended to add a similar definition.	CFTC may be less likely to give hedge exemptions to nontraditional financial traders, enforcing a more narrowly defined bona fide hedge.	Combined with position limits, more stringent rules for hedge exemptions could force large financials overseas and/or into domestic commodity cash markets.
Agricultural swaps	Agricultural swaps were allowed between “eligible swap participants,” as defined by Part 35 of the CFTC regulations. There was no clearing or margin requirement for these swaps.	Agricultural swaps can be made only by eligible contract participants, or as otherwise expressly permitted by CFTC rules. All other trade in such swaps is banned.	Continuing to limit agricultural swaps to eligible contract participants guarantees that the market is available only to “informed” traders.	Constraining the agricultural swaps market limits risk management options of participants who do not meet trading thresholds.

¹Unless a hedging exemption is exercised, or no transaction facility will accept the swap for clearing

identifying similar areas of regulation, including those where U.S rules could be harmonized with those of other countries.

Making CFTC the swap regulator centralizes rulemaking and brings oversight to what was essentially an unregulated market. Although OTC derivatives serve an important risk management role, amounting to trillions of dollars in value, until now regulators had no authority to monitor the market and set or alter trading rules. The comprehensive reporting and recordkeeping requirements are intended to enhance market transparency, providing CFTC a real-time surveillance of trends in the swap market. The law further requires CFTC to provide reports on transaction and pricing data for OTC derivatives, keeping the general public informed about market developments, as is currently the case for other derivatives like futures and options. The act authorizes the CFTC to decide the timing and manner in which the swap transactions data are made available to the public, with the intention of enhancing price discovery.

Although the law sets guidelines, CFTC is responsible for rulemaking that will establish regulatory oversight and directly affect the efficiency of the swap markets. The benefits of improved market transparency must be weighed against the possibility that burdensome new trading rules could reduce the attractiveness of OTC derivatives and limit their usefulness for hedging. Real-time public reporting of cleared swap transactions may increase the competitiveness and efficiency of swap markets, but could increase costs for dealers, who may choose to pass those costs on to end-users (Ackerman, 2010). Conversely, a long delay in the publication of swaps transactions will produce only modest gains in market transparency. In the short term, until the practice becomes routine, recordkeeping for customized derivatives may be more expensive than for standardized transactions made on an exchange. One goal of the review process for new OTC derivatives will be to avoid slowing innovation in and development of new risk management products.

Clearing and Collateral Requirements

OTC markets did not have mandatory clearing or margin rules for swaps before passage of the act. Now, once CFTC determines which types of swaps must clear, these must be cleared through a derivatives-clearing organization—if one is available—that stands between the counterparties and guarantees trades. The DCO must establish capital and margin requirements for swaps it clears, such as marking them to market at least once per day, to protect its own financial integrity and the integrity of the transactions it clears in case a large participant defaults.

As nonfinancial firms with a bona fide commercial hedging interest in the underlying asset, end users may be exempted from the new mandatory clearing requirements. To gain this exemption, they must demonstrate to CFTC how they meet financial obligations associated with trading uncleared swaps, although they can volunteer a swap for clearing at the DCO of their choosing. An example of an agribusiness end-user could be a producer that uses interest rate swaps to hedge against financial risks it encounters in the course of its normal commercial business.¹⁴

¹⁴ Because specific rules have yet to be written, this is only a potential example.

A swap can also go uncleared if no derivatives-clearing organization chooses to clear it. When trading uncleared swaps, swap dealers and other major swap participants must meet minimum capital and margin requirements set by CFTC; the act specifies that these participants are to register with the regulator within a year of enactment. When trading cleared swaps, swap dealers and other major swap participants are to follow the capital and margin guidelines set by the derivatives-clearing organization.

Clearing and margin requirements can act as safeguards for the performance of the OTC derivatives markets. Ideally, clearing eliminates counterparty credit risk between the original traders. As a result, market participants may be more confident in their ability to manage risk, which, in turn, should improve market liquidity and lower transaction costs. Moreover, requiring margin accounts to be sufficient to cover potential losses could reduce systemic default risk. Given adequate collateral requirements, a default by one trader is less likely to lead to a domino effect of cascading, market-wide defaults on derivative contracts.

The clearing process has some drawbacks, however. It may be that clearing did not develop organically in the OTC market for many swaps because of informational problems that make clearing less efficient than bilateral execution for these types of derivatives (Pirrong, 2010). Moreover, forcing swaps to clear could actually increase systemic default risk. According to Duffie et al. (2010), the clearing house should maintain adequate financial resources to cover a broader set of risks than just a default by its largest participant, such as the ability to offset potential losses equal to the market's largest historical price swing. If it cannot cover its losses, the likelihood of which may be heightened by moral hazard or the difficulty of clearing highly customized derivatives, a clearing house poses a risk to the financial system overall.

Provided they meet the definition of an end user, agribusinesses and other nonfinancial firms that use swaps to hedge commercial risks are exempt from clearing and margin requirements (Dodd and Lincoln, 2010). Swap dealers and other major swap participants, who often take the other side of these OTC trades, will, however, need to post collateral before trading uncleared swaps with exempted parties. At the option of the end user, that collateral will be segregated with an independent third party. If the margin requirements are too stringent, swap dealers and major swap participants may find certain highly customized derivatives—like agricultural swaps—less attractive. In that case, reduced market liquidity would increase transaction costs for agribusinesses engaged in customized swap trading.

Position Limits and Hedging Exemptions

Among agricultural commodities, CFTC previously set position limits only for derivatives traded on an exchange. Title VII of the act authorizes CFTC to set aggregate position limits across derivatives that are based on the same underlying commodity. This regulation includes swaps that perform a significant price discovery function, as defined in the law. Bona fide hedgers are exempt from these limits if they can demonstrate a commercial interest to CFTC. The act revises the Commodity Exchange Act to include the existing definition of a bona fide hedger in CFTC regulations. CFTC is also charged

with conducting a study on the impact of position limits on “excessive speculation” and the movement of transactions from domestic to international markets.

Limits on the size of trading positions are intended to prevent market concentration, manipulation, and “excessive speculation.” By establishing position limits, the CFTC attempts to cap the net positions for traders who do not have a direct commercial interest in the underlying commodity. Speculators reduce transaction costs to hedgers by boosting trading volume, spreading the fixed costs of market operation across many more trades. A derivatives market composed only of hedgers would make risk management much more expensive (Working, 1970). Although tight position limits can be effective at preventing market manipulation (Kyle, 1984), they can also constrict the ability of the largest speculators to trade derivatives, decreasing market liquidity. Empirical evidence of the effect of position limits is thin, but Irwin et al. (2007) conclude that price volatility in CBOT corn, soybeans, and wheat did not measurably increase after speculative limits on these contracts were relaxed in 2005.

Market liquidity may also be decreased if Congress intends for CFTC to apply the hedging exemption more scrupulously. Since the late 1980s, the exemption has been interpreted to apply to nontraditional financial firms, like swap dealers and commodity index fund traders. For example, swap dealers have been able to obtain an exemption from position limits for futures markets in order to manage the risks they incurred in the OTC markets, and index funds have obtained an exemption if they tracked an index of commodity prices. Under new rules, tighter hedge exemptions, combined with position limits, could drive index funds into cash markets (Irwin and Sanders, 2010) or into overseas derivatives markets. The spirit of position limits could be indirectly circumvented if tighter hedging exemptions were to cause large financial traders to split into numerous smaller funds, leaving the total speculative position in place, but losing economies of scale and increasing trading costs to fund participants.

Agricultural Swaps

Before Dodd-Frank’s passage, agricultural swaps were permitted for trading between eligible swap participants under Part 35 of CFTC regulations, which was adopted pursuant to section 4(c) of the Commodity Exchange Act (CEA). The Part 35 provision allows the CFTC to exempt transactions from the exchange-trading requirement or other provisions of the CEA. Title VII of Dodd-Frank expressly bans all transactions in agricultural swaps, unless they are pursuant to an exemption under CEA section 4(c). In addition, a swap execution facility must follow to-be-determined rules before it can list an agricultural swap for trading. Under Dodd-Frank, swap transactions are limited to *eligible contract participants* (ECPs)—that is, to large investors, like a commodity pool, an insurance company, or an individual with over \$10 million in assets. The ECP category most likely to apply to agricultural producers includes a corporation, partnership, proprietorship, organization, trust, or other entity that has a net worth exceeding \$1 million and is hedging. Ongoing trade in agricultural commodity swaps under current Part 35 is grandfathered under the act, although future CFTC revisions to Part 35

will presumably affect regulation of these swaps (Heitman, 2010). Currently, trade in agricultural swaps is permitted only to relatively informed traders with access to capital. Market participants who do not meet these eligibility requirements are unable to engage in agricultural swaps for investment or risk management, but may still engage in forward contracts for commercial purposes.

Conclusions

The Dodd-Frank Wall Street Reform and Consumer Protection Act makes important regulatory changes that will affect the operation and efficiency of OTC derivatives markets, which serve as an important hedging forum for modern agribusiness. Although the act provides a general guide to the derivative reforms, much of the impact on agribusiness will become known only after the rules are written and implemented by the regulators. There are clearly benefits to improving market transparency and attempting to reduce the likelihood of systemic default. The goal for the regulating agencies will be to balance those benefits against the potential costs associated with mandating clearing, establishing capital and margin requirements, limiting contract positions, and instituting standards for reporting and recordkeeping in the OTC markets.

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Glossary

Abbreviations

CBOT	–	Chicago Board of Trade
CEA	–	Commodity Exchange Act
CFTC	–	Commodity Futures Trading Commission
CME	–	Chicago Mercantile Exchange.
DCO	–	Derivatives Clearing Organization
ECP	–	Eligible contract participant
ICE	–	IntercontinentalExchange
OTC	–	Over-the counter
SEC	–	Securities and Exchange Commission

Glossary¹

Agricultural swap—A commodity swap in which the payout to at least one counterparty is based on the price of an agricultural commodity or the level of an agricultural commodity index.*

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 (typically calculated as cash minus futures). Basis is usually computed in relation to the futures contract due to expire next and may reflect different time periods, product forms, grades, or locations.

Basis risk —The risk associated with an unexpected widening or narrowing of the basis between the time a hedge position is established and the time that it is lifted.

Cash settlement—A method of settling futures options and other derivatives whereby the seller (or *short*) pays the buyer (or *long*) the cash value of the underlying commodity or a cash amount based on the level of an index or price according to a procedure specified in the contract. Also called financial settlement.

Call option —An *option* contract that gives the buyer the right, but not the obligation, to purchase a commodity or other asset or to enter into a long derivatives position at a specified price on or prior to a specified expiration date

Cash market—The market for the cash commodity (as contrasted to a derivatives contract) taking the form of: (1) an organized, self-regulated central market (e.g., a commodity exchange); (2) a decentralized over-the-counter market; or (3) a local organization, such as a grain elevator or meat processor, that provides a market for a small region.

¹Unless otherwise noted with an asterisk (*), these definitions are drawn from the CFTC glossary, which can be found on the web at <http://www.cftc.gov/ConsumerProtection/Education-Center/CFTCGlossary/index.htm>

Clearing house—An entity through which futures and other derivative transactions are cleared and settled. It is also charged with assuring the proper conduct of each contract’s delivery procedures and the adequate financing of trading. A clearing house may be a division of a particular exchange, an adjunct or affiliate thereof, or a freestanding entity. Also called a clearing organization, multilateral clearing organization, centralized counterparty, or clearing association.

Clearing member—A member of a clearing organization. All trades of a non-clearing member must be processed and eventually settled through a clearing member.

Commodity Index—An index of a specified set of (physical) commodity prices or commodity futures prices.

Commodity Index fund—An investment fund that enters into futures or commodity swap positions for the purpose of replicating the return of an index of commodity prices or commodity futures prices.

Commodity swap—A swap in which the payout to at least one counterparty is based on the price of a commodity or the level of a commodity index.

Derivative—A financial instrument, traded on or off an exchange, the price of which is directly dependent upon (i.e., “derived from”) the value of one or more underlying securities, equity indices, debt instruments, commodities, other derivative instruments, or any agreed-upon pricing index or arrangement.

Efficient market —In economic theory, an efficient market is one in which market prices adjust rapidly to reflect new information.

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 transactions not generally available to non-eligible contract participants.

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.

Futures Commission Merchant—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.

Hedger—A trader who participates in hedging.

Hedging—The act of entering into positions in a derivatives market, opposite to positions held in a cash market, to minimize the risk of financial loss from an adverse price change, or the act of purchasing or selling derivatives as a temporary substitute for a cash transaction that will occur later. Cash market positions, whether *long* or *short*, can be hedged.

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

Long—The buying side of an open futures contract, a market position that obligates the holder to take delivery of the underlying asset.

Margin—The amount of money or collateral deposited by a customer with his broker, by a nonmember broker with a *clearing member*, or by a clearing member with a clearing organization. The margin is not partial payment on a purchase. There are two main kinds of margins: (1) Initial margin is the amount of margin required by the broker when a futures position is opened; (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 movement, the broker must issue a *margin call* to restore the customer's equity to the maintenance 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 *futures commission merchant* to a customer to bring margin deposits up to maintenance 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.

Marking to market—Part of the daily cash flow system used by an exchange to maintain a minimum level of margin equity for a given derivatives contract *position*. The level is determined 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.

Moral hazard—The possibility that insulation from risk will affect agent behavior.*

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

Notional amount—The notional amount outstanding is a snapshot of the face value of the underlying asset upon which the derivative is based.*

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. Also see *call option* and *put option*.

Over-the-Counter (OTC)—The trading of commodities, contracts, or other instruments not listed on any exchange. OTC transactions can occur electronically or over the telephone. Also referred to as Off-Exchange.

Physical delivery—A provision in a futures contract or other derivative for delivery of the actual commodity to satisfy the contract.

Position—An interest in the market, either *long* or *short*, in the form of one or more open contracts.

Position limit—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 market regulator.

Price discovery —The process of determining the price level for a commodity based on supply and demand conditions. Price discovery may occur in a derivatives market or cash market.

Put option—An *option* contract that gives the holder the right but not the obligation to sell a specified quantity of a particular commodity, security, or other asset or to enter into a *short* derivatives position at a given price (the *strike price*) prior to or on a specified expiration date.

Settlement—The act of fulfilling the delivery requirements of a derivatives contract.

Short—The selling side of an open futures contract.

Speculator—In commodity derivatives, a trader who does not hedge, but who trades with the objective of achieving profits through the successful anticipation of price movements.

Strike price—The price, specified in the option contract, at which the underlying futures contract, security, or commodity will move from seller to buyer when the option is exercised.

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 otherwise shifting risks. 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*.

Swap dealer—An entity such as a bank or investment bank that markets swaps to end users. Swap dealers often hedge their swap positions in futures markets. Alternatively, an entity that declares itself a “Swap/Derivatives Dealer” on CFTC Form 40.

Swaption—An option to enter into a swap—i.e., the right, but not the obligation, to enter into a specified type of swap at a specified future date.

Systemic default risk—The risk that a default by one market participant will have repercussions on other participants due to the interlocking nature of financial markets. For example, customer A’s default in X market may affect intermediary B’s ability to fulfill its obligations in markets X, Y, and Z.